

# Comparison of calculated and measured paleo-sea level using several Earth models and two configurations of PaleoMIST 1.0

As a supplement to “*A new global ice sheet reconstruction for the past 80 000 years*” by Evan J. Gowan, Xu Zhang, Sara Khosravi, Alessio Rovere, Paolo Stocchi, Anna L. C. Hughes, Richard Gyllencreutz, Jan Mangerud, John-Inge Svendsen & Gerrit Lohmann

Evan James Gowan

## Contents

<b>1 Purpose of this document</b>	<b>4</b>
<b>2 Summary of ice and Earth models</b>	<b>4</b>
2.1 Ice models . . . . .	4
2.2 Earth models . . . . .	5
<b>3 Paleo-sea level compilations</b>	<b>6</b>
3.1 North America . . . . .	6
3.2 Europe . . . . .	6
3.3 Eurasian Arctic . . . . .	7
3.4 Southeastern Asia . . . . .	7
3.5 Tropical Corals . . . . .	7
<b>4 Summary of results</b>	<b>8</b>
4.1 Australia . . . . .	9
4.2 Caribbean . . . . .	10
4.3 Eurasian Arctic . . . . .	11
4.4 Europe . . . . .	13
4.5 French Polynesia . . . . .	14

4.6	MIS 3 - MIS 4 . . . . .	15
4.7	North America . . . . .	16
4.8	Southeast Asia . . . . .	18
<b>5</b>	<b>Australia</b>	<b>19</b>
5.1	Northeastern Australia . . . . .	19
5.2	Northwestern Australia . . . . .	22
<b>6</b>	<b>Caribbean</b>	<b>24</b>
6.1	Lesser Antilles . . . . .	24
<b>7</b>	<b>Eurasian Arctic</b>	<b>26</b>
7.1	Franz Josef Land . . . . .	26
7.2	Kara Sea - Novaya Zemlya . . . . .	30
7.3	Southern Barents Sea . . . . .	41
7.4	Svalbard . . . . .	47
7.5	Western Siberia . . . . .	59
7.6	White Sea . . . . .	66
<b>8</b>	<b>Europe</b>	<b>78</b>
8.1	Baltic Sea . . . . .	78
8.2	Danish straits - Kattegat - Skagerrak . . . . .	91
8.3	North Sea . . . . .	103
8.4	Western Norway . . . . .	105
<b>9</b>	<b>French Polynesia</b>	<b>112</b>
9.1	French Polynesia . . . . .	112
<b>10</b>	<b>MIS 3 - MIS 4</b>	<b>115</b>
10.1	Eastern United States (MIS3 - MIS4) . . . . .	115
10.2	French Polynesia (MIS3 - MIS4) . . . . .	117

10.3	Northeastern Australia (MIS3 - MIS4)	120
10.4	Papua New Guinea (MIS3 - MIS4)	123
10.5	Sundaland (MIS3 - MIS4)	125
10.6	Yellow Sea (MIS3 - MIS4)	132
<b>11</b>	<b>North America</b>	<b>135</b>
11.1	Eastern United States	135
11.2	Gulf of St Lawrence	144
11.3	Hudson Bay	150
11.4	Hudson Strait	158
11.5	Labrador	163
11.6	Maritimes	168
11.7	Newfoundland	174
11.8	Northeastern United States	180
11.9	St Laurence Lowlands	189
<b>12</b>	<b>Southeast Asia</b>	<b>193</b>
12.1	Java Sea	193
12.2	Papua New Guinea	196
12.3	Sundaland	198
	<b>Bibliography</b>	<b>211</b>

# 1 Purpose of this document

In this report there is a detailed summary, including plots, of a worldwide compilation of paleo-sea level data, and six ice sheet-Earth models. In this particular report, we compare the standard version of PaleoMIST 1.0 (with 2500 year time steps and using a lower mantle viscosity of  $4 \times 10^{22}$  Pa s), a 500 year interpolated version of it, the alternative version of PaleoMIST 1.0, with an ice covered Hudson Bay during MIS 3, plus the standard version of PaleoMIST 1.0 calculated using Earth models proposed by James et al. (2009) (*i.e.* for tectonically active areas), Peltier et al. (2015) and Lambeck et al. (2017). The purpose of the interpolated version is to show that using a more gradual change in the load (since SELEN uses a heaviside function to compute the loading) will reduce the sea level in previously glaciated areas. Which of the two different scenarios for MIS 3 is more likely cannot be discriminated with the available data. Comparing the standard version of PaleoMIST 1.0 with other Earth models utilized in other studies show that our chosen Earth model provides a better fit to the data in formerly glaciated areas. This is unsurprising, since the ice model was tuned to our chosen Earth model.

## 2 Summary of ice and Earth models

In order to make the figures compact, I have made shorthand codes for the ice and Earth models. I calculate each ice sheet separately, and the numbers refer to the “run number”, which is a sequential number that I used to distinguish git commits (see <https://github.com/evangowan/icesheet>). The ice model numbering scheme is as follows:

“North America”\_“Europe”\_“Antarctica”\_“Patagonia”

For PaleoMIST 1.0, the minimal MIS 3 configuration reconstruction is 72\_73\_74\_75, while the maximal configuration is 82\_83\_85\_85

For the Earth models, I created a shorthand scheme during my PHD, which I have continued to use. A full explanation can be found on the github page:

[https://github.com/evangowan/icesheet/blob/prelim/global/earth\\_model\\_format\\_codes.txt](https://github.com/evangowan/icesheet/blob/prelim/global/earth_model_format_codes.txt)

The full description of each model compared in this document is in this section.

### 2.1 Ice models

72\_73\_74\_75 - PaleoMIST 1.0 - reduced MIS 3 Laurentide Ice Sheet scenario, with Hudson Bay fully deglaciated

72\_73\_74\_75\_h - PaleoMIST 1.0 - reduced MIS 3 Laurentide Ice Sheet scenario, with Hudson Bay fully deglaciated. This version uses 500 year time steps, where the ice load has been linearly interpolated between the 2500 year time steps.

82\_83\_84\_85 - PaleoMIST 1.0 - full MIS 3 Laurentide Ice Sheet scenario, with Hudson Bay fully covered, and ice extent much larger.

## 2.2 Earth models

eb0ggr - 60 km thick lithosphere, 140 km thick low viscosity ( $1 \times 10^{19}$  Pa s) asthenosphere,  $4 \times 10^{20}$  Pa s upper mantle,  $4 \times 10^{22}$  Pa s lower mantle

efhC - 100 km thick lithosphere,  $5 \times 10^{20}$  Pa s upper mantle,  $1.58 \times 10^{21}$  Pa s lower mantle – Three layer approximation of VM5 Earth model by Peltier et al. (2015)

efhC - 100 km thick lithosphere,  $5 \times 10^{20}$  Pa s upper mantle,  $1.26 \times 10^{22}$  Pa s lower mantle – best fitting model by Lambeck et al. (2017) for North America

ehgr - 120 km thick lithosphere,  $4 \times 10^{20}$  Pa s upper mantle,  $4 \times 10^{22}$  Pa s lower mantle

### 3 Paleo-sea level compilations

This is a list of paleo-sea level compilations, which served as the basis for this report. We acknowledge the hard work of the people compiling the data, as well as acknowledging those who collected the original data.

#### 3.1 North America

- Canada and Greenland - A.S. Dyke and T.S. James (unpublished)
- Eastern Canada - Vacchi et al. (2018)
- Hudson Bay - Simon et al. (2016)
- Hudson Bay and northern mainland Canada - Gowan et al. (2016)

I have made some changes and corrections from the compilations above.

At Churchill, there is a site, denoted with the radiocarbon date S-738, which was originally assigned to be a marine limiting indicator. It was described in Morlan et al. (2000) as "shells enclosed in gravel in a quartzite ridge". It was originally interpreted as being a sea level indicator, with sea level at around 35 m. Using IMCalc (Lorscheid and Rovere, 2019), and a tidal amplitude of 1.6 m based on the tide gauge at Churchill (Ray, 2016), assuming the landform represents a beach ridge, and including a 20% uncertainty on the original 35 m elevation (to account for the lack of information on elevation measurement), the sea level indicator is  $32.8 \pm 7$  m.

There were many data that referred just to compilations rather than the original sources. I have tried to track down the original sources as much as possible, but in some cases it was not possible, as they were neither listed in the Vacchi compilation nor the Dyke and James compilation.

The compilation of sea level indicators in the eastern United States was done by Engelhart and Horton (2012). Thanks to Simon Engelhart for sending me a copy of the dataset with the reservoir corrections used for marine organisms.

The MIS 3-5 data from the east coast of the United States was compiled by Pico et al. (2017).

#### 3.2 Europe

The Baltic Sea sea level indicators are from an unpublished compilation provided by Holger Steffen:

Rosentau et al. (in prep.) A Holocene relative sea-level database for the Baltic Sea.

When the paper becomes available, I will add the appropriate references.

Scandinavia sea level indicators are from an unpublished compilation by Jan Mangerud, Kristian Vasskog and Øystein Lohne. Some parts of the compilation can be found in:

- Svalbard - Bondevik et al. (1995)

- Northern Europe - Forman et al. (2004)
- Norway - Lohne et al. (2007); Romundset et al. (2010, 2011, 2015, 2018); Vasskog et al. (2019)

The compilation of sea level indicators for Rotterdam in the Netherlands is from Hijma and Cohen (2019).

### **3.3 Eurasian Arctic**

The sea level indicators for northern Norway and Svalbard are from an unpublished compilation by Jan Mangerud, Kristian Vasskog and Øystein Lohne (see details in Section 3.2).

The compilation of sea level indicators for northern Russia comes from Baranskaya et al. (2018a). Thank you to Alisa V. Baranskaya for sending the references (including translations from Russian) that were missing from the published compilation.

### **3.4 Southeastern Asia**

The sea level indicators from southeastern Asia were compiled by Mann et al. (2019).

### **3.5 Tropical Corals**

Corals from tropical regions were compiled by Hibbert et al. (2016). In this report, we have taken indicators for Huon Peninsula and French Polynesia from this database.

## 4 Summary of results

This is a summary of the results of the modelling. There are a total of six models with which are compared. In addition, these tables give how many sea level indicators, number of marine limiting, number of terrestrial limiting, and number of sea level index points.

The sea level is calculated at the location of each data point. To evaluate how well the calculated curve fits the data point, a score is assigned. This metric was originally used by Gowan et al. (2016). The score is the discrepancy, in number of meters, the calculated sea level falls outside of the constraint plus the error bars. A score is zero if the calculated sea level is consistent with the data point. As an example, if the calculated sea level curve is below a terrestrial limiting point, it is given a score of zero. The sum of the scores for each location for each model are shown in the tables. A warning about the scores is that a lower score does not necessarily mean a better fit, as it will depend on the age distribution of the indicators, and the number of indicators of a specific kind. For example, if there are a lot of marine limiting data points, a calculated curve that is over a hundred meters above those indicators may provide a good score, but it is not necessarily a good fit. As a result, it is a good idea to also look at the plotted curves for visual inspection.

## 4.1 Australia

Table 1: Number of data points and model scores for Northeastern Australia

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	556	54	0	502	3660	3740	3627	4129	4676	4061
Cairns	253	11	0	242	3010	3088	2977	3449	4000	3384
Mackay	303	43	0	260	650	652	650	680	676	677

Table 2: Number of data points and model scores for Northwestern Australia

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	75	75	0	0	27	4	31	3	0	10
Bonaparte Gulf	75	75	0	0	27	4	31	3	0	10

## 4.2 Caribbean

Table 3: Number of data points and model scores for Lesser Antilles

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	108	53	0	55	304	308	299	452	300	241
Barbados	108	53	0	55	304	308	299	452	300	241

### 4.3 Eurasian Arctic

Table 4: Number of data points and model scores for Franz Josef Land

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	171	22	0	149	1759	837	1754	1869	1307	2362
Zemlya Georga	44	4	0	40	502	222	501	400	320	657
Zemlya Zichy	4	3	0	1	36	47	36	55	56	34
Proliv Markama	123	15	0	108	1221	568	1217	1414	931	1671

Table 5: Number of data points and model scores for Kara Sea - Novaya Zemlya

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	90	8	19	63	367	342	368	449	408	348
Pechora Sea	5	4	1	0	101	83	101	67	62	86
Yuzhny Island	4	1	3	0	0	0	0	37	48	0
Severny Island	19	1	0	18	24	6	24	3	0	25
West										
Severny Island	36	0	0	36	10	12	10	97	90	18
North										
Vaygach Island	3	0	0	3	0	0	0	0	0	0
Baydaratskaya	2	0	2	0	0	0	0	0	0	0
Bay										
Gulf of Ob	11	0	9	2	0	3	0	0	0	0
Khalmyer Bay	5	0	1	4	232	238	233	245	208	219
Kara Sea shelf	2	2	0	0	0	0	0	0	0	0
Ostrov	3	0	3	0	0	0	0	0	0	0
Sibiriyakova										

Table 6: Number of data points and model scores for Southern Barents Sea

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	54	17	3	34	484	338	484	1767	1116	558
Rolfsoya	5	0	1	4	81	83	81	134	140	68
Norkinn	6	1	1	4	101	84	101	184	185	101
Pechengsky	17	7	0	10	146	79	146	486	245	185
Murmansk	21	8	1	12	143	76	142	751	377	191
Voronya River	5	1	0	4	13	16	14	212	169	13

Table 7: Number of data points and model scores for Svalbard

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	179	26	10	143	1912	1176	1912	5543	2534	3147
Bockfjorden	11	8	0	3	176	177	177	113	143	142
Broggerhalvoya	11	2	1	8	384	357	386	373	231	331
Ytterdalen	11	3	2	6	149	170	150	83	102	100
Sorkapp Land	13	3	2	8	107	118	107	97	49	89
Agardbukta	9	2	0	7	14	30	15	148	41	46
Southern Edgeoya	17	1	1	15	192	57	191	638	343	359
Diskobukta	20	4	1	15	122	66	121	608	256	331
Humla	28	1	1	26	374	48	373	1477	663	759
Kapp Ziehen	25	2	2	21	154	76	153	1061	356	446
Svartknausflya	20	0	0	20	77	49	77	577	125	233
Kongsoya	14	0	0	14	163	28	162	368	225	311

Table 8: Number of data points and model scores for Western Siberia

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	125	90	23	12	782	831	783	1074	887	885
Severnaya Zemlya	16	5	11	0	315	332	316	392	351	323
West Laptev Sea	10	7	1	2	83	83	83	96	99	90
Olenyok Gulf	29	18	11	0	32	38	32	59	33	41
Lena Delta	60	60	0	0	302	326	302	451	334	374
New Siberian Is- lands	8	0	0	8	11	14	11	8	2	7
Zhokhov Island	2	0	0	2	39	38	39	68	68	50

Table 9: Number of data points and model scores for White Sea

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	177	16	41	120	951	549	948	6608	3239	1245
Kandalaksha	8	1	0	7	94	38	94	612	263	134
Lesozavodskiy	13	5	0	8	161	77	161	1077	539	212
Rugozerskiy Peninsula	15	1	8	6	21	11	21	499	188	39
Chupa Bay	15	0	3	12	264	167	263	1826	986	327
Umba	11	2	0	9	180	134	179	964	559	231
Engozero	8	0	1	7	86	41	85	744	433	114
Belomorsk	8	0	7	1	0	0	0	307	138	0
Eastern Kola Peninsula	5	0	5	0	0	0	0	37	0	0
Onega Peninsula	9	3	2	4	14	9	14	25	20	23
Dvina Gulf	82	4	12	66	131	72	131	517	113	165
Kholmogorsky	3	0	3	0	0	0	0	0	0	0

## 4.4 Europe

Table 10: Number of data points and model scores for Baltic Sea

Location	number	marine	terrestrial	index	72_73_74_75	72_73_74_75_h	82_83_84_85	72_73_74_75	72_73_74_75	72_73_74_75
	data	limiting	limiting	point	ehgr	ehgr	ehgr	eb0ggr	efhC	efhl
Total	467	64	169	234	7449	4032	7447	17484	12948	8607
Norrbotten	16	0	0	16	878	309	878	3158	1689	1130
Angermanland	14	0	0	14	309	75	308	1372	766	452
Gastrikland	16	0	0	16	532	133	535	1504	996	745
Stockholm	16	0	0	16	473	173	477	1276	956	693
Aland	3	0	0	3	97	43	97	154	134	119
Oulu	2	0	0	2	142	61	142	399	236	152
Ostrobothnia	5	0	0	5	261	124	260	610	412	276
Turku	35	0	0	35	1358	785	1356	2310	1796	1442
Gulf Of Finland	121	11	45	65	2161	1486	2154	5048	3565	2081
Gulf Of Riga	39	11	27	1	453	350	452	829	1073	563
Kaliningrad	110	29	81	0	198	143	198	594	653	295
Bornholm	90	13	16	61	587	350	590	230	672	659

Table 11: Number of data points and model scores for Danish straits - Kattegat - Skagerrak

Location	number	marine	terrestrial	index	72_73_74_75	72_73_74_75_h	82_83_84_85	72_73_74_75	72_73_74_75	72_73_74_75
	data	limiting	limiting	point	ehgr	ehgr	ehgr	eb0ggr	efhC	efhl
Total	655	339	198	118	2317	1674	2325	2893	2709	2968
Mecklenburg	177	66	52	59	1240	961	1243	956	723	1306
Kiel	48	16	31	1	99	63	100	86	103	138
Great Belt	155	85	56	14	303	161	304	423	477	596
Copenhagen	78	28	49	1	72	46	72	60	185	113
Kattegat	33	32	0	1	5	1	5	6	22	19
Northern Jylland	56	51	1	4	20	17	20	71	34	11
Limfjord	56	52	4	0	44	35	44	22	211	123
Halland	13	0	0	13	265	164	267	452	585	316
Halden	9	4	2	3	31	36	31	61	27	42
Ski	12	5	2	5	75	109	75	366	141	93
Kragerod Porsgrunn	18	0	1	17	163	81	164	390	201	211

Table 12: Number of data points and model scores for North Sea

Location	number	marine	terrestrial	index	72_73_74_75	72_73_74_75_h	82_83_84_85	72_73_74_75	72_73_74_75	72_73_74_75
	data	limiting	limiting	point	ehgr	ehgr	ehgr	eb0ggr	efhC	efhl
Total	102	0	52	50	302	199	304	49	415	408
Rotterdam	102	0	52	50	302	199	304	49	415	408

Table 13: Number of data points and model scores for Western Norway

Location	number	marine	terrestrial	index	72_73_74_75	72_73_74_75_h	82_83_84_85	72_73_74_75	72_73_74_75	72_73_74_75
	data	limiting	limiting	point	ehgr	ehgr	ehgr	eb0ggr	efhC	efhl
Total	103	9	8	86	969	773	968	2193	2381	1095
Stavanger	17	8	3	6	38	27	38	133	249	66
Sotra	41	1	2	38	309	320	307	371	474	198
Torvikbygd	8	0	1	7	119	100	119	217	64	105
Sula	9	0	2	7	117	88	118	239	334	175
Bjugn	17	0	0	17	237	161	237	622	763	344
Frosta	11	0	0	11	149	77	149	611	497	207

## 4.5 French Polynesia

Table 14: Number of data points and model scores for French Polynesia

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	200	200	0	0	115	93	117	87	100	108
Mururoa	14	14	0	0	78	82	79	69	73	75
Tahiti	186	186	0	0	37	11	38	18	27	33

## 4.6 MIS 3 - MIS 4

Table 15: Number of data points and model scores for Eastern United States (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	27	8	15	4	96	111	113	315	163	87
US Mid Atlantic	27	8	15	4	96	111	113	315	163	87

Table 16: Number of data points and model scores for French Polynesia (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	12	12	0	0	0	0	0	0	0	0
Mururoa	2	2	0	0	0	0	0	0	0	0
Tahiti	10	10	0	0	0	0	0	0	0	0

Table 17: Number of data points and model scores for Northeastern Australia (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	25	13	0	12	636	640	574	644	670	652
Cairns	19	7	0	12	636	640	574	644	670	652
Mackay	6	6	0	0	0	0	0	0	0	0

Table 18: Number of data points and model scores for Papua New Guinea (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	41	41	0	0	6	4	7	2	2	5
Huon Peninsula	41	41	0	0	6	4	7	2	2	5

Table 19: Number of data points and model scores for Sundaland (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	29	14	13	2	226	237	244	217	230	225
Sunda Shelf	11	7	3	1	111	119	102	108	132	116
Vietnam Shelf	1	1	0	0	0	0	0	0	0	0
Strait Of Malacca	11	2	9	0	23	28	24	38	35	26
Mekong Delta	1	1	0	0	15	14	19	11	9	13
Chao Phraya	3	3	0	0	61	60	80	50	42	55
Berhala Strait	2	0	1	1	16	16	19	10	12	15

Table 20: Number of data points and model scores for Yellow Sea (MIS3 - MIS4)

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	11	11	0	0	3	2	16	0	0	2
South Bohai Sea	4	4	0	0	3	2	10	0	0	2
Yellow Sea	7	7	0	0	0	0	6	0	0	0

## 4.7 North America

Table 21: Number of data points and model scores for Eastern United States

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	357	138	38	181	1240	1160	1322	2289	1751	1099
Outer Delaware	60	5	5	50	273	248	287	377	380	247
Inner Delaware	38	2	8	28	137	131	145	171	203	121
Inner Chesapeake	106	99	0	7	303	224	322	430	488	271
Eastern Shore	28	7	6	15	79	83	83	126	90	68
Northern North Carolina	60	23	6	31	271	259	292	626	372	220
Southern North Carolina	24	2	3	19	42	55	45	116	39	35
Northern South Carolina	18	0	8	10	55	62	60	165	72	54
Southern South Carolina	23	0	2	21	80	98	88	278	107	83

Table 22: Number of data points and model scores for Gulf of St Lawrence

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	108	38	32	38	588	389	577	397	1233	909
Cape Breton	16	4	7	5	3	13	1	17	17	67
Magdalen Islands	22	2	11	9	62	16	57	27	153	128
Prince Edward Island	31	9	6	16	113	43	119	273	232	165
Chaleur Bay	15	10	5	0	5	5	5	9	32	27
Anticosti Island	24	13	3	8	405	312	395	71	799	522

Table 23: Number of data points and model scores for Hudson Bay

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	243	113	68	62	5913	3394	6349	16605	10762	7723
Kivalliq	31	21	5	5	331	239	347	766	453	391
Churchill	23	9	7	7	343	195	399	1301	875	621
West James Bay	17	4	10	3	286	122	356	1420	848	479
East James Bay	36	20	9	7	1223	643	1309	2681	1985	1500
Umiujaq	94	34	33	27	3466	2012	3668	9668	5994	4353
Inukjuak	21	11	2	8	254	163	270	589	373	337
Ivujivik	21	14	2	5	10	20	0	180	234	42

Table 24: Number of data points and model scores for Hudson Strait

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	86	65	18	3	1026	953	945	2118	992	606
Sugluk	40	30	10	0	460	534	382	356	142	59
Kangiqtujuaq	14	13	1	0	142	137	122	228	6	19
Western Ungava Bay	21	17	4	0	178	140	182	543	268	173
Southern Ungava Bay	11	5	3	3	246	142	259	991	576	355

Table 25: Number of data points and model scores for Labrador

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	61	16	45	0	359	254	349	949	648	454
Torngat	18	7	11	0	248	218	246	473	22	73
Nain	16	2	14	0	81	28	76	288	393	212
Hamilton Inlet	15	3	12	0	2	0	1	0	94	57
Lake Melville	12	4	8	0	28	8	26	188	139	112

Table 26: Number of data points and model scores for Maritimes

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	207	30	40	137	323	179	356	1163	1227	440
Sable Island	10	1	6	3	17	9	21	50	49	14
Halifax	48	15	4	29	43	29	53	40	84	42
Shelburne	9	0	4	5	7	8	8	3	16	3
Cumberland	112	6	15	91	144	100	167	632	680	210
Passamaquoddy Bay	28	8	11	9	112	33	107	438	398	171

Table 27: Number of data points and model scores for Newfoundland

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	160	53	61	46	724	497	704	1158	1449	1081
Great Northern Peninsula	56	16	23	17	102	187	123	526	138	43
Notre Dame Bay	29	12	13	4	65	32	60	168	170	100
Avalon Peninsula	13	3	5	5	2	8	3	24	3	5
Bay Of Islands	16	5	3	8	185	72	171	116	442	330
Port Aux Basques	46	17	17	12	370	198	347	324	696	603

Table 28: Number of data points and model scores for Northeastern United States

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	479	51	117	311	1984	1660	2074	1932	3019	1461
Eastern Maine	49	0	4	45	173	138	185	63	354	73
Southern Maine	86	24	6	56	438	378	465	536	566	200
Northern Mas- sachusetts	43	3	16	24	93	81	96	64	153	66
Southern Mas- sachusetts	43	12	14	17	212	165	222	250	279	178
Connecticut	95	0	41	54	128	116	133	107	213	108
Long Island	25	0	6	19	212	161	218	213	294	194
New York	76	6	19	51	436	368	450	345	735	372
New Jersey	62	6	11	45	292	253	305	354	425	270

Table 29: Number of data points and model scores for St Lawrence Lowlands

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	218	53	50	115	2438	1657	2464	2652	7145	4575
Rimouski	90	17	15	58	1506	1100	1508	1235	3703	2209
Forestville	59	18	7	34	505	375	514	472	962	728
Quebec City	69	18	28	23	427	182	442	945	2480	1638

## 4.8 Southeast Asia

Table 30: Number of data points and model scores for Java Sea

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	47	18	2	27	198	219	199	171	187	174
Central Java	6	0	0	6	31	33	32	24	29	26
South Sulawesi	41	18	2	21	167	186	167	147	158	148

Table 31: Number of data points and model scores for Papua New Guinea

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	56	56	0	0	23	26	24	4	11	13
Huon Peninsula	56	56	0	0	23	26	24	4	11	13

Table 32: Number of data points and model scores for Sundaland

Location	number data	marine limiting	terrestrial limiting	index point	72_73_74_75 ehgr	72_73_74_75_h ehgr	82_83_84_85 ehgr	72_73_74_75 eb0ggr	72_73_74_75 efhC	72_73_74_75 efhl
Total	406	93	108	205	807	877	811	812	901	744
Chao Phraya	33	5	9	19	127	148	128	73	81	93
Mekong Delta	71	2	24	45	50	51	51	133	102	80
Strait Of Malacca	139	29	43	67	192	222	193	137	157	151
Sunda Shelf	53	12	9	32	176	174	177	232	304	189
Vietnam Shelf	5	1	0	4	9	10	9	23	29	16
Phuket	40	20	13	7	49	54	49	37	40	39
Thale Noi	3	0	1	2	12	11	12	8	9	10
West Malay Peninsula	2	2	0	0	1	3	1	1	1	0
East Malay Peninsula	4	3	1	0	8	8	8	3	6	5
Southeast Malay Peninsula	13	12	0	1	33	42	33	27	33	28
Belitung Island	25	0	0	25	115	115	115	115	113	107
Ca Na	18	7	8	3	35	39	35	23	26	26

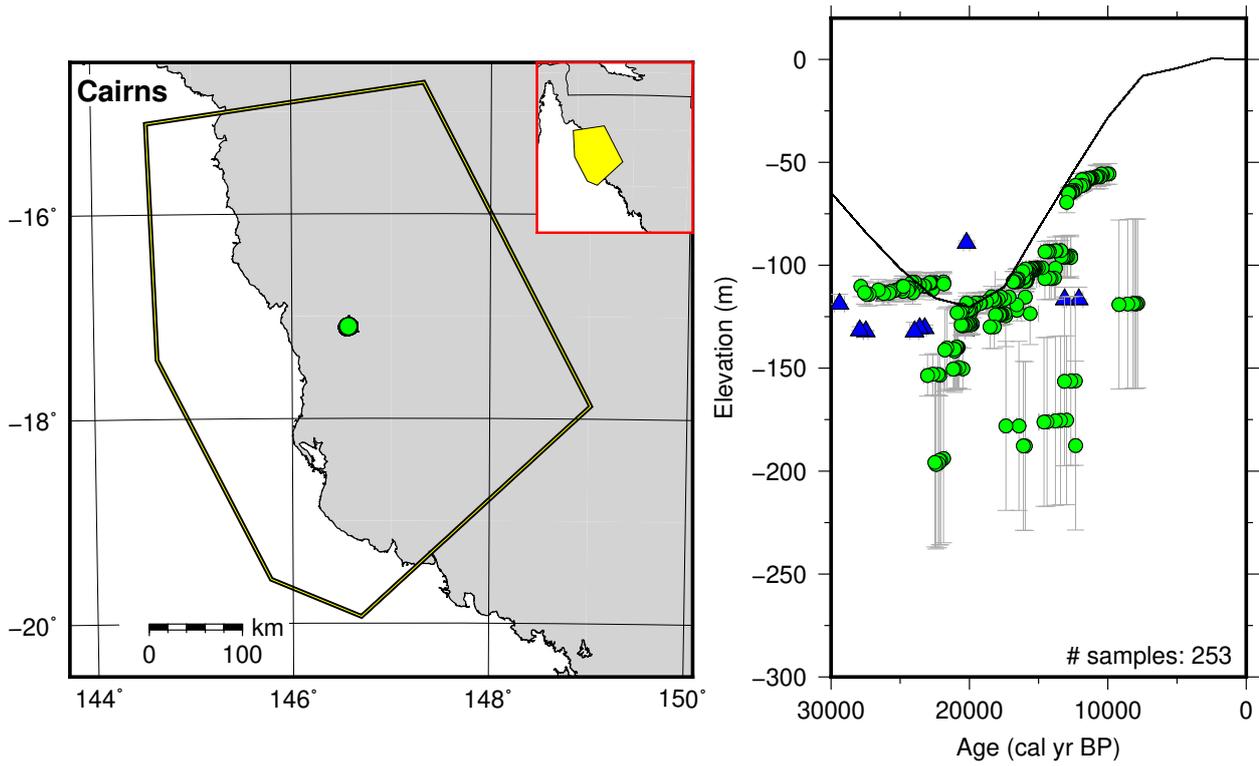
## **5 Australia**

### **5.1 Northeastern Australia**

References for the data used in each location.

**Cairns:** Yokoyama et al. (2018)

**Mackay:** Yokoyama et al. (2018)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

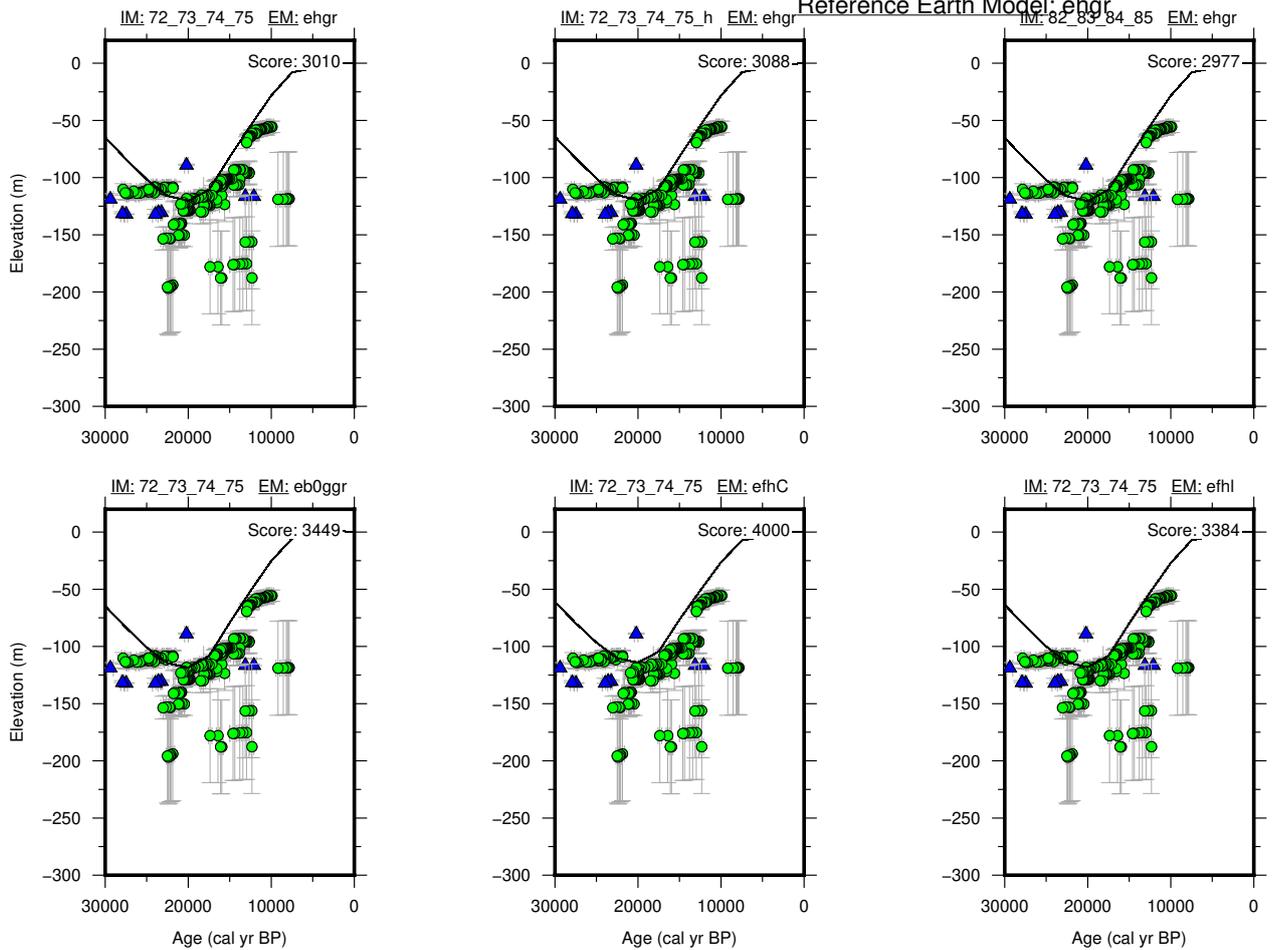


Figure 1: Paleo-sea level and comparison of six models for subregion Northeastern Australia, location Cairns.

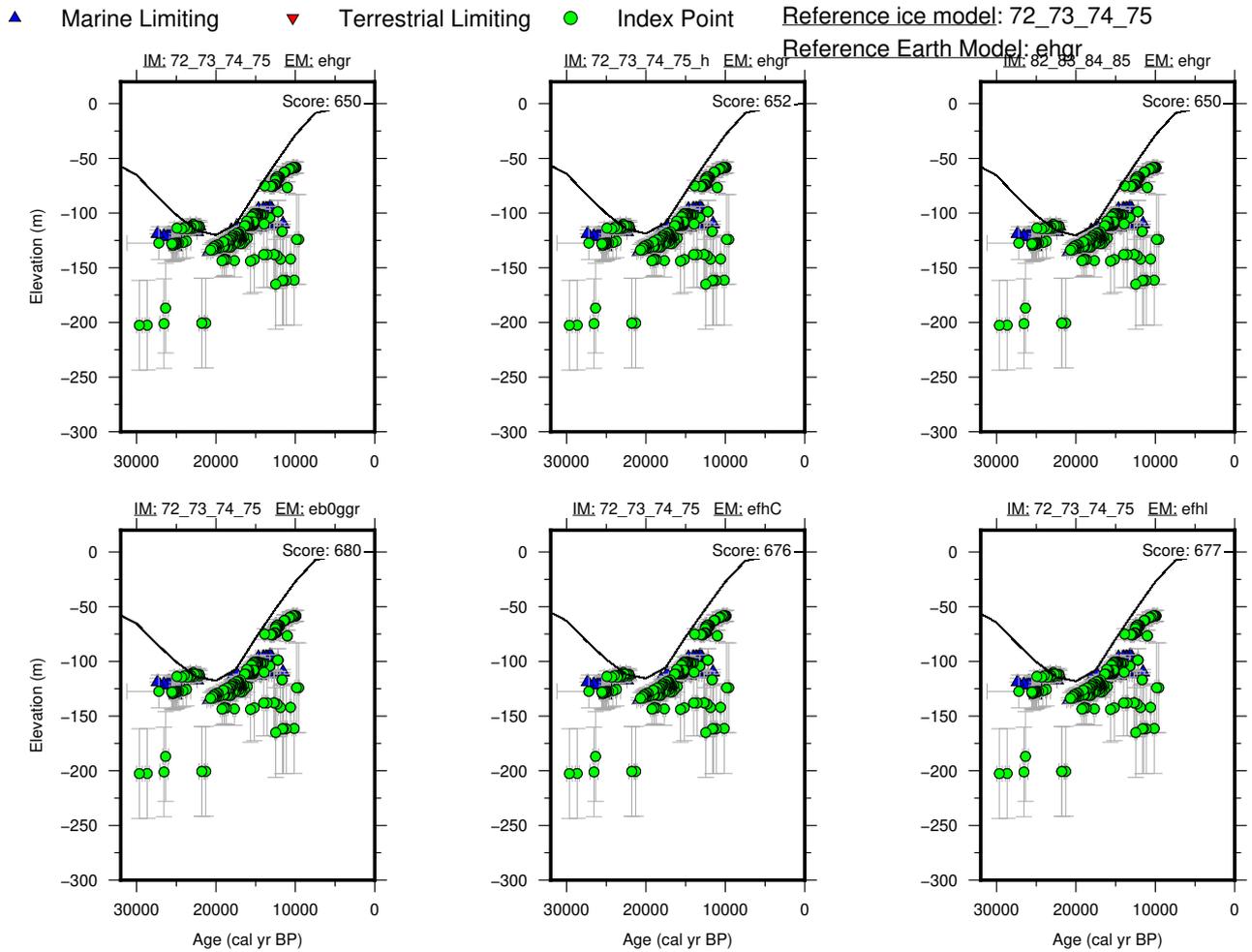
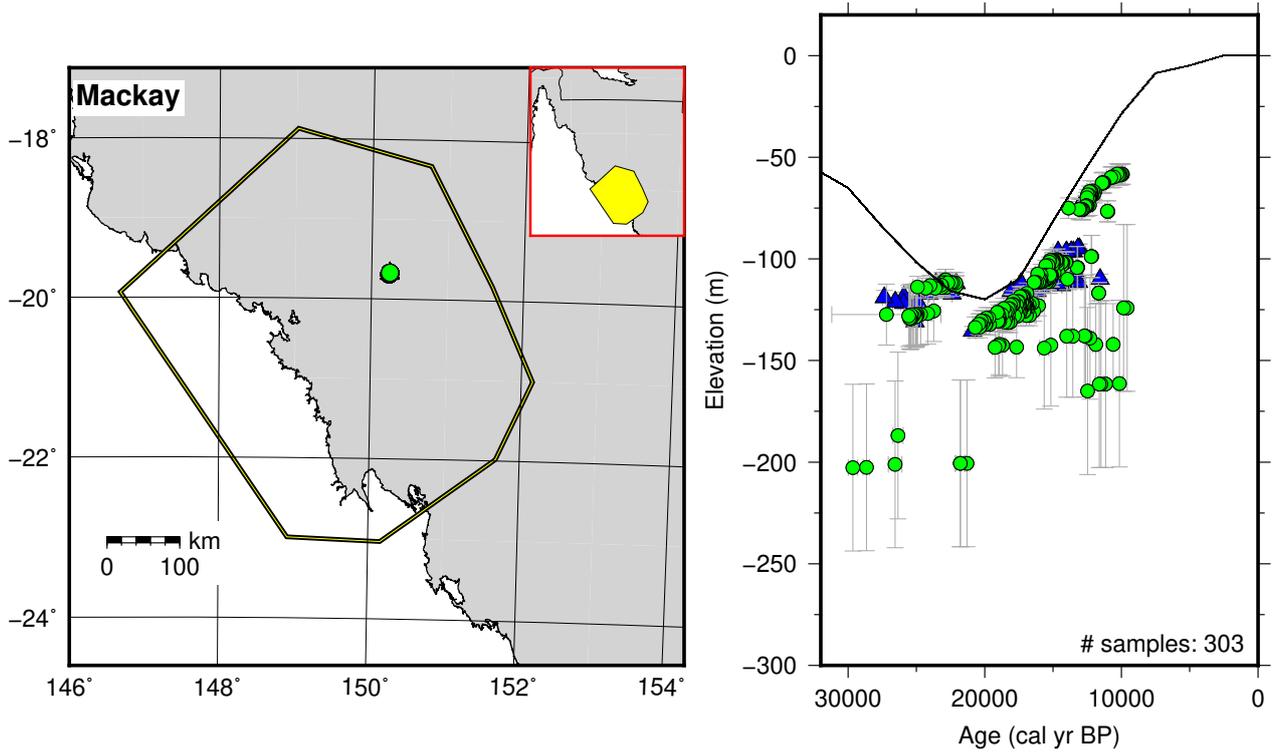


Figure 2: Paleo-sea level and comparison of six models for subregion Northeastern Australia, location Mackay.

## **5.2 Northwestern Australia**

References for the data used in each location.

**Bonaparte Gulf:** Ishiwa et al. (2019)

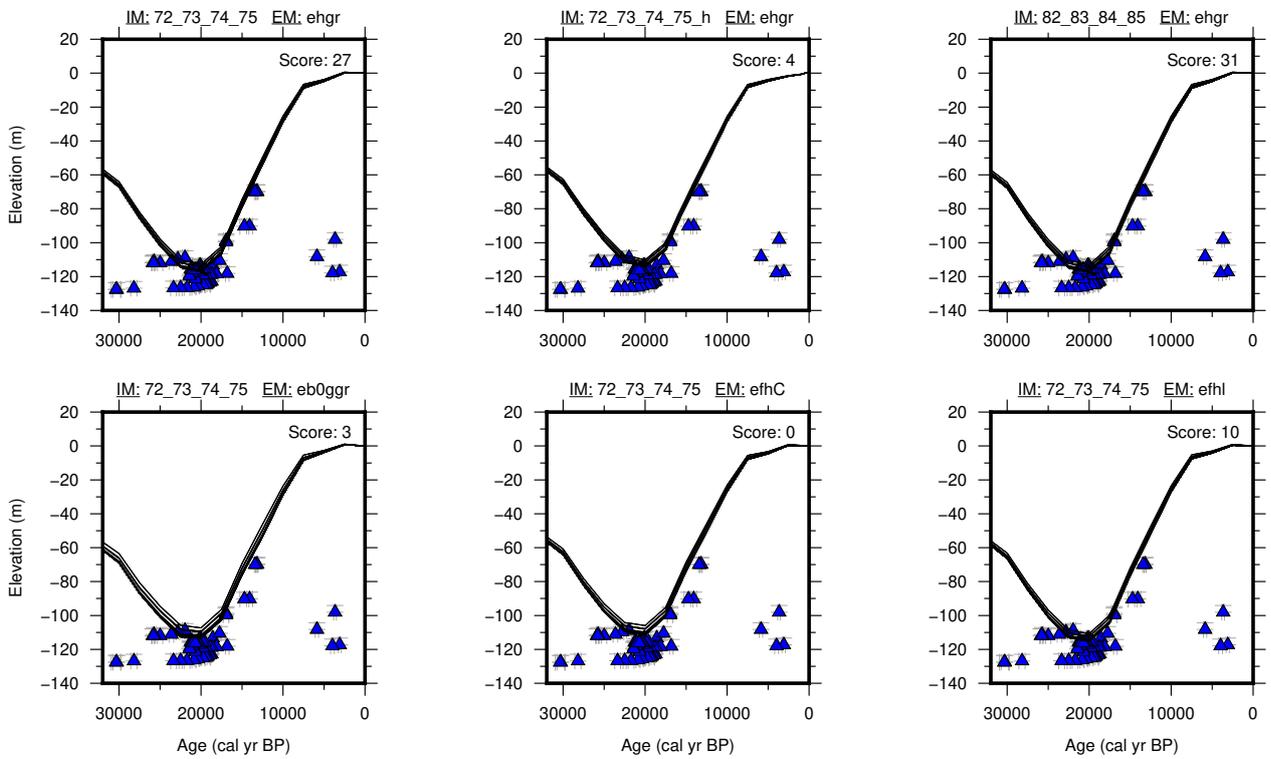
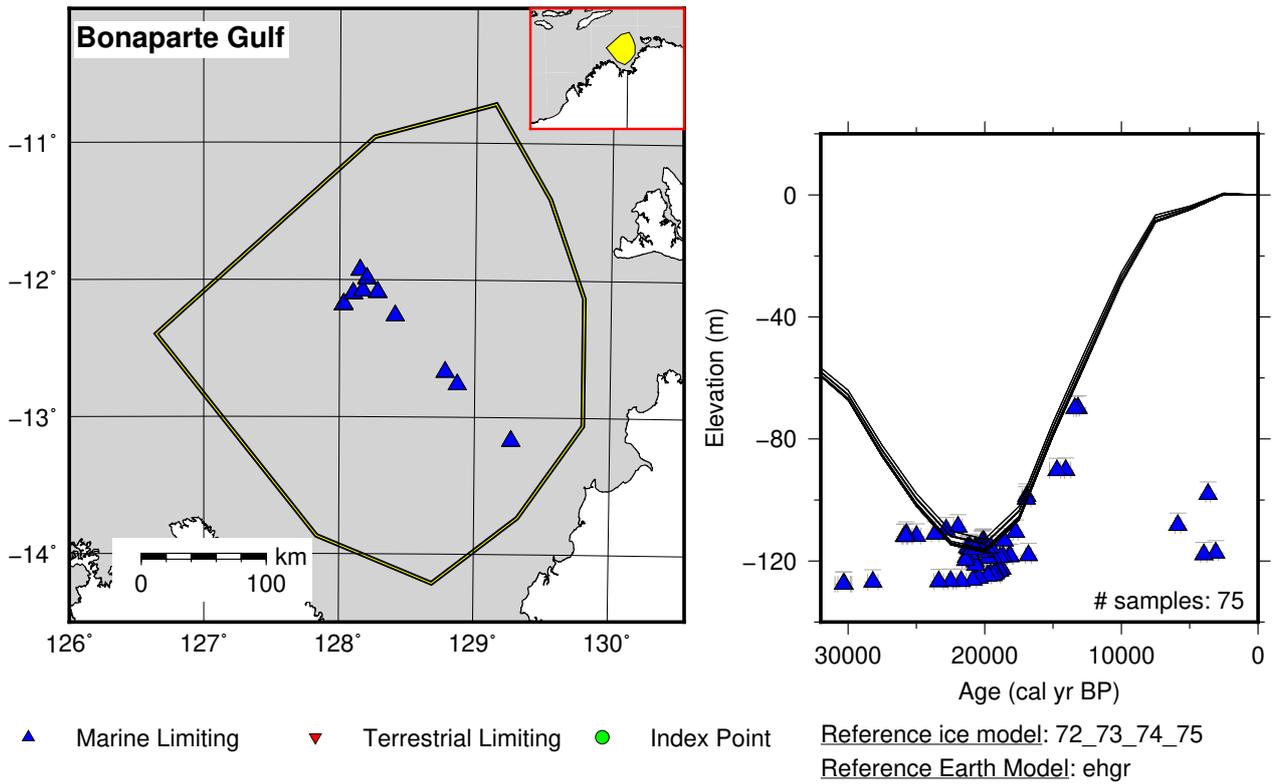


Figure 3: Paleo-sea level and comparison of six models for subregion Northwestern Australia, location Bonaparte Gulf.

## **6 Caribbean**

### **6.1 Lesser Antilles**

References for the data used in each location.

**Barbados:** Peltier and Fairbanks (2006)

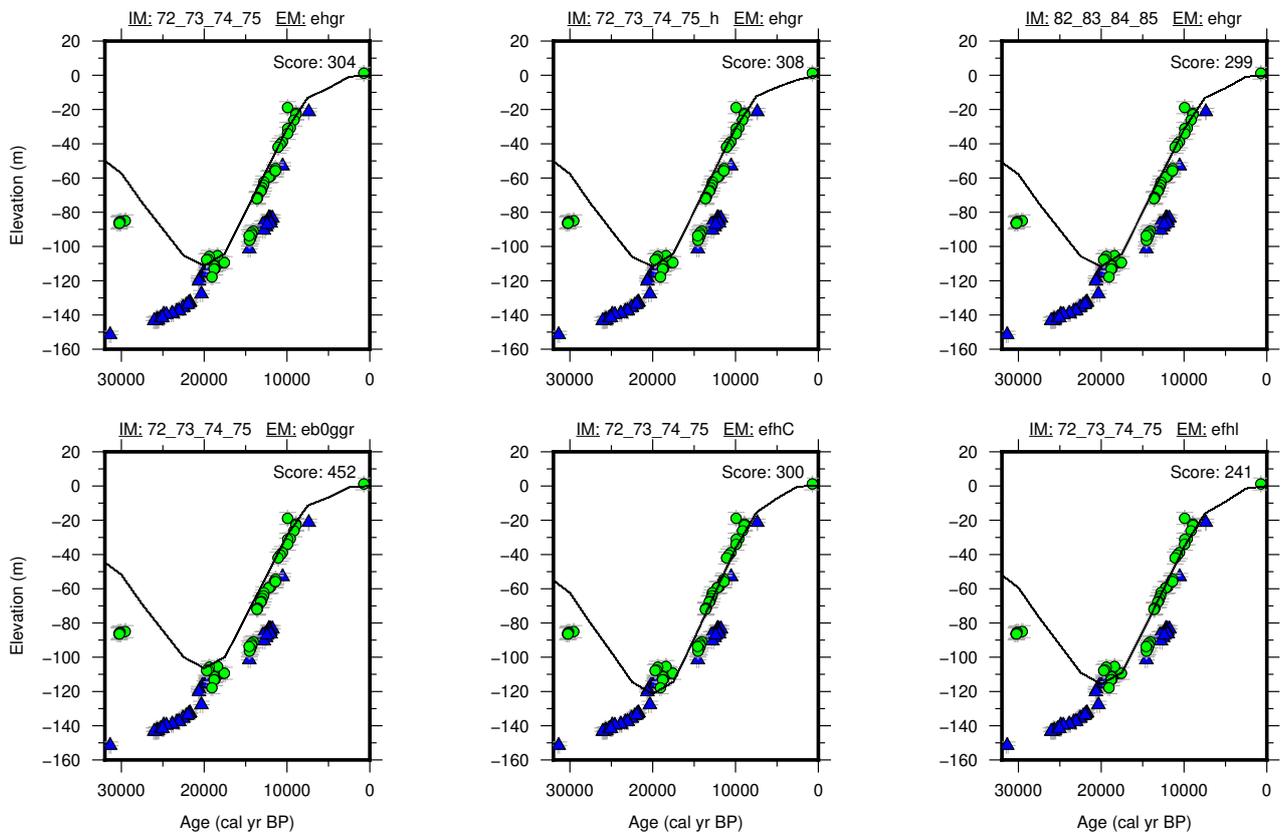
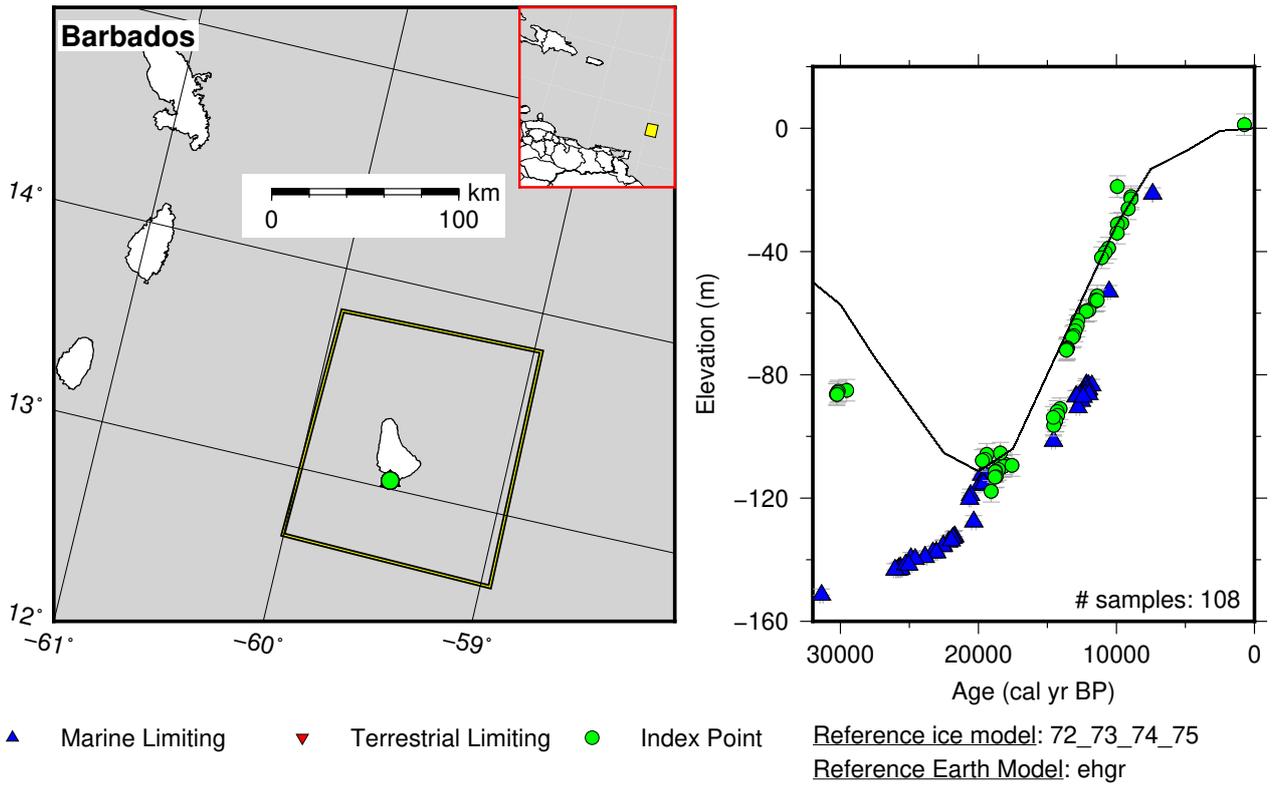


Figure 4: Paleo-sea level and comparison of six models for subregion Lesser Antilles, location Barbados.

## 7 Eurasian Arctic

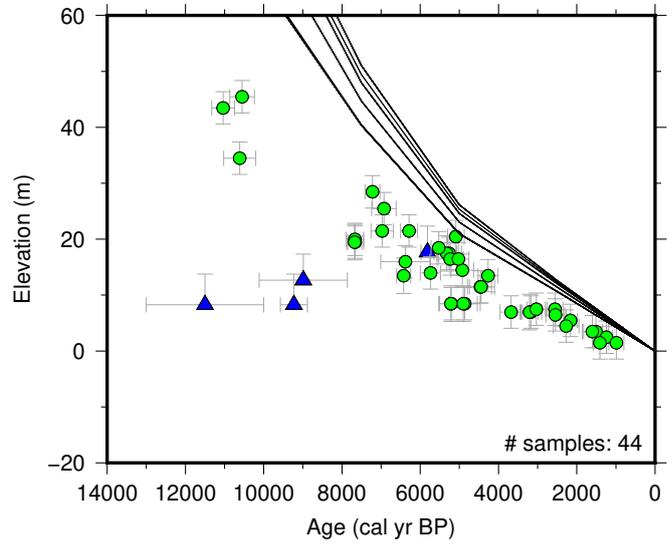
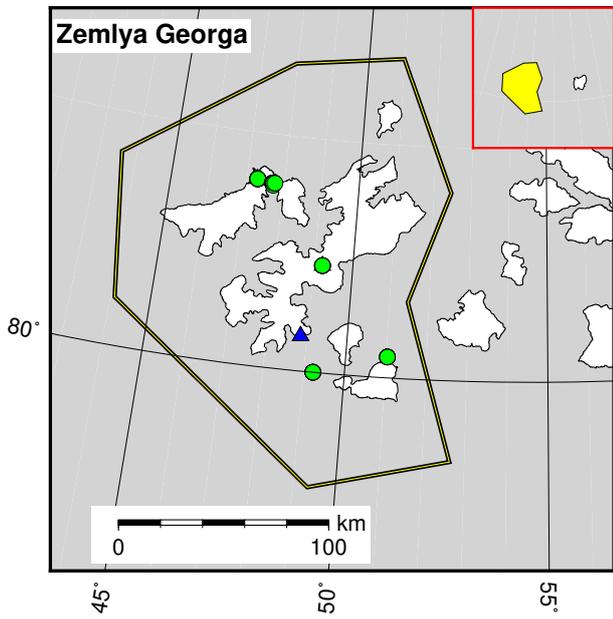
### 7.1 Franz Josef Land

References for the data used in each location.

**Zemlya Georga:** Bolshiyarov et al. (2009); Dibner (1965); Forman et al. (1996, 2004); Glazovskiy et al. (1992); Grosswald (1973); Kovaleva (1974)

**Zemlya Zichy:** Bolshiyarov et al. (2009); Gusev et al. (2013b)

**Proliy Markama:** Bolshiyarov et al. (2009); Forman and Polyak (1997); Forman et al. (1996, 2004); Grosswald (1963, 1973); Gusev et al. (2013b); Kovaleva (1974); Lubinski (1998); Weihe (1996)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

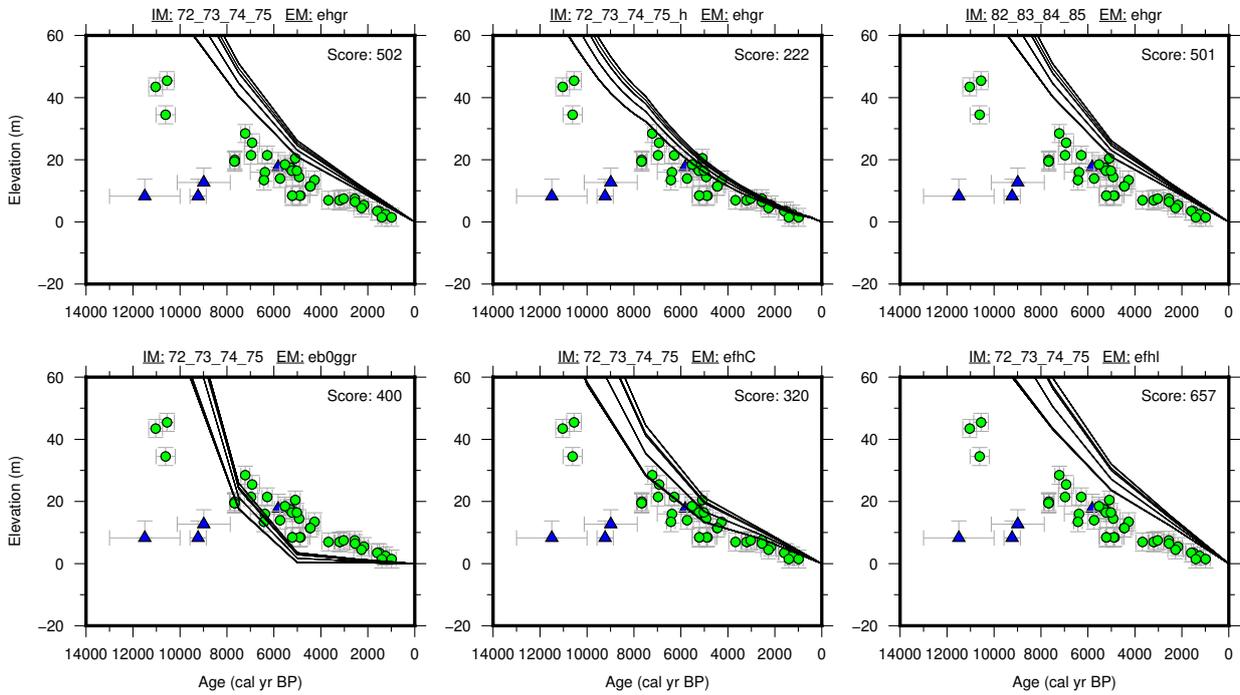
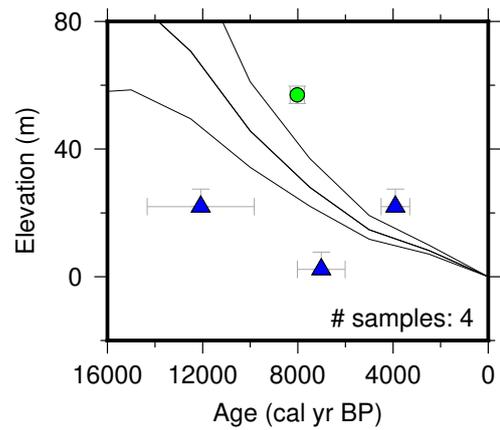
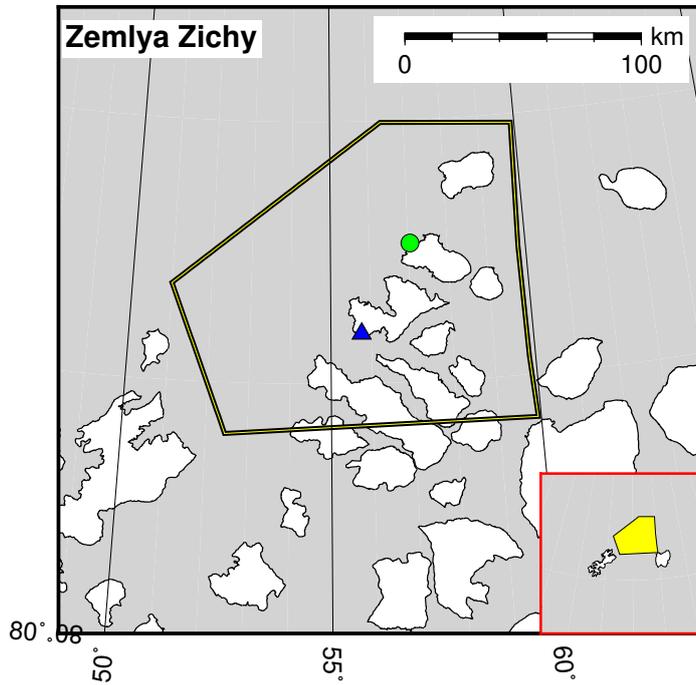


Figure 5: Paleo-sea level and comparison of six models for subregion Franz Josef Land, location Zemlya Georga.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

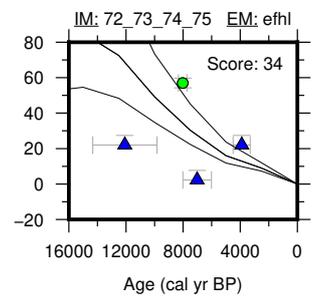
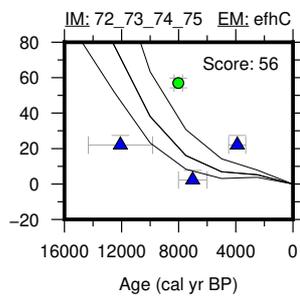
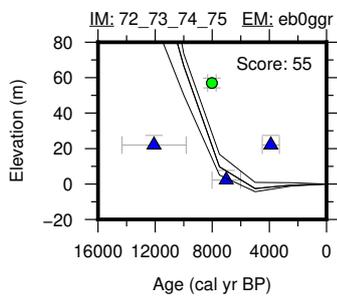
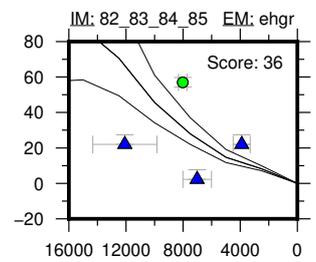
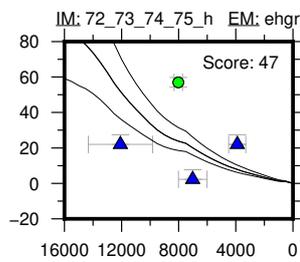
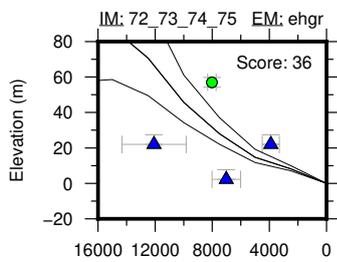
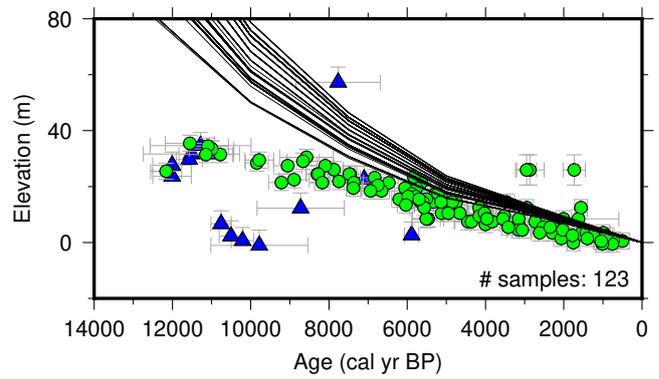
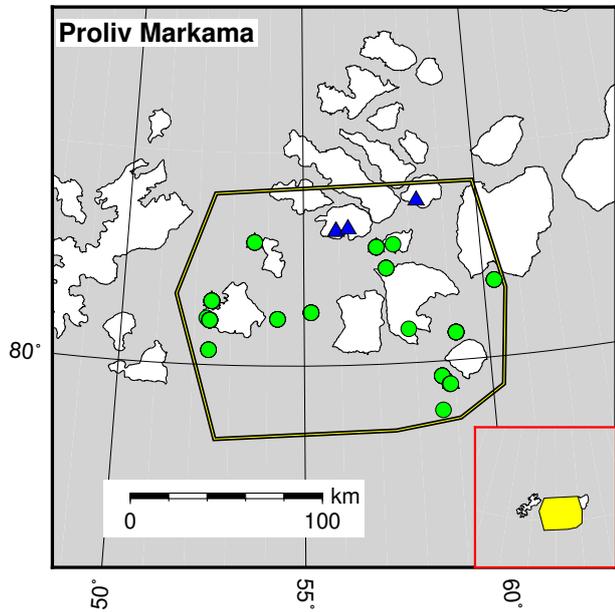


Figure 6: Paleo-sea level and comparison of six models for subregion Franz Josef Land, location Zemlya Zichy.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

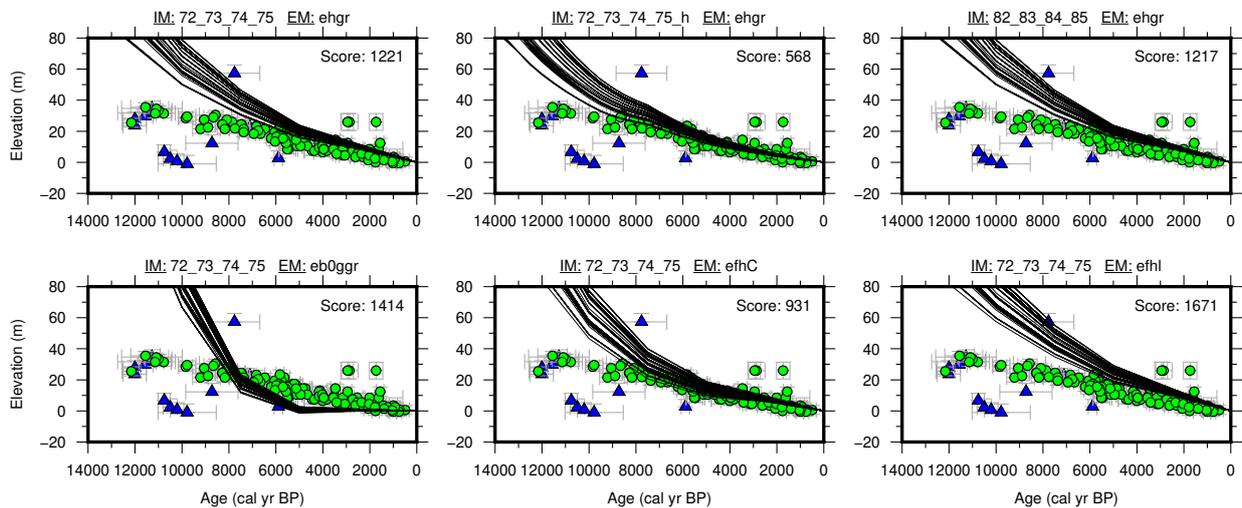


Figure 7: Paleo-sea level and comparison of six models for subregion Franz Josef Land, location Proliv Markama.

## 7.2 Kara Sea - Novaya Zemlya

References for the data used in each location.

**Pechora Sea:** Astakhov et al. (2007); Krapivner (2006); Polyak et al. (2000); Zhuravlev et al. (2013)

**Yuzhny Island:** Bolshiyarov et al. (2006); Mangerud et al. (2008); Zhuravlev et al. (2013)

**Severnoy Island West:** Bolshiyarov et al. (2009); Forman et al. (1999, 2004); Zeeberg et al. (2001)

**Severnoy Island North:** Forman et al. (1999, 2004); Gawronski and Zeeberg (1997); Zeeberg et al. (2001)

**Vaygach Island:** Forman et al. (2004); Zeeberg et al. (2001)

**Baydaratskaya Bay:** Belova (2012); Grigorieva (1987)

**Gulf of Ob:** Astakhov and Nazarov (2010); Grigorieva (1987); Makeev (1988); Makeev et al. (1988)

**Khalmyer Bay:** Baranskaya et al. (2018b); Grigorieva (1987); Makeev (1988); Romanenko et al. (2007)

**Kara Sea shelf:** Levitan et al. (2007); Polyakova and Stein (2004)

**Ostrov Sibiryakova:** Gusev et al. (2013a)

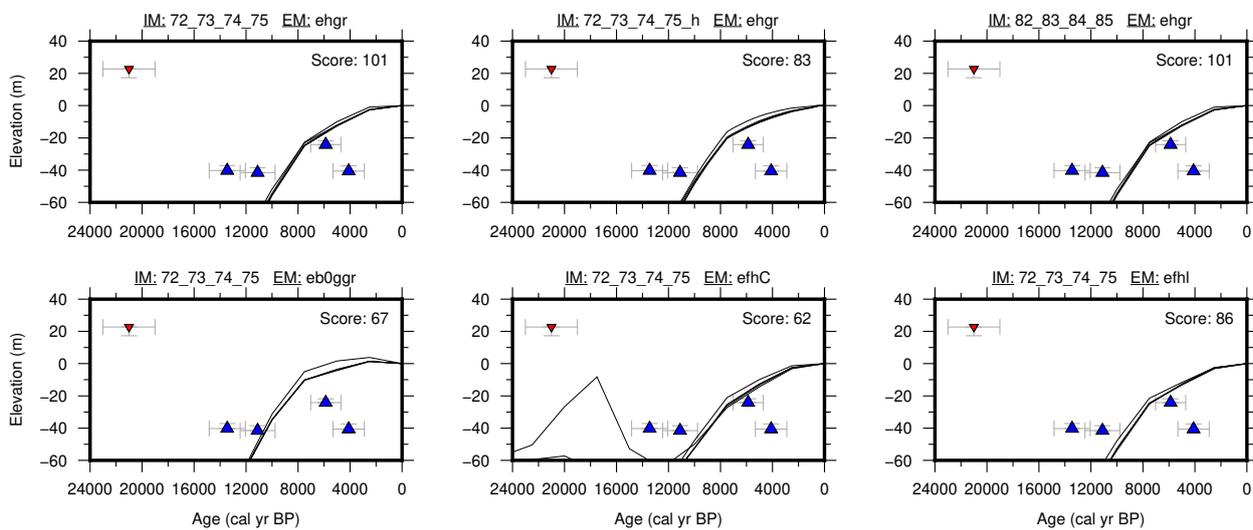
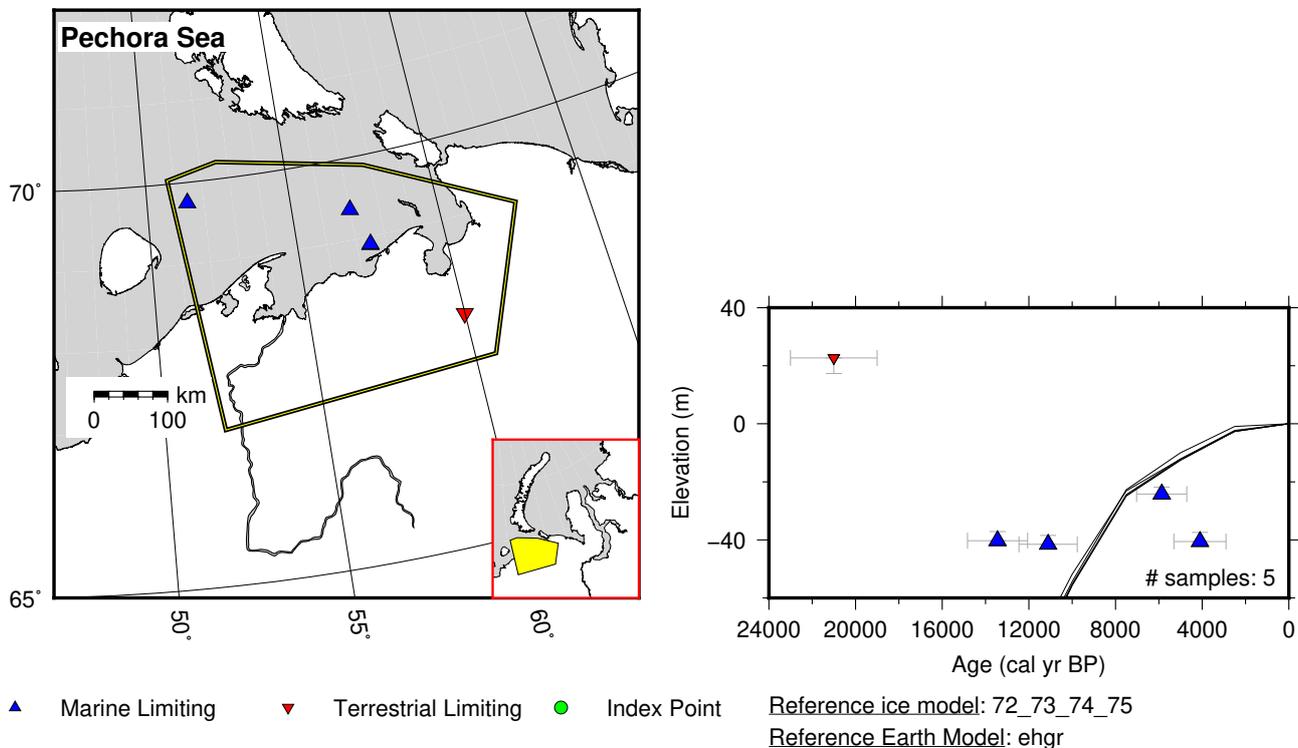


Figure 8: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Pechora Sea.

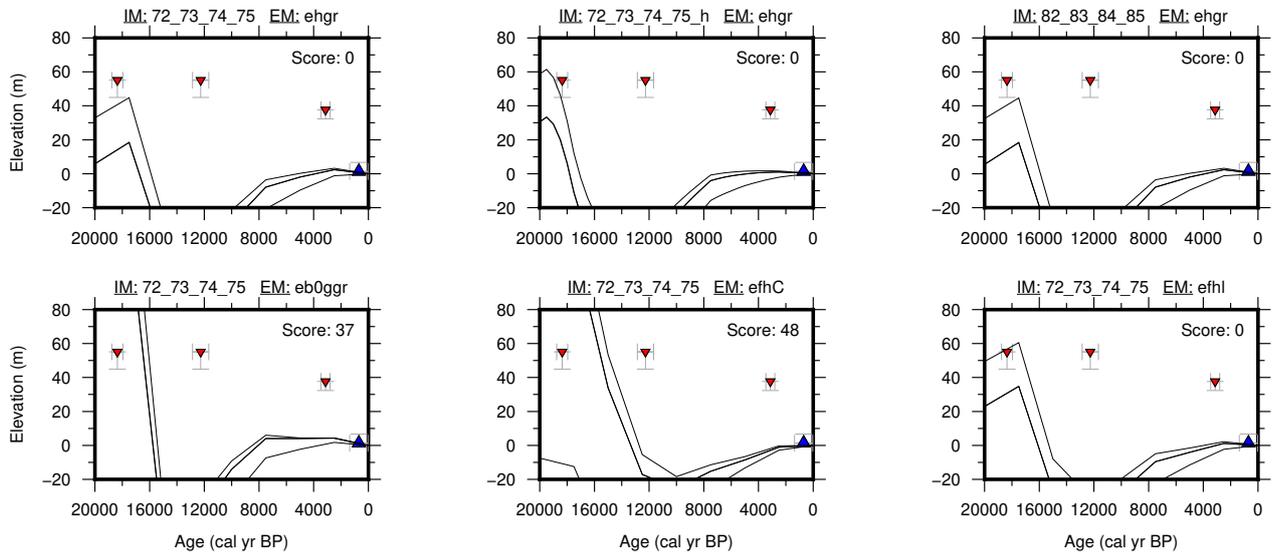
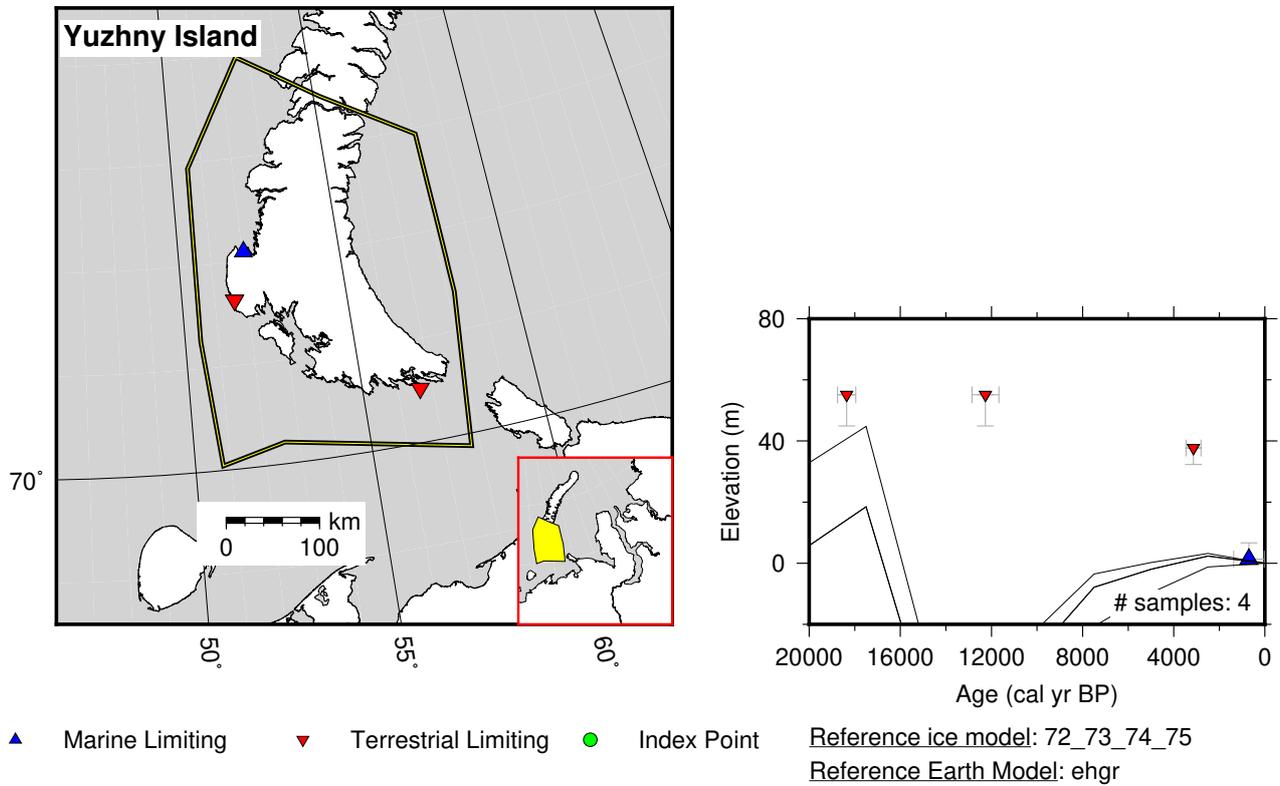
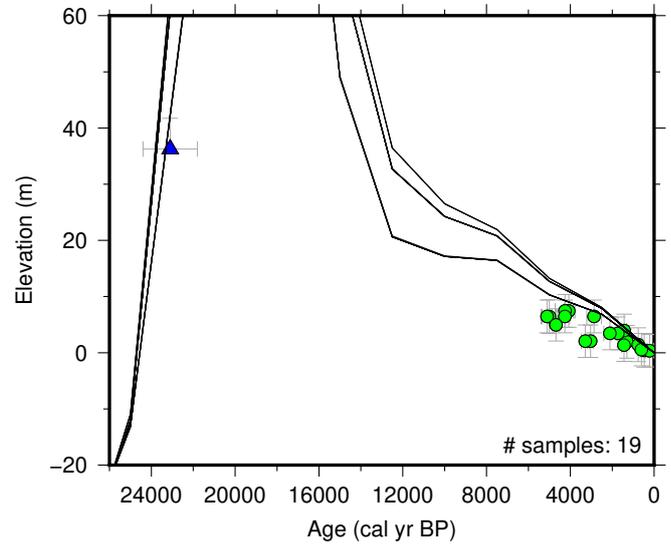
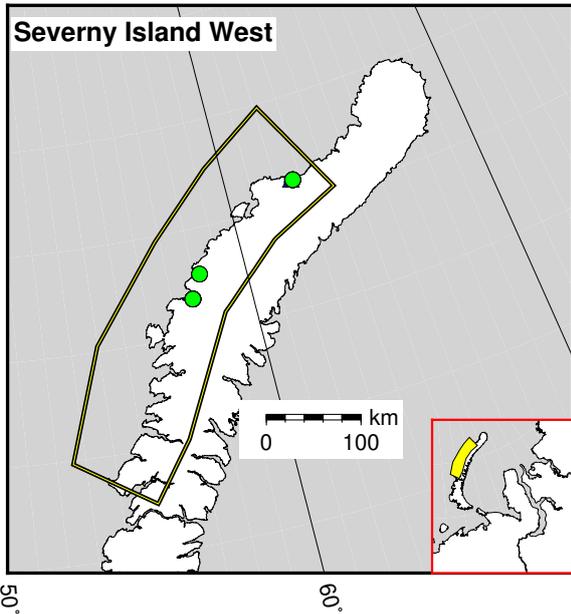


Figure 9: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Yuzhny Island.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

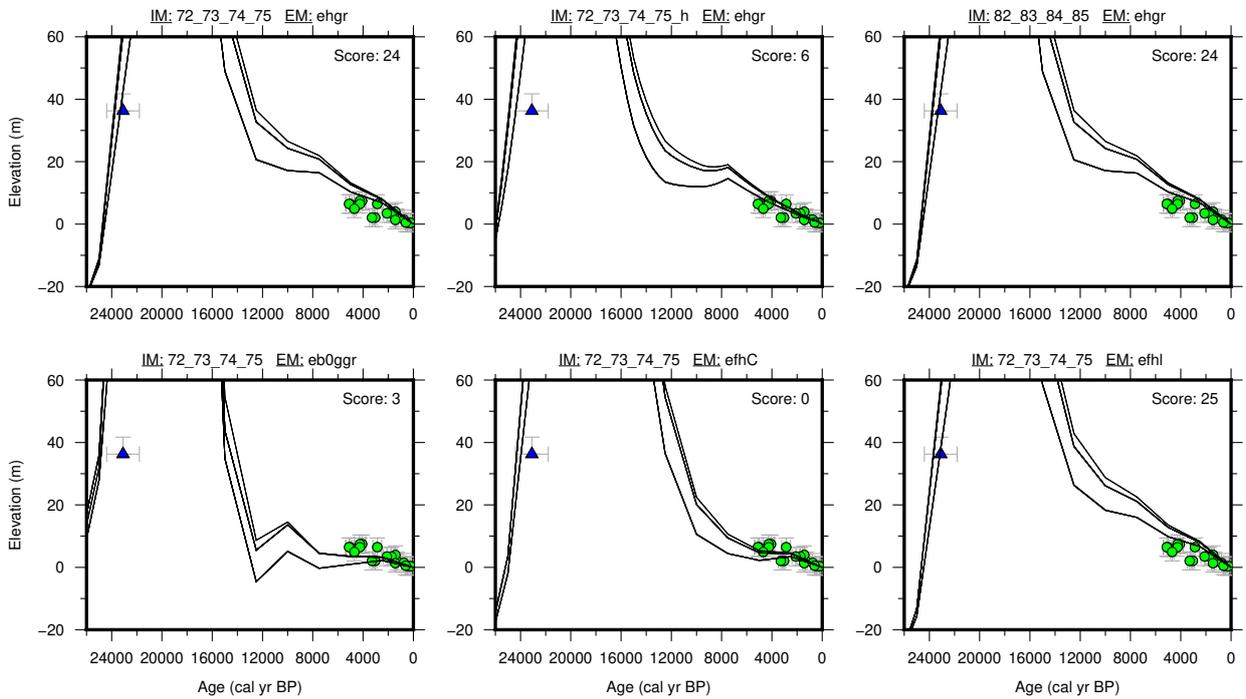


Figure 10: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Severny Island West.

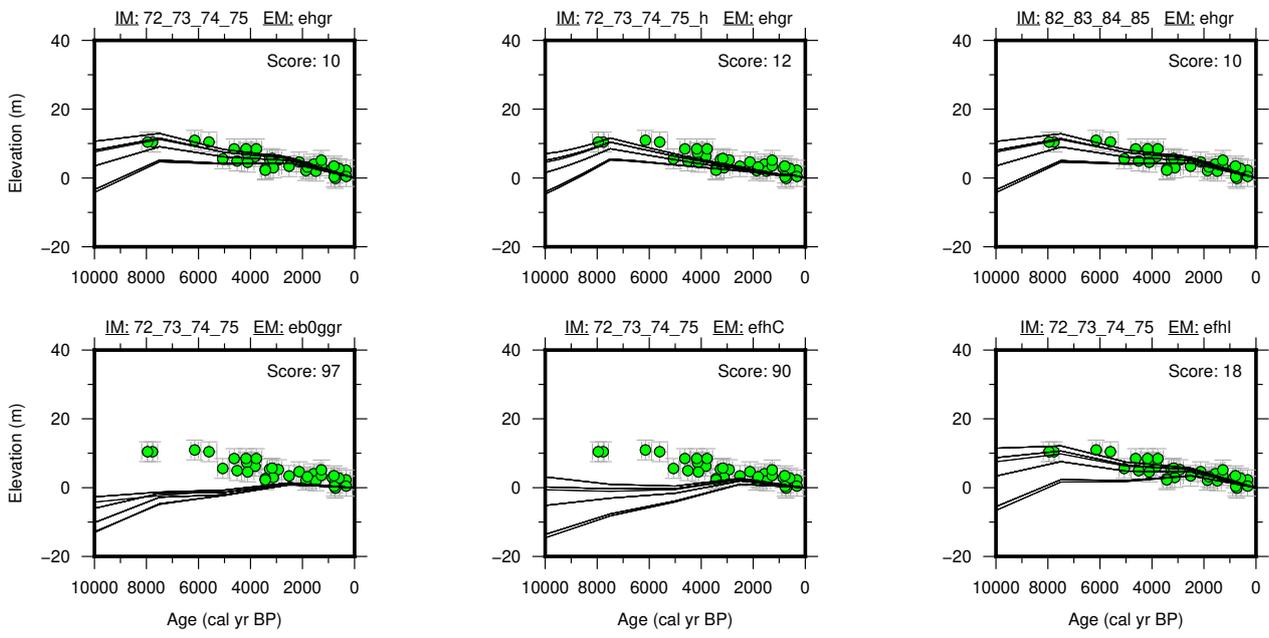
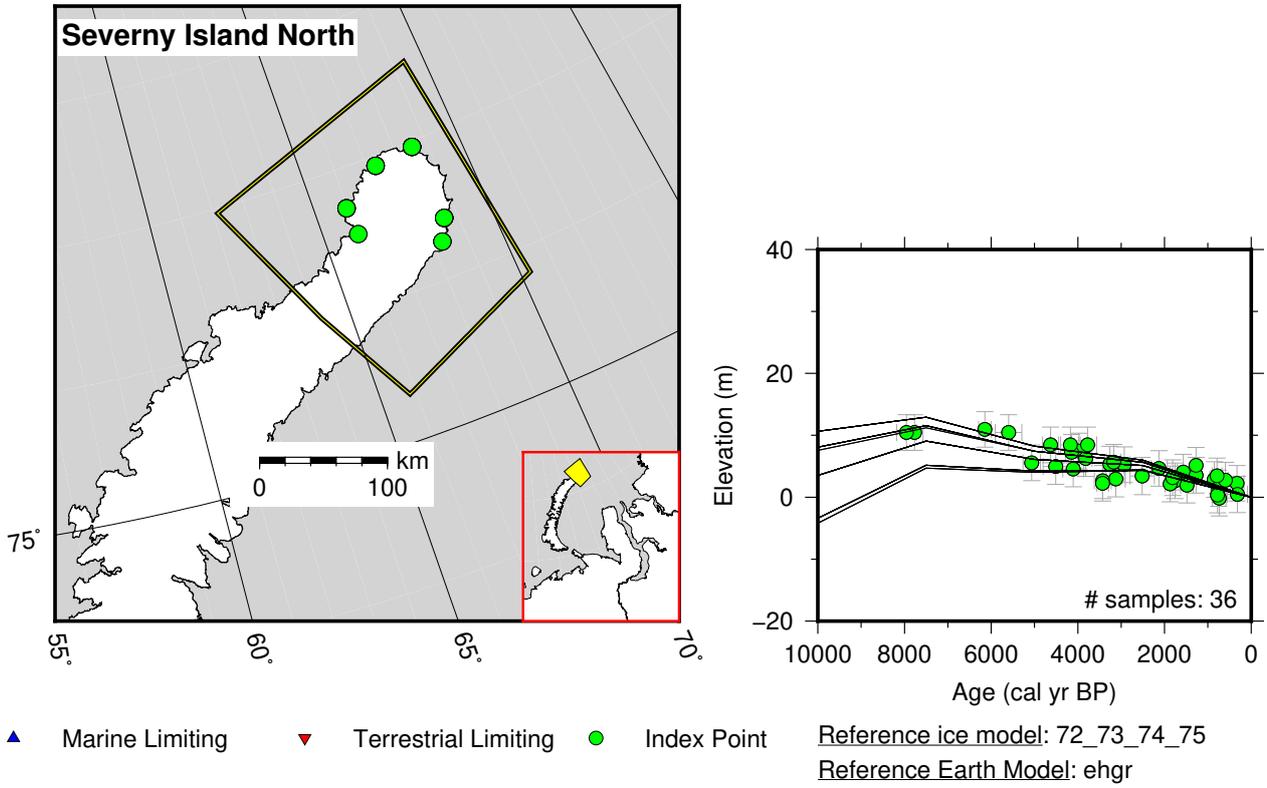
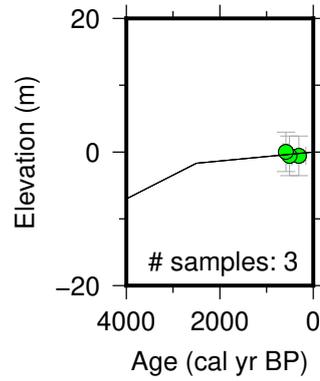
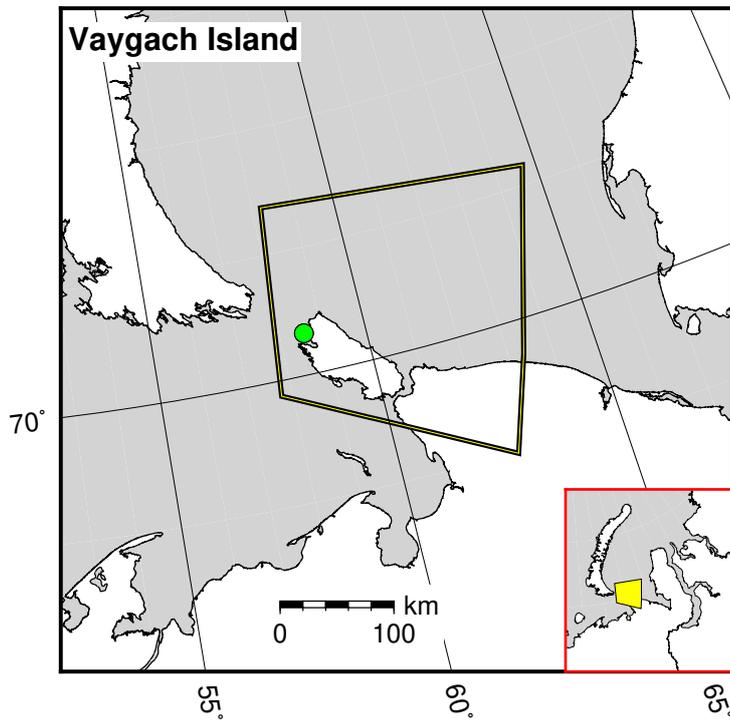


Figure 11: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Severny Island North.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

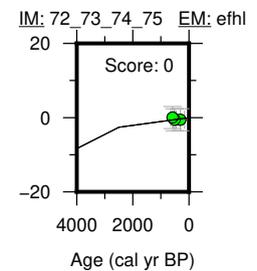
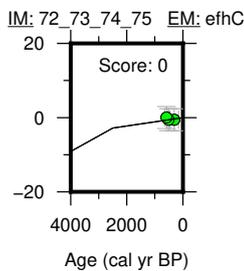
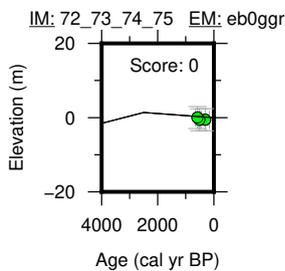
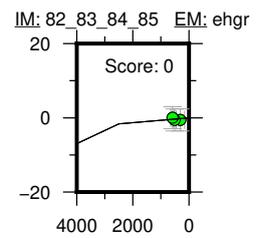
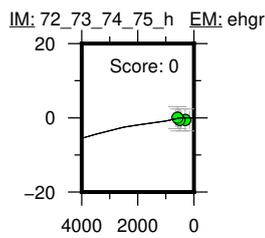
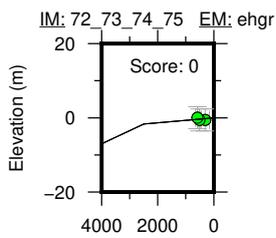


Figure 12: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Vaygach Island.

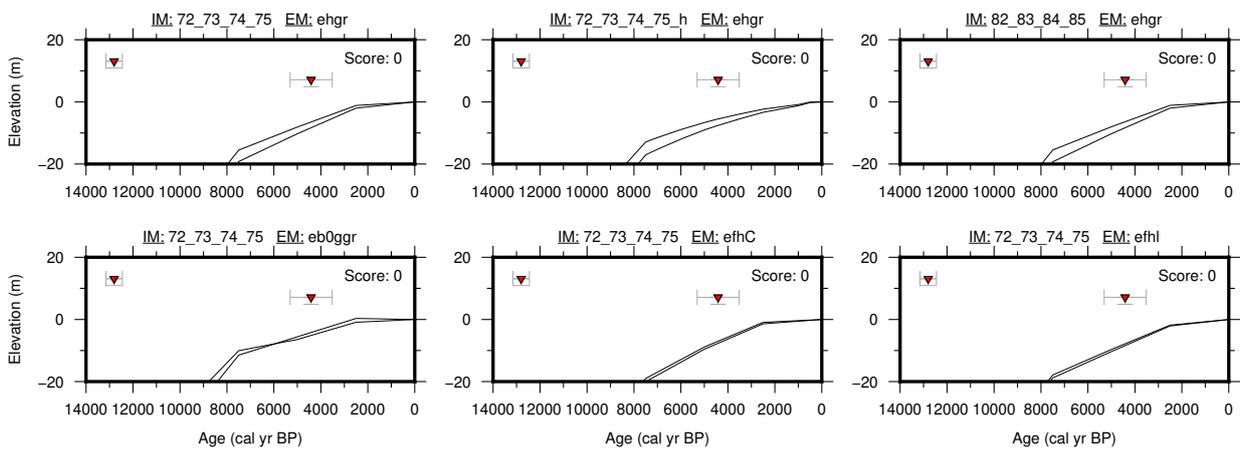
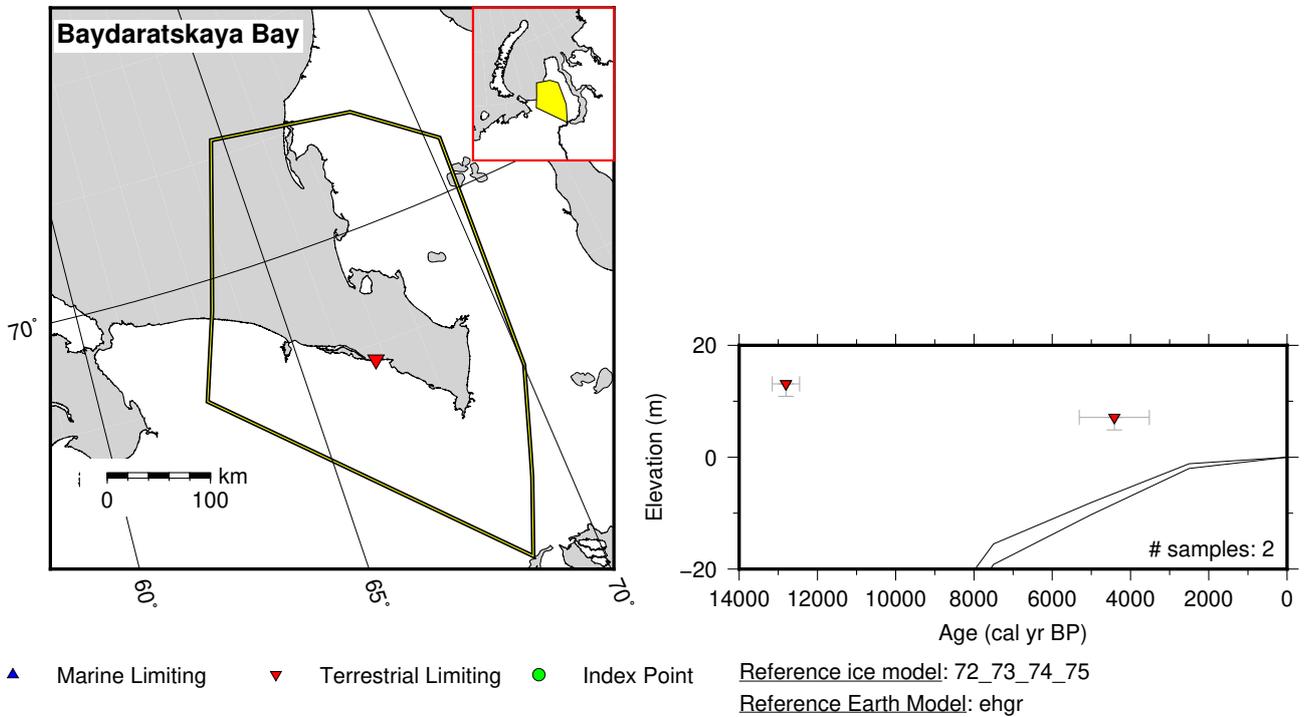
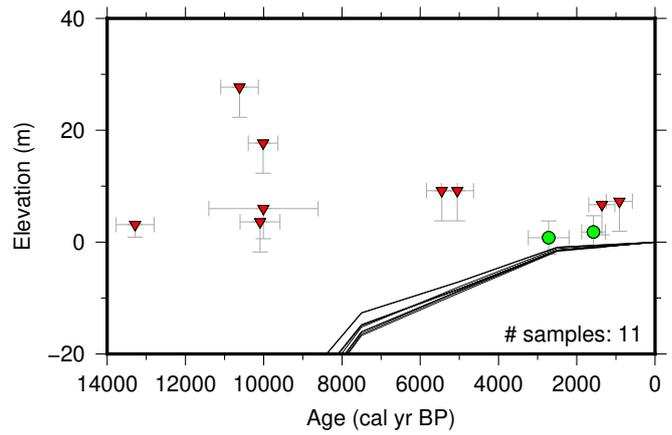
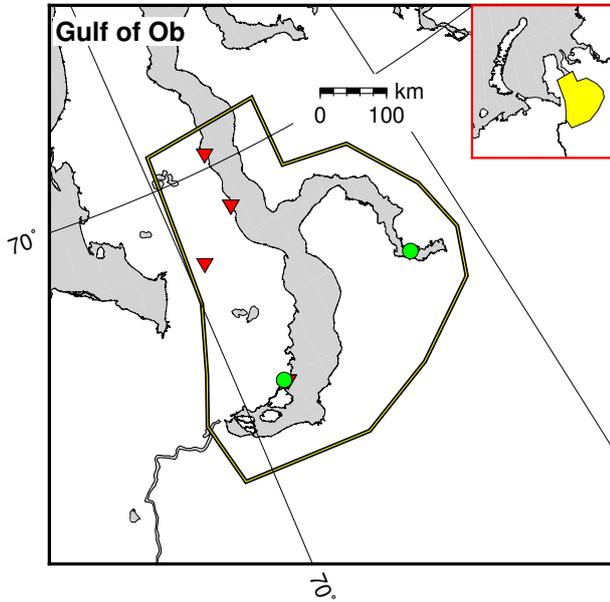


Figure 13: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Baydaratskaya Bay.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

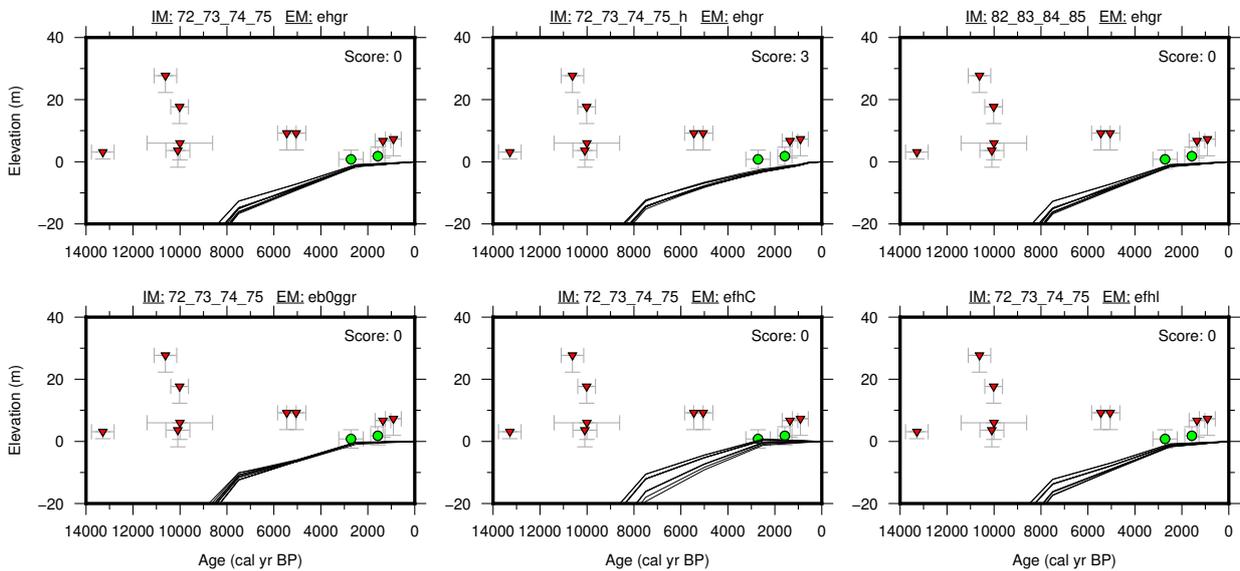
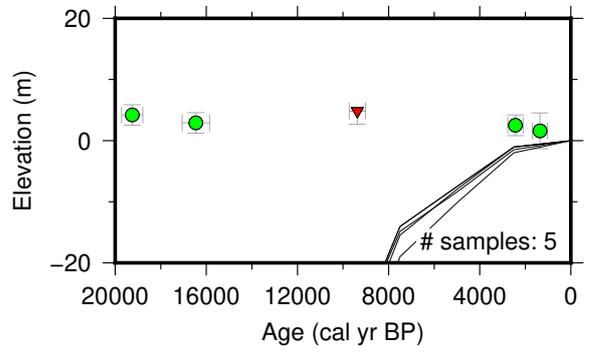
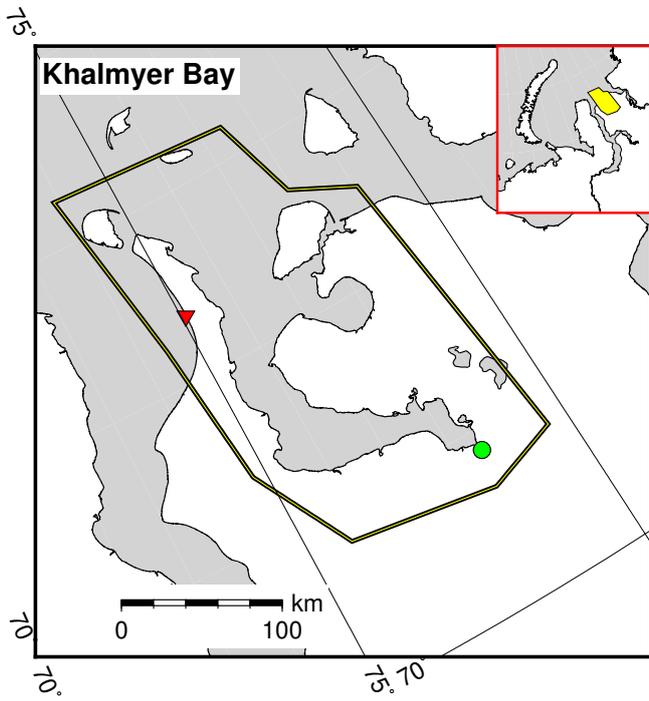


Figure 14: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Gulf of Ob.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

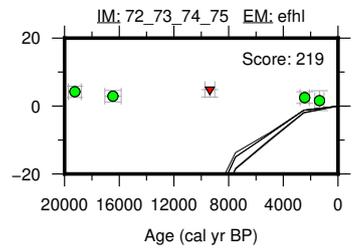
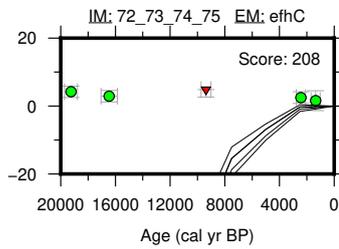
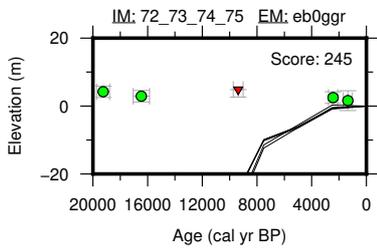
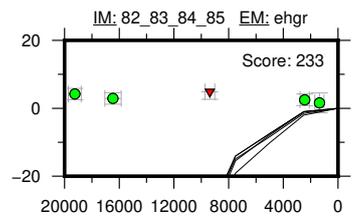
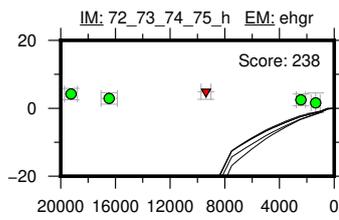
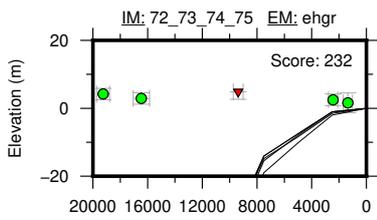
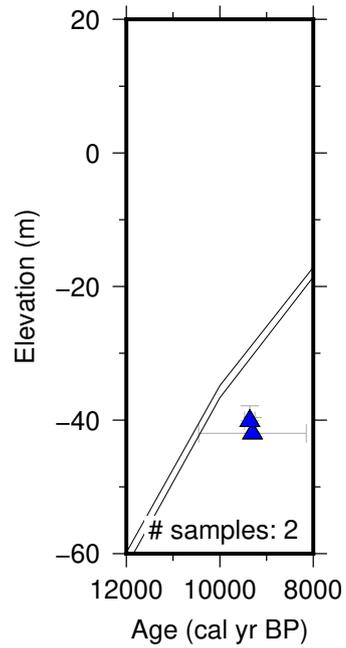
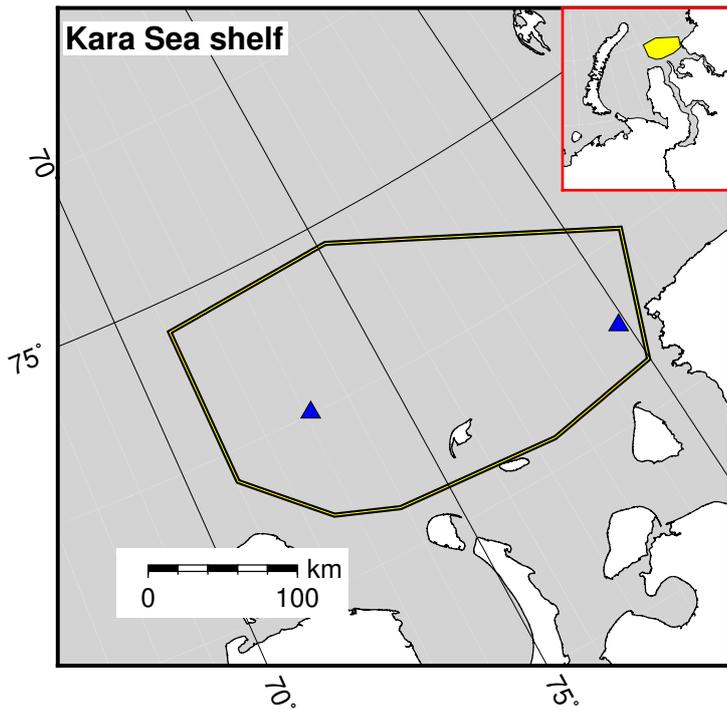


Figure 15: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Khalmyer Bay.



- ▲ Marine Limiting
- ▼ Terrestrial Limiting
- Index Point

Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

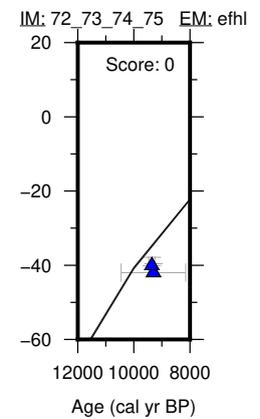
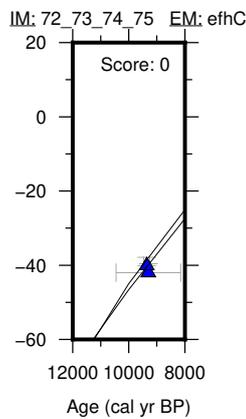
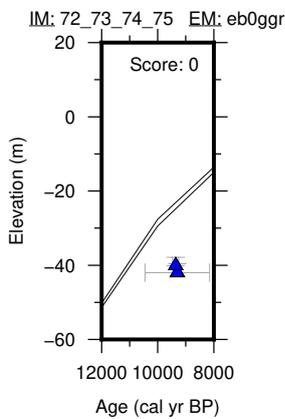
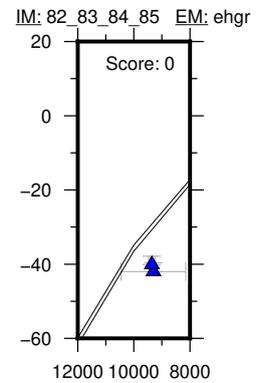
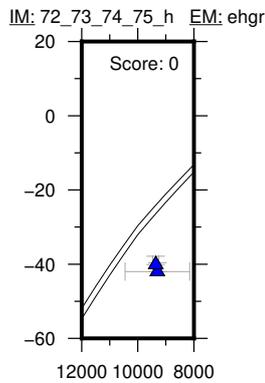
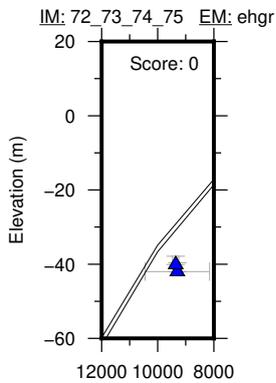
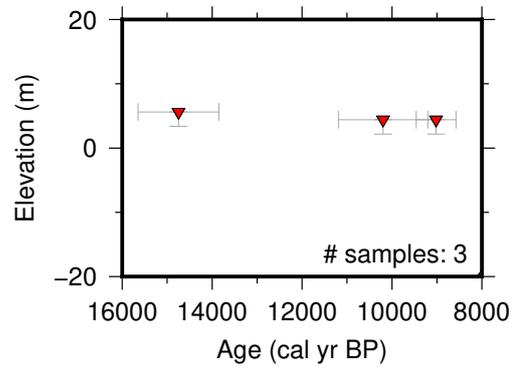
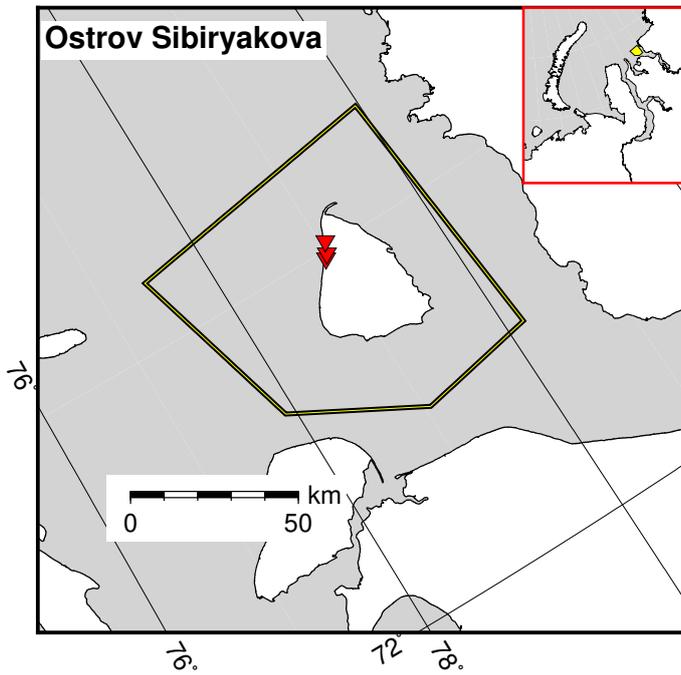


Figure 16: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Kara Sea shelf.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

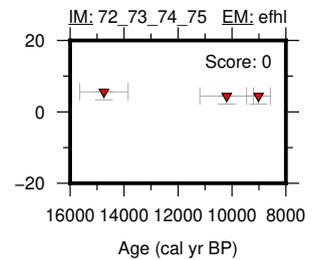
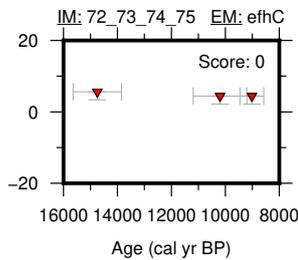
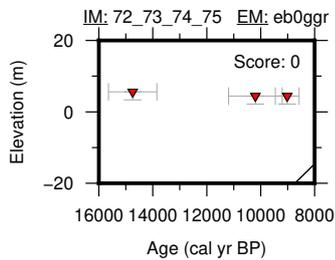
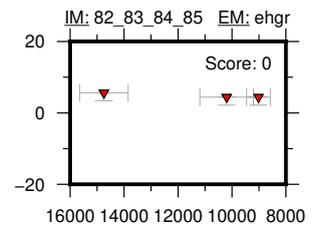
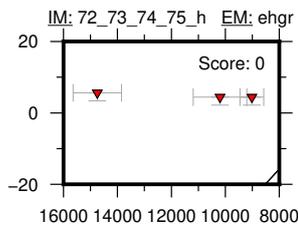
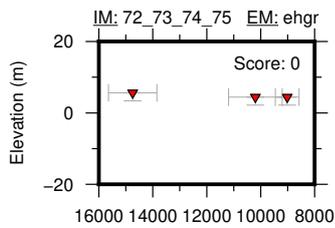


Figure 17: Paleo-sea level and comparison of six models for subregion Kara Sea - Novaya Zemlya, location Ostrov Sibiryakova.

### 7.3 Southern Barents Sea

References for the data used in each location.

**Rolfsoya:** Romundset et al. (2011)

**Norkinn:** Romundset et al. (2011)

**Pechengsky:** Arslanov et al. (1974); Corner et al. (1999); Koshechkin (1979)

**Murmansk:** Arslanov et al. (1974); Corner et al. (2001); Gurevich and Liyva (1975); Gurina (1971); Mityaev M. V. (2008); Tanner (1907)

**Voronya River:** Arslanov et al. (1974); Snyder et al. (1997)

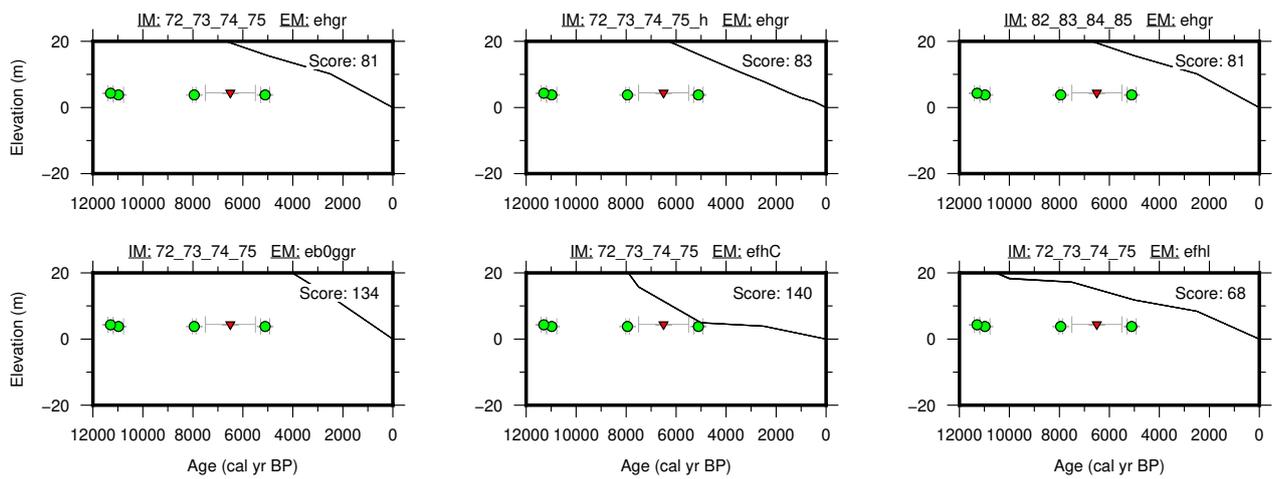
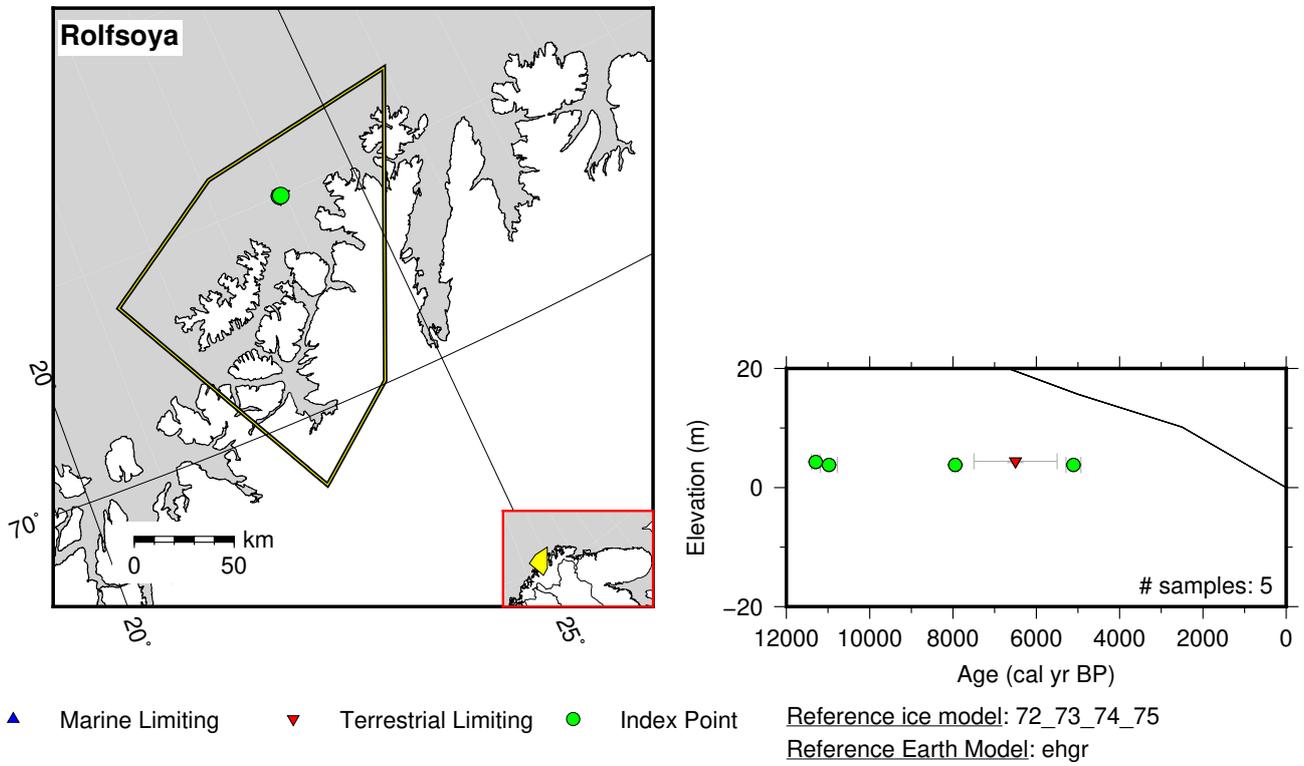
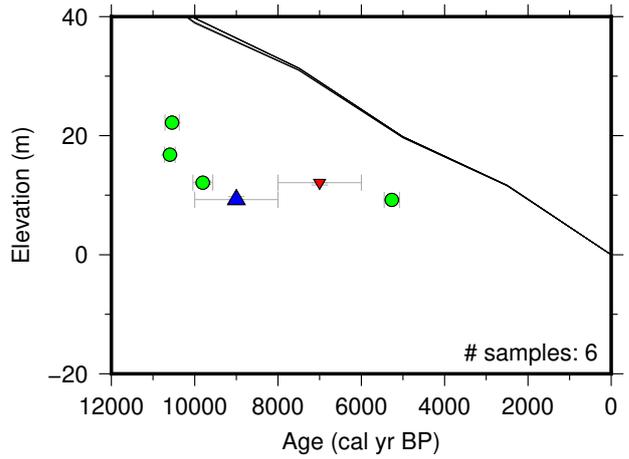
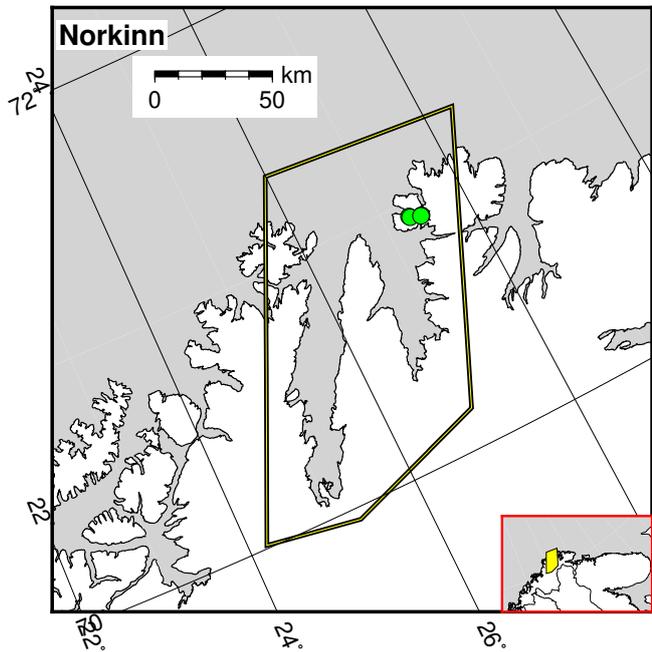


Figure 18: Paleo-sea level and comparison of six models for subregion Southern Barents Sea, location Rolfsoya.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

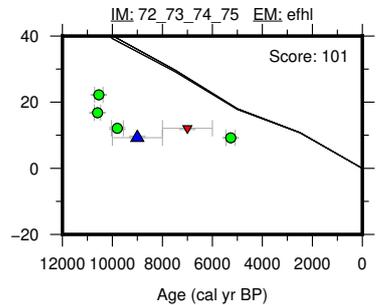
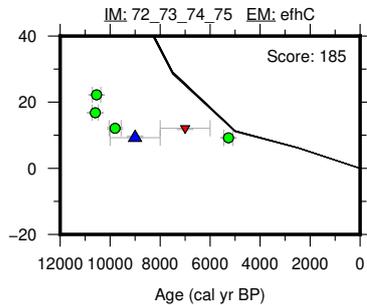
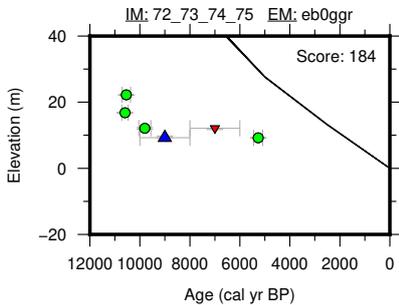
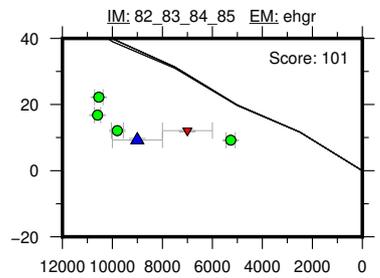
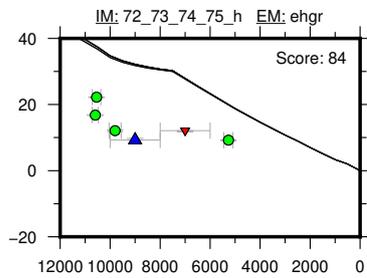
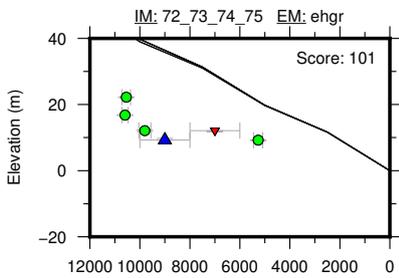


Figure 19: Paleo-sea level and comparison of six models for subregion Southern Barents Sea, location Norkinn.

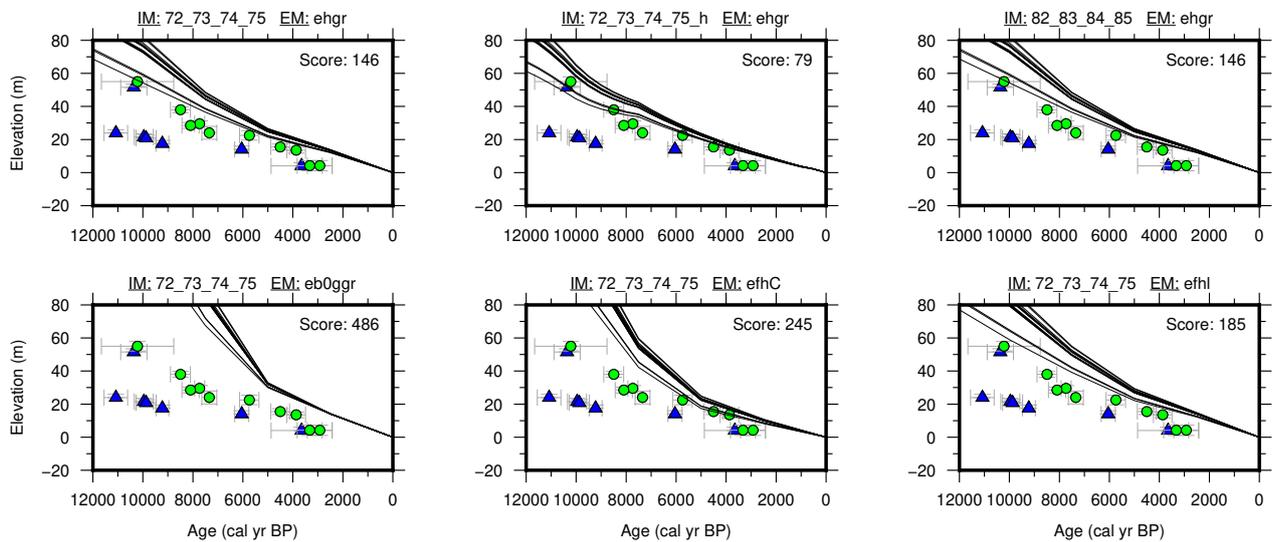
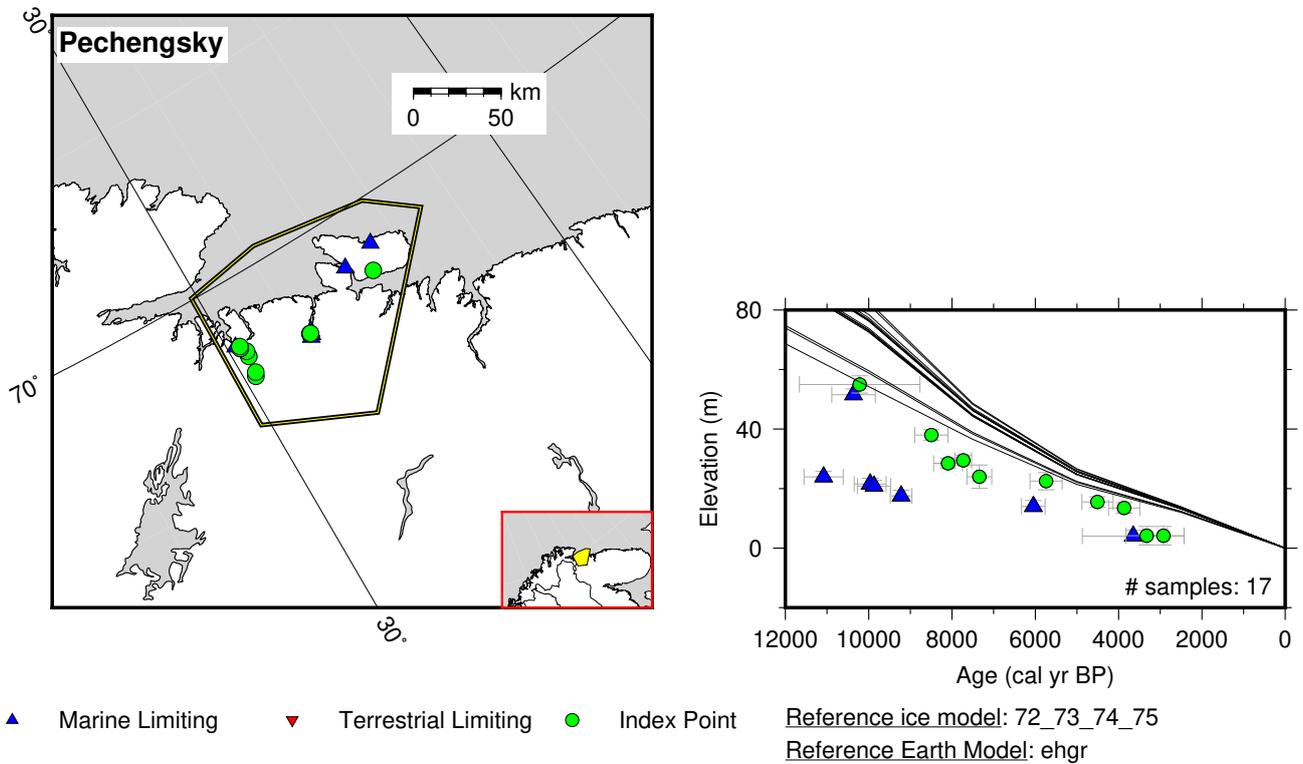


Figure 20: Paleo-sea level and comparison of six models for subregion Southern Barents Sea, location Pechengsky.

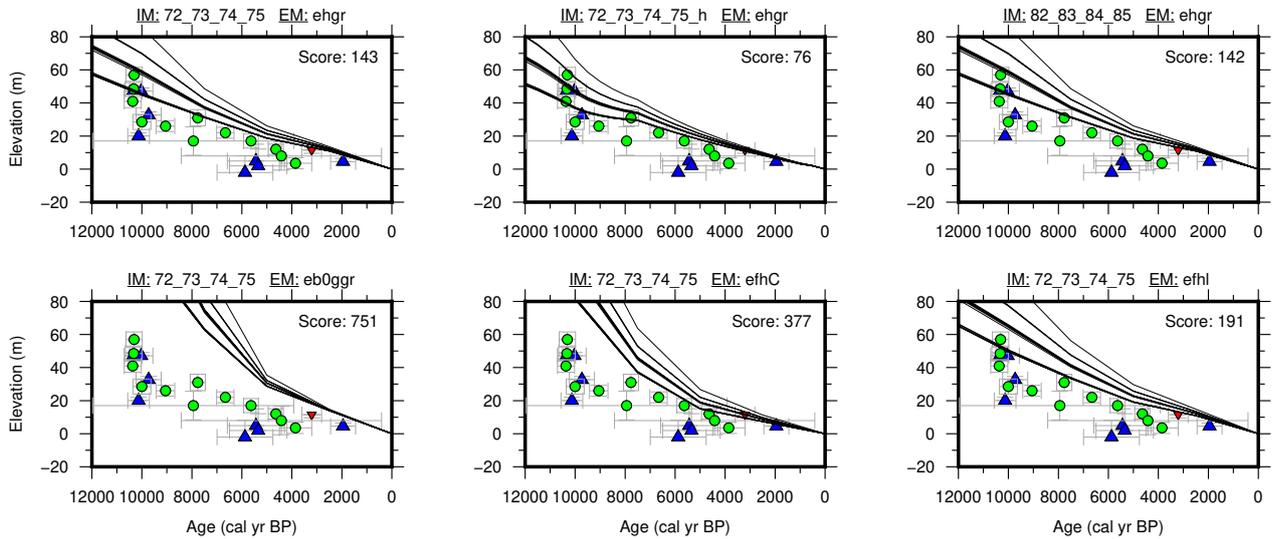
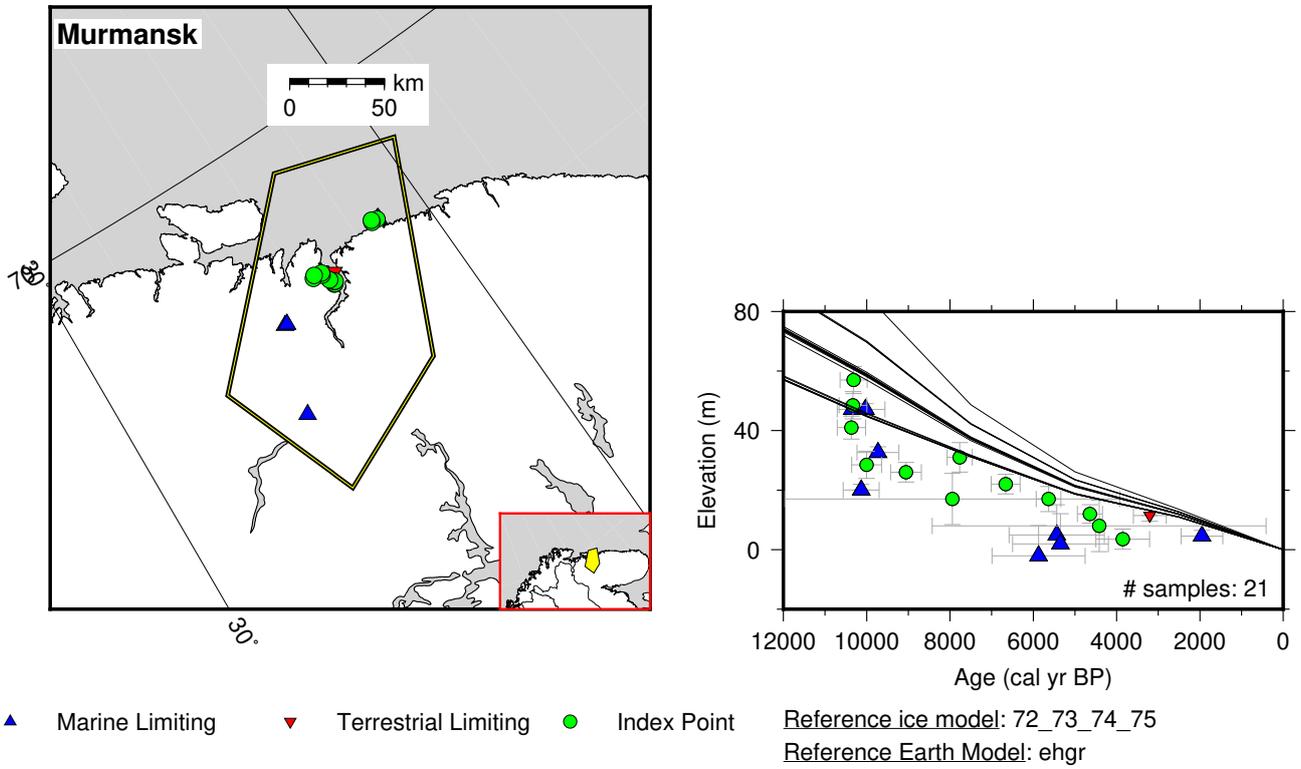
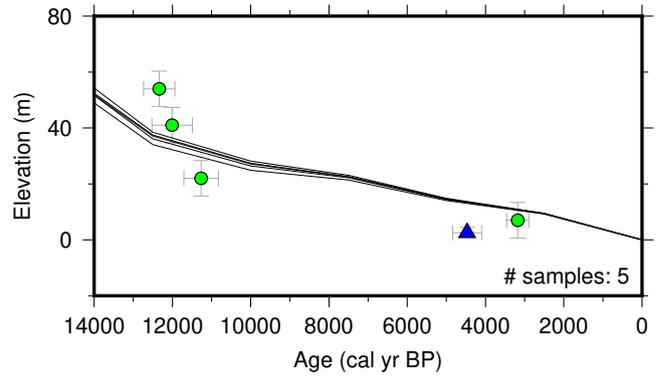
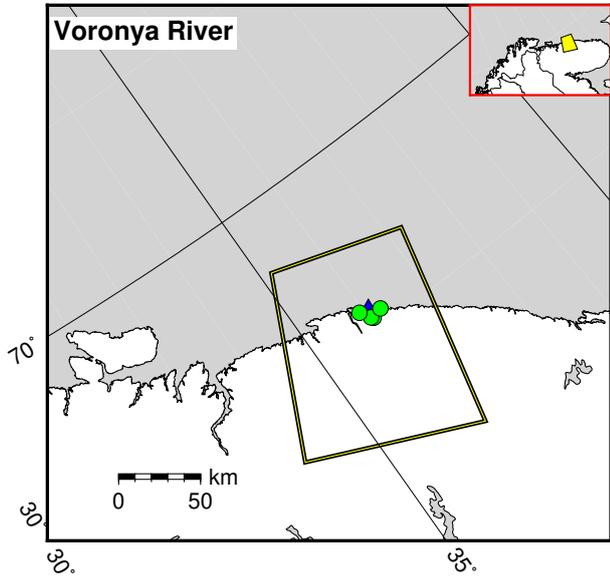


Figure 21: Paleo-sea level and comparison of six models for subregion Southern Barents Sea, location Murmansk.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

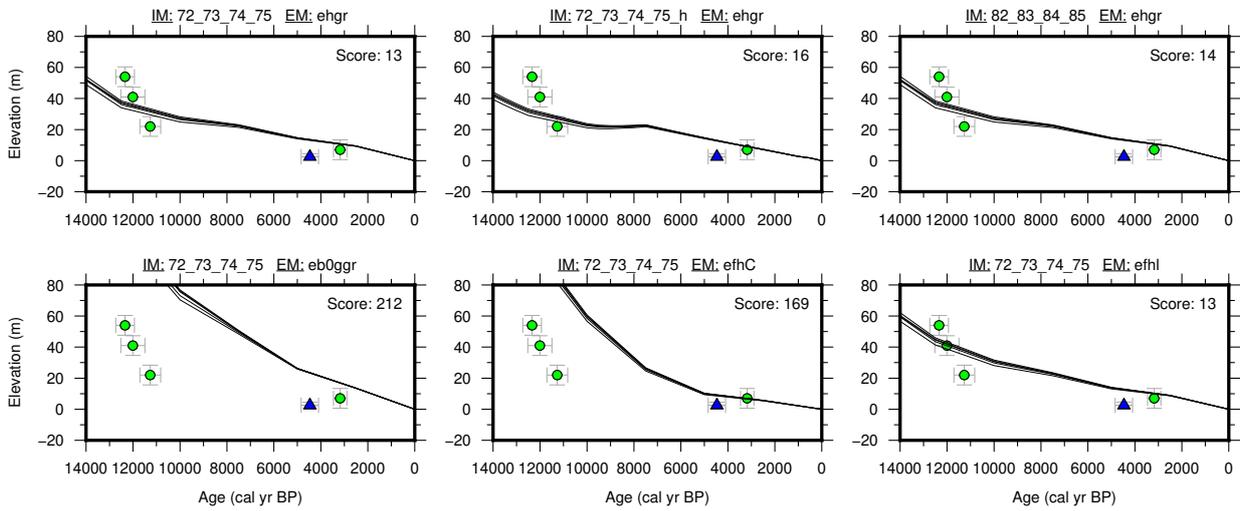


Figure 22: Paleo-sea level and comparison of six models for subregion Southern Barents Sea, location Voronya River.

## 7.4 Svalbard

References for the data used in each location.

**Bockfjorden:** Salvigsen and Høgvard (2006)

**Broggerhalvoya:** Forman et al. (1987, 2004)

**Ytterdalen:** Landvik et al. (1987)

**Sorkapp Land:** Salvigsen and Elgersma (1993)

**Agardbukta:** Salvigsen and Mangerud (1991)

**Southern Edgeoya:** Bondevik et al. (1995)

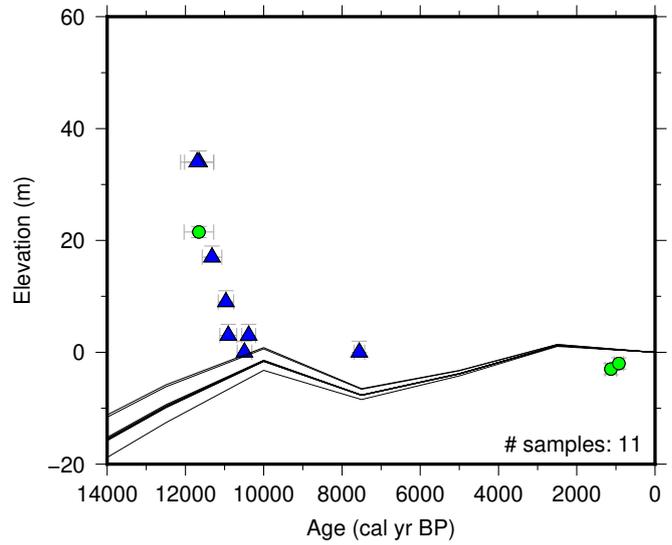
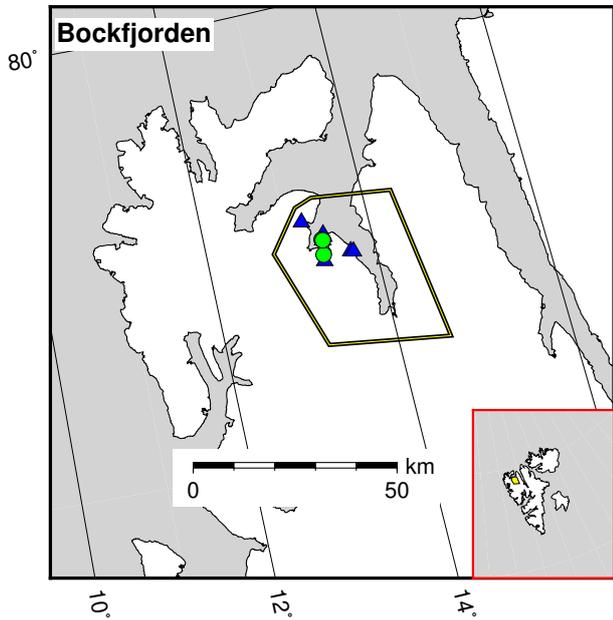
**Diskobukta:** Bondevik et al. (1995)

**Humla:** Bondevik et al. (1995)

**Kapp Ziehen:** Bondevik et al. (1995)

**Svartknausflya:** Salvigsen (1978)

**Kongsoya:** Salvigsen (1981)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

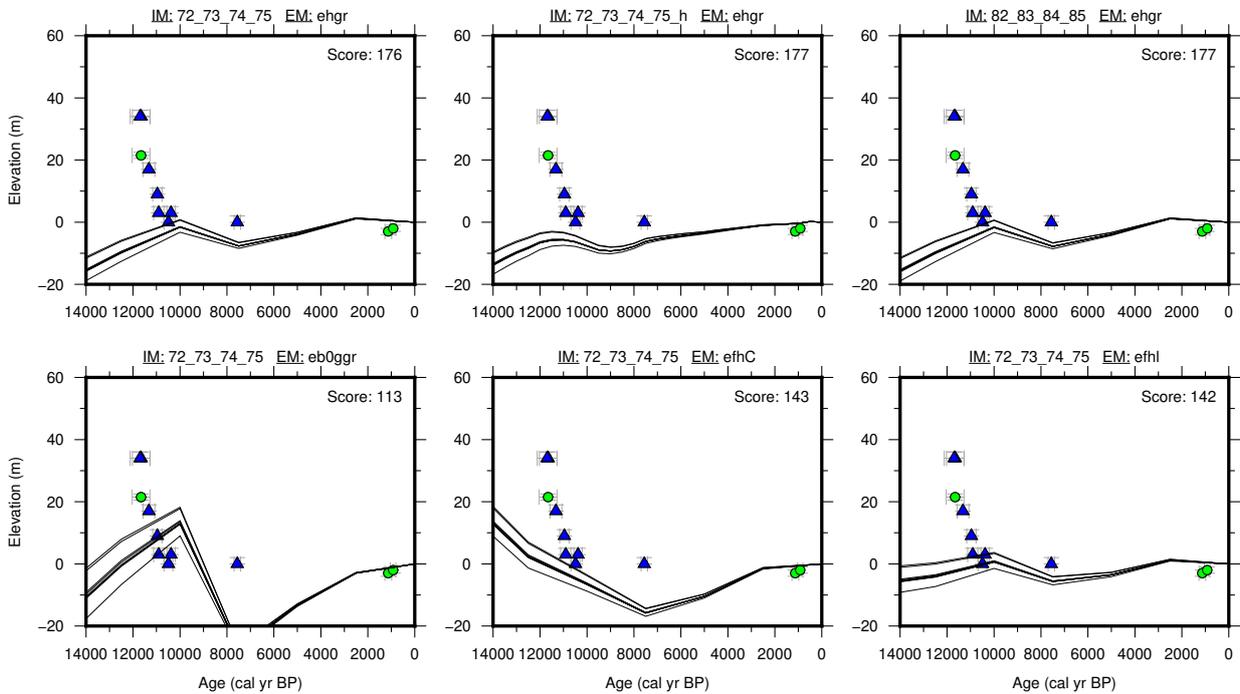
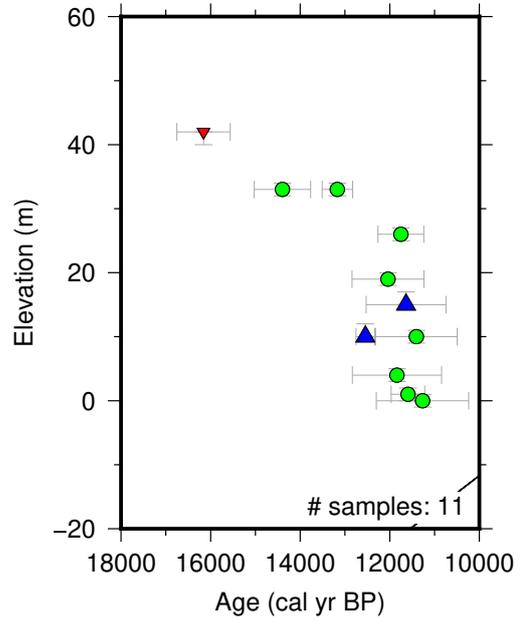
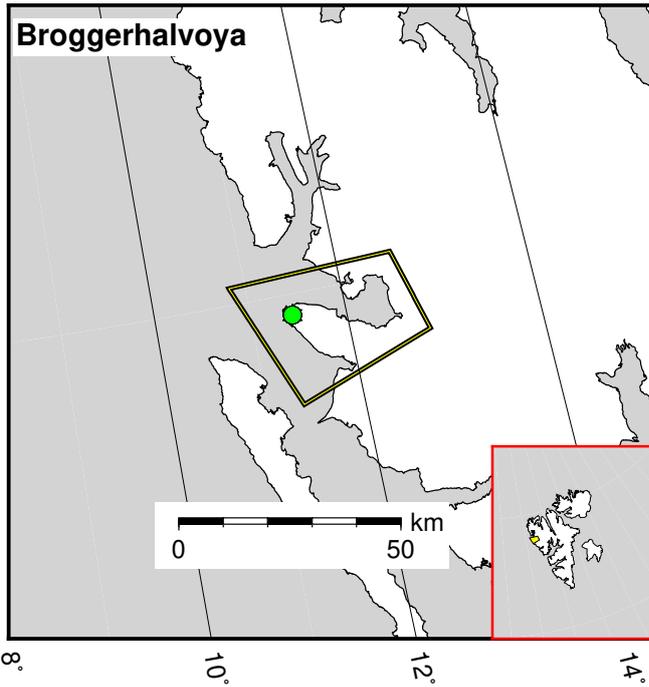


Figure 23: Paleo-sea level and comparison of six models for subregion Svalbard, location Bockfjorden.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

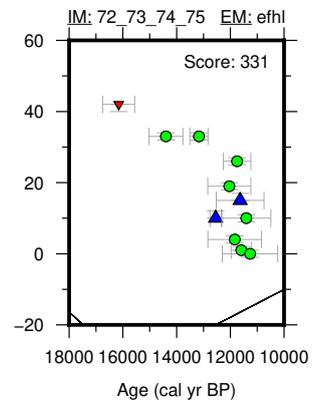
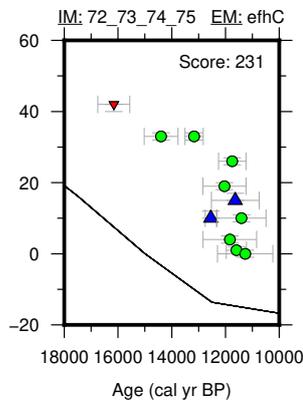
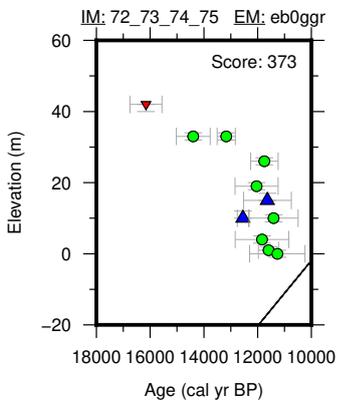
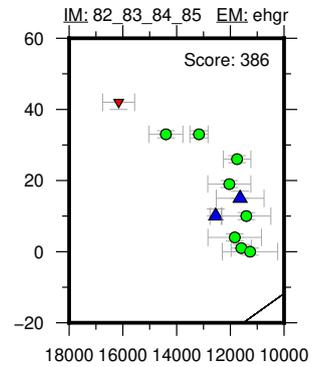
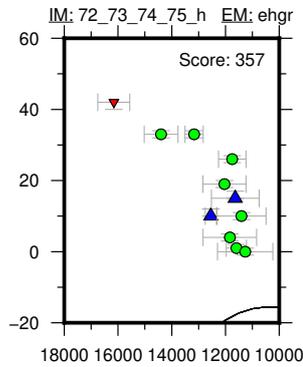
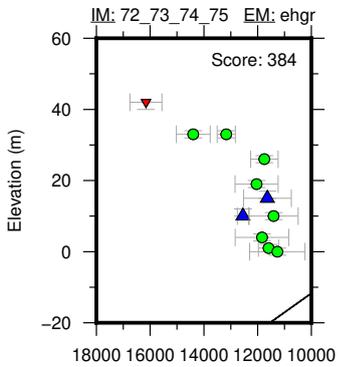
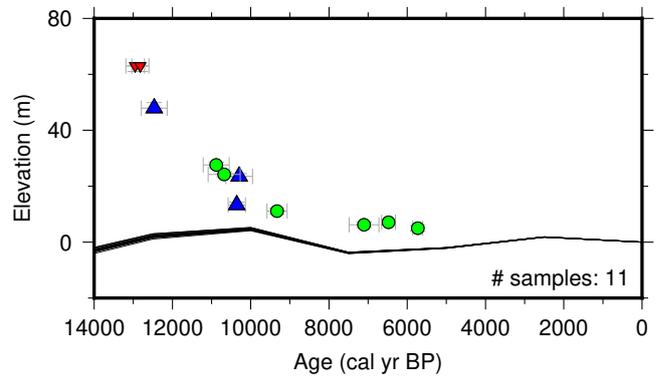
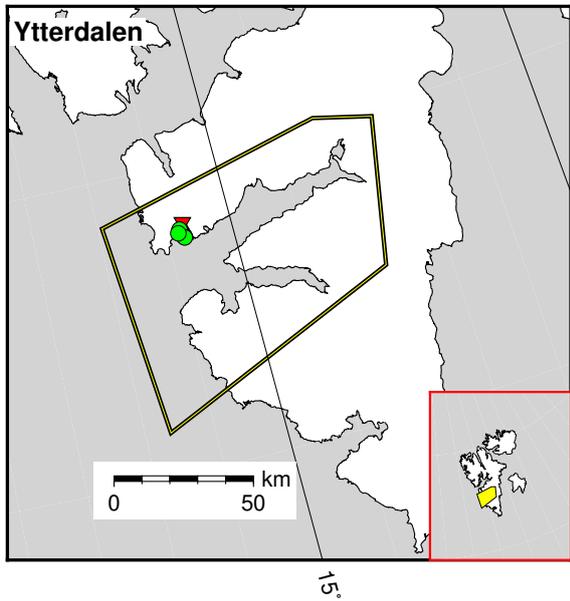


Figure 24: Paleo-sea level and comparison of six models for subregion Svalbard, location Broggerhalvoya.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

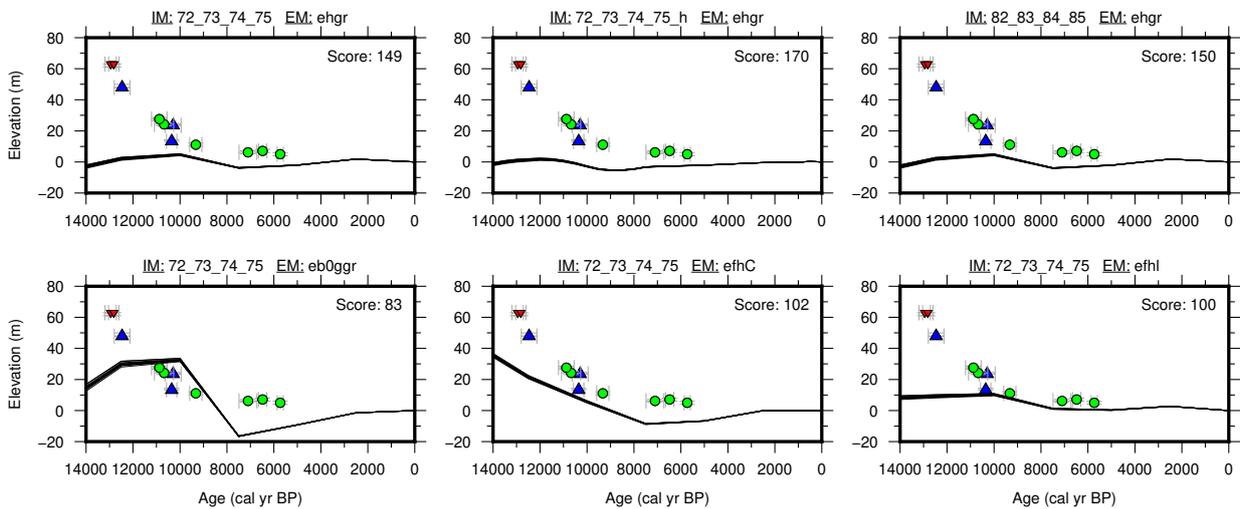
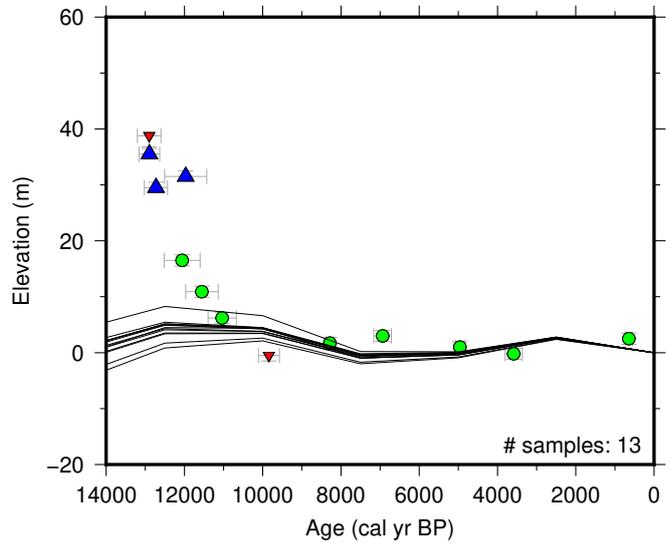
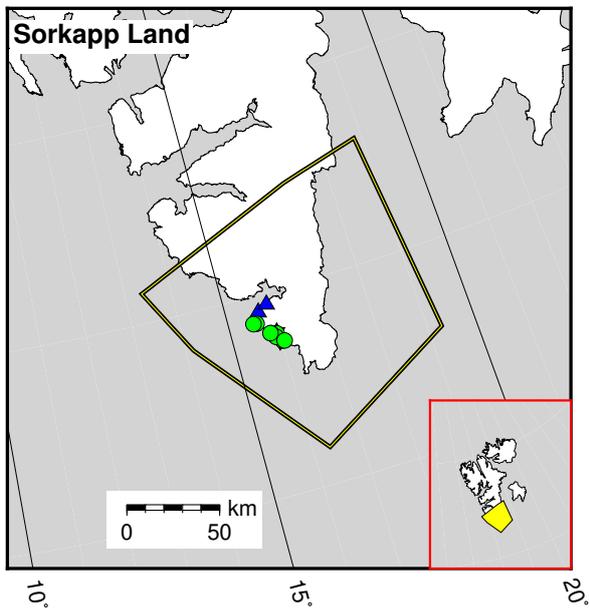


Figure 25: Paleo-sea level and comparison of six models for subregion Svalbard, location Ytterdalen.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

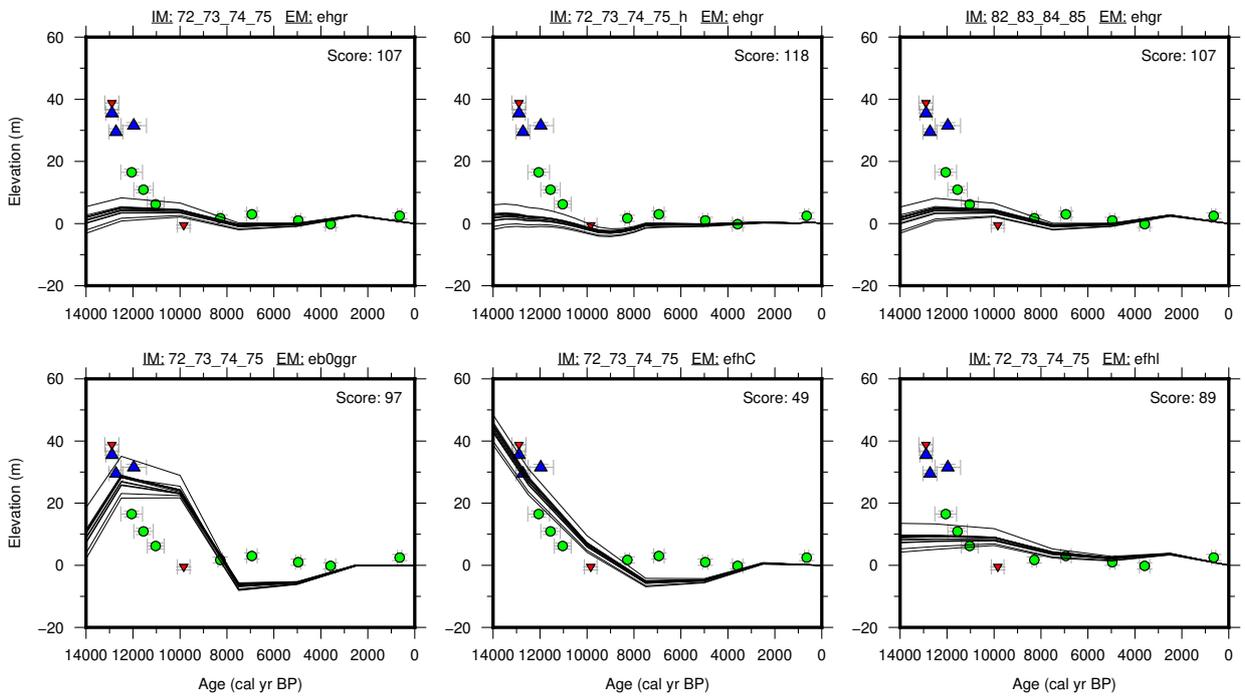
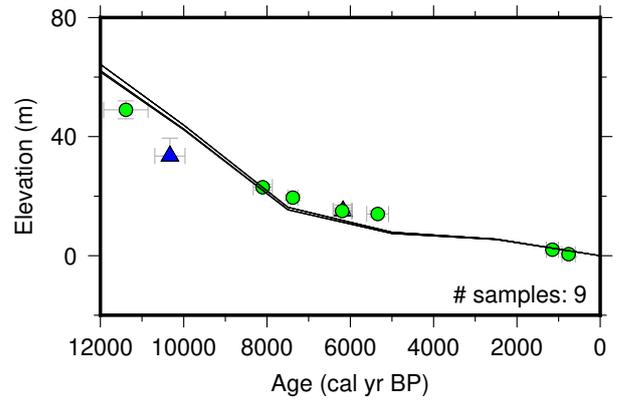
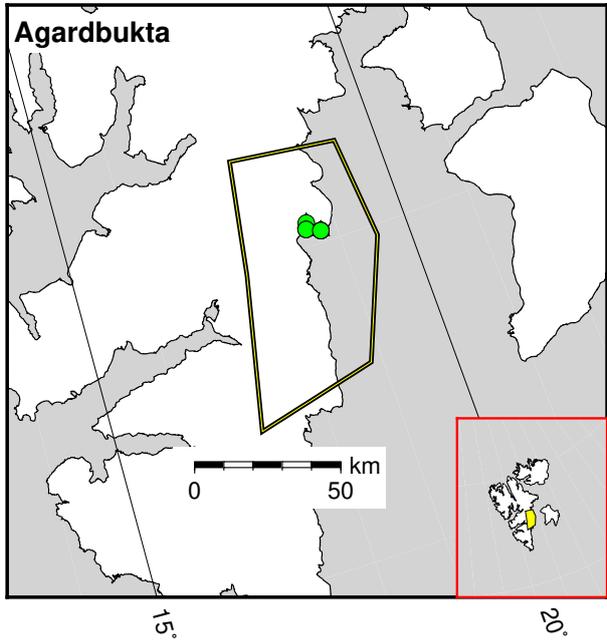


Figure 26: Paleo-sea level and comparison of six models for subregion Svalbard, location Sorkapp Land.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

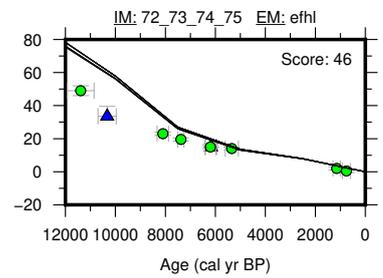
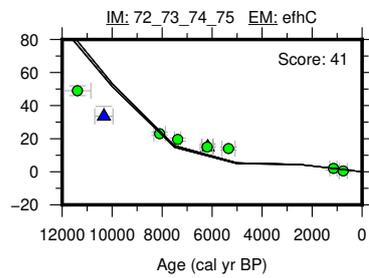
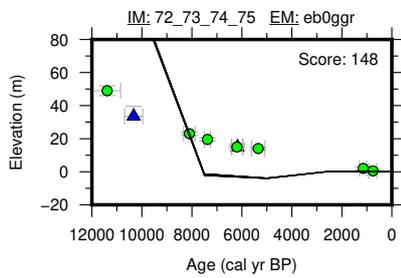
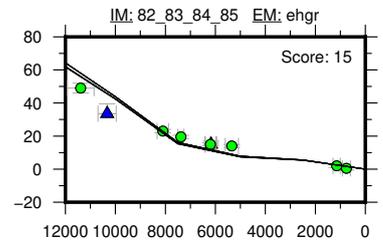
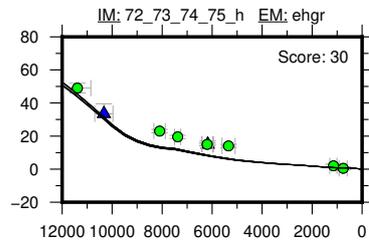
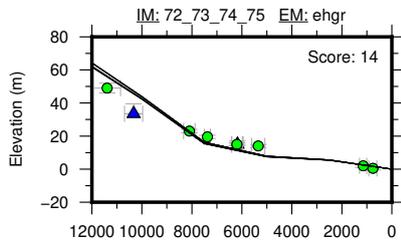
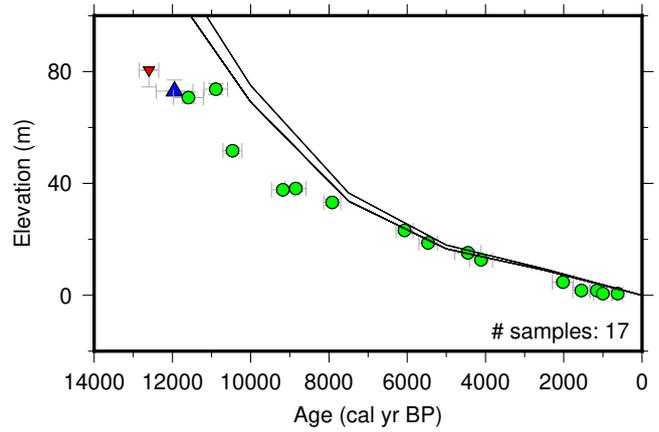
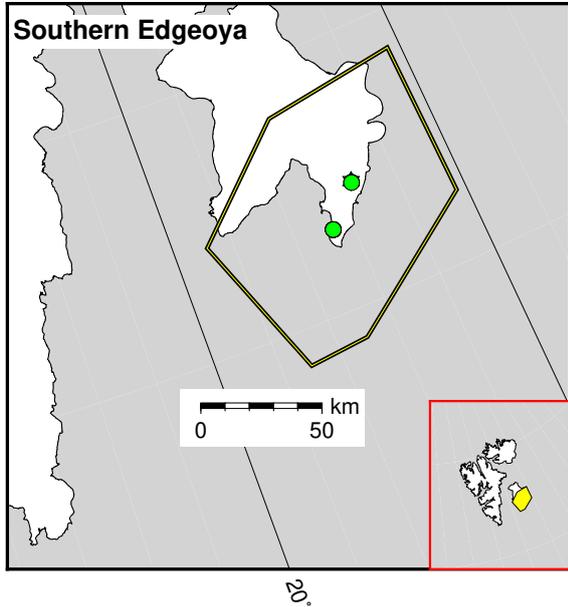


Figure 27: Paleo-sea level and comparison of six models for subregion Svalbard, location Agardbukta.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

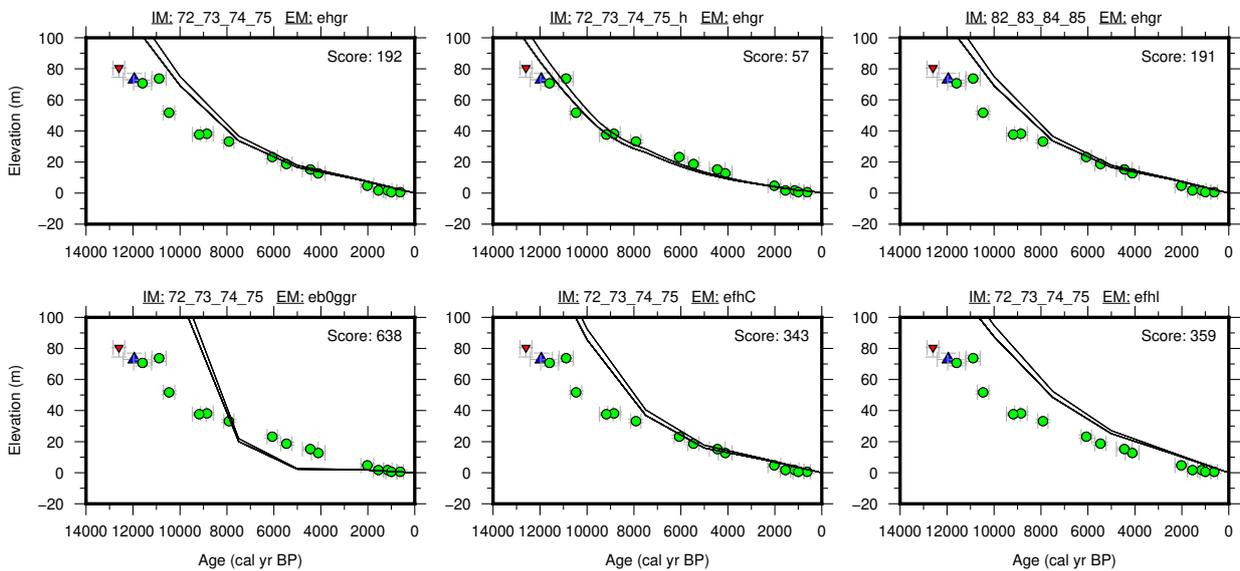


Figure 28: Paleo-sea level and comparison of six models for subregion Svalbard, location Southern Edgeoya.

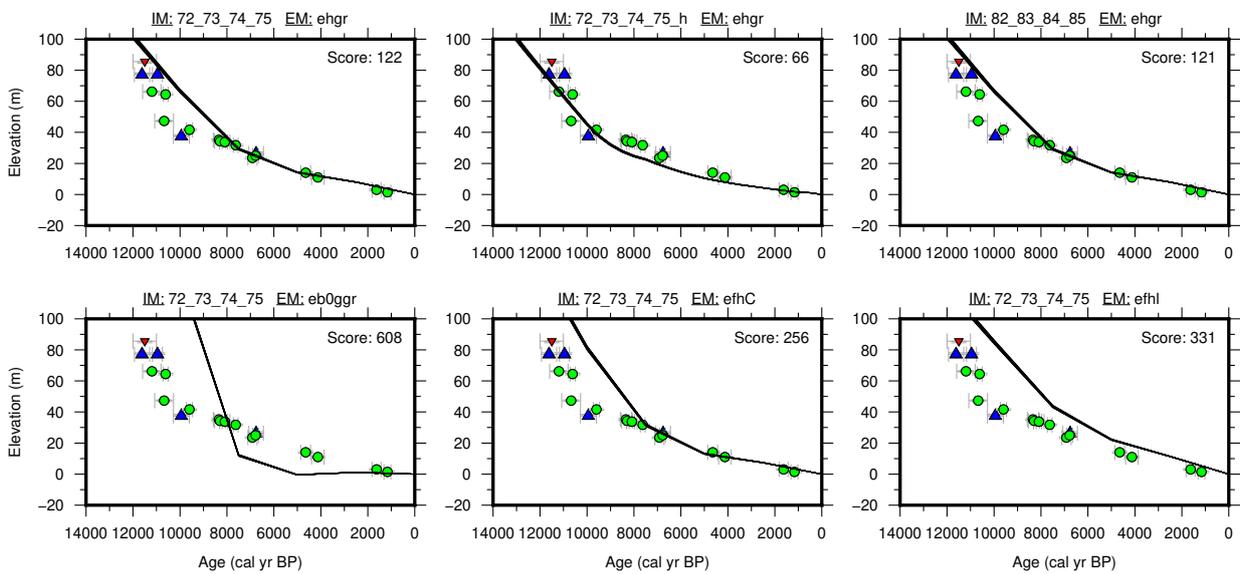
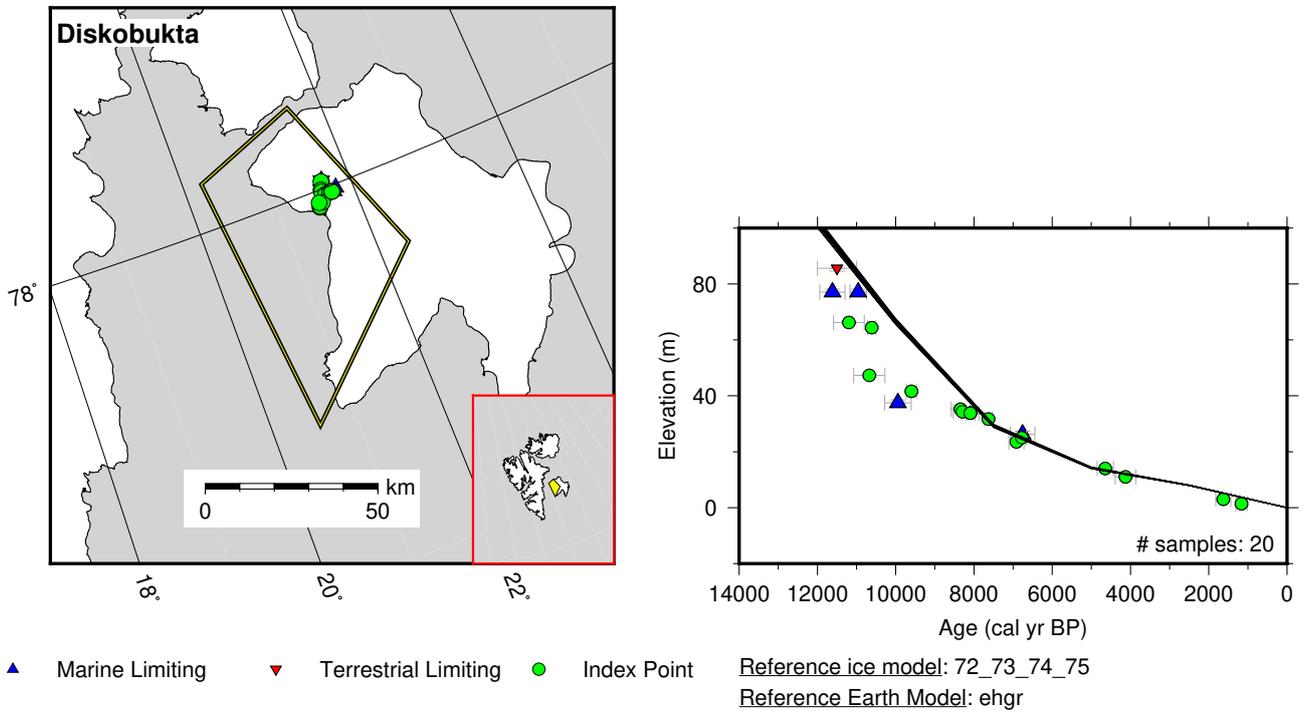


Figure 29: Paleo-sea level and comparison of six models for subregion Svalbard, location Diskobukta.

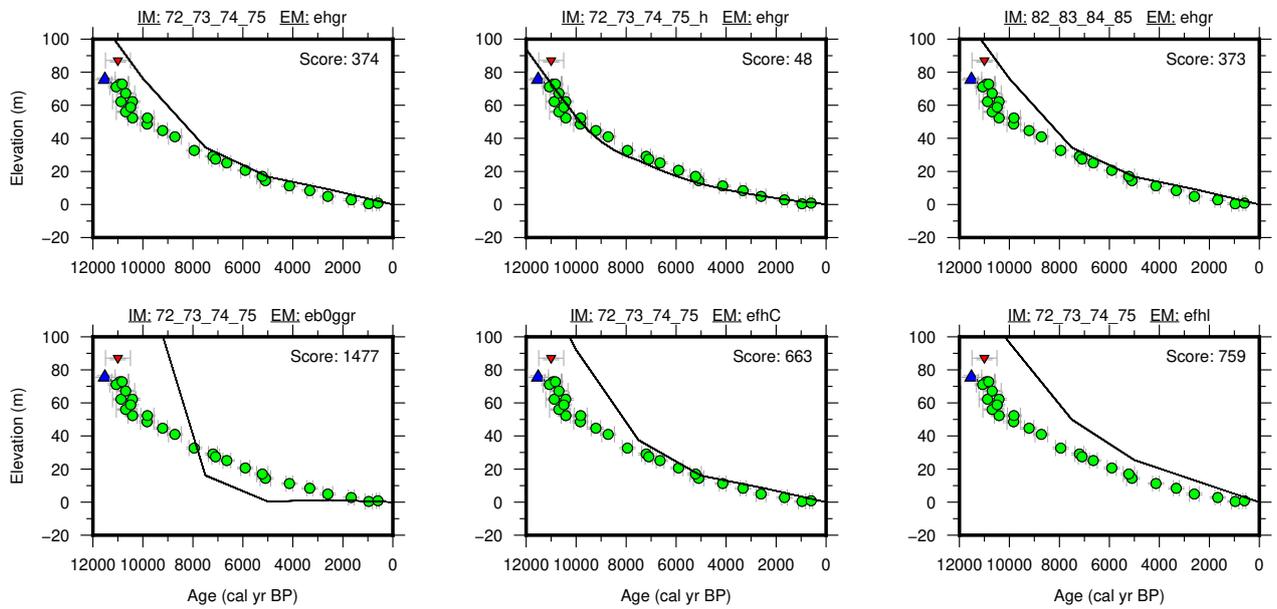
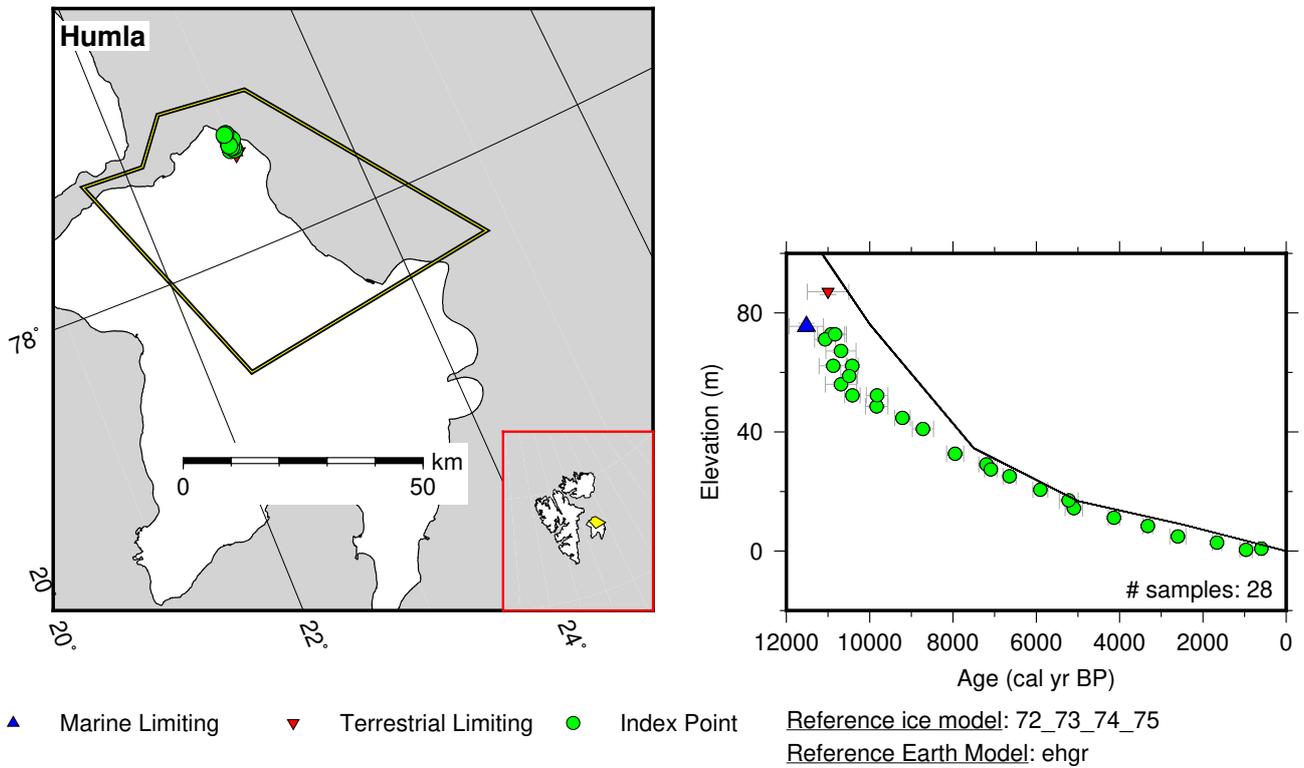


Figure 30: Paleo-sea level and comparison of six models for subregion Svalbard, location Humla.

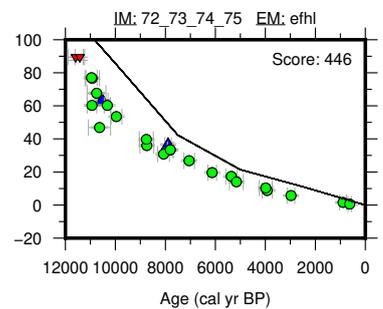
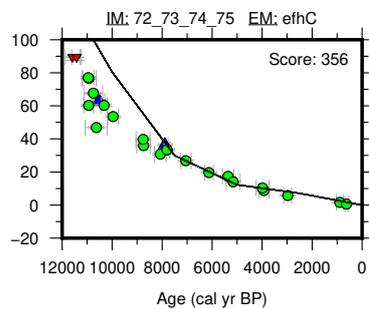
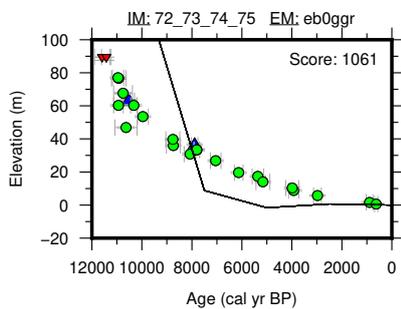
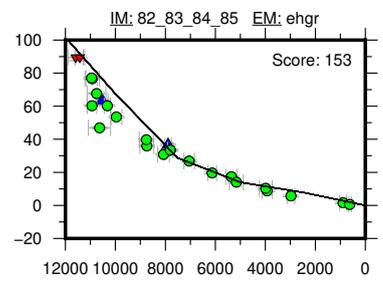
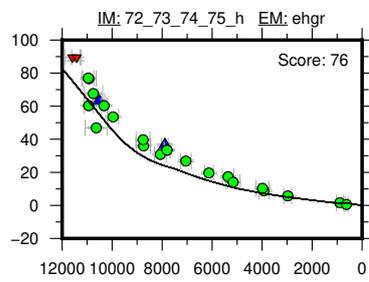
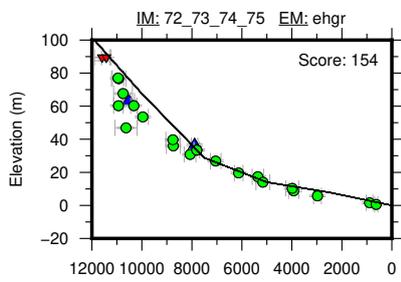
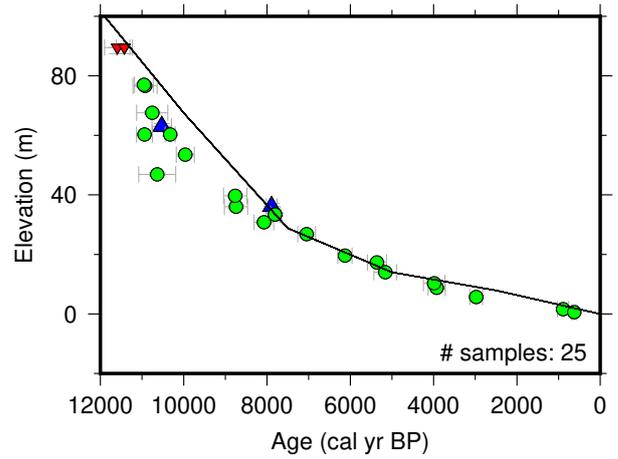
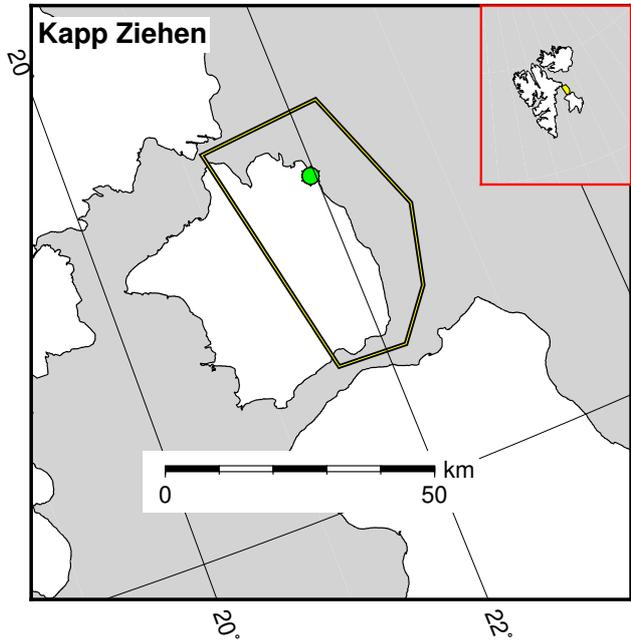


Figure 31: Paleo-sea level and comparison of six models for subregion Svalbard, location Kapp Ziehen.

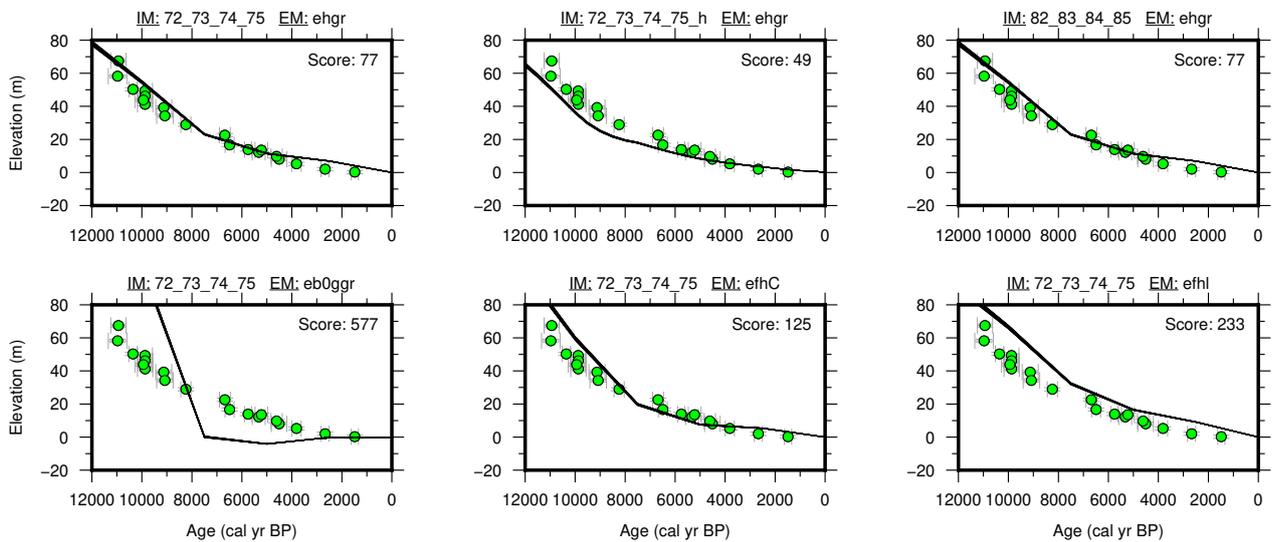
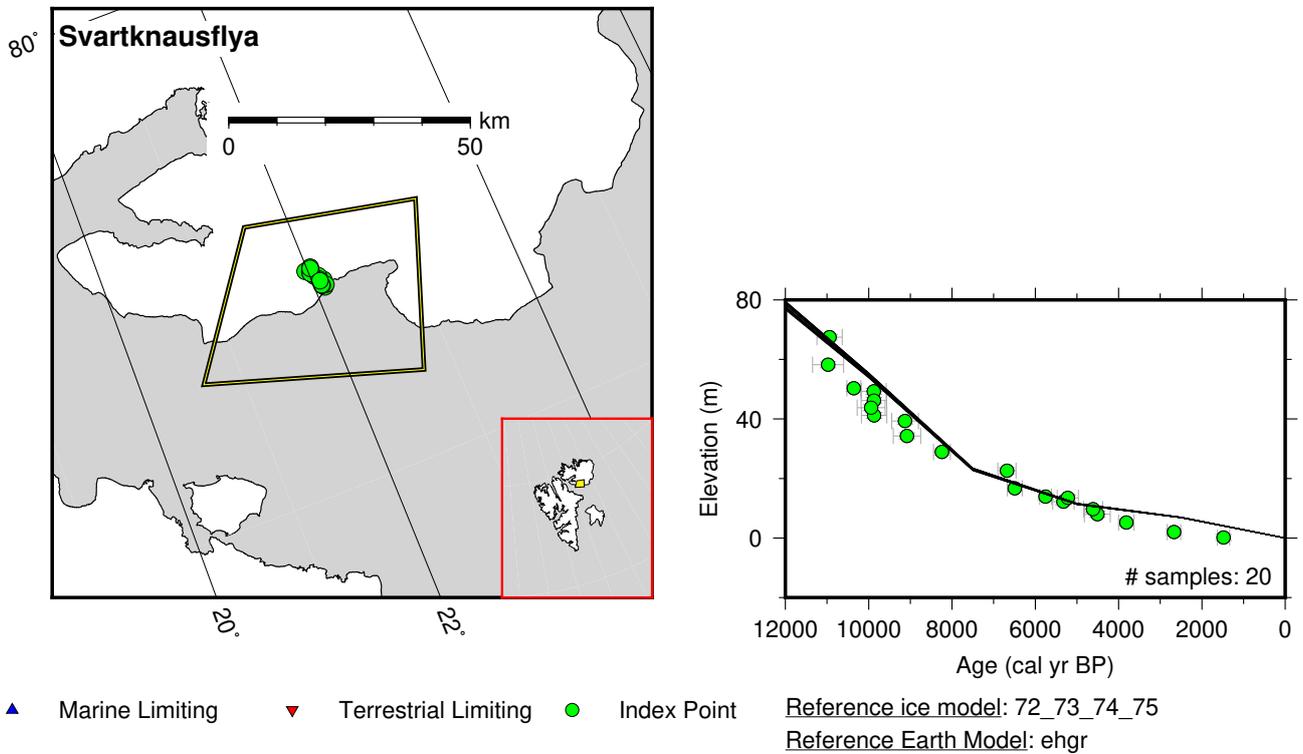


Figure 32: Paleo-sea level and comparison of six models for subregion Svalbard, location Svartknausflya.

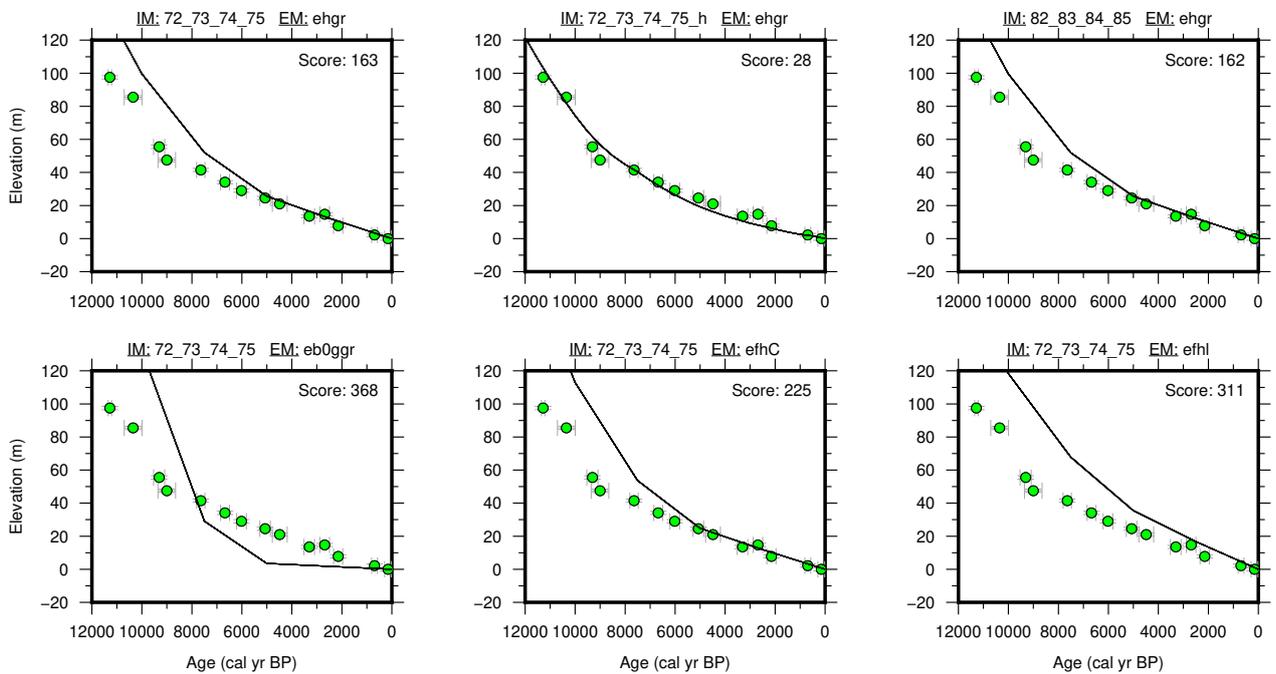
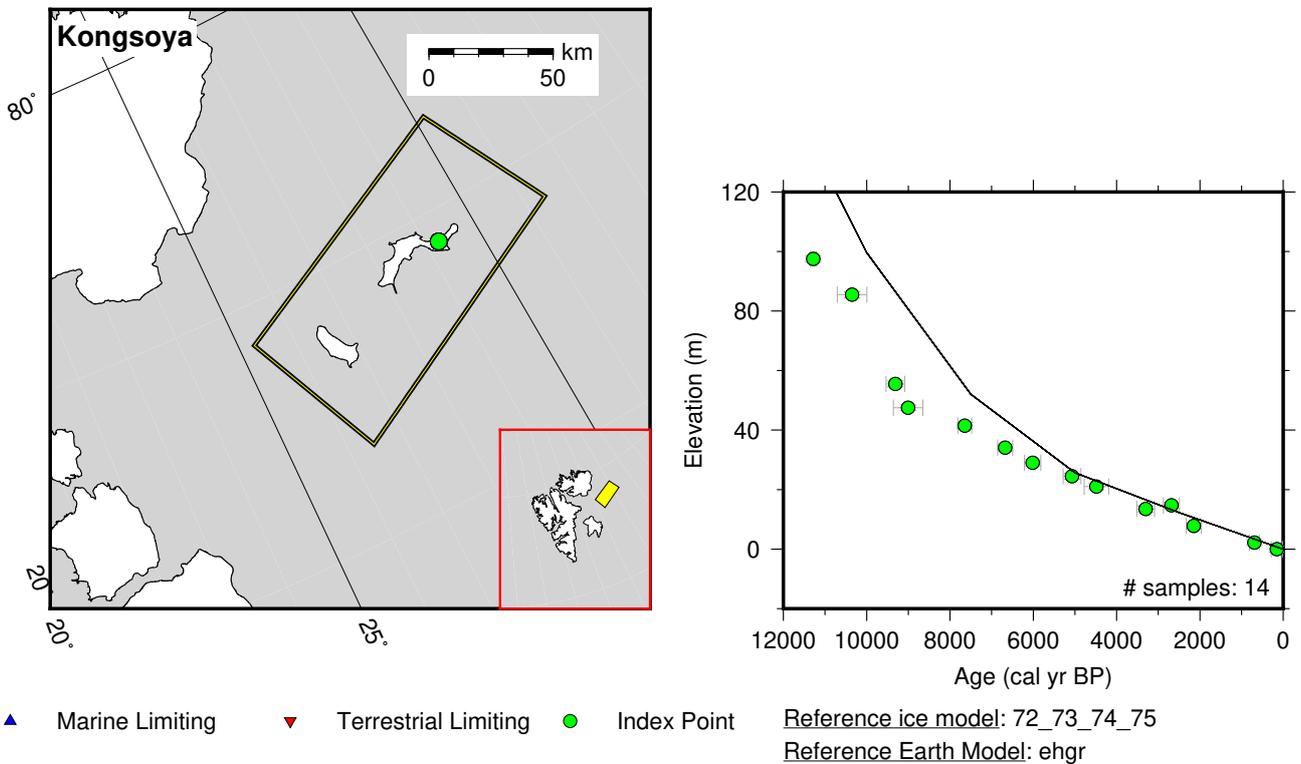


Figure 33: Paleo-sea level and comparison of six models for subregion Svalbard, location Kongsøya.

## 7.5 Western Siberia

References for the data used in each location.

**Severnaya Zemlya:** Bolshiyarov and Makeev (1995); Raab et al. (2003)

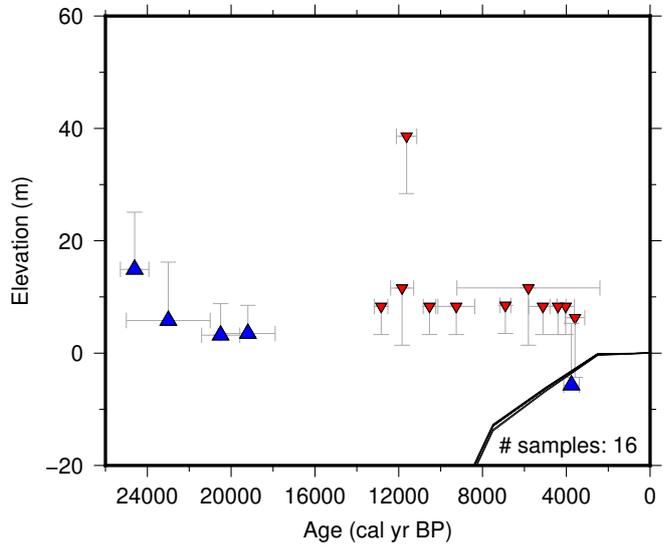
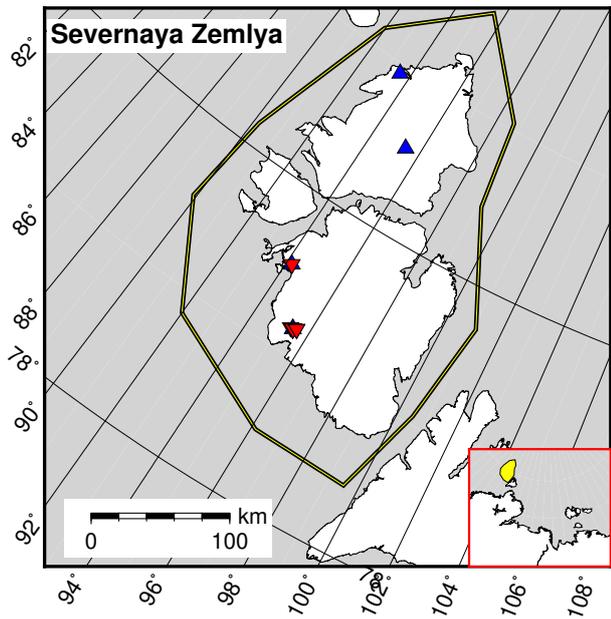
**West Laptev Sea:** Bauch et al. (1999); Bolshiyarov et al. (2013); Winterfeld et al. (2011)

**Olenyok Gulf:** Andreev et al. (2004); Bolshiyarov et al. (2013); Makarov (2009)

**Lena Delta:** Makarov (2009)

**New Siberian Islands:** Anisimov et al. (2009a); Bolshiyarov et al. (2013); Polyakova et al. (2005)

**Zhokhov Island:** Anisimov et al. (2009b)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

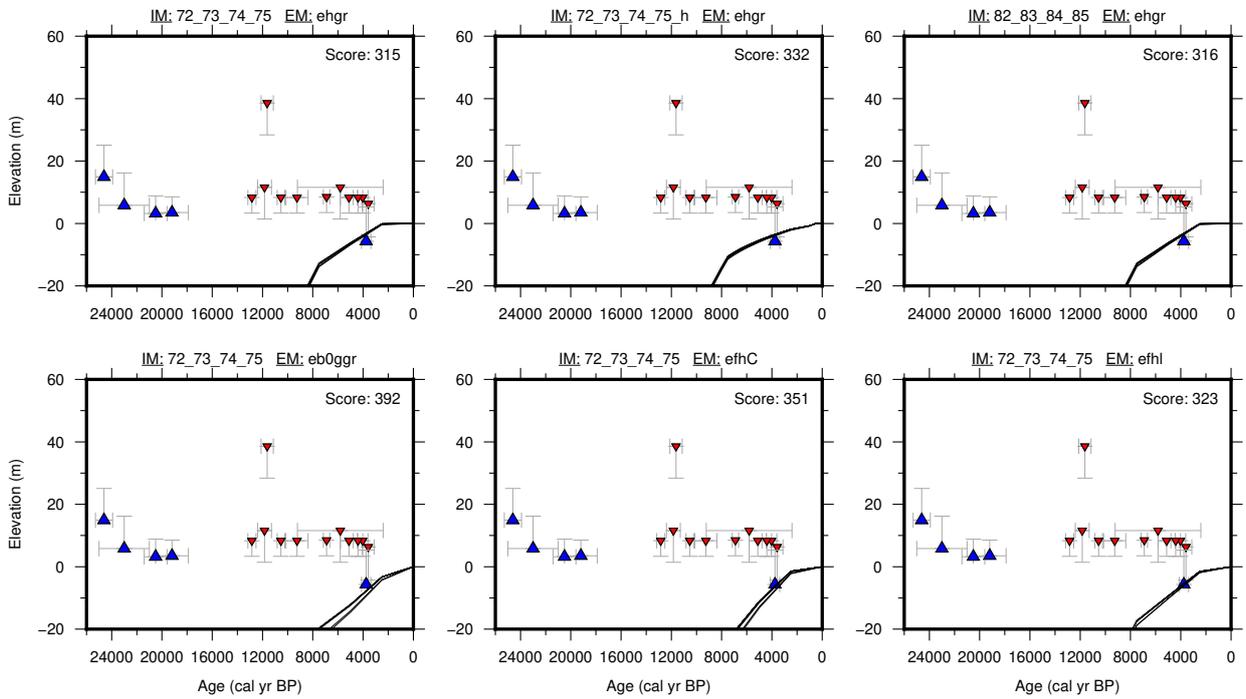


Figure 34: Paleo-sea level and comparison of six models for subregion Western Siberia, location Severnaya Zemlya.

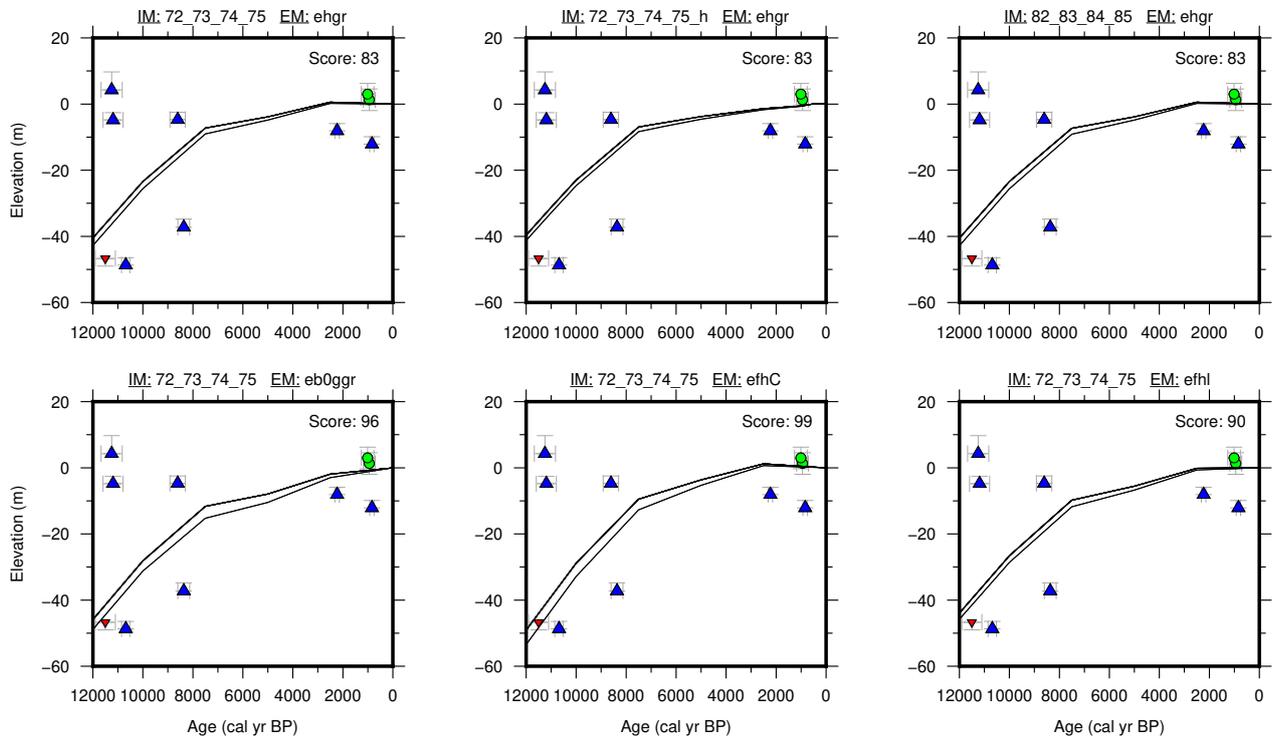
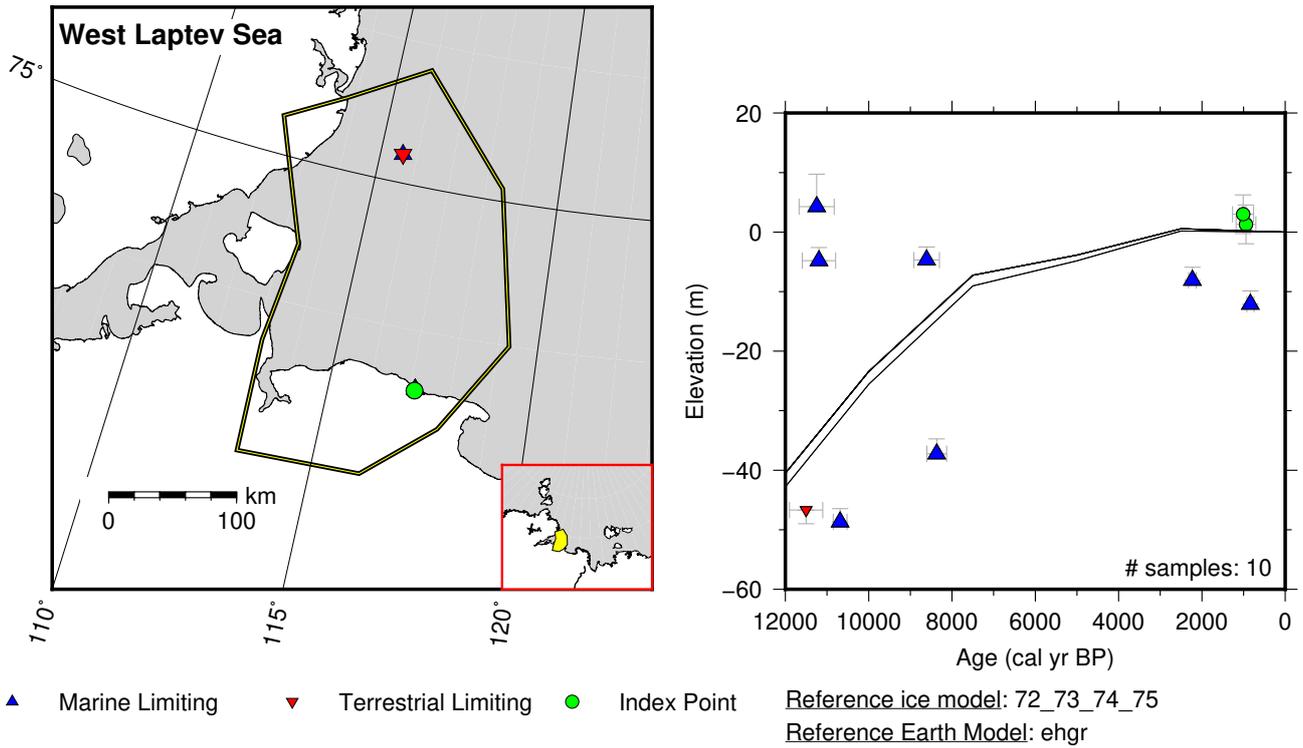
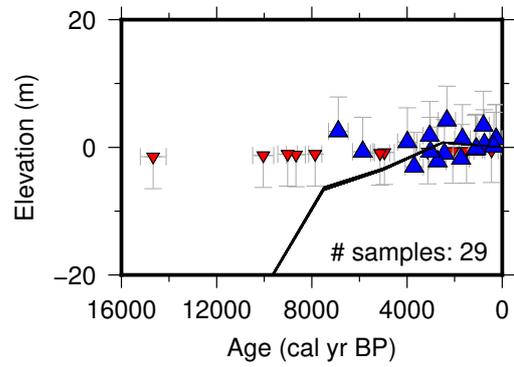
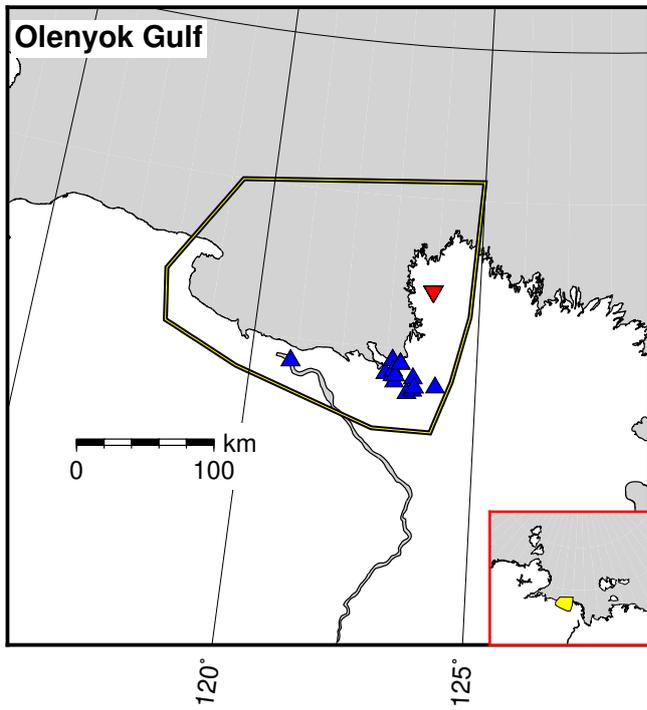


Figure 35: Paleo-sea level and comparison of six models for subregion Western Siberia, location West Laptev Sea.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

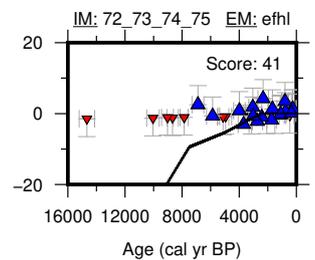
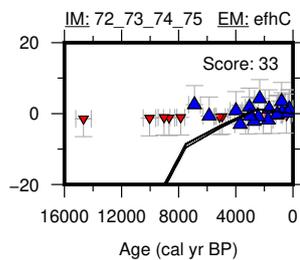
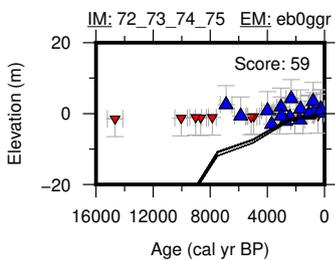
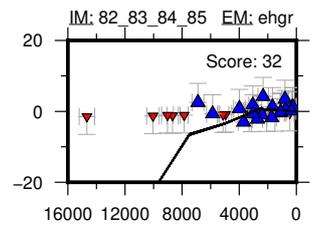
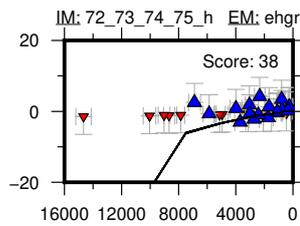
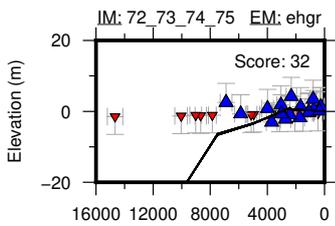
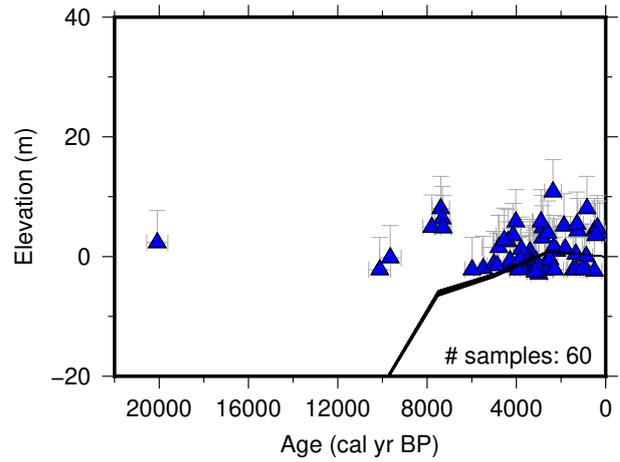
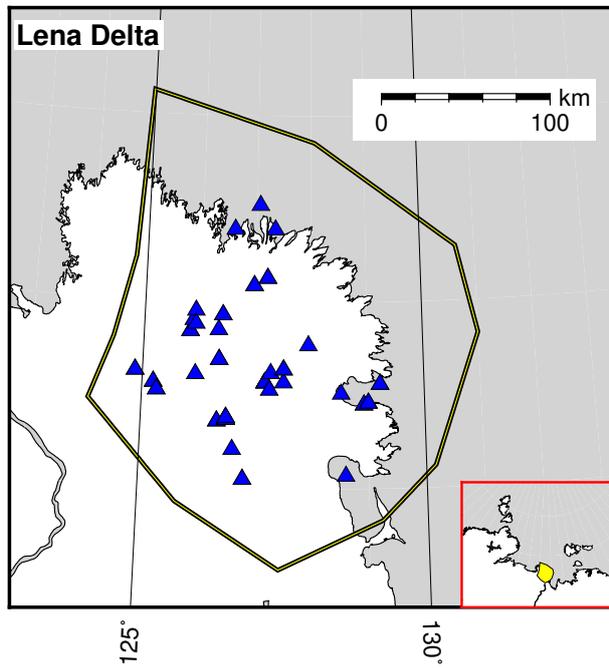


Figure 36: Paleo-sea level and comparison of six models for subregion Western Siberia, location Olenyok Gulf.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

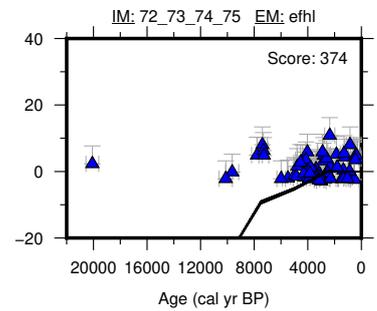
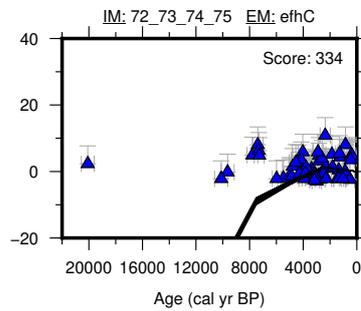
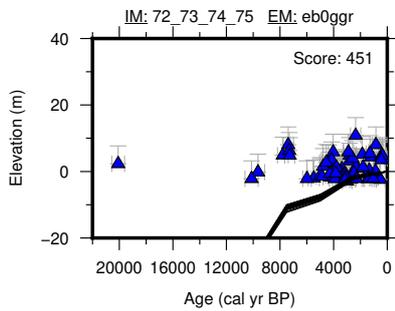
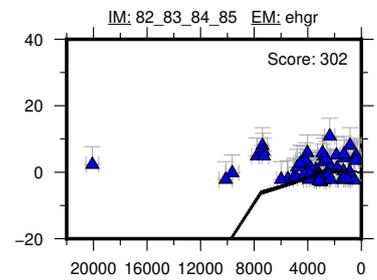
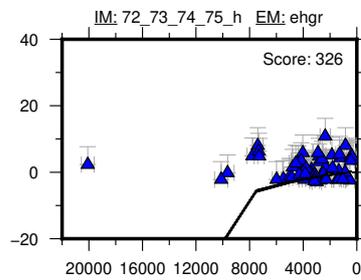
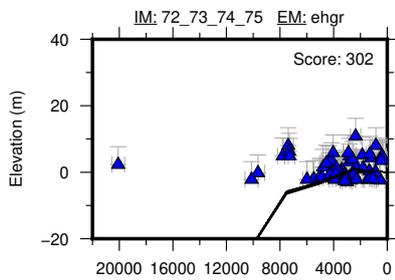


Figure 37: Paleo-sea level and comparison of six models for subregion Western Siberia, location Lena Delta.

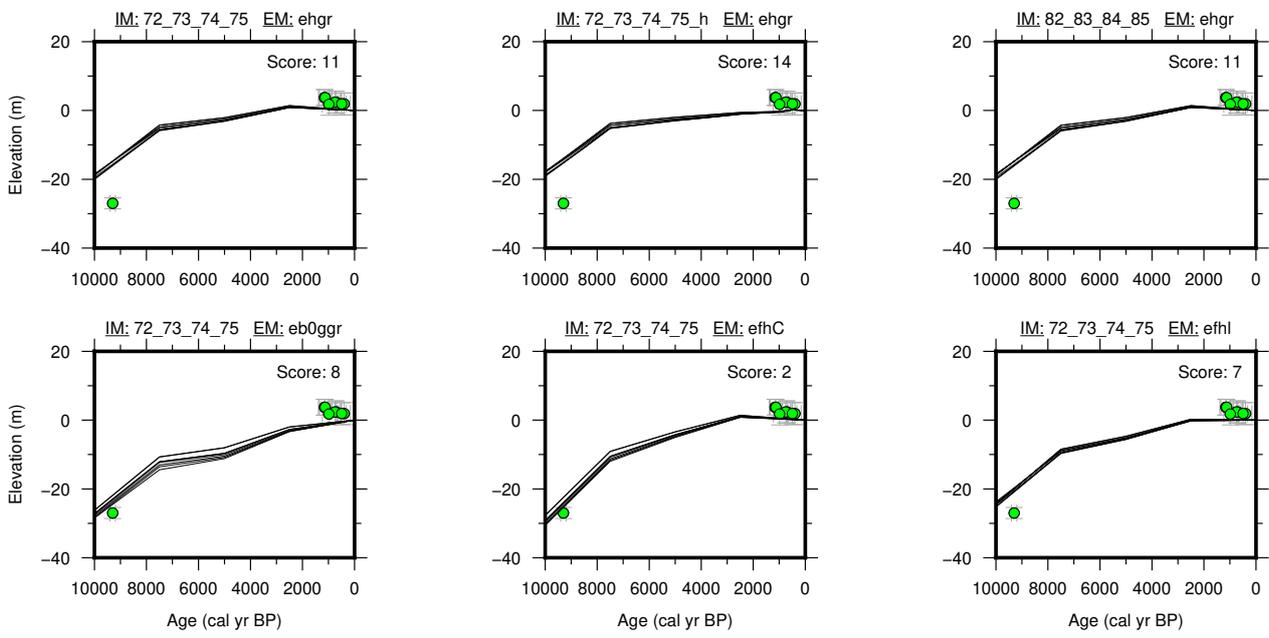
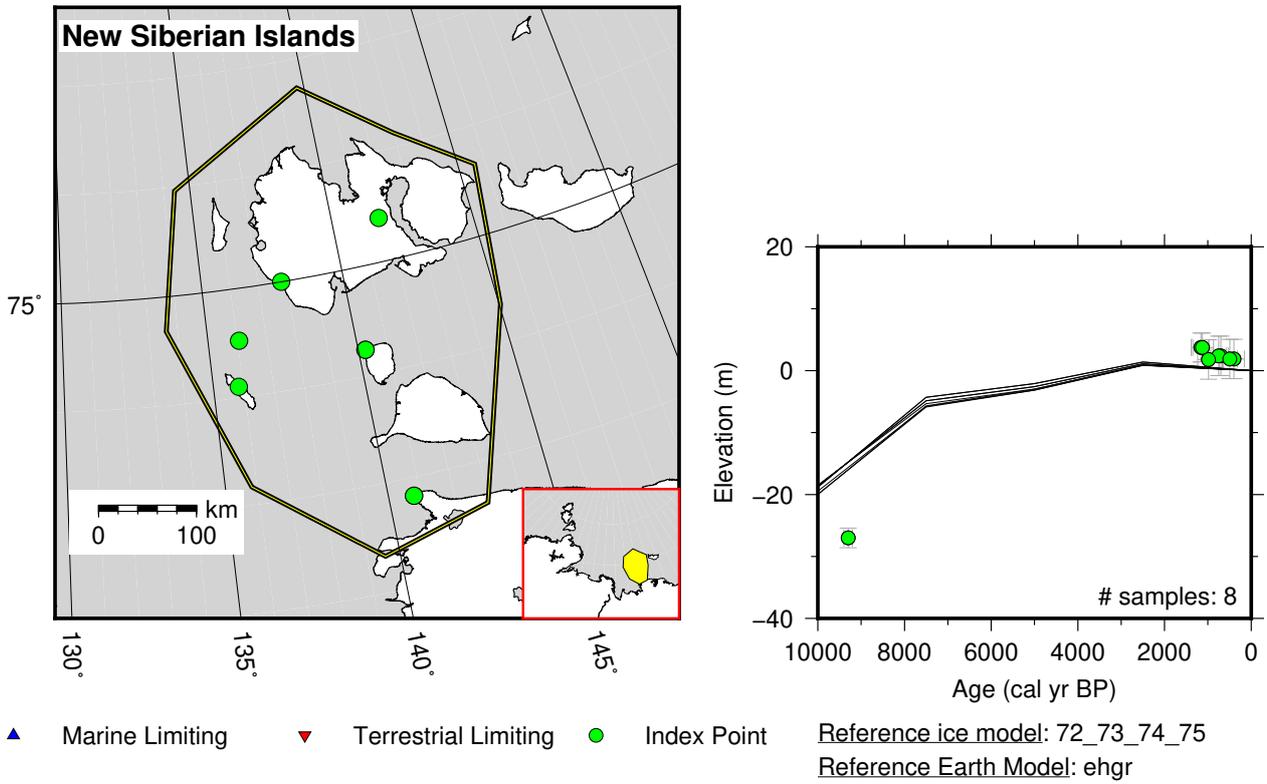
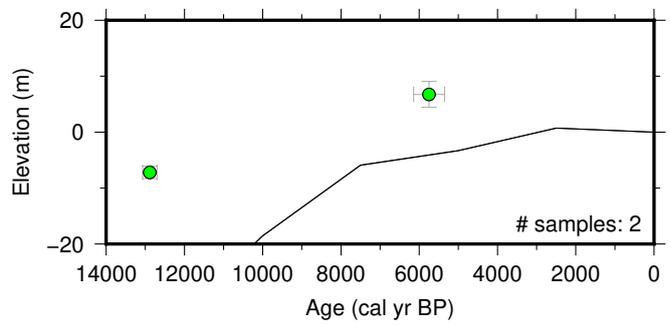
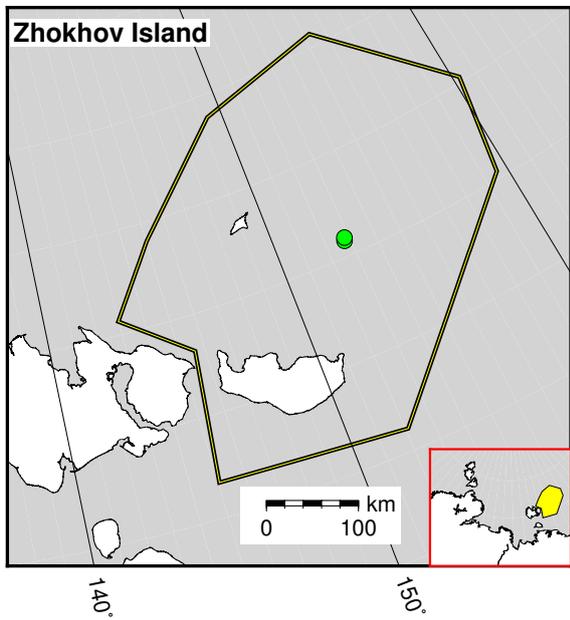


Figure 38: Paleo-sea level and comparison of six models for subregion Western Siberia, location New Siberian Islands.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

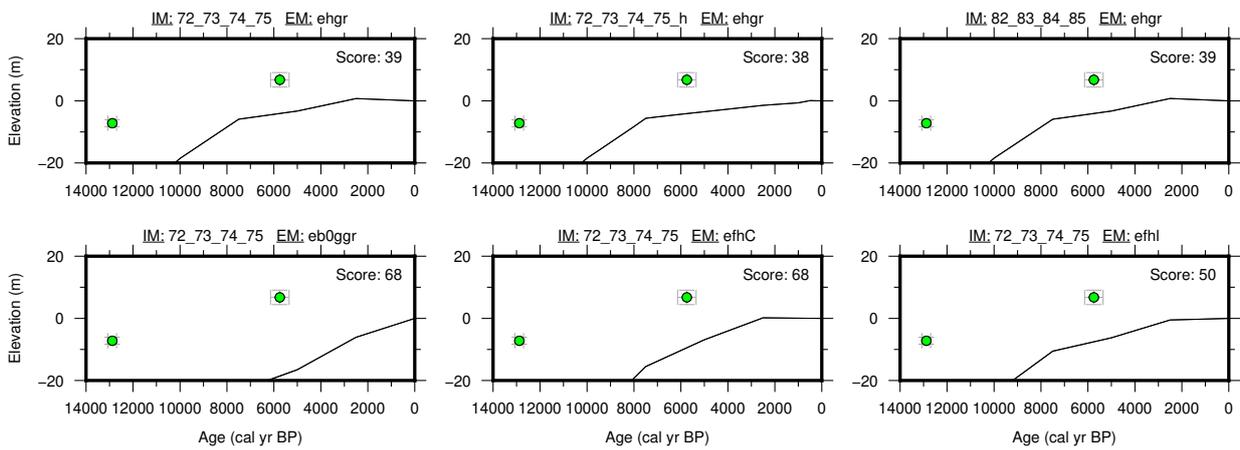


Figure 39: Paleo-sea level and comparison of six models for subregion Western Siberia, location Zhokhov Island.

## 7.6 White Sea

References for the data used in each location.

**Kandalaksha:** Arslanov et al. (1974); Kolka and Korsakova (2010); Koshechkin (1979)

**Lesozavodskiy:** Arslanov et al. (1974); Kolka et al. (2005); Koshechkin et al. (1973)

**Rugozerskiy Peninsula:** Baranskaya (2015); Repkina and Romanenko (2016); Romanenko and Shilova (2012); Zaretskaya et al. (2013)

**Chupa Bay:** Baranskaya and Romanenko (2015); Kolka et al. (2015)

**Umba:** Arslanov et al. (1974); Kolka et al. (2013a); Koshechkin (1979)

**Engozero:** Kolka et al. (2013b)

**Belomorsk:** Devyatova and Liyva (1971); Koshechkin (1979); Lunkka et al. (2012)

**Eastern Kola Peninsula:** Arslanov et al. (1974); Koshechkin (1979)

**Onega Peninsula:** Boyarskaya et al. (1986); Koshechkin et al. (1973); Repkina et al. (in review)

**Dvina Gulf:** Koshechkin (1979); Zaretskaya et al. (2011)

**Kholmogorsky:** Larsen et al. (2006)

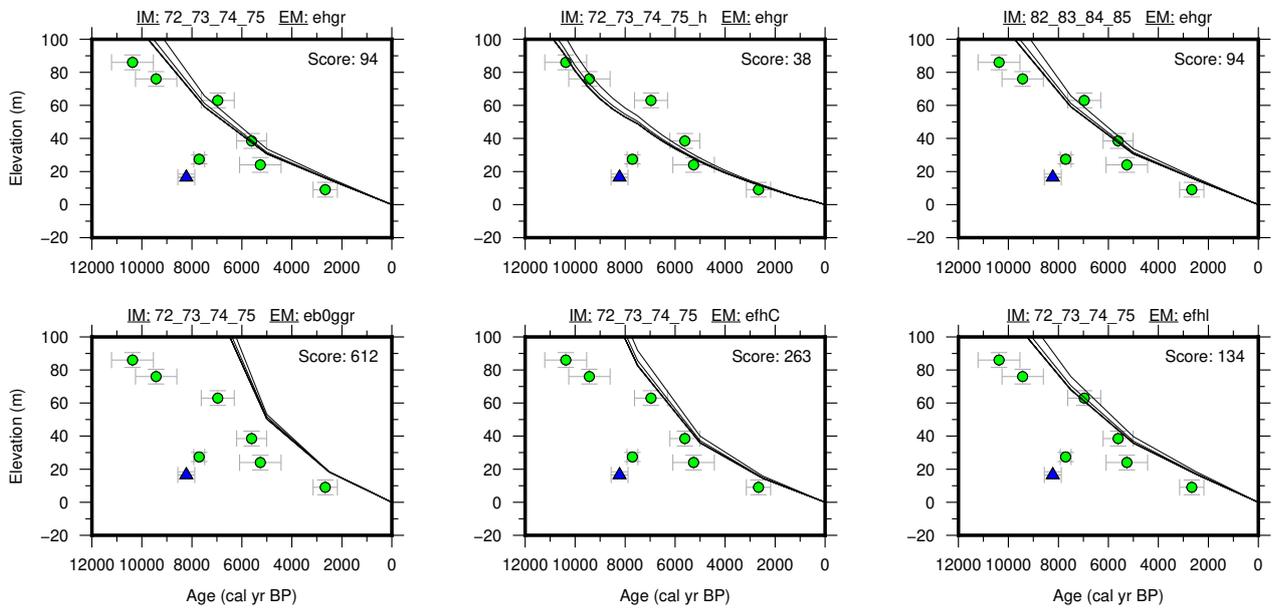
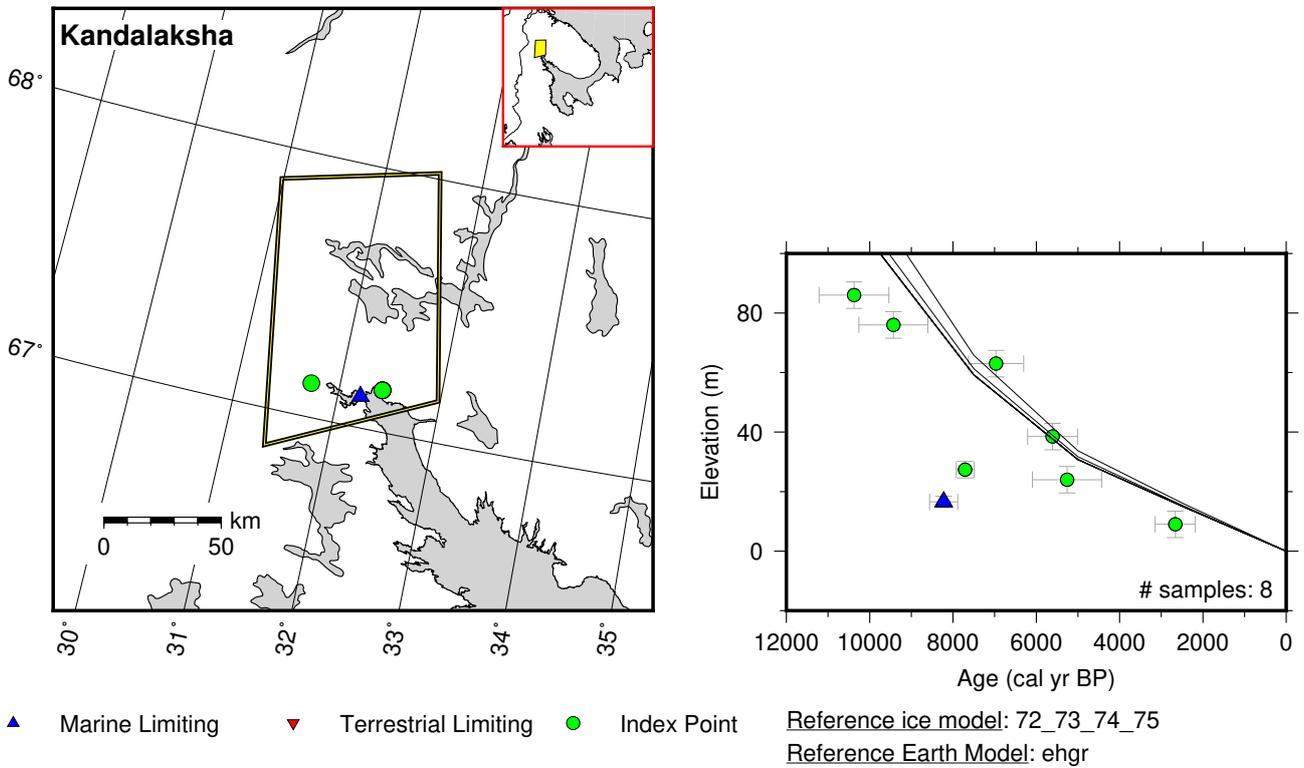


Figure 40: Paleo-sea level and comparison of six models for subregion White Sea, location Kandalaksha.

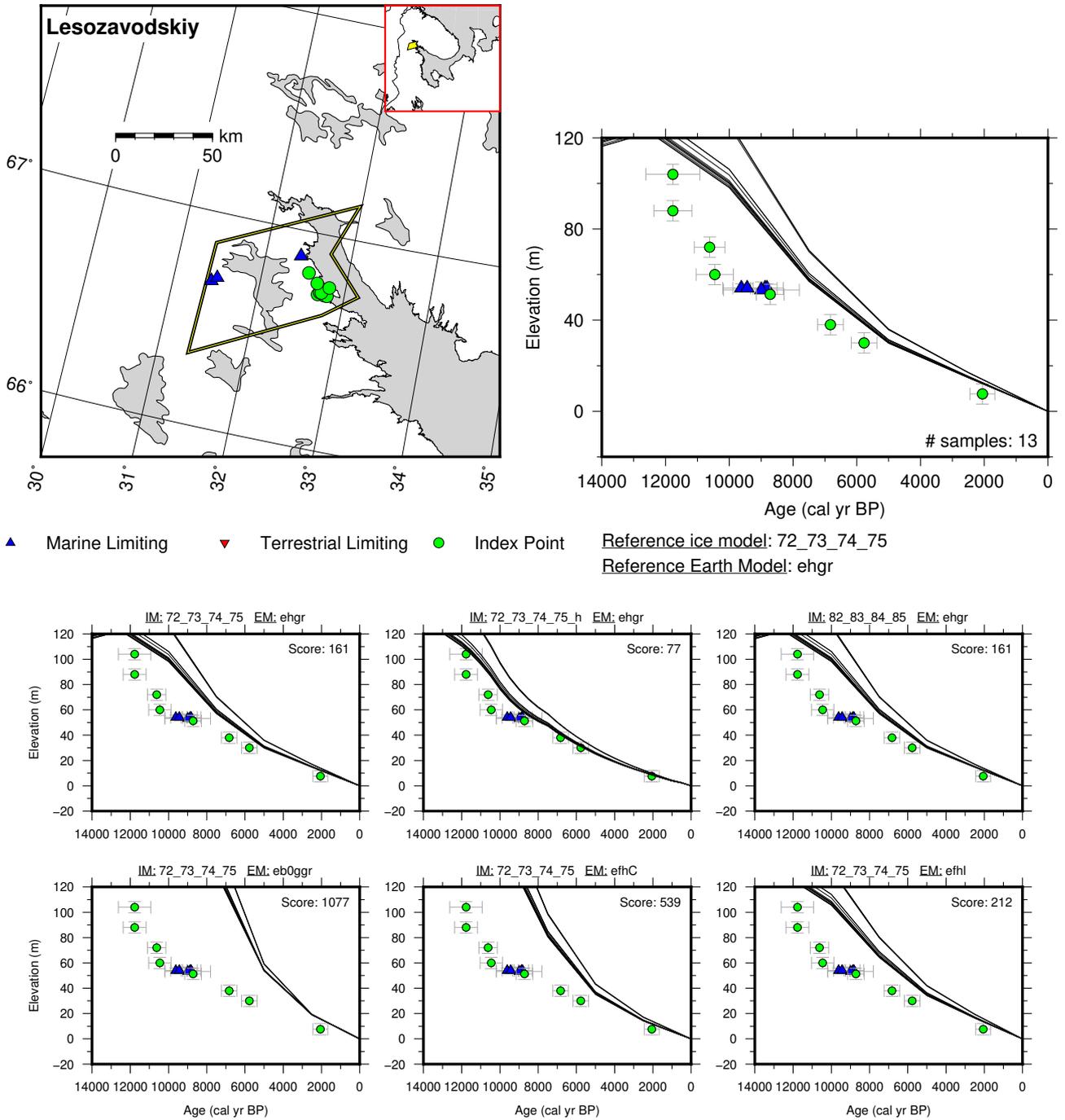


Figure 41: Paleo-sea level and comparison of six models for subregion White Sea, location Lesozavodskiy.

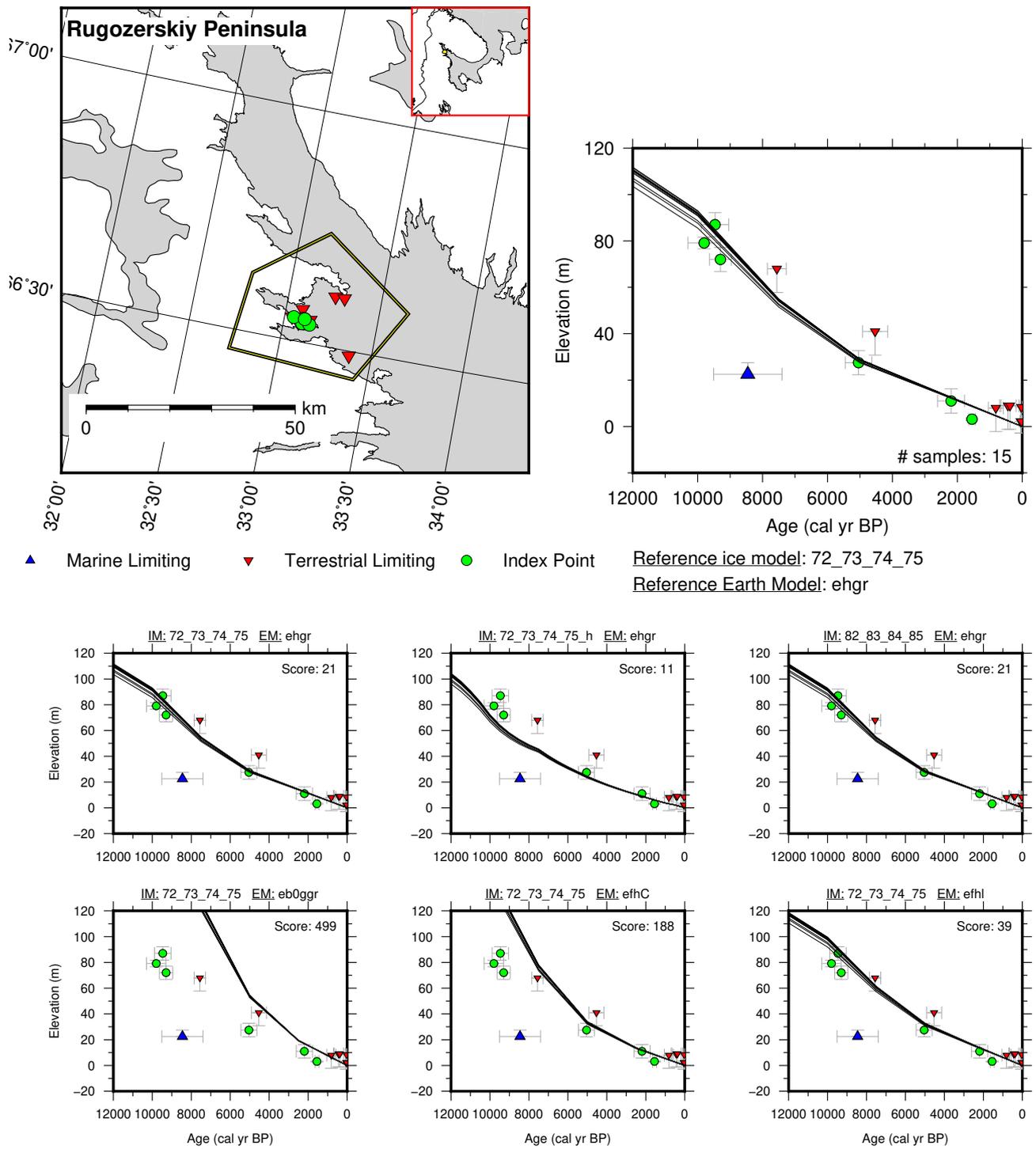


Figure 42: Paleo-sea level and comparison of six models for subregion White Sea, location Rugozerskiy Peninsula.

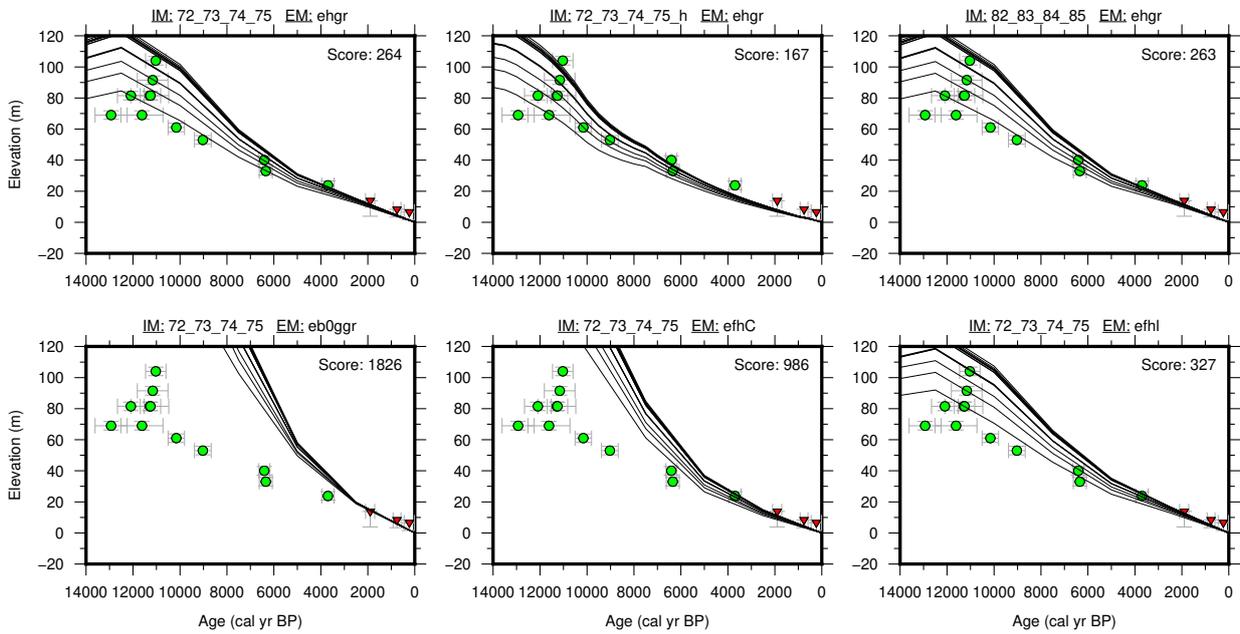
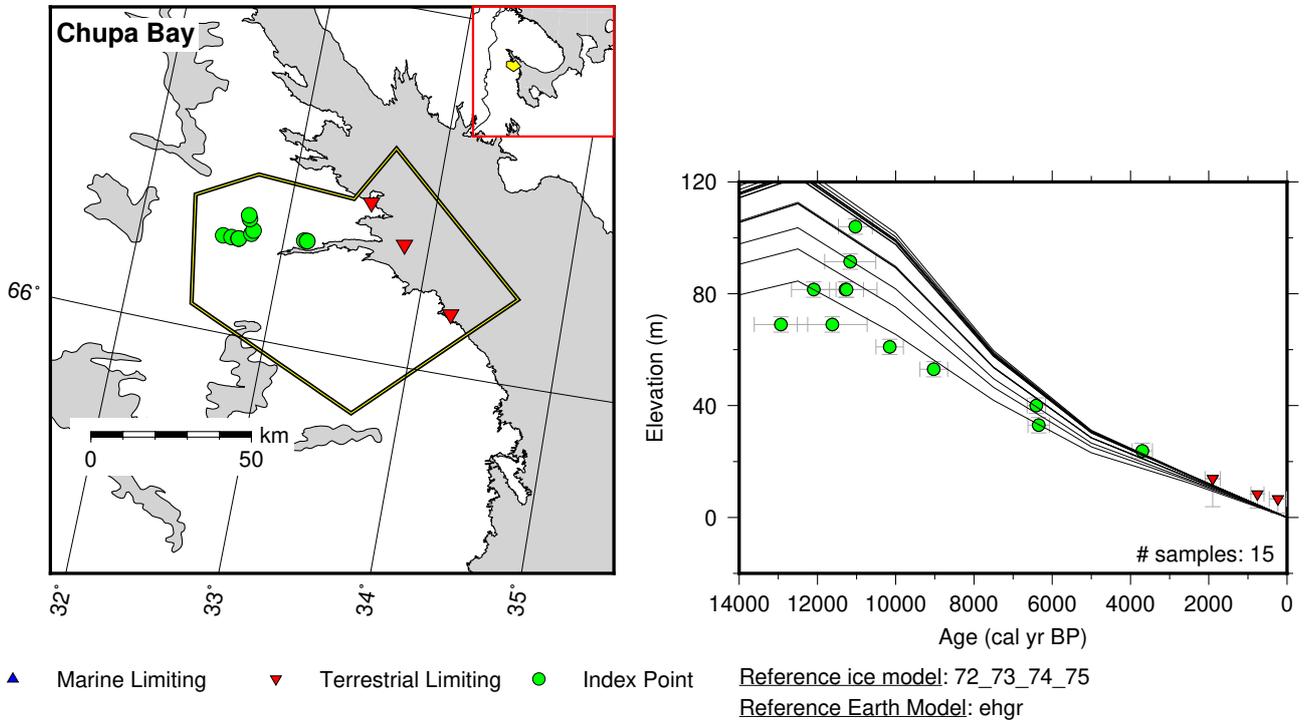
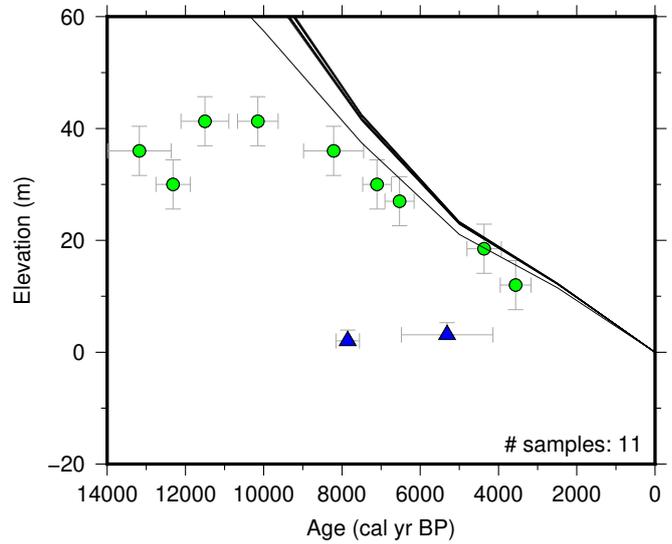
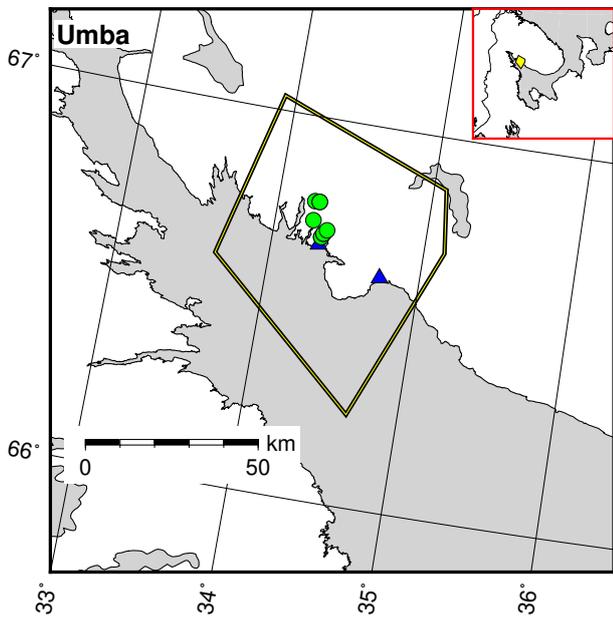


Figure 43: Paleo-sea level and comparison of six models for subregion White Sea, location Chupa Bay.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

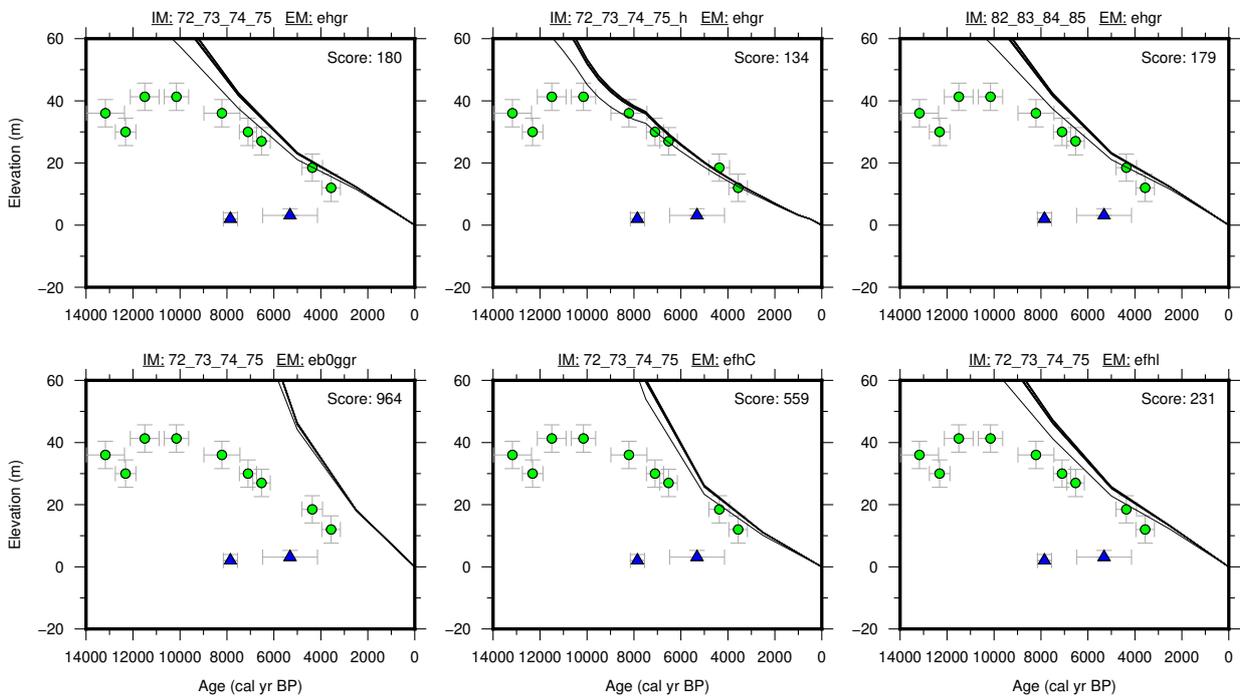


Figure 44: Paleo-sea level and comparison of six models for subregion White Sea, location Umba.

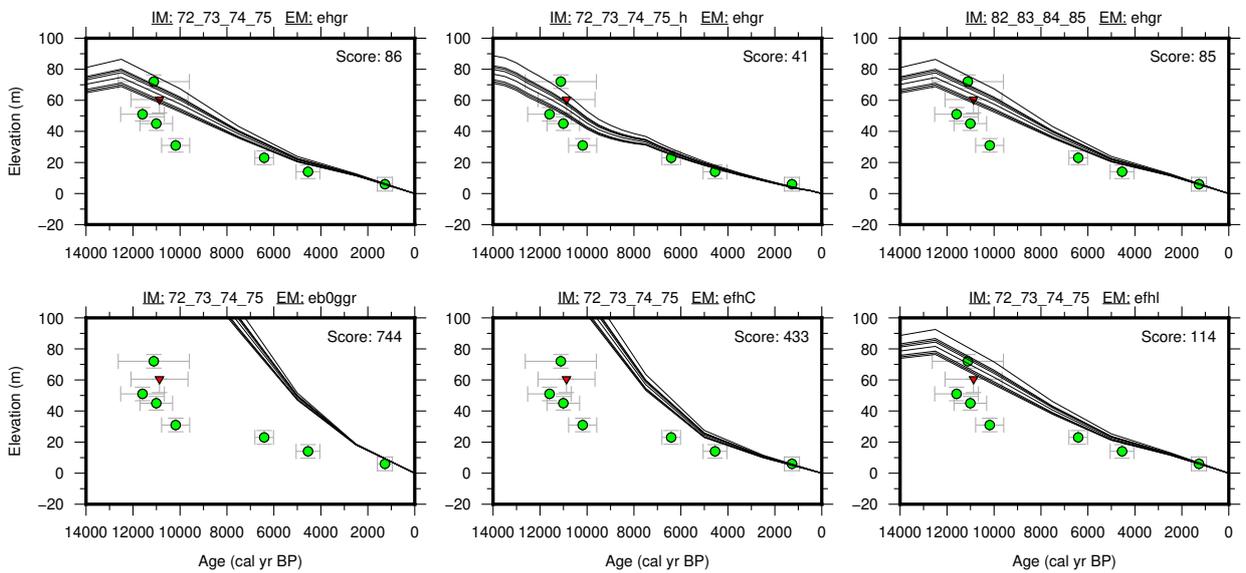
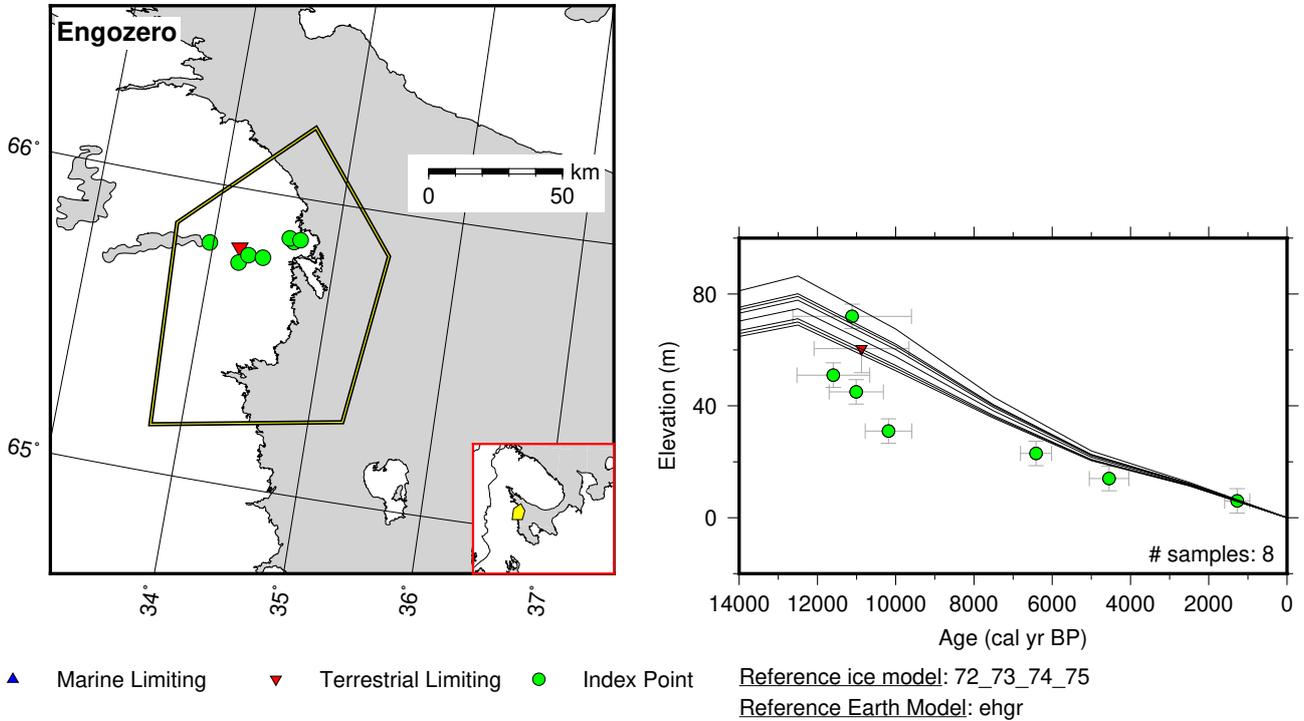


Figure 45: Paleo-sea level and comparison of six models for subregion White Sea, location Engozero.

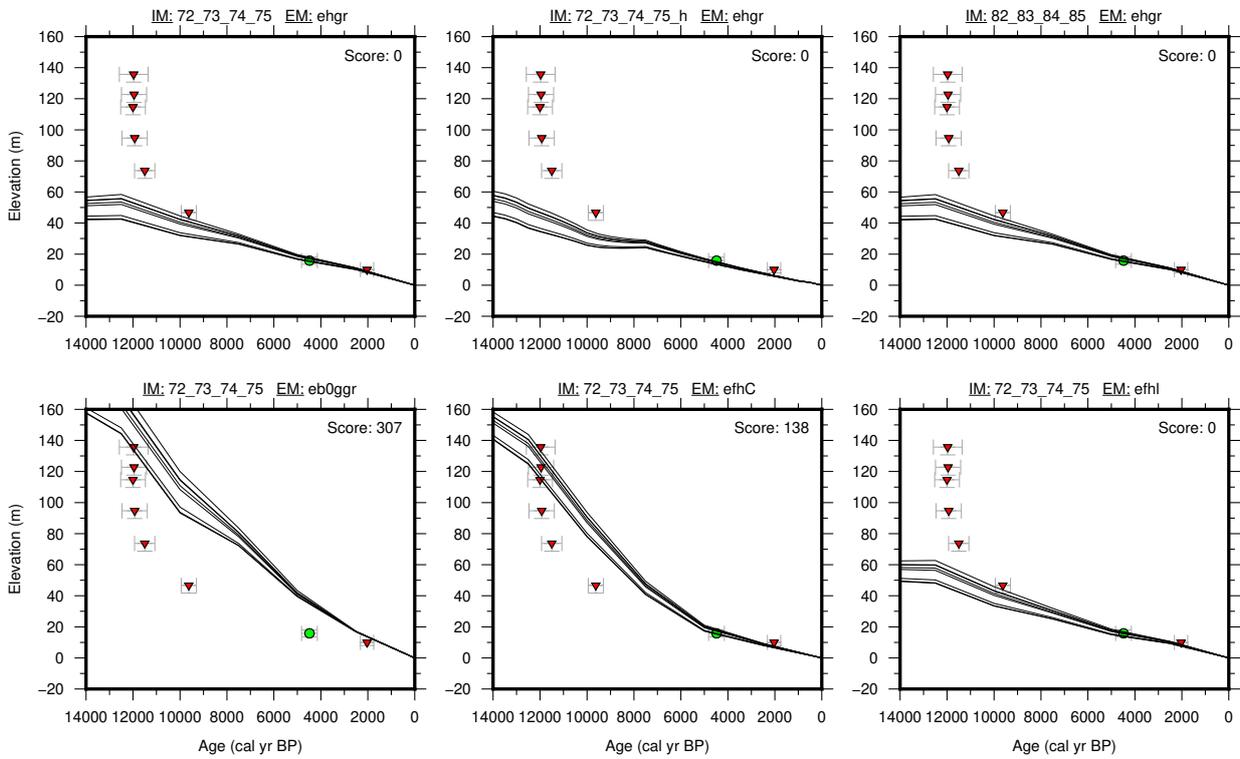
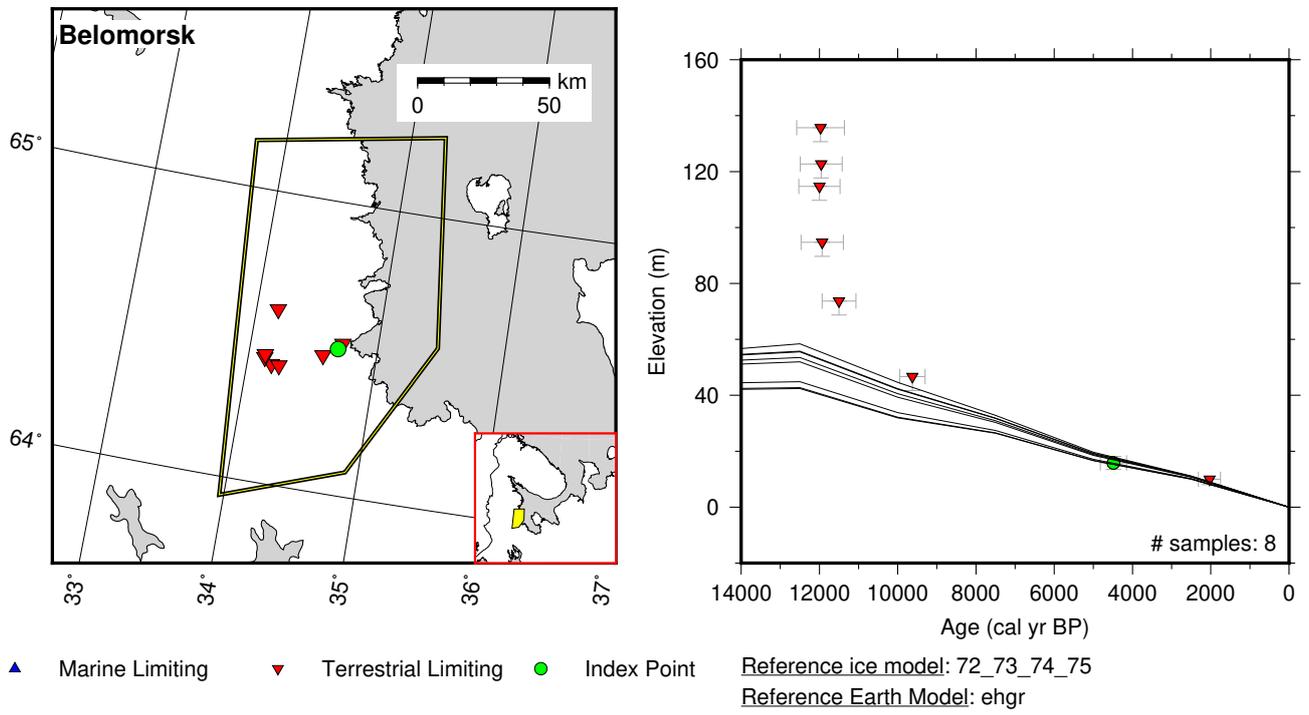
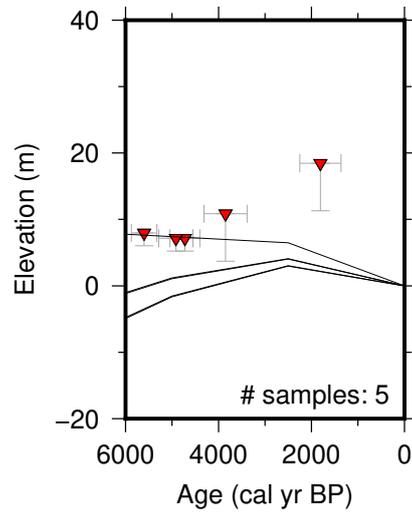
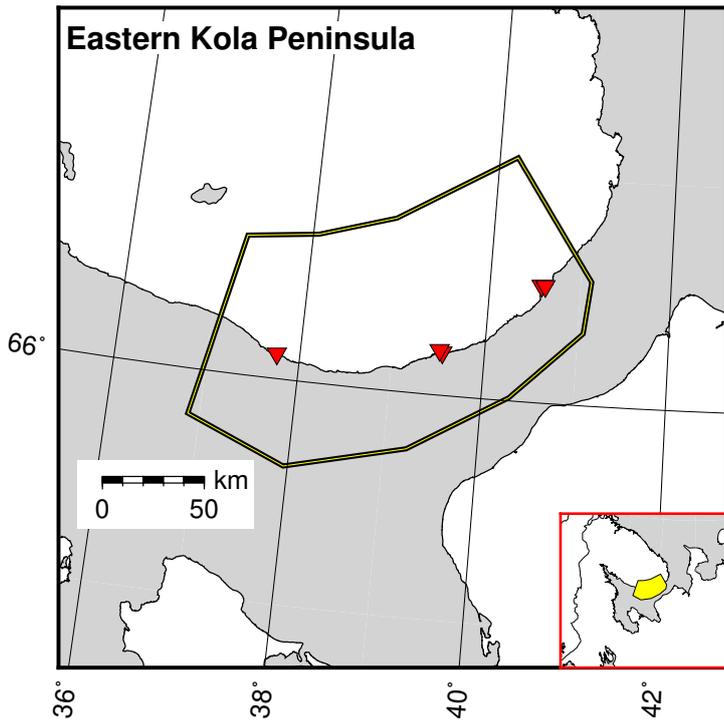


Figure 46: Paleo-sea level and comparison of six models for subregion White Sea, location Belomorsk.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

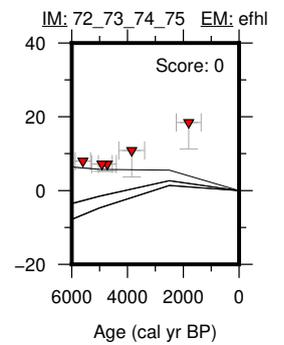
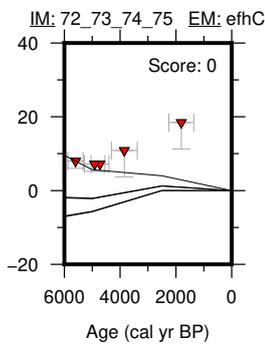
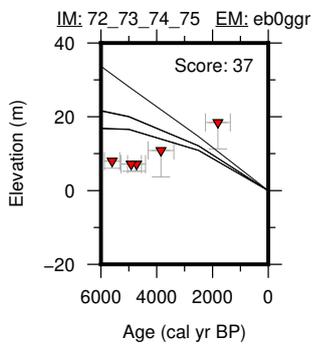
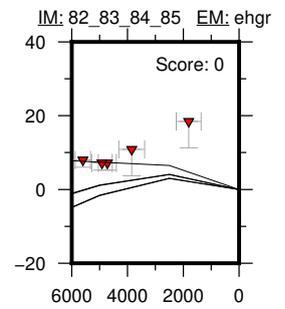
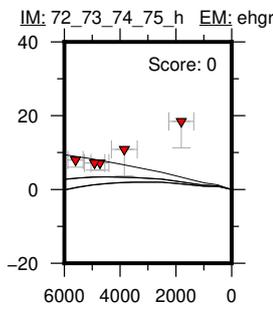
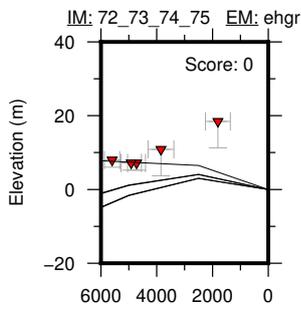


Figure 47: Paleo-sea level and comparison of six models for subregion White Sea, location Eastern Kola Peninsula.

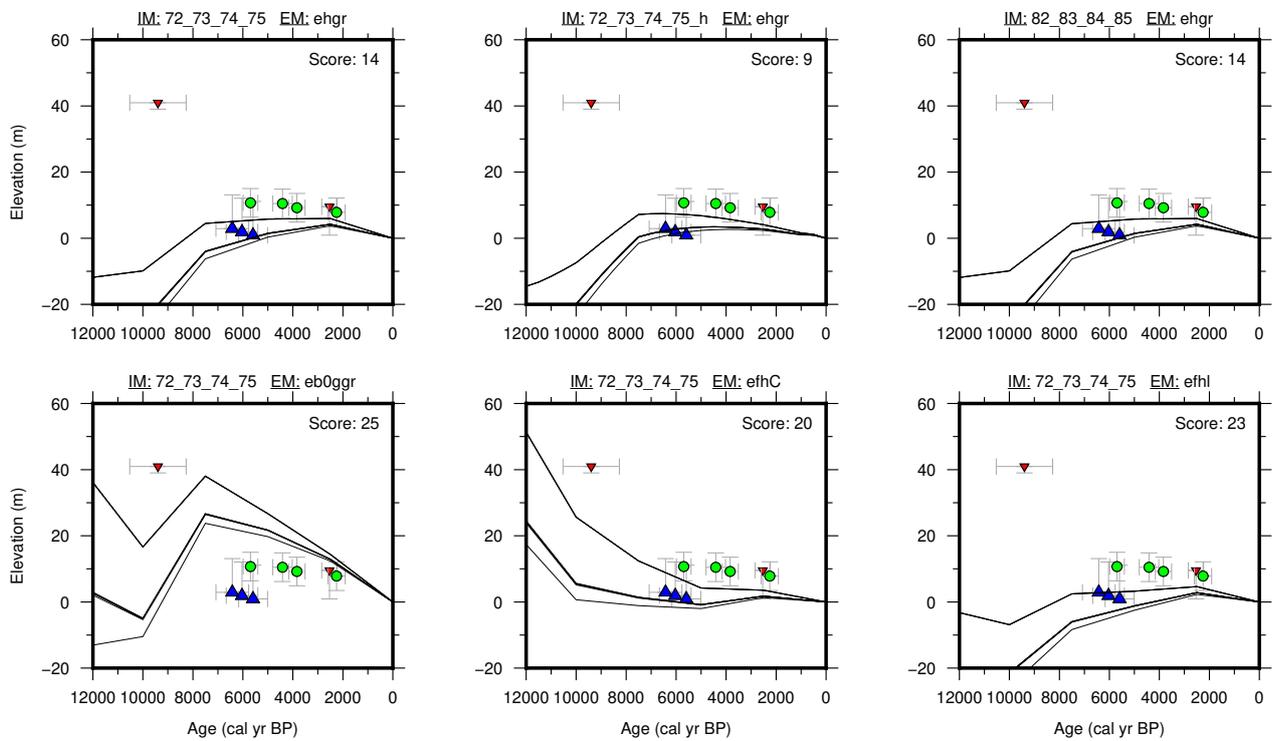
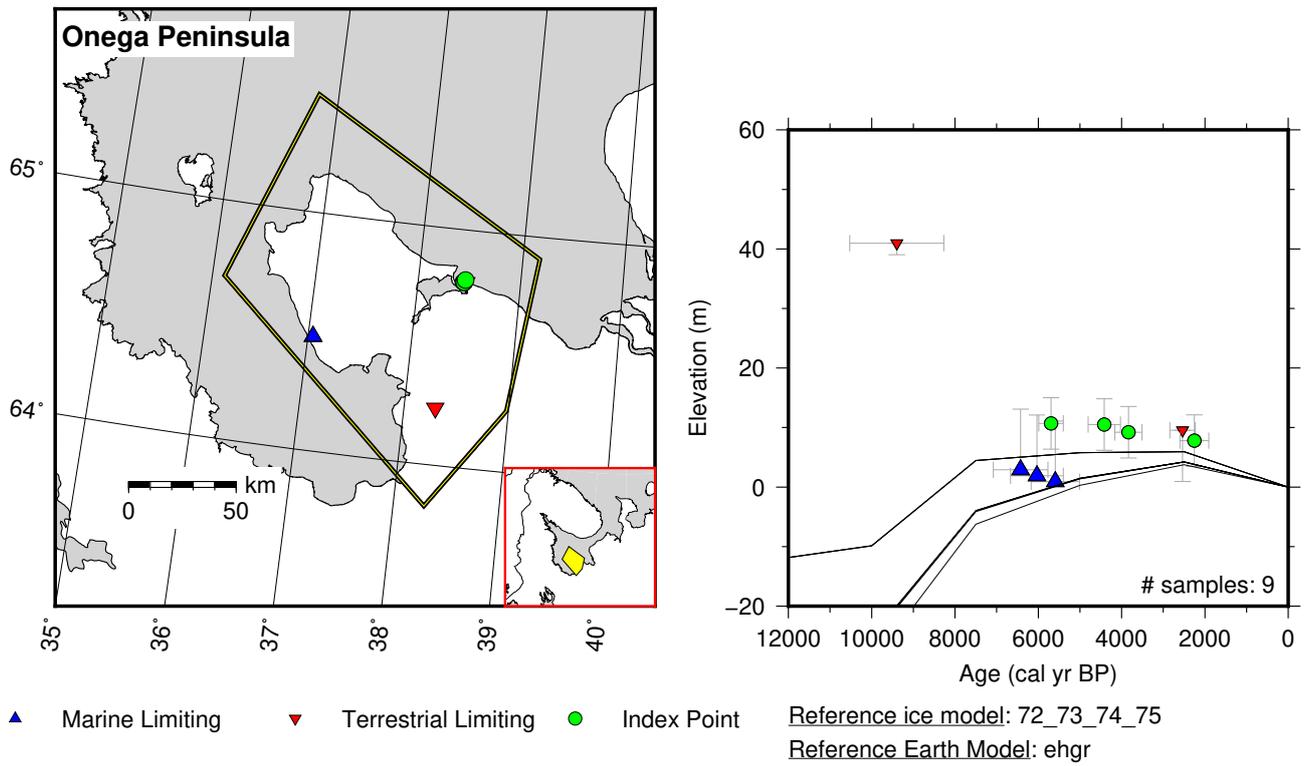


Figure 48: Paleo-sea level and comparison of six models for subregion White Sea, location Onega Peninsula.

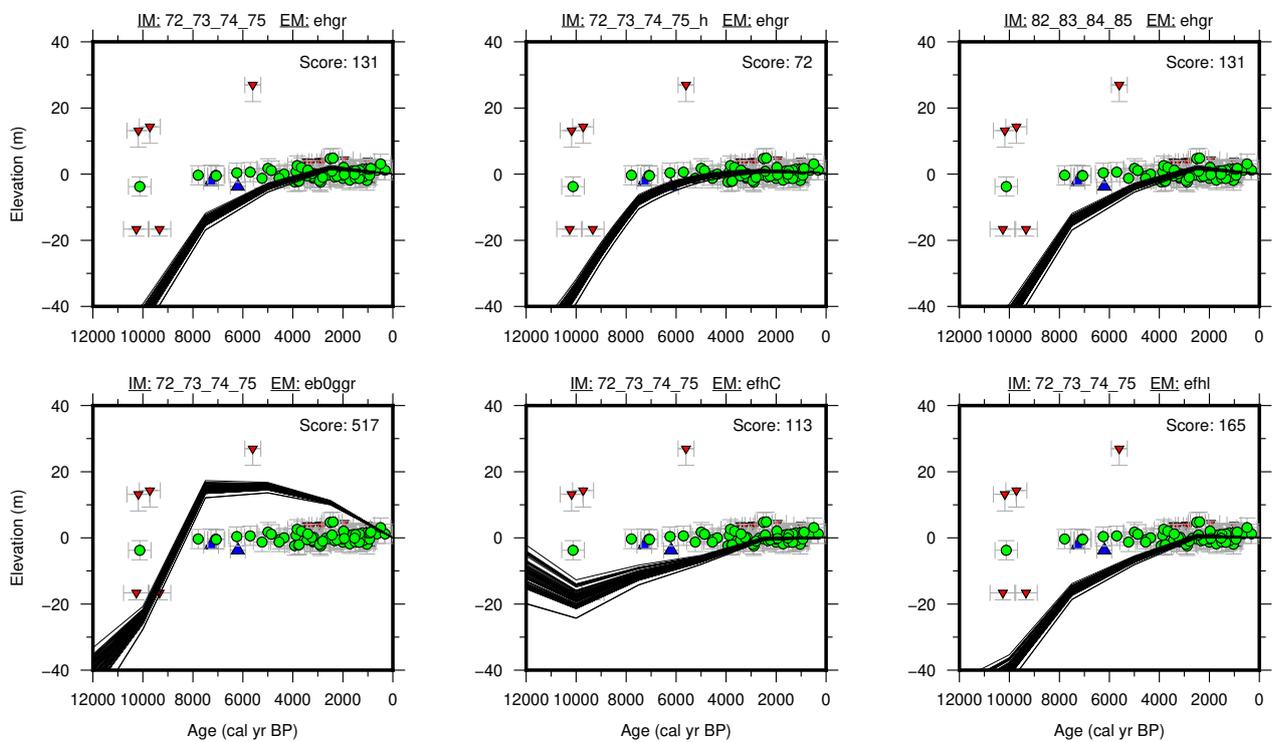
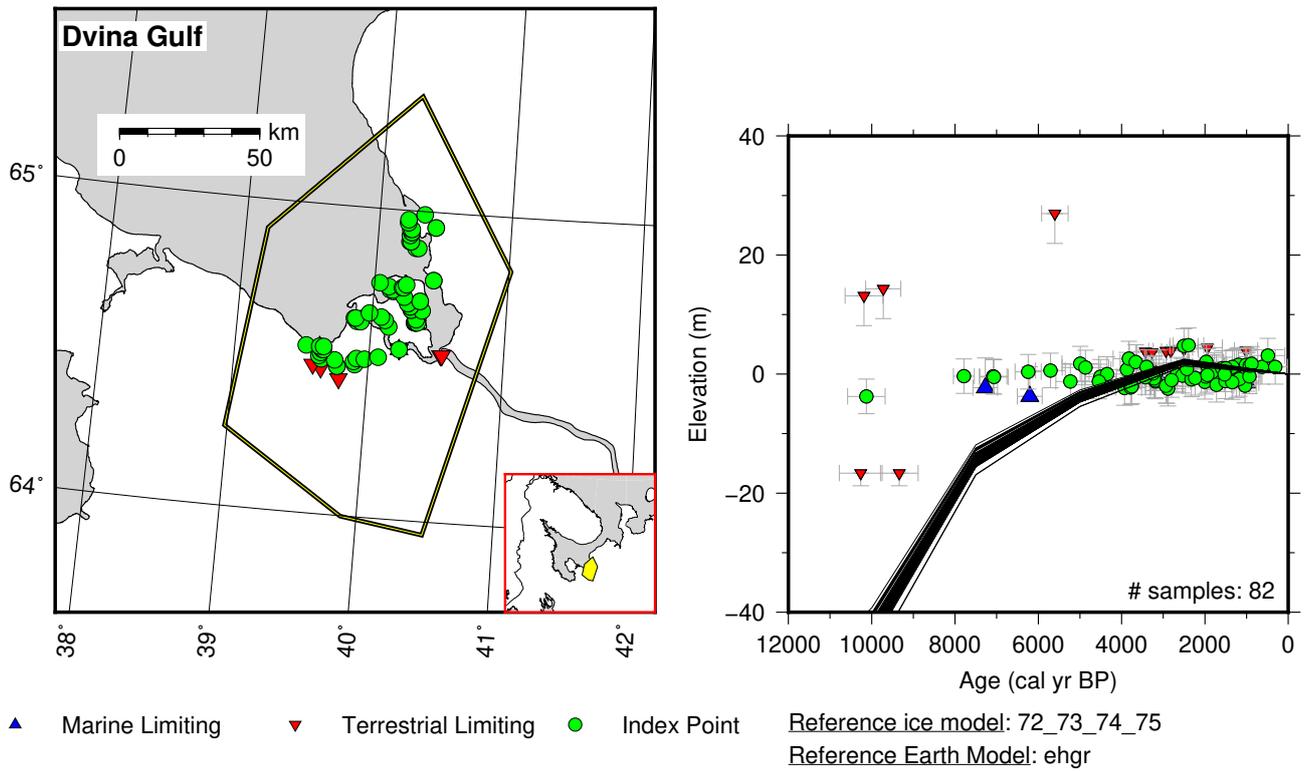
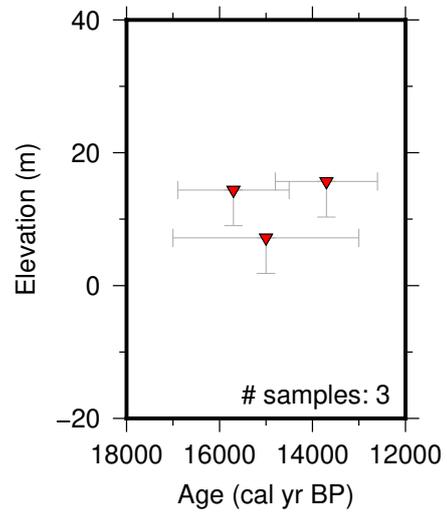
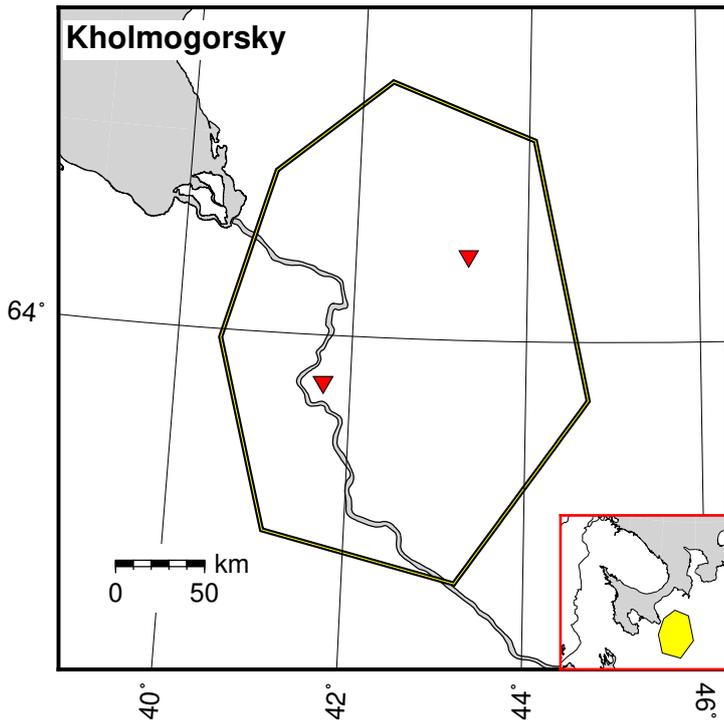


Figure 49: Paleo-sea level and comparison of six models for subregion White Sea, location Dvina Gulf.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

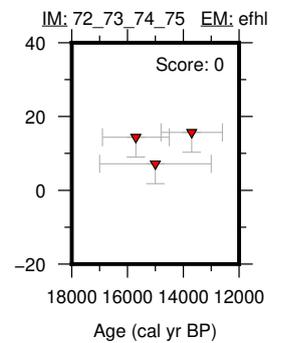
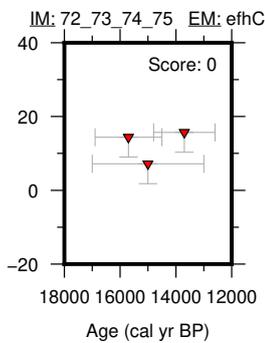
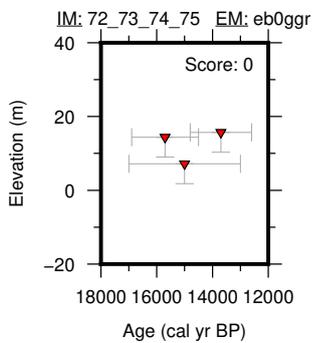
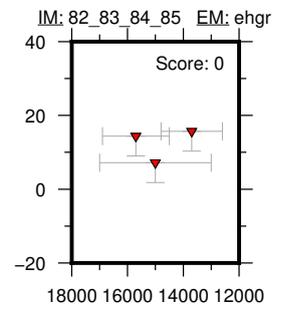
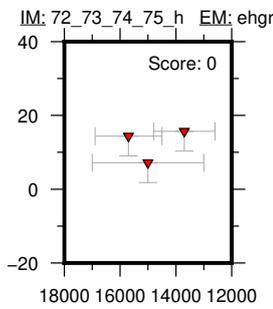
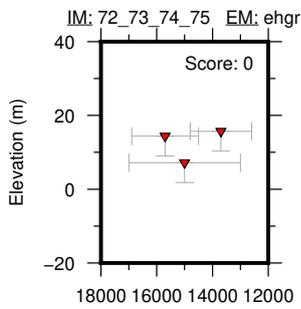


Figure 50: Paleo-sea level and comparison of six models for subregion White Sea, location Kholmogorsky.

## **8 Europe**

### **8.1 Baltic Sea**

References for the data used in each location.

**Norrbottnen:**

**Angermanland:**

**Gastrikland:**

**Stockholm:**

**Aland:**

**Oulu:**

**Ostrobothnia:**

**Turku:**

**Gulf Of Finland:**

**Gulf Of Riga:**

**Kaliningrad:**

**Bornholm:**

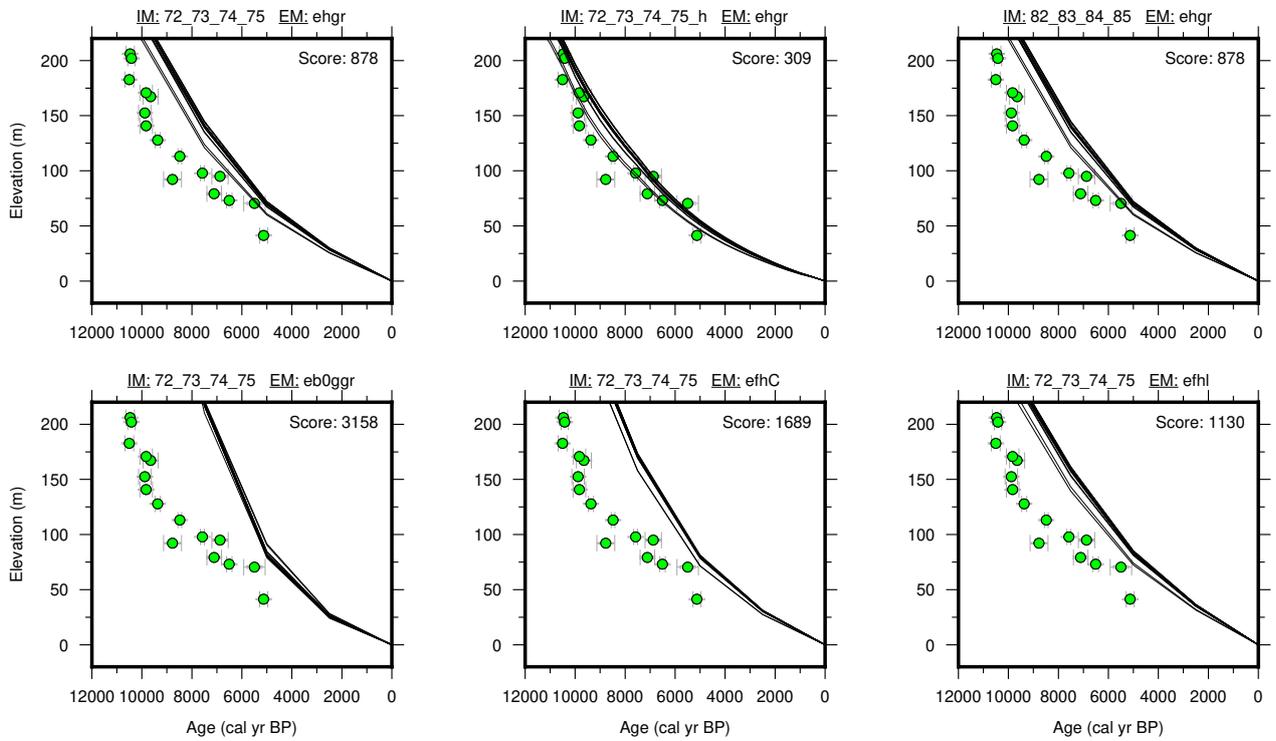
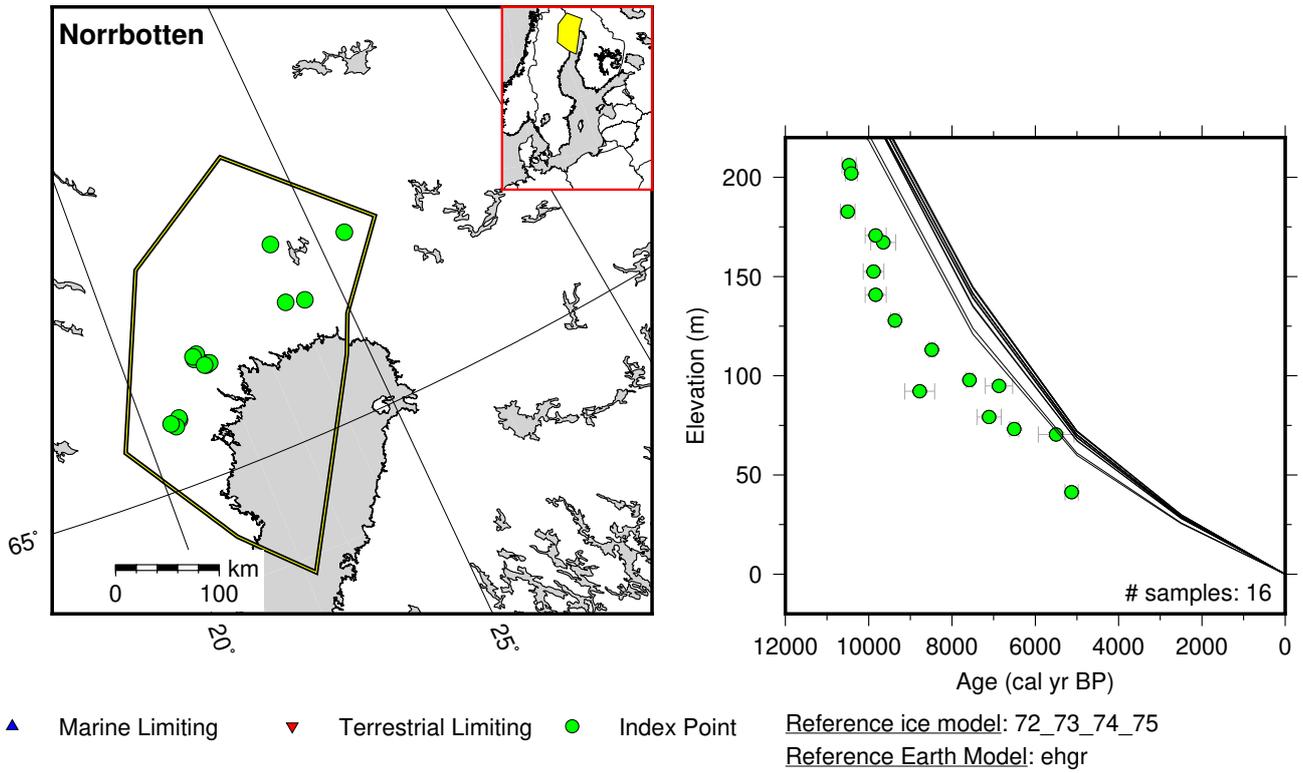
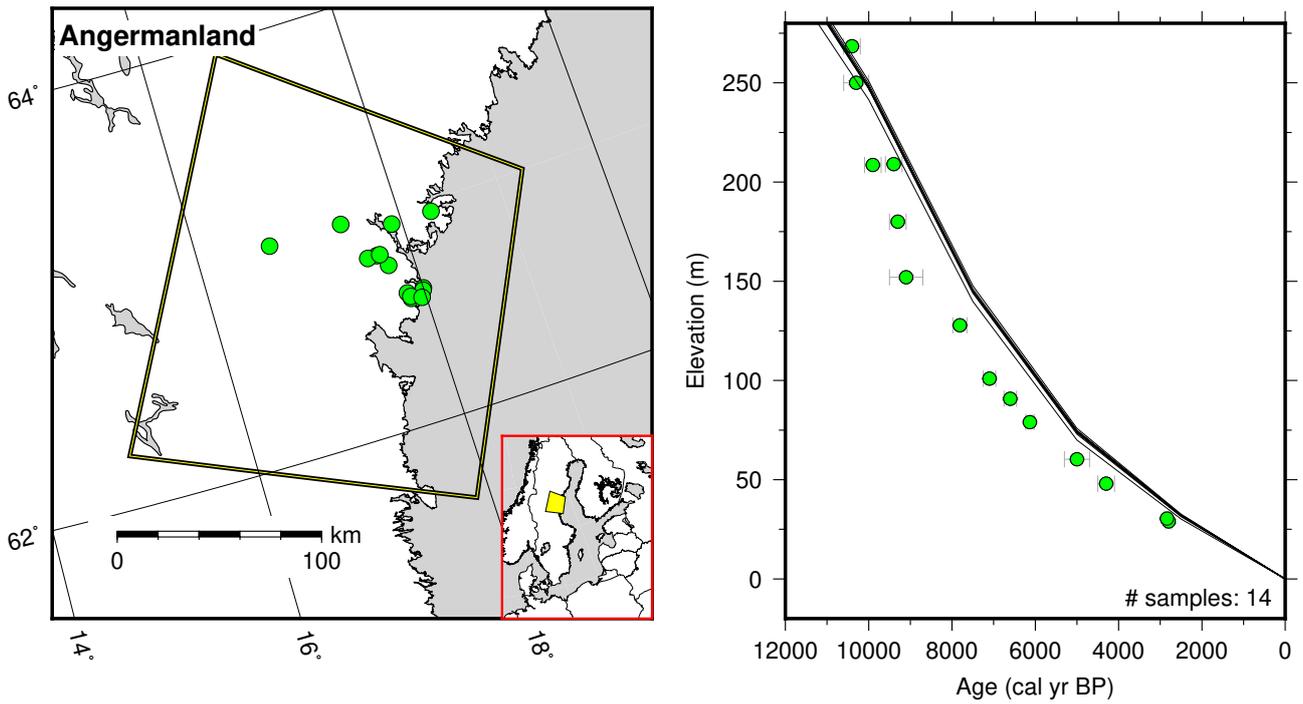


Figure 51: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Norrbotten.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

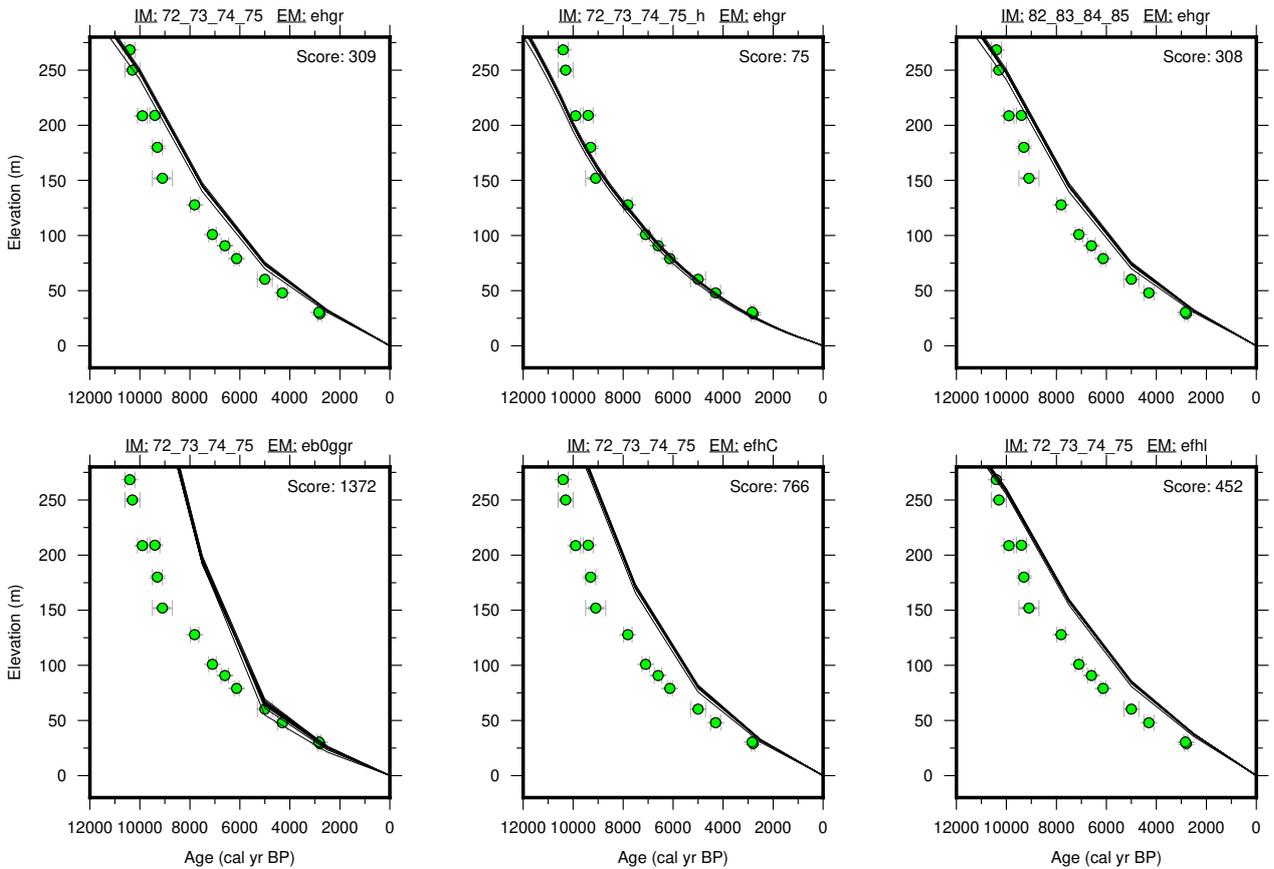
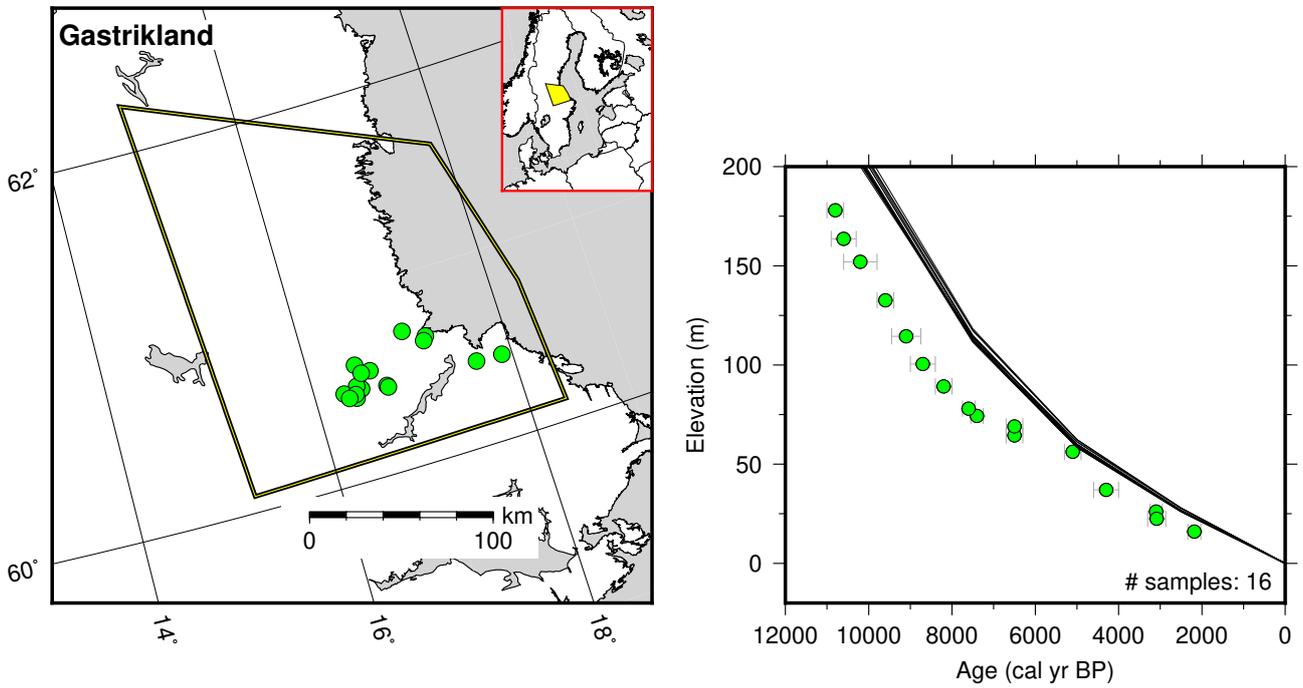


Figure 52: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Angermanland.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

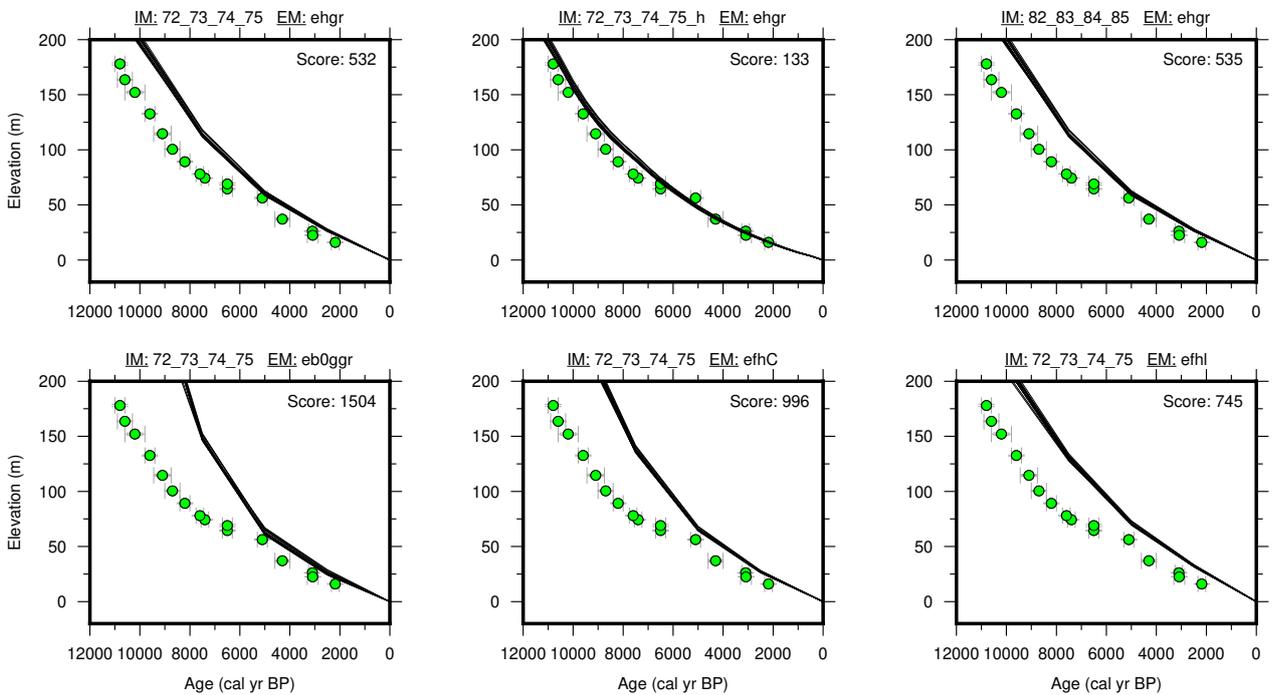
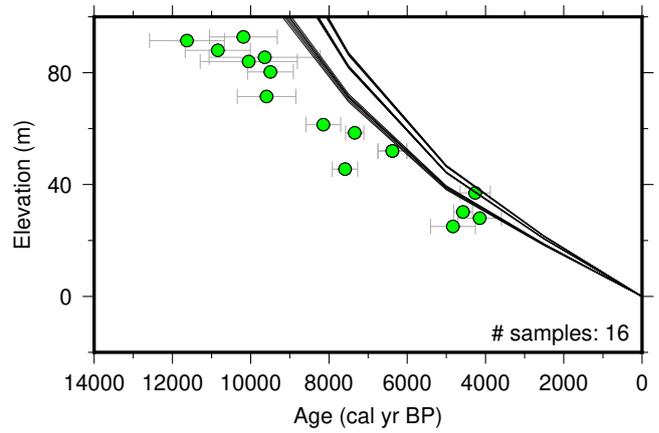
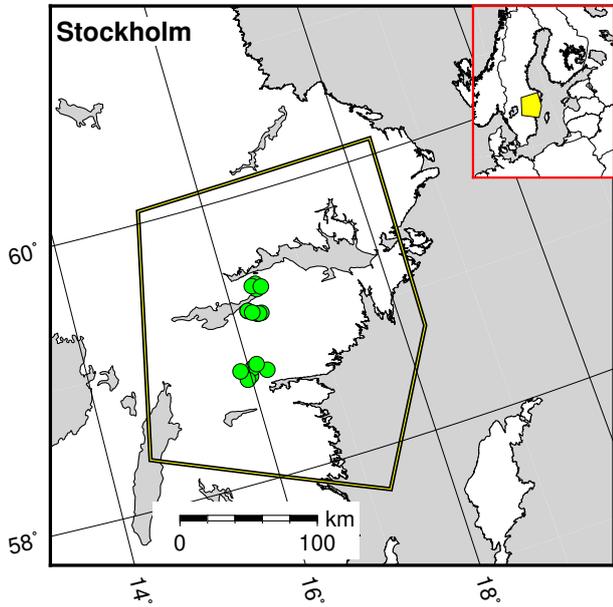


Figure 53: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Gastrikland.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

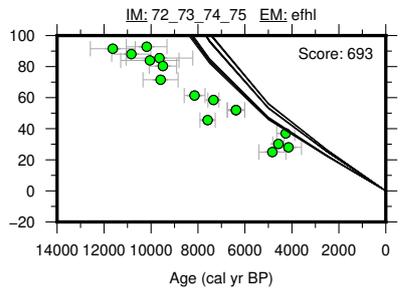
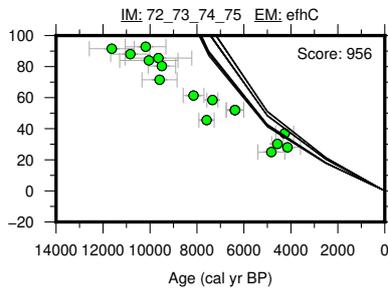
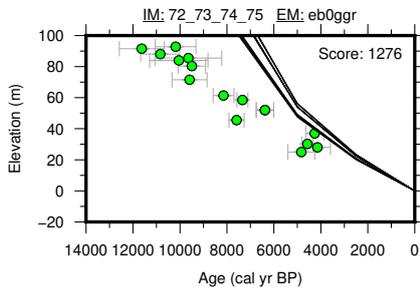
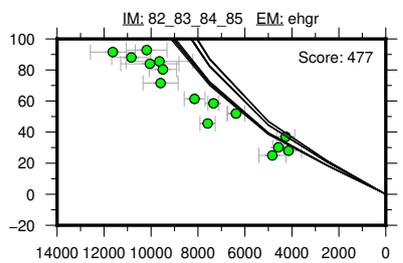
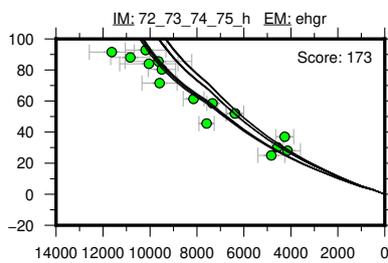
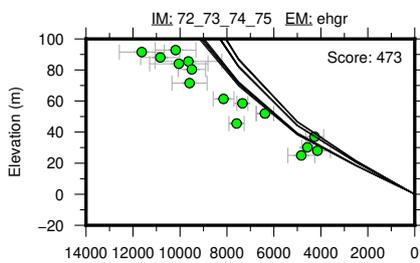
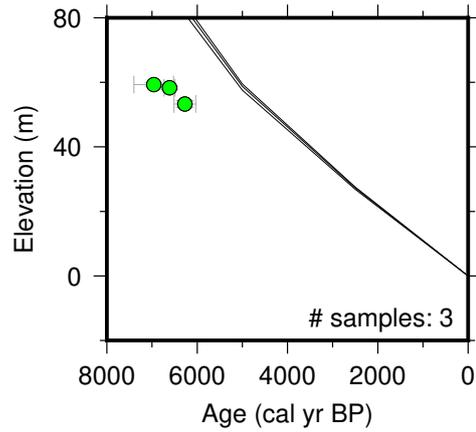
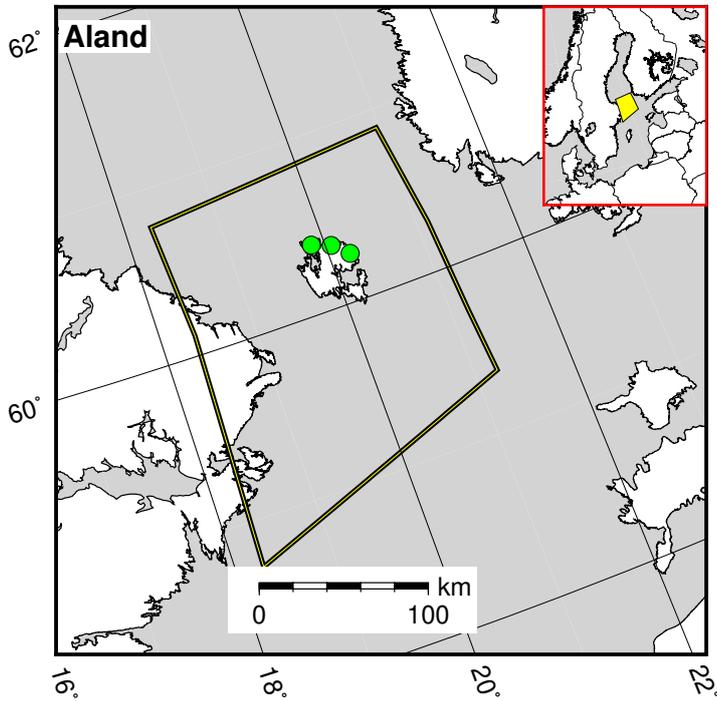


Figure 54: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Stockholm.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

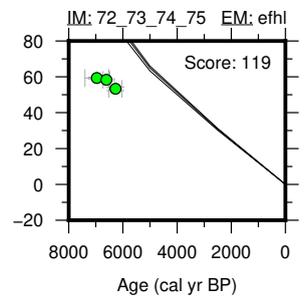
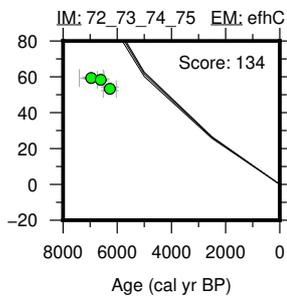
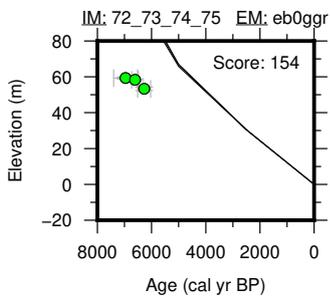
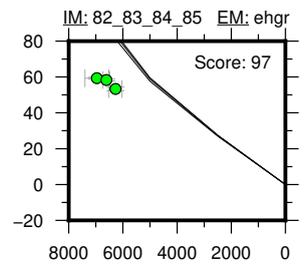
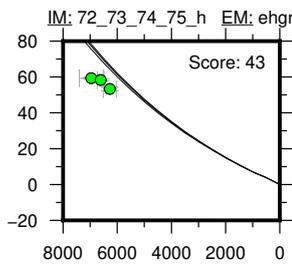
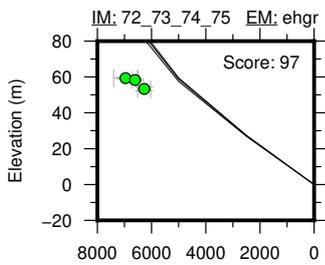
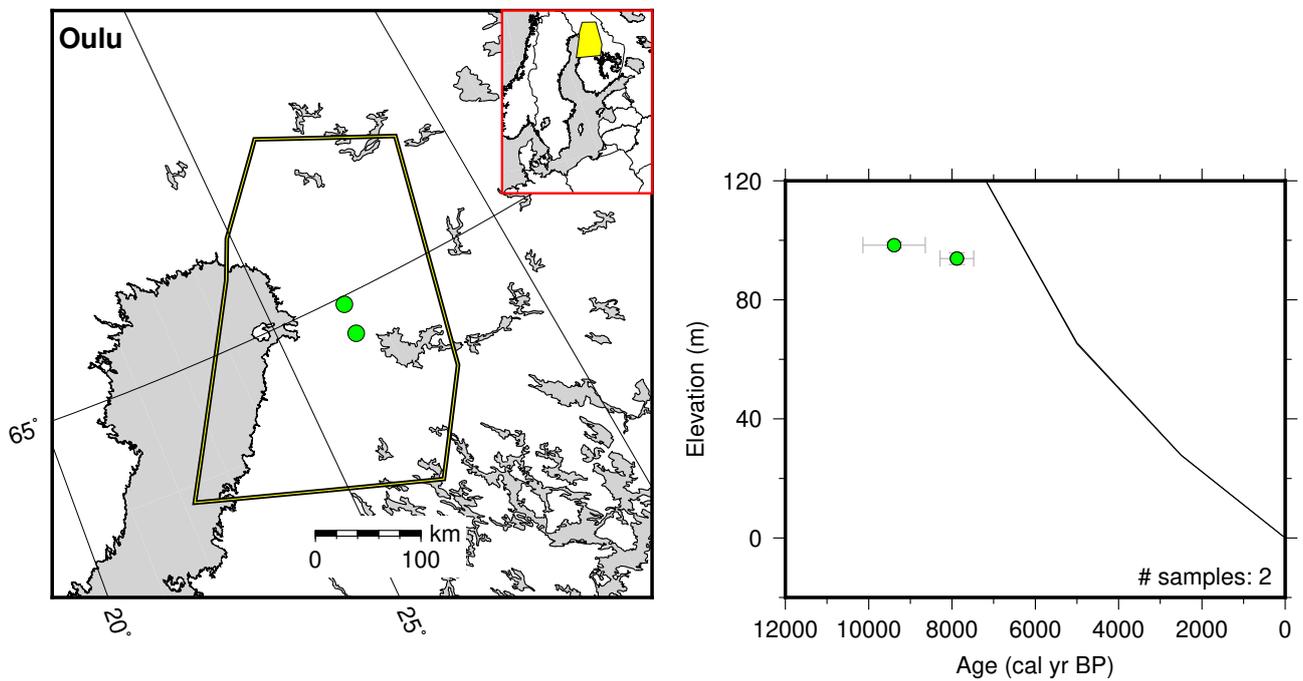


Figure 55: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Aland.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

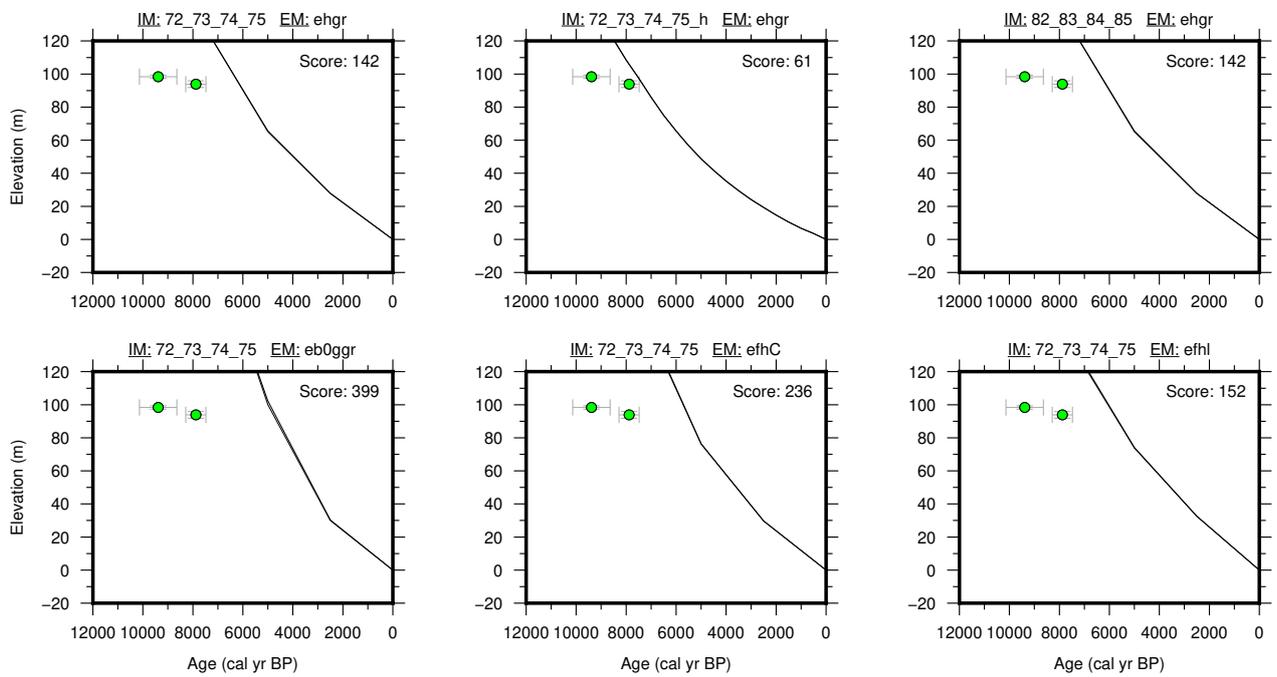
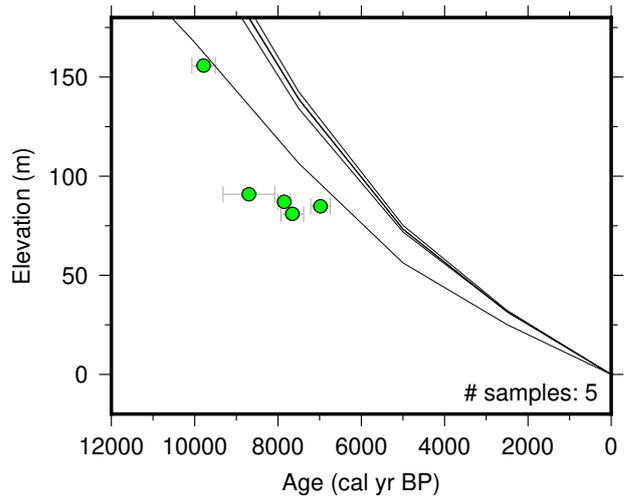
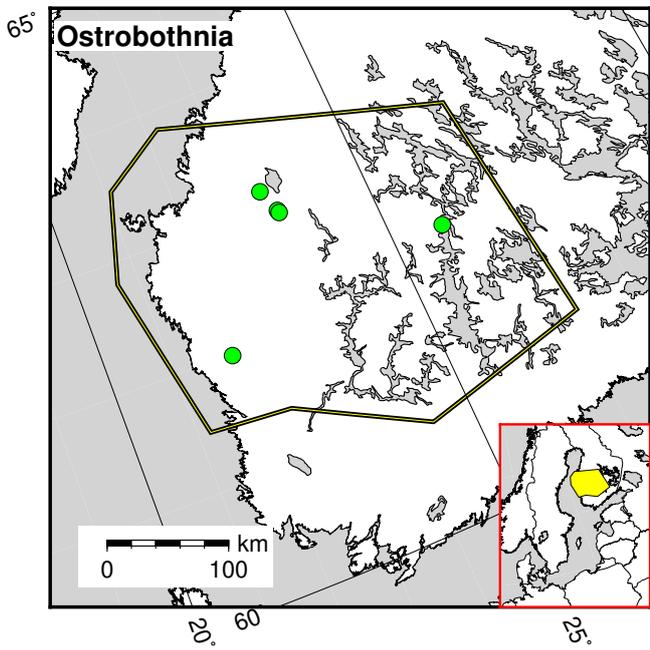


Figure 56: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Oulu.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

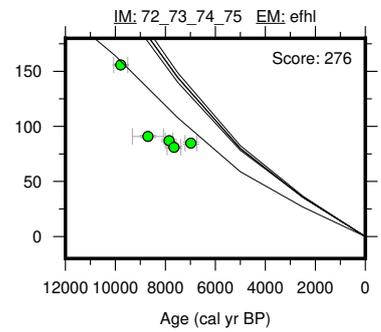
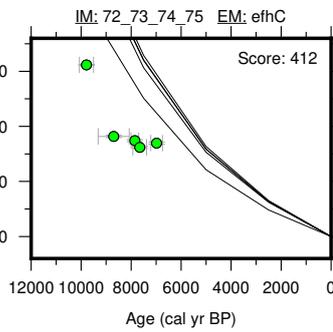
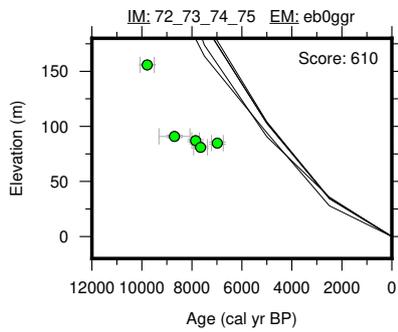
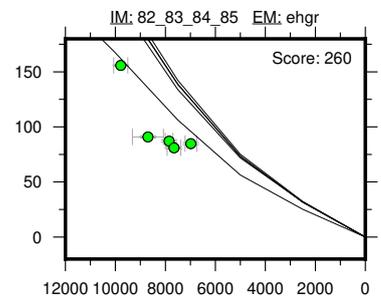
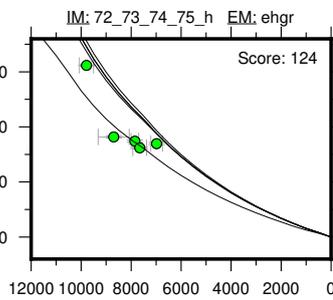
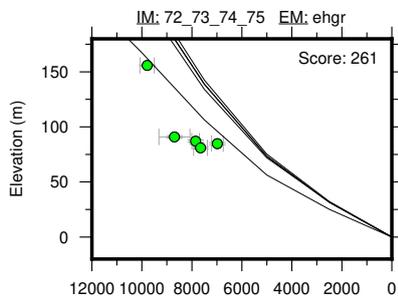


Figure 57: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Ostrobothnia.

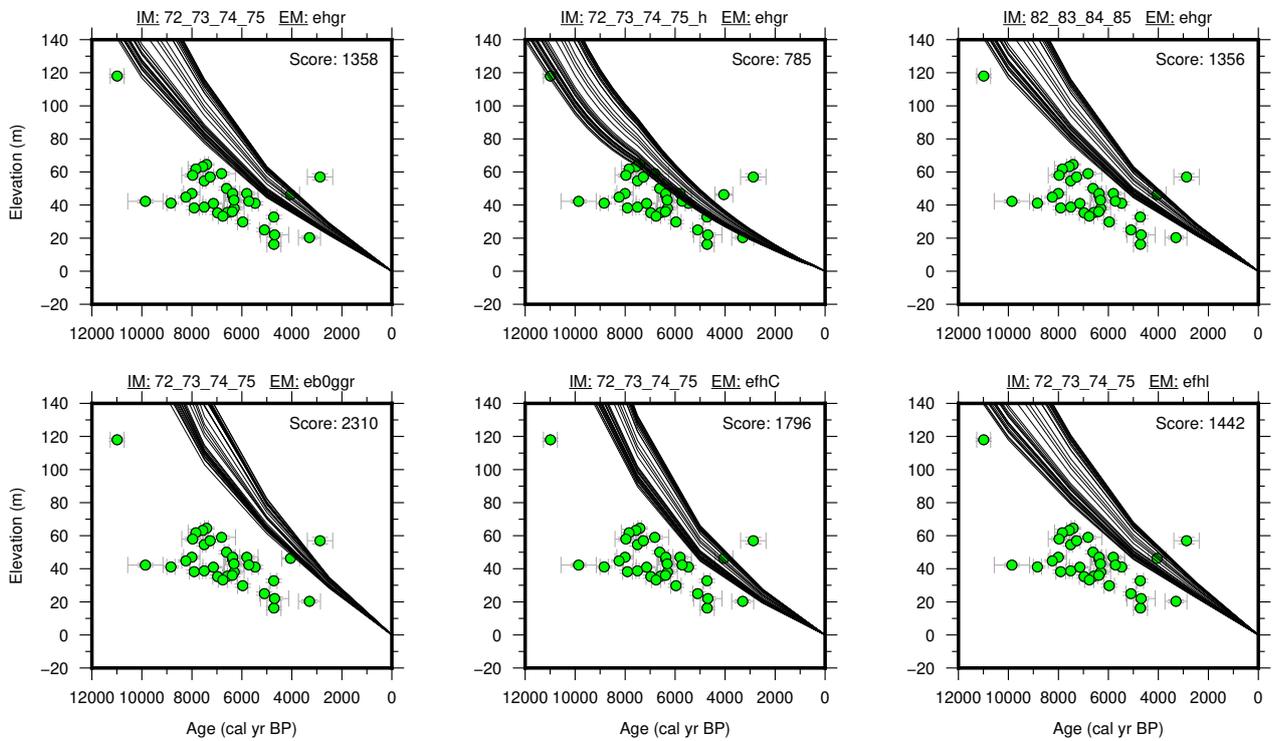
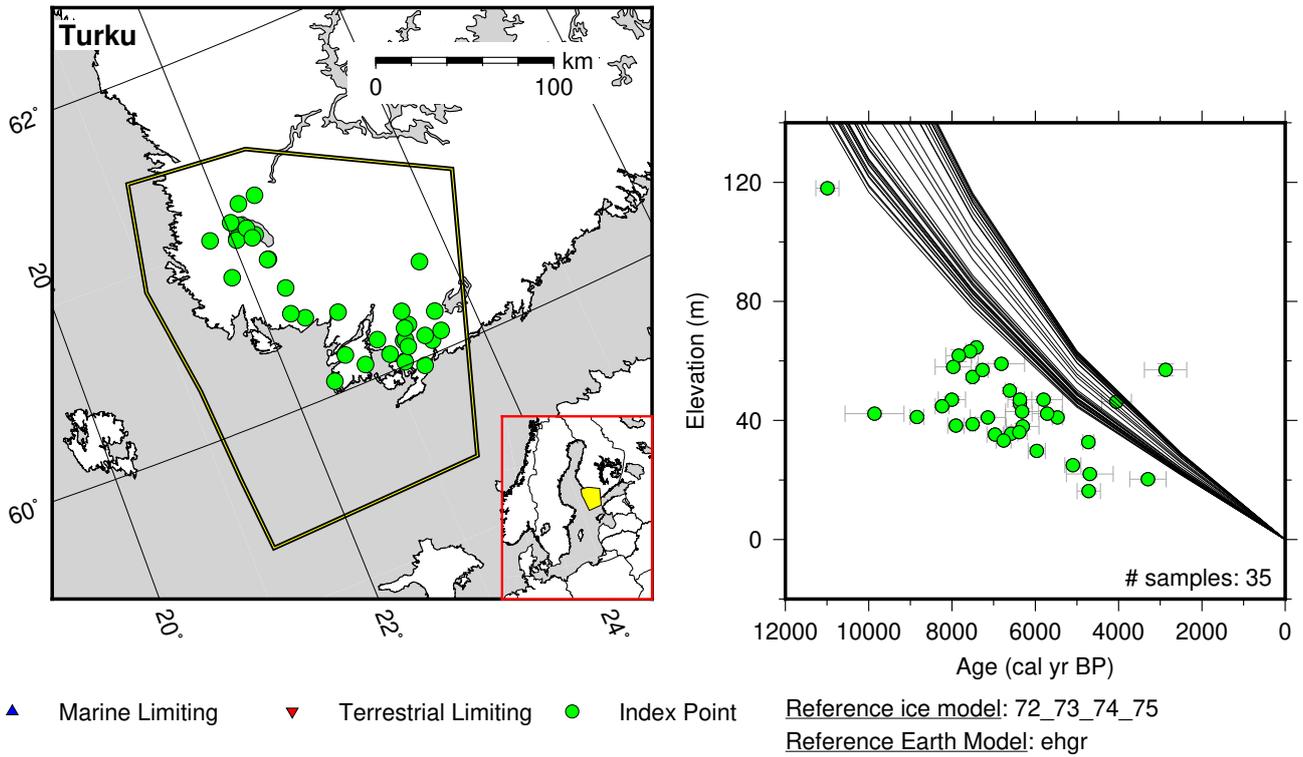


Figure 58: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Turku.

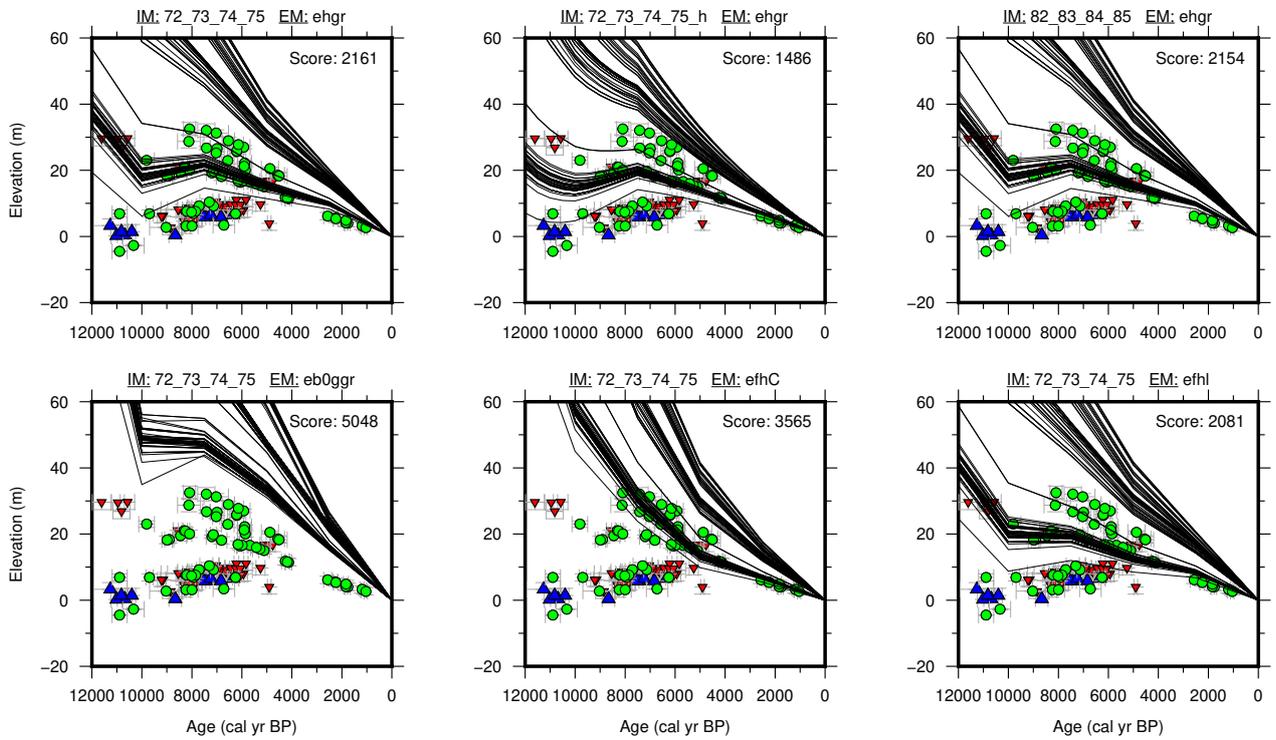
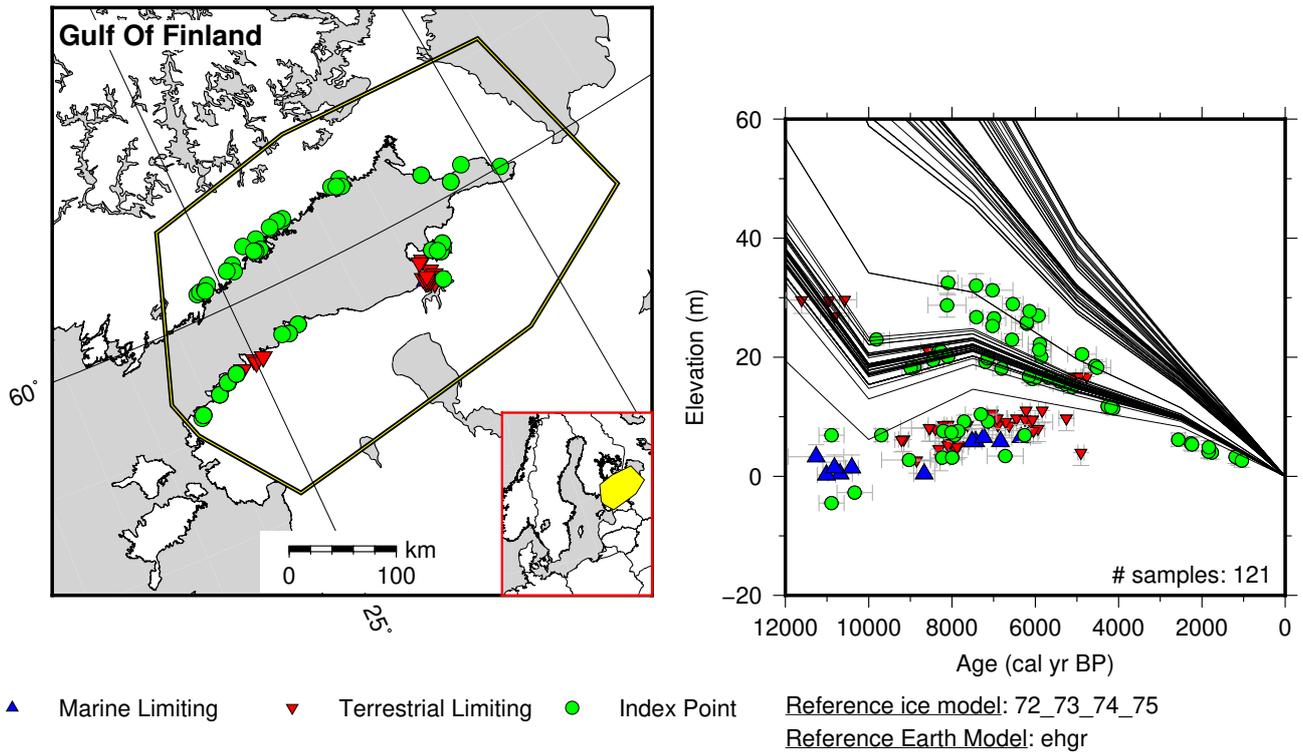


Figure 59: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Gulf Of Finland.

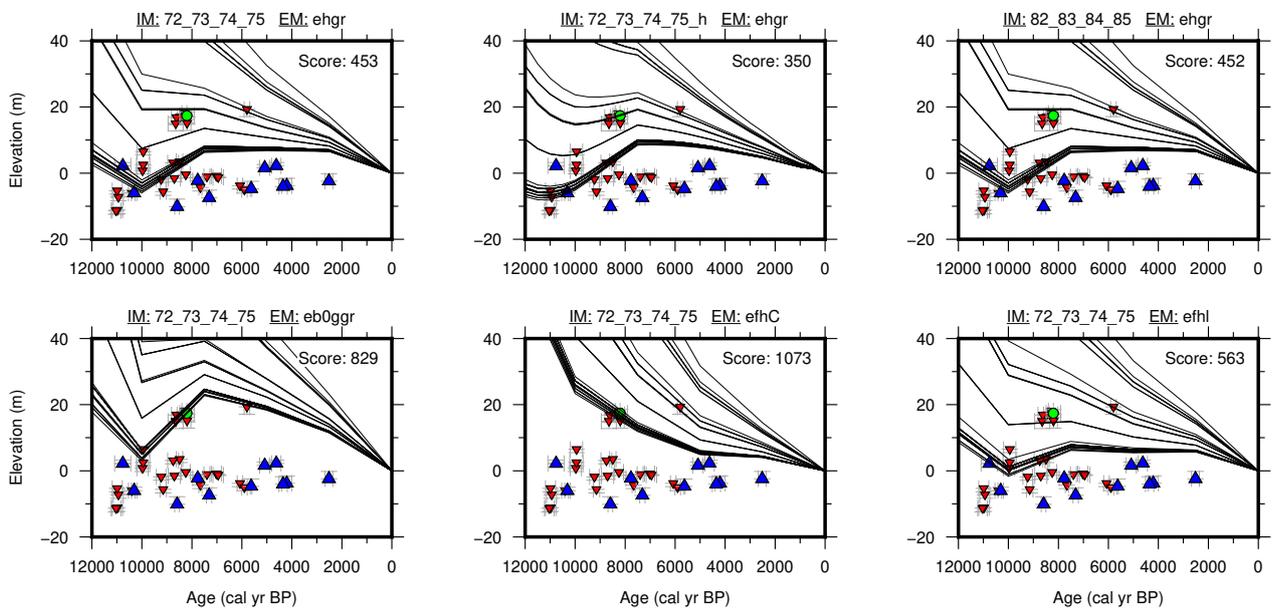
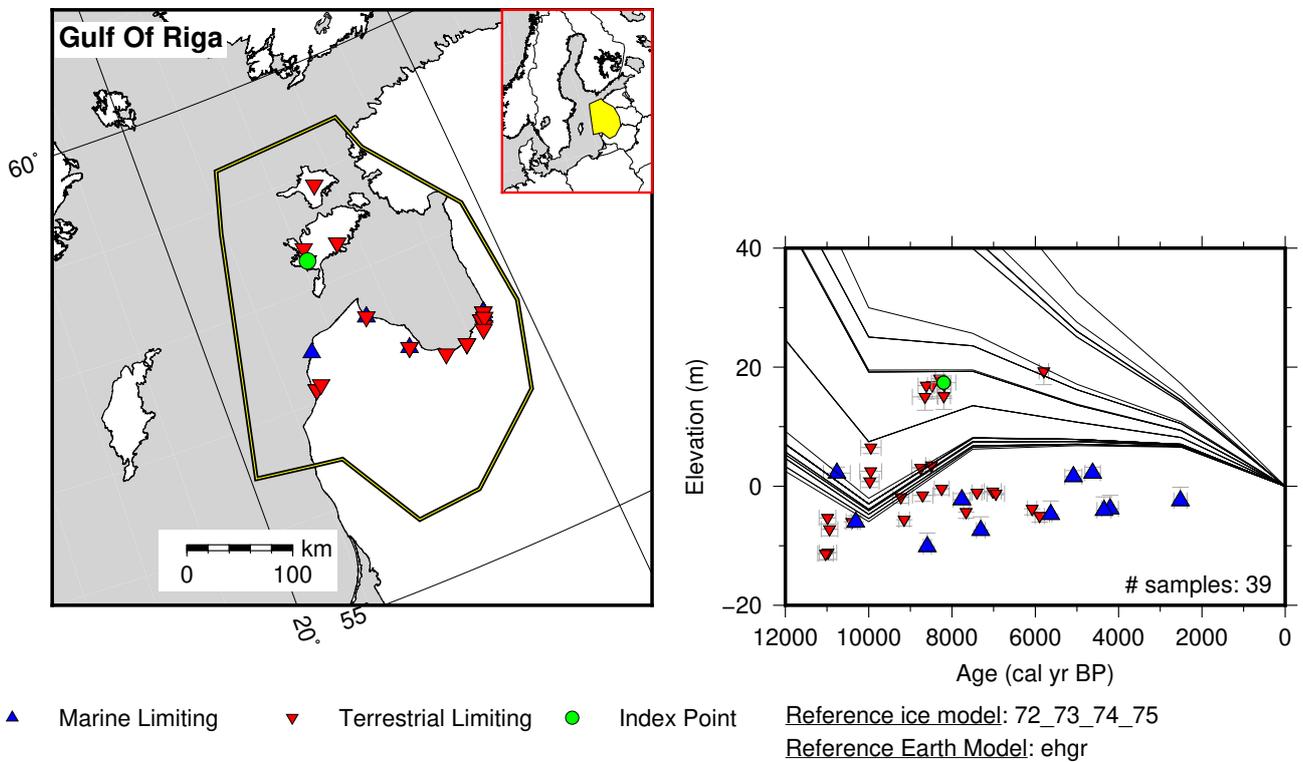


Figure 60: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Gulf Of Riga.

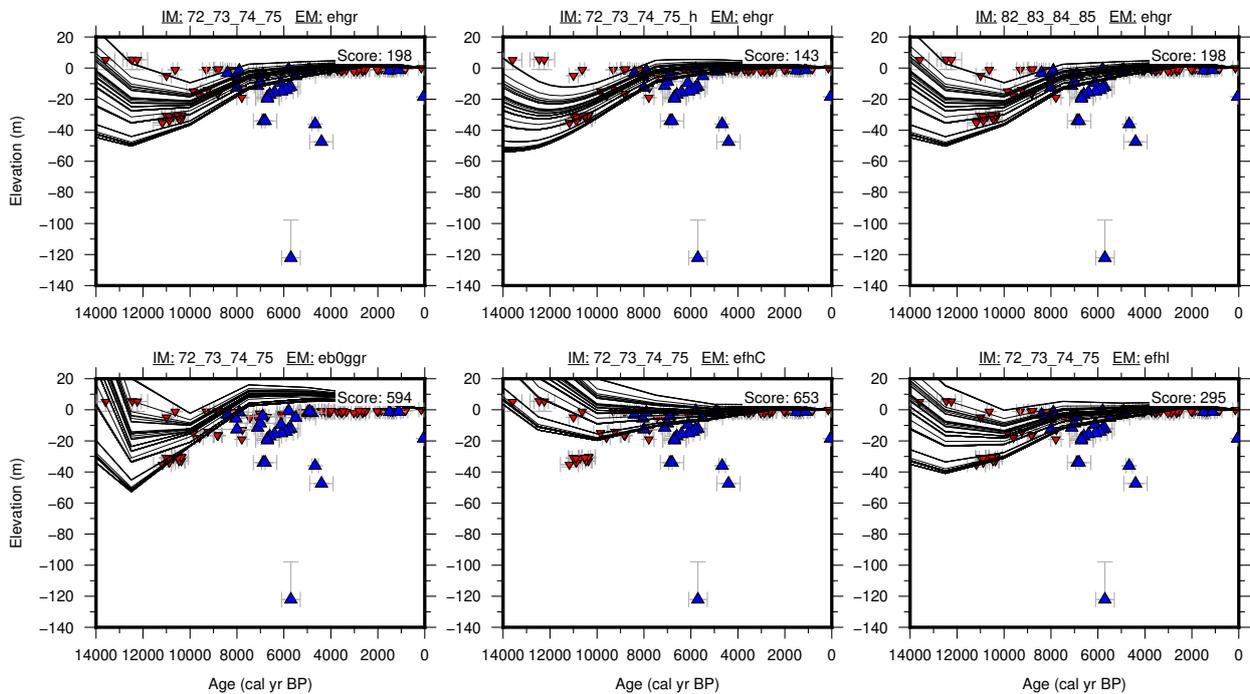
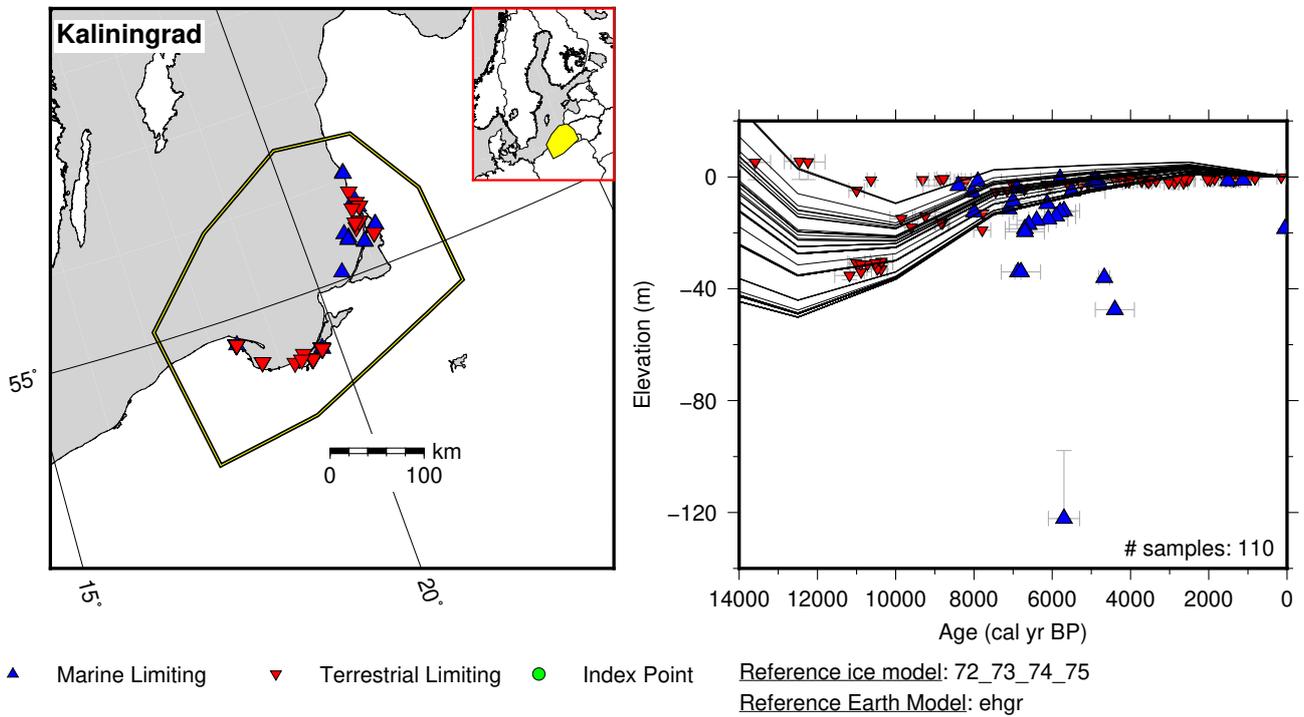
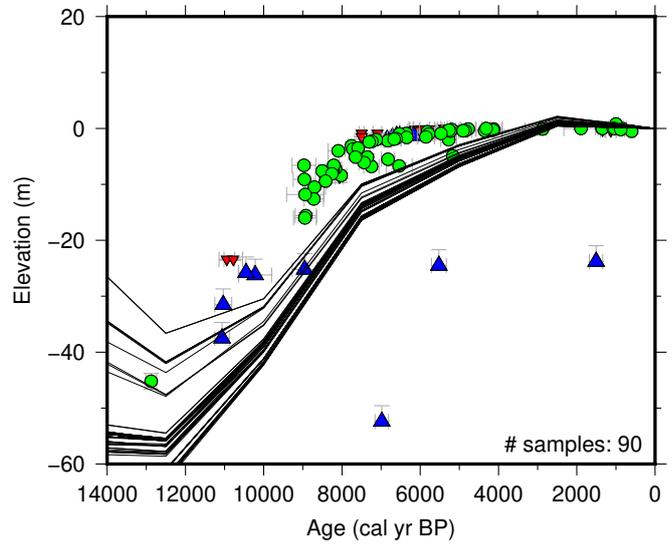
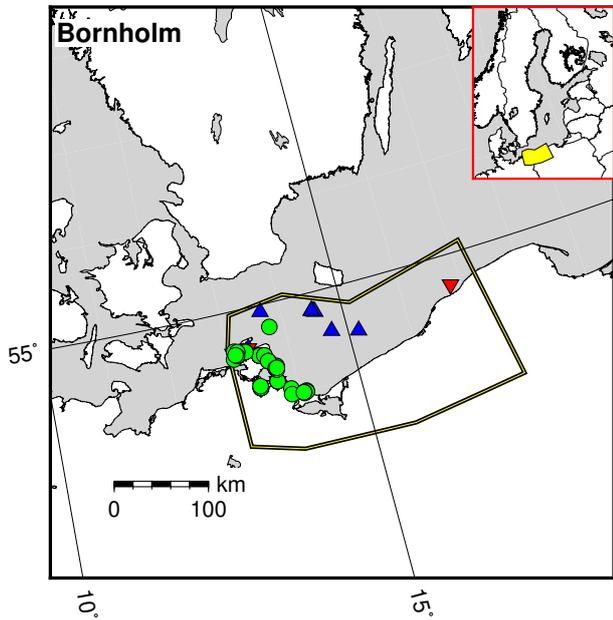


Figure 61: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Kaliningrad.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

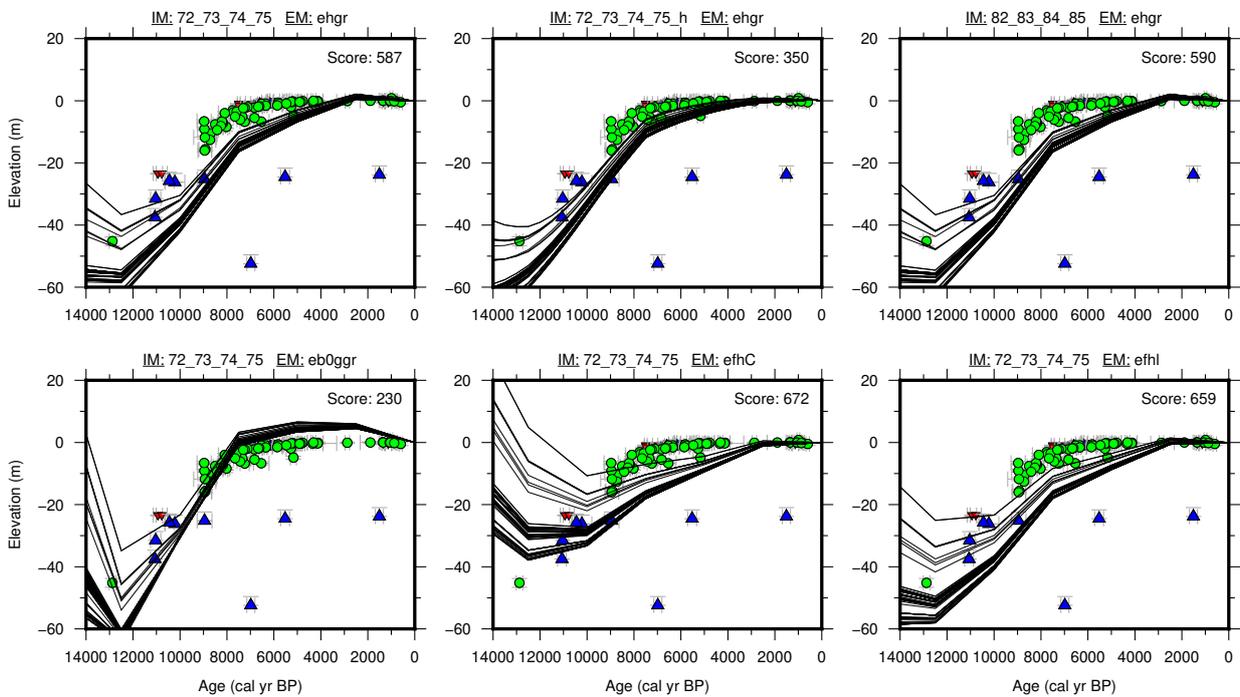


Figure 62: Paleo-sea level and comparison of six models for subregion Baltic Sea, location Bornholm.

## **8.2 Danish straits - Kattegat - Skagerrak**

References for the data used in each location.

**Mecklenburg:**

**Kiel:**

**Great Belt:**

**Copenhagen:**

**Kattegat:**

**Northern Jylland:**

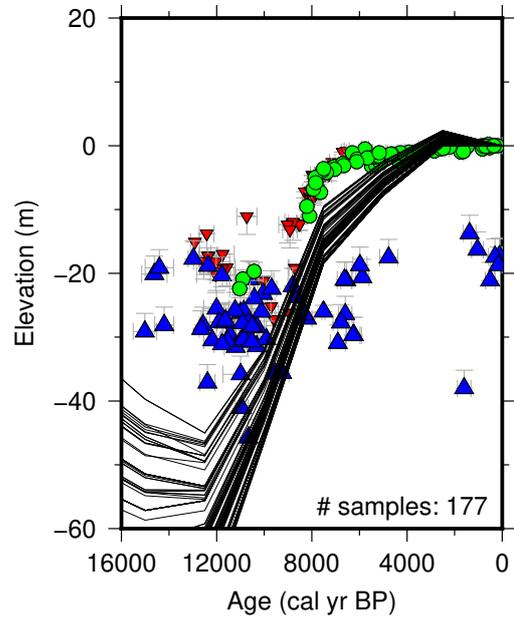
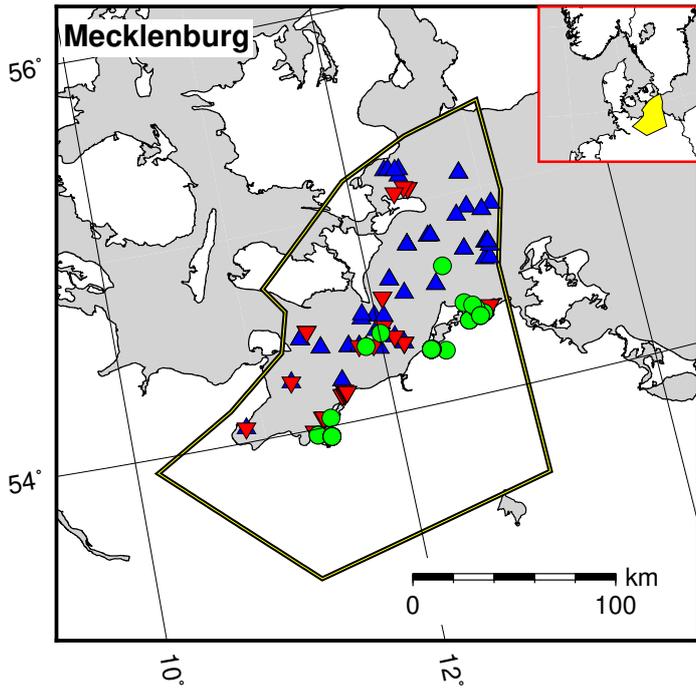
**Limfjord:**

**Halland:**

**Halden:** Sørensen (1999)

**Ski:** Gulliksen et al. (1975); Sørensen (1979)

**Kragerod Porsgrunn:** Henningsmoen (1979); Stabell (1980)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

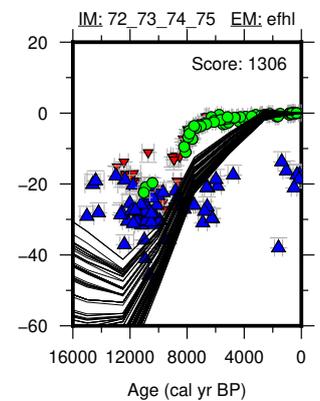
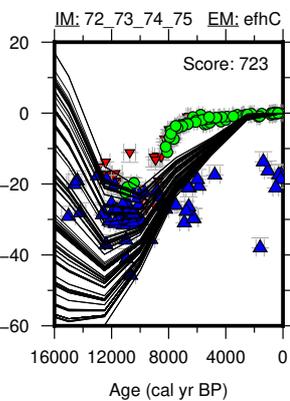
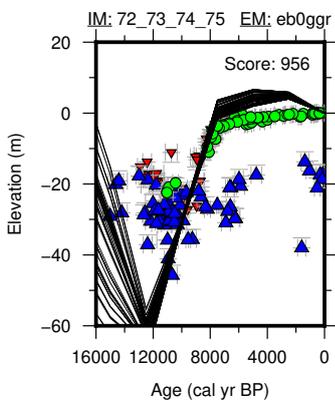
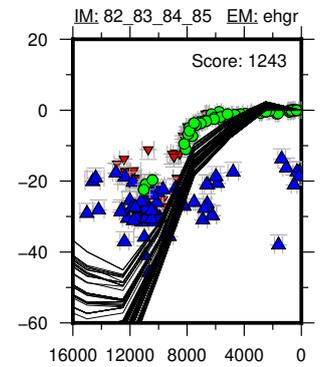
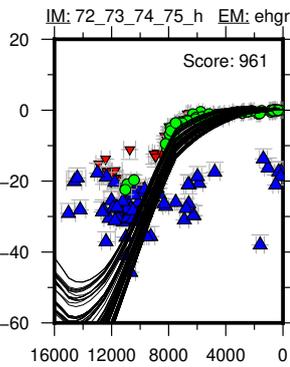
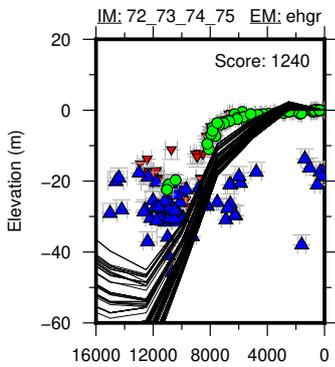
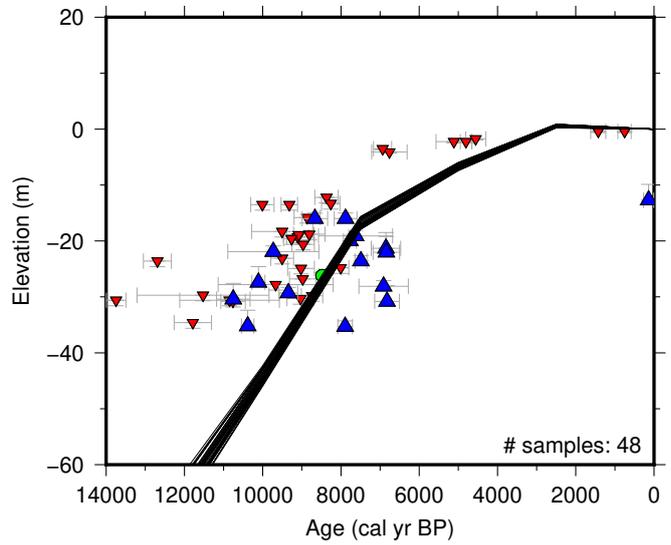
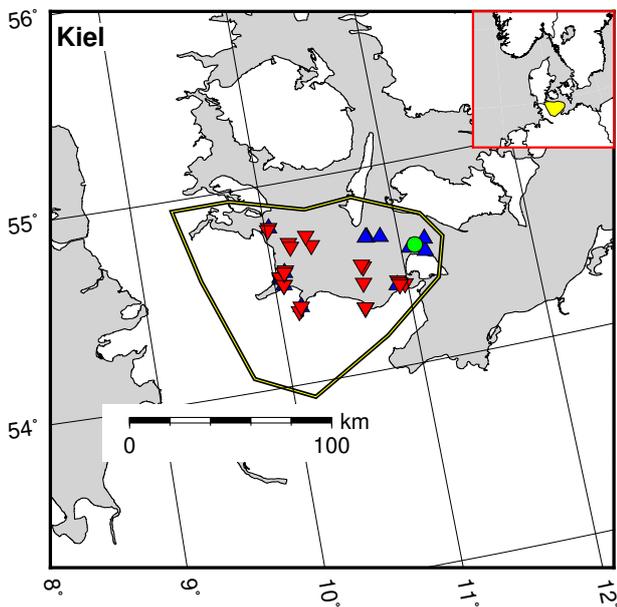


Figure 63: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Mecklenburg.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

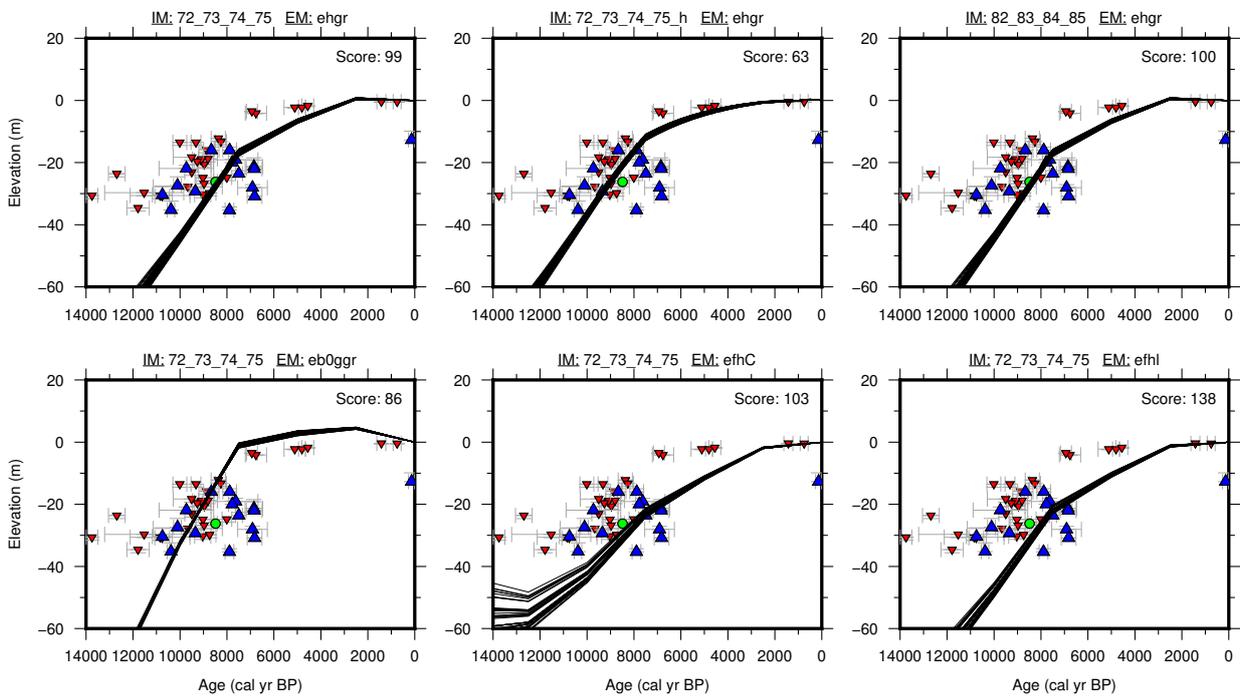


Figure 64: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Kiel.

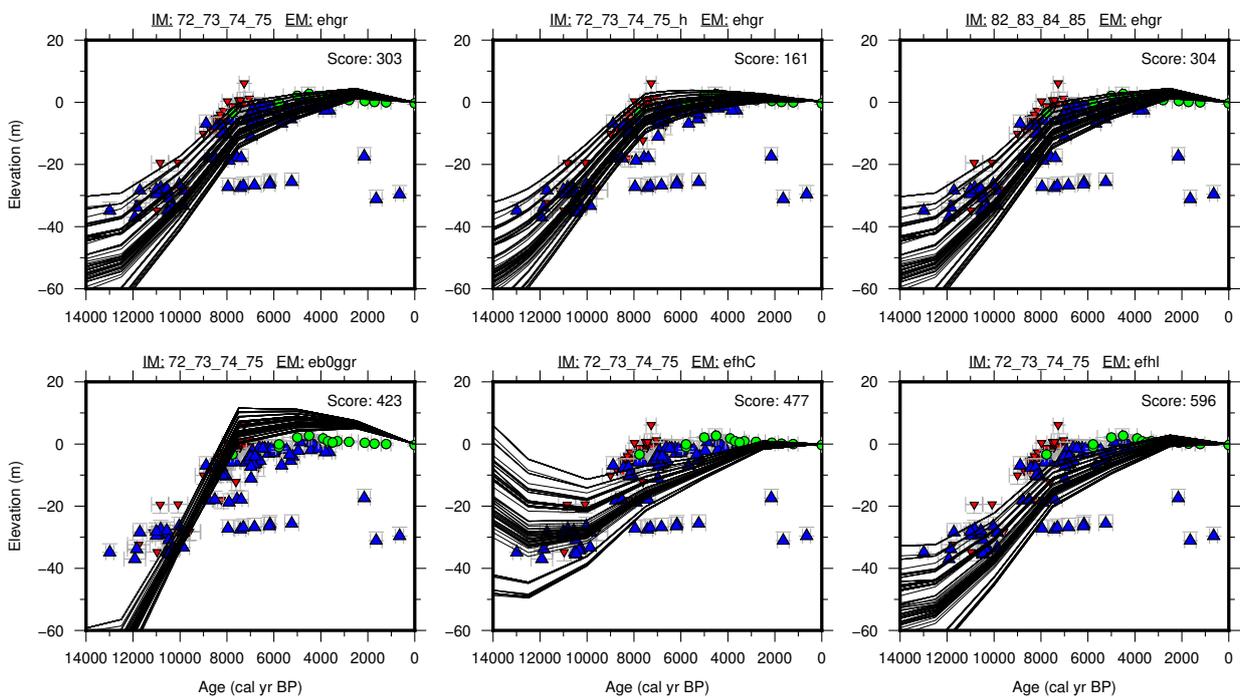
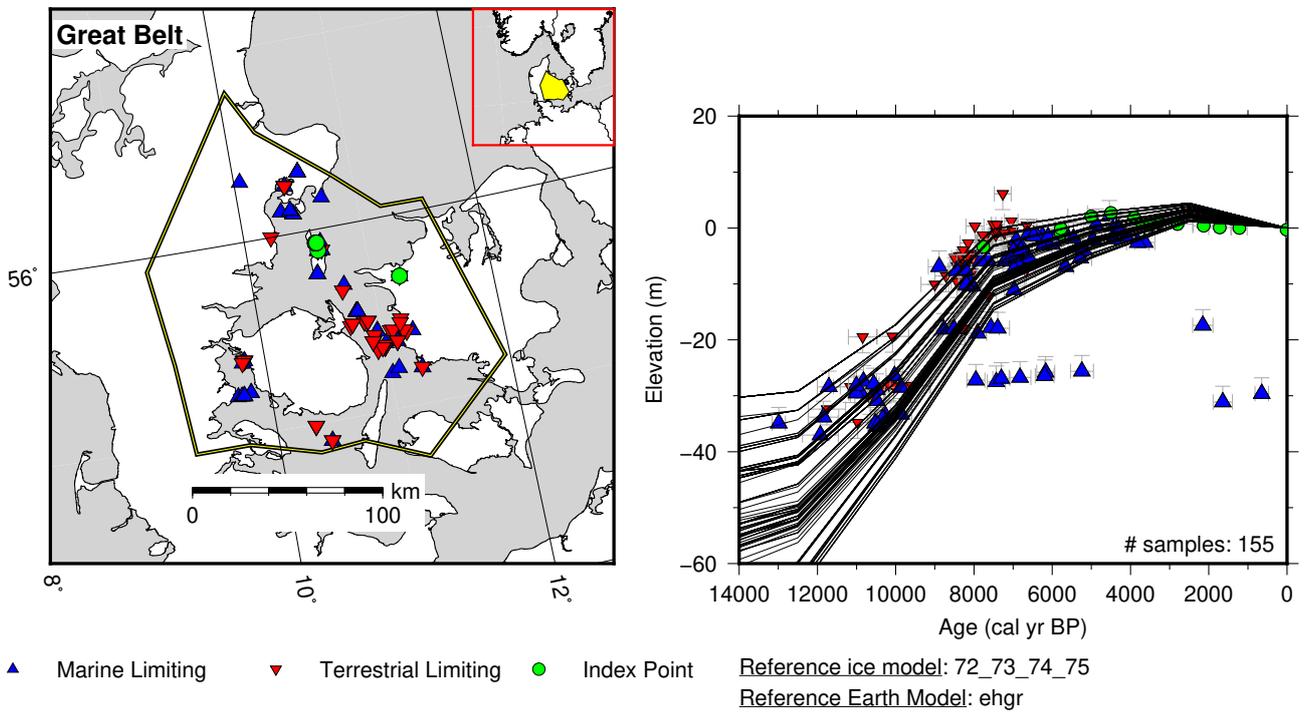


Figure 65: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Great Belt.

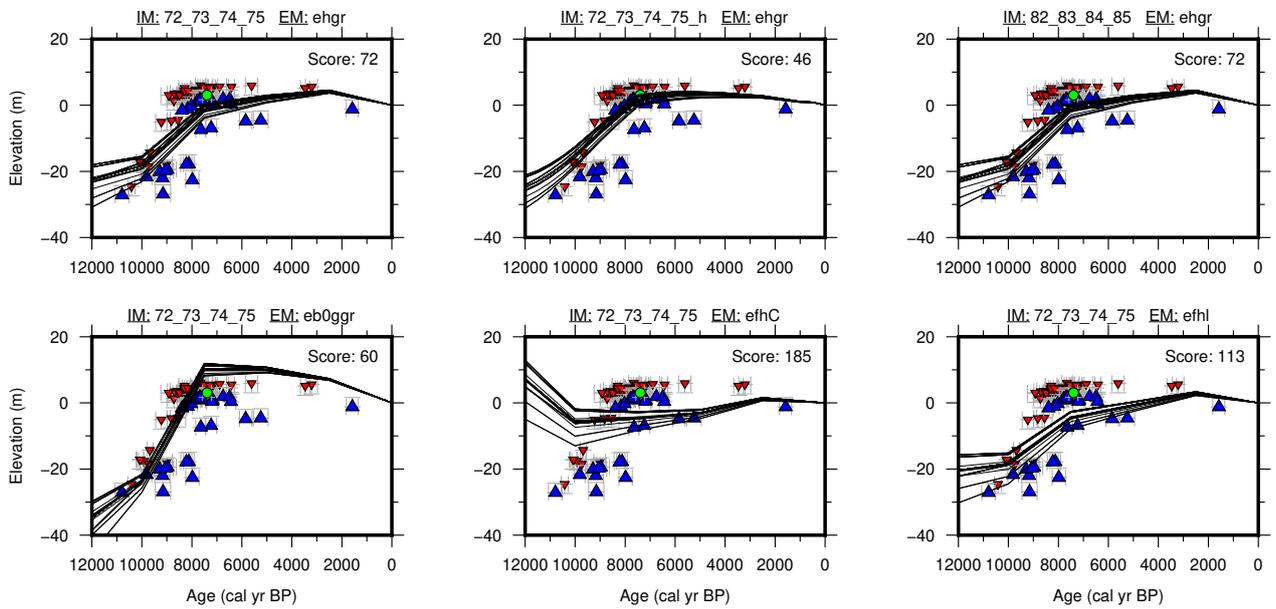
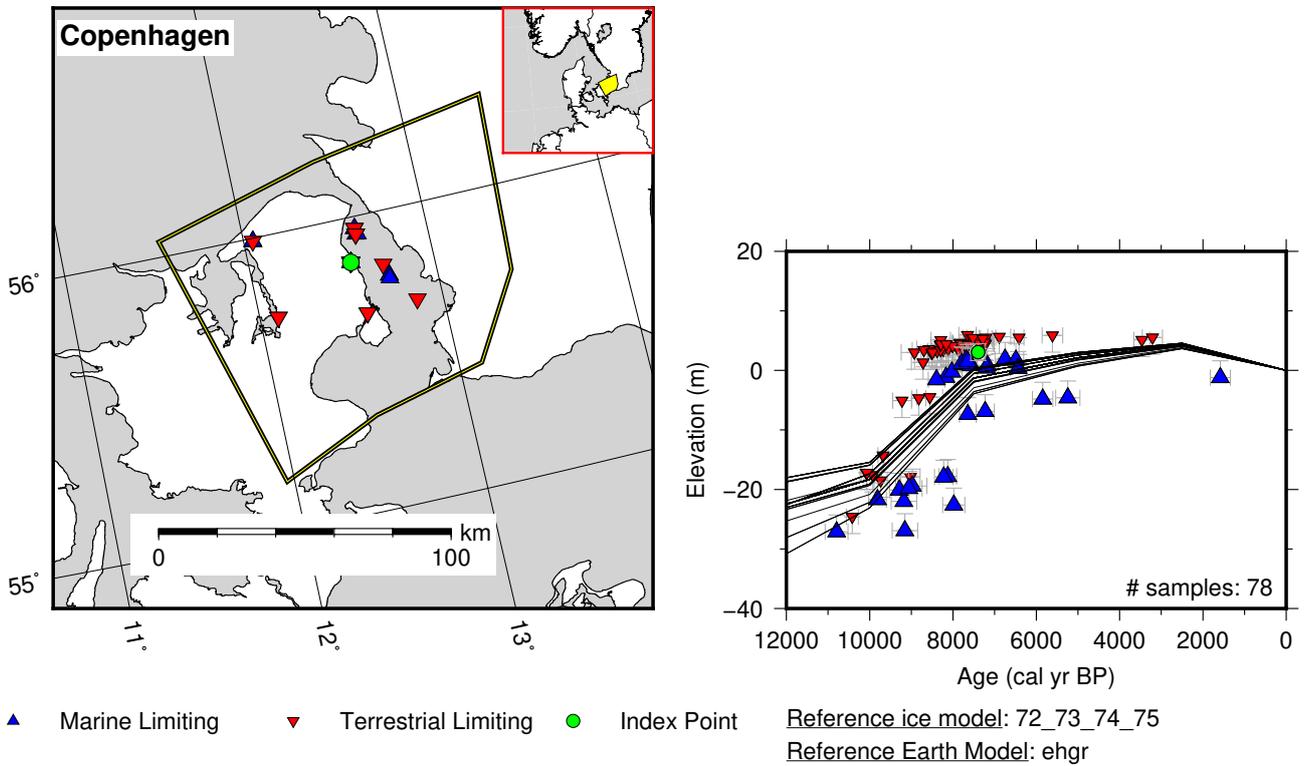
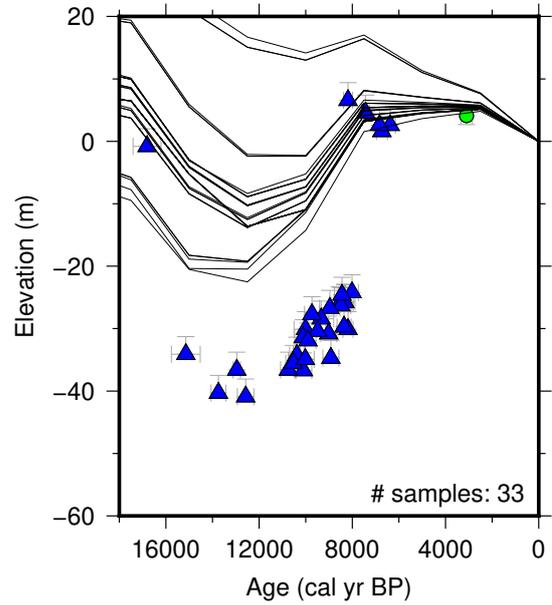
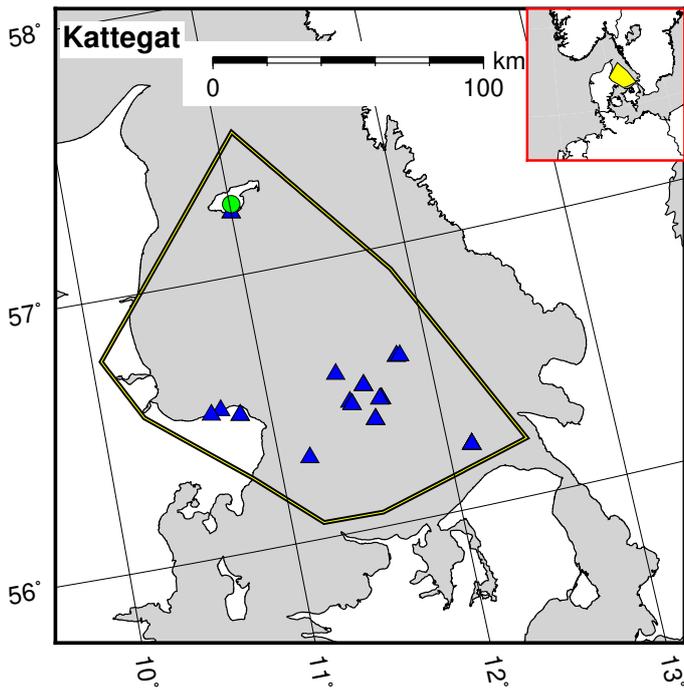


Figure 66: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Copenhagen.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

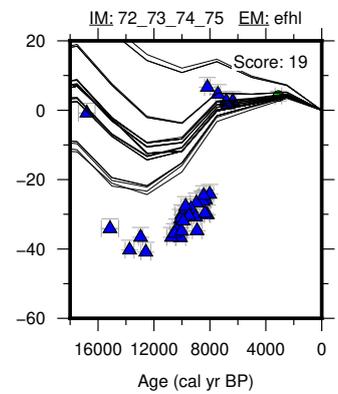
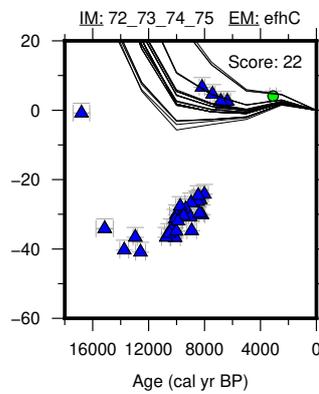
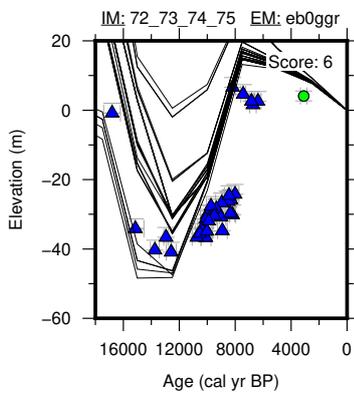
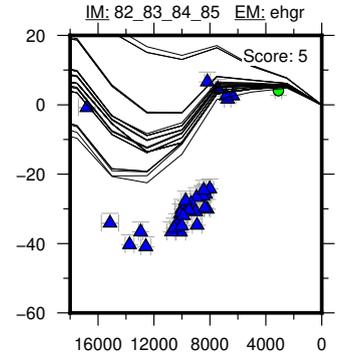
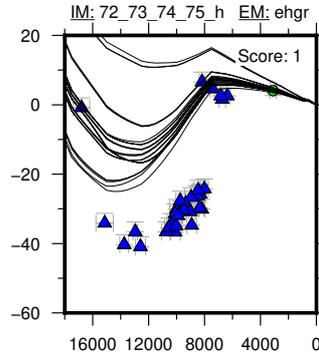
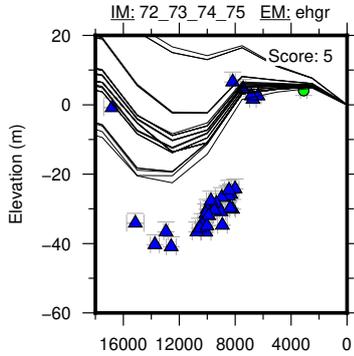
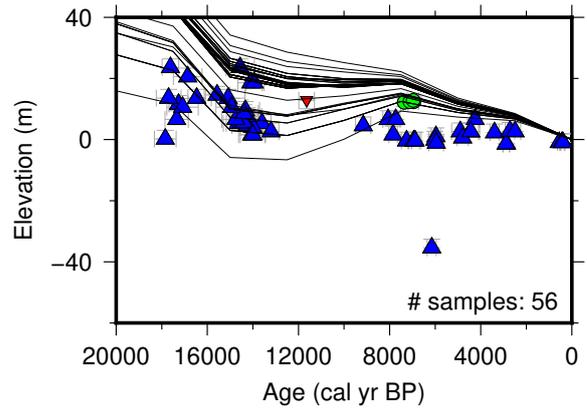
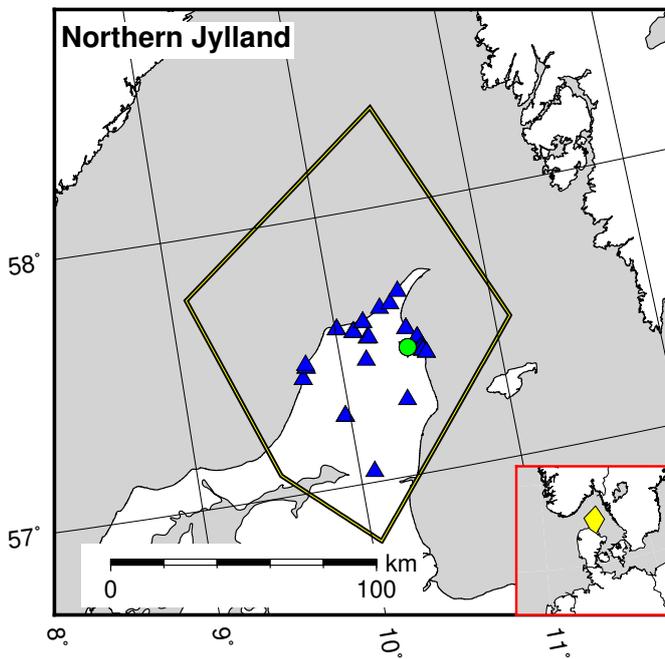


Figure 67: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Kattegat.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

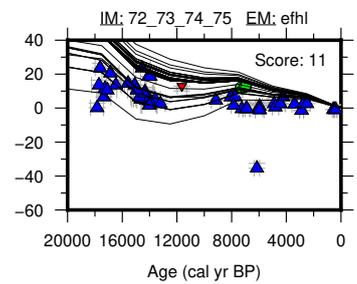
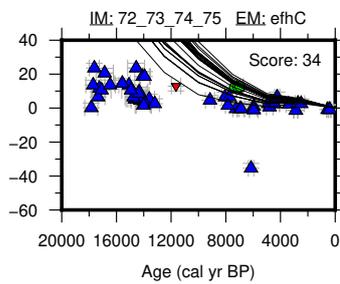
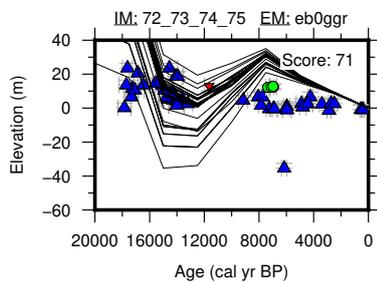
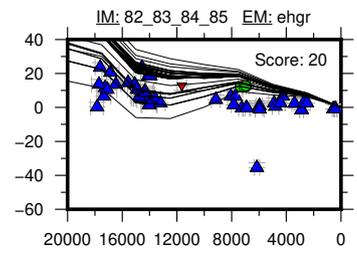
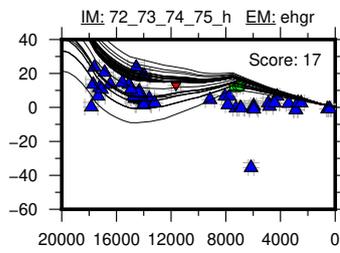
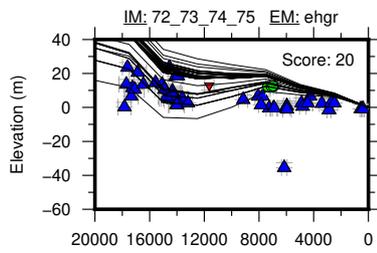
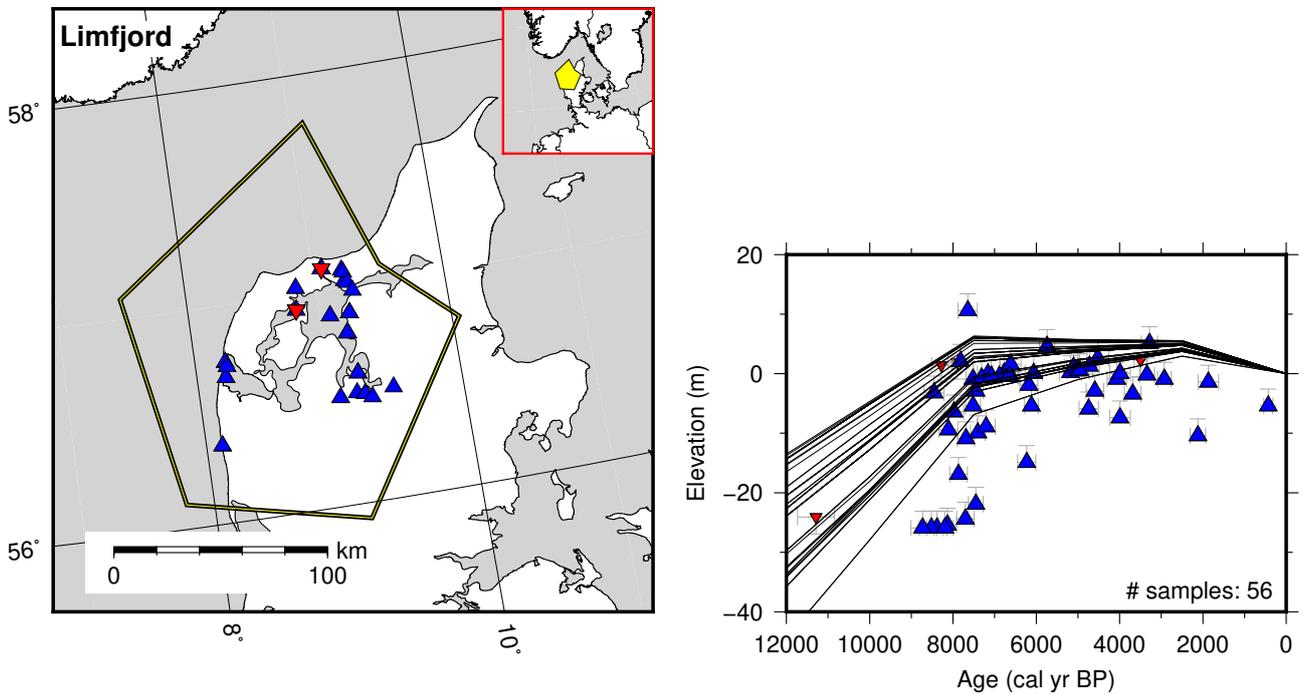


Figure 68: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Northern Jylland.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

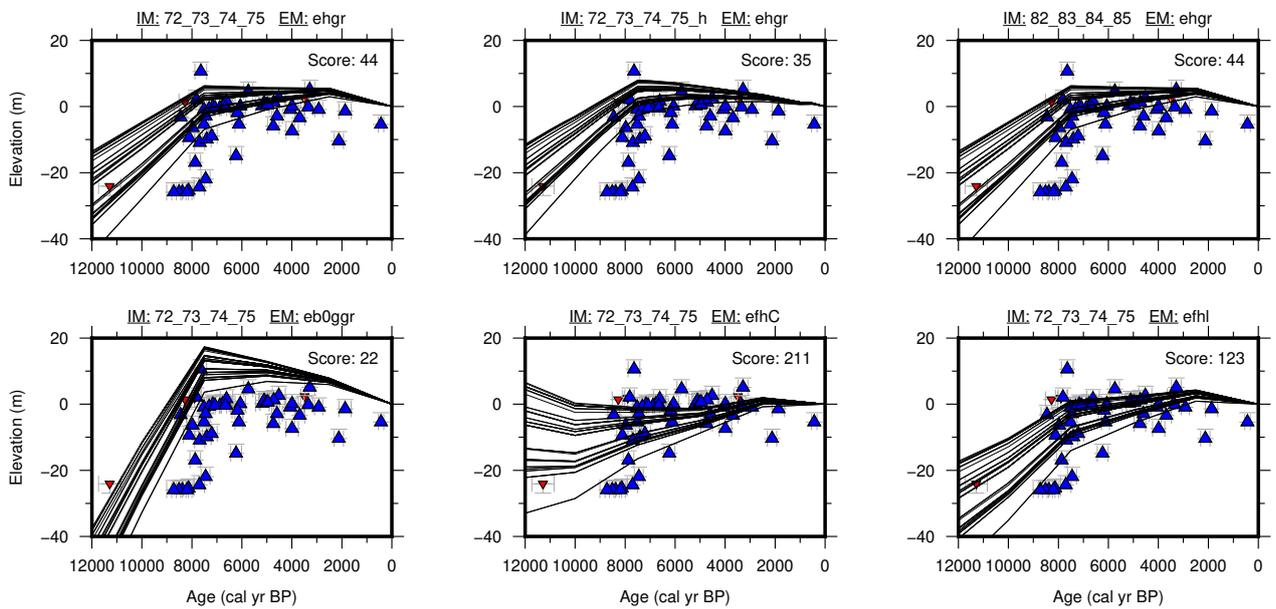


Figure 69: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Limfjord.

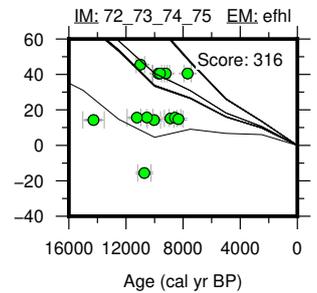
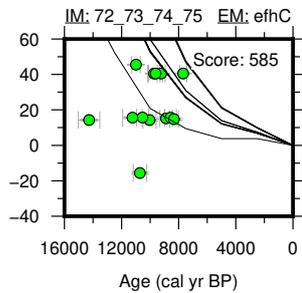
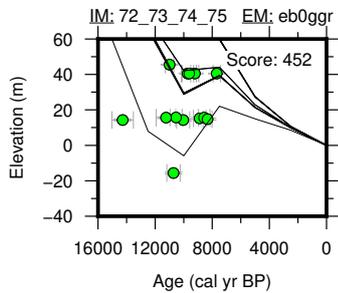
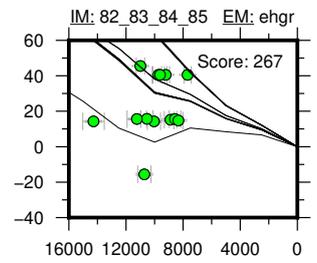
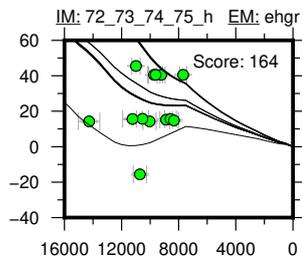
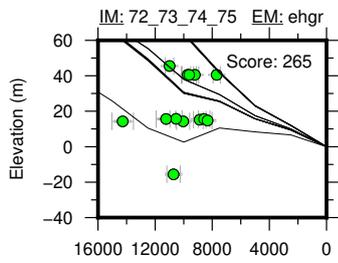
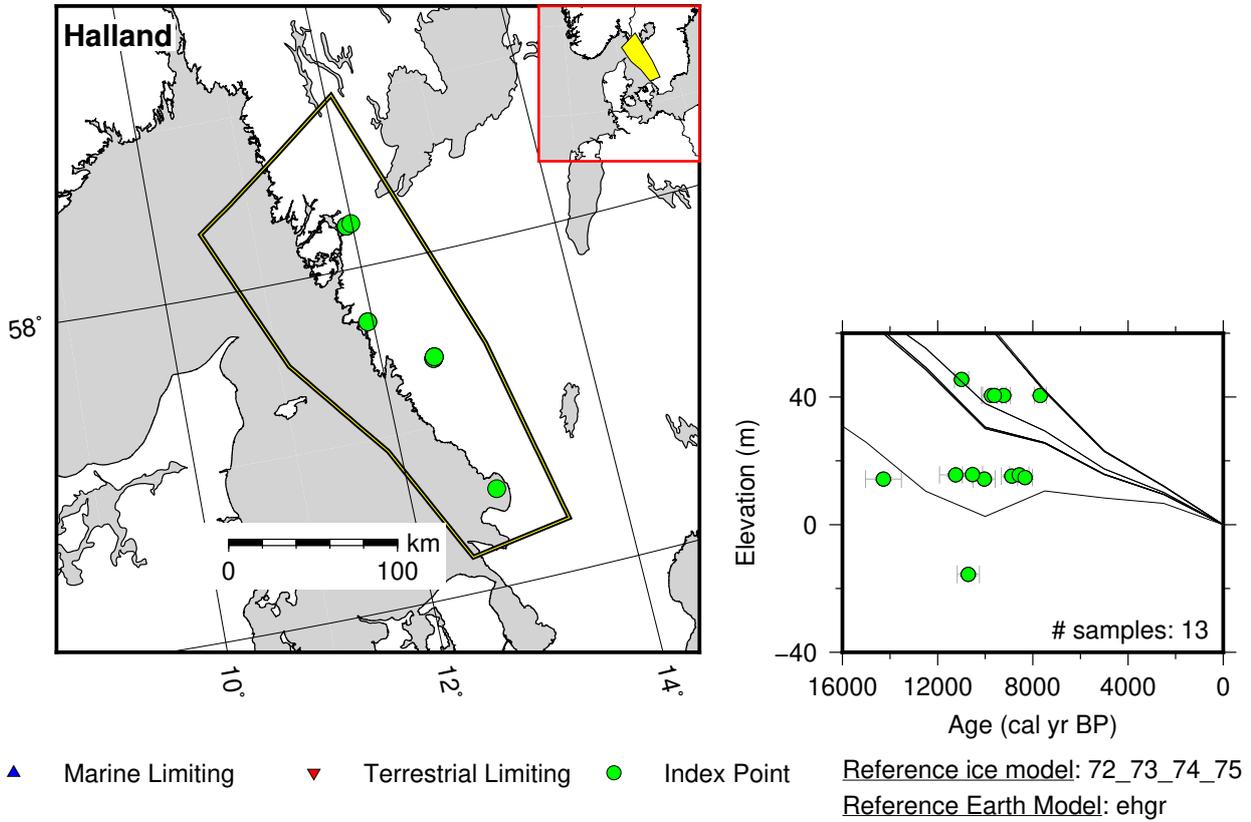
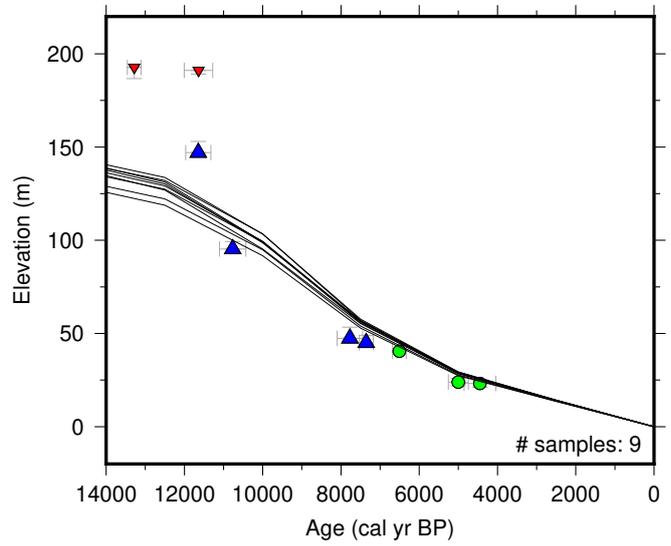
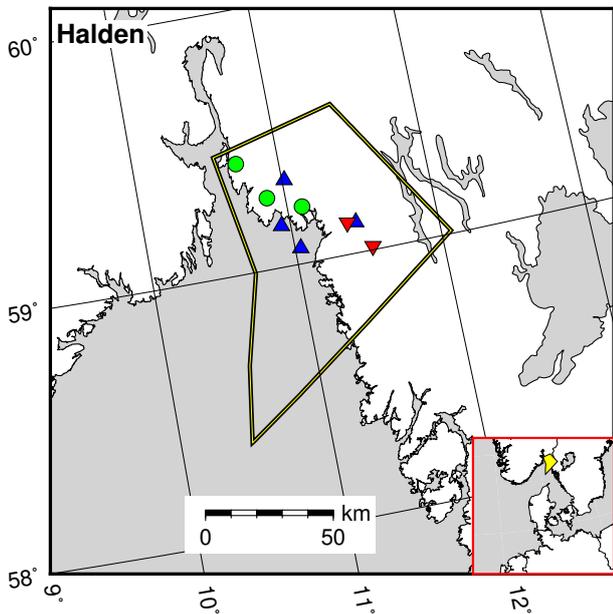


Figure 70: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Halland.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

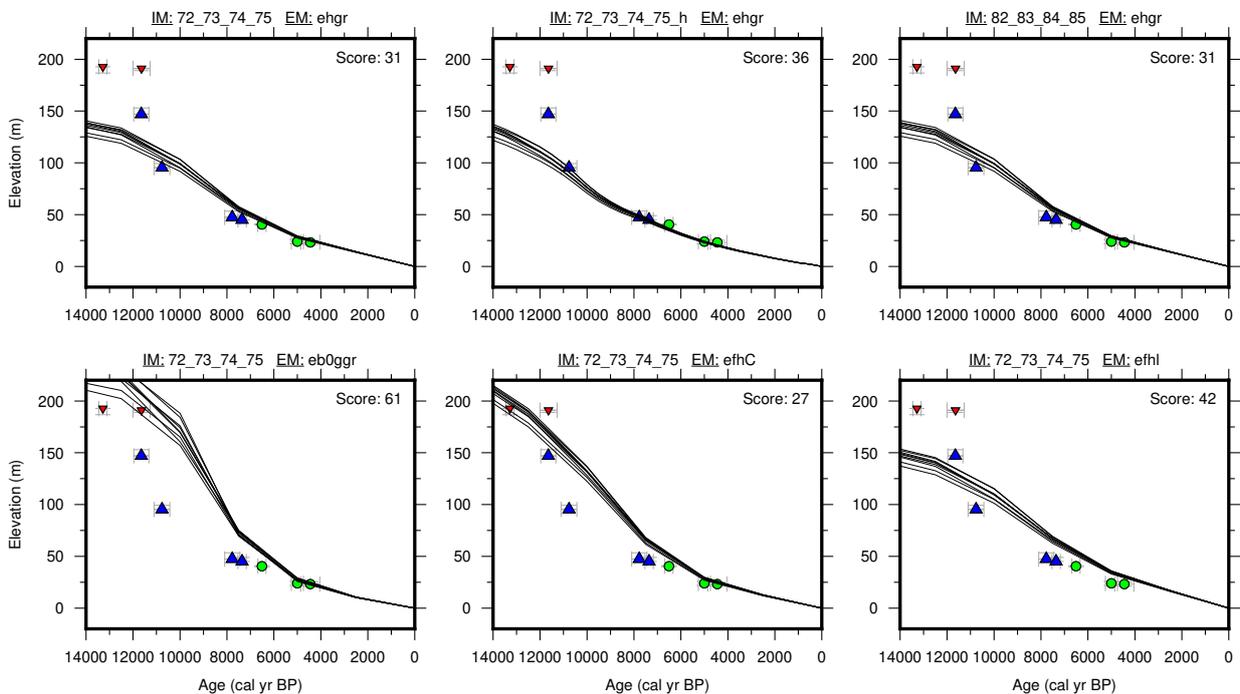


Figure 71: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Halden.

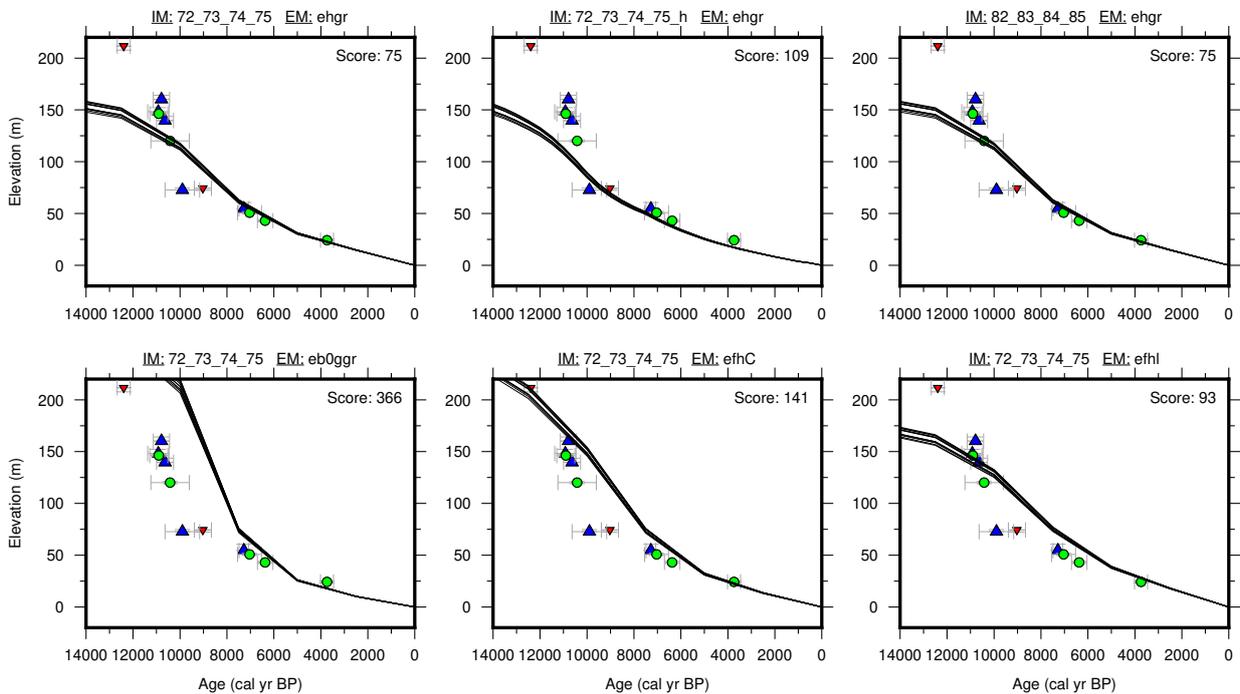
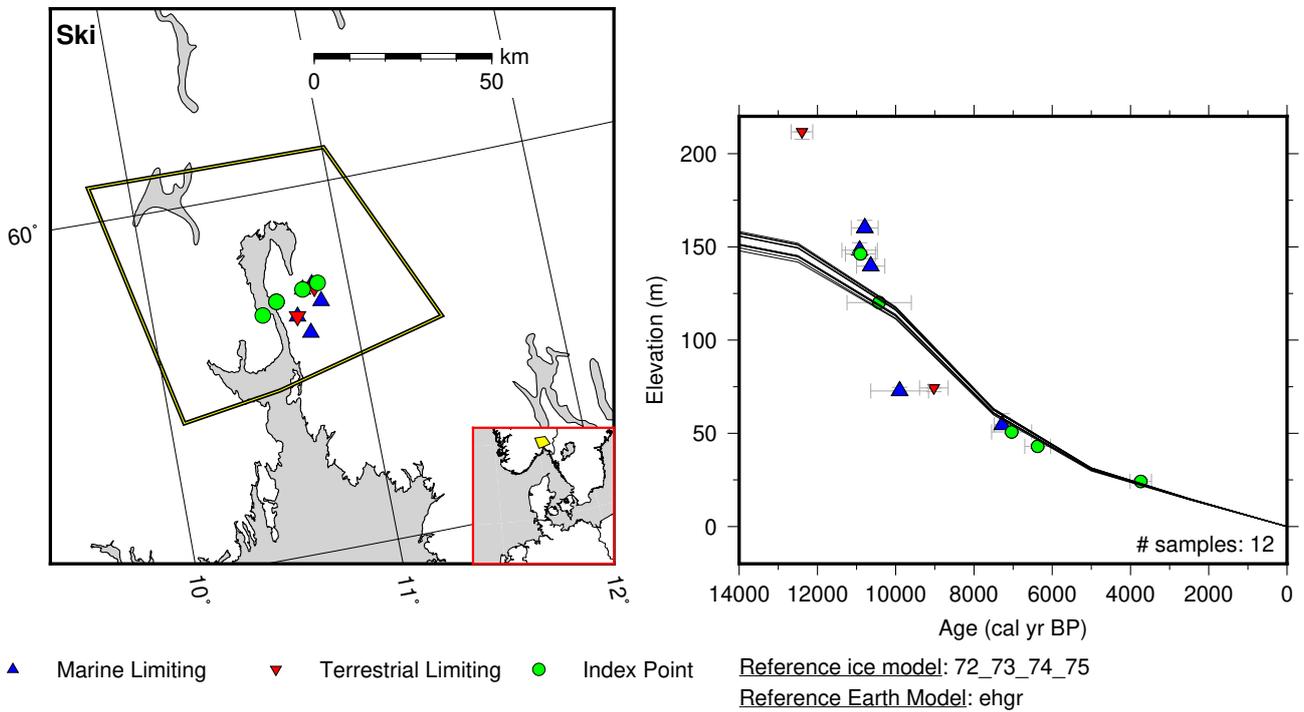
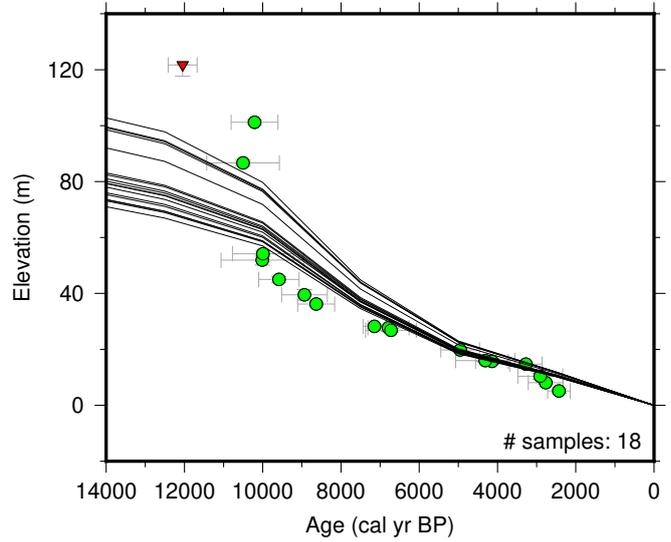
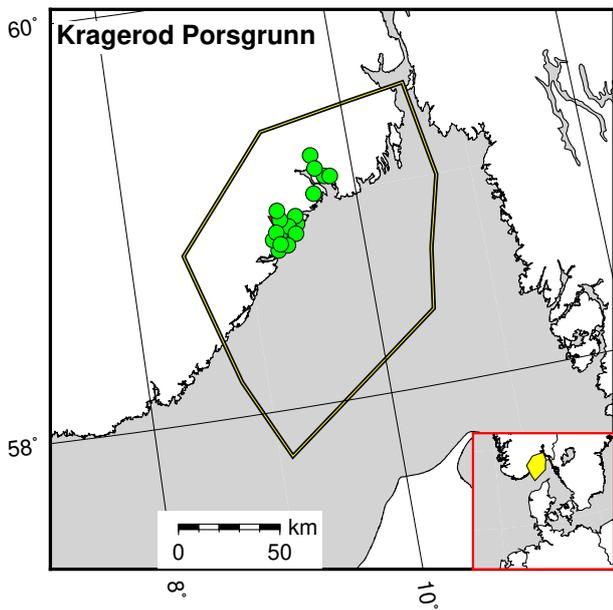


Figure 72: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Ski.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

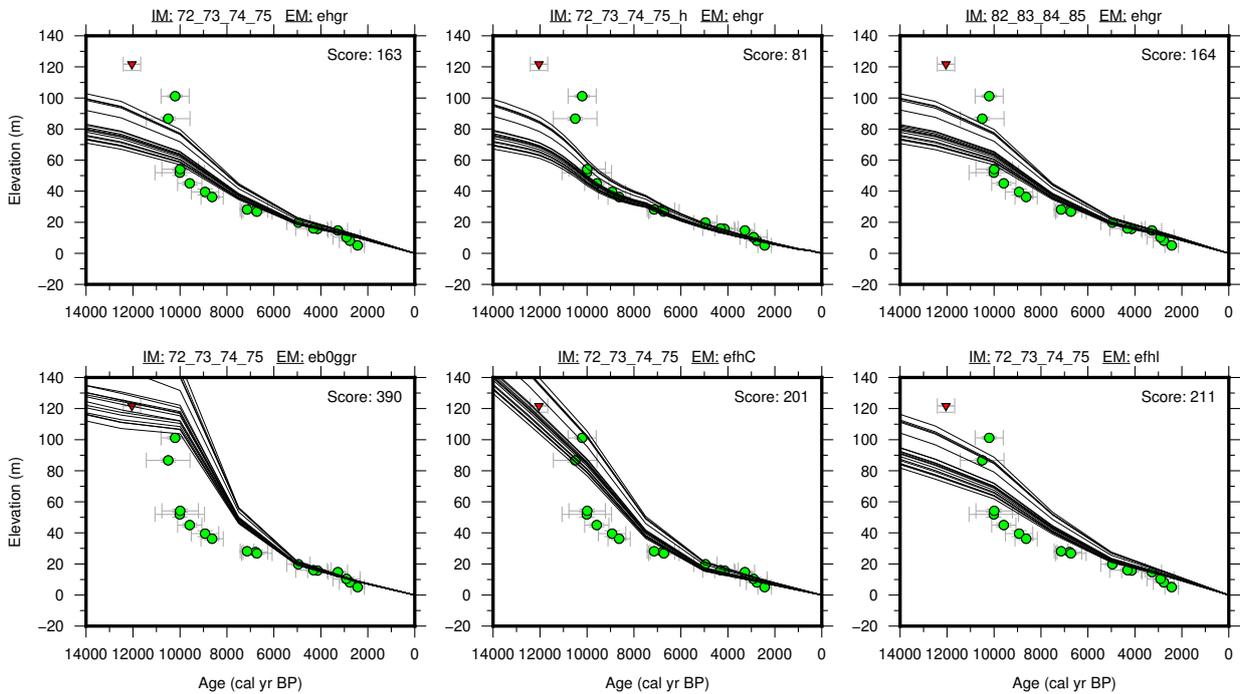


Figure 73: Paleo-sea level and comparison of six models for subregion Danish straits - Kattegat - Skagerrak, location Kragerod Porsgrunn.

### 8.3 North Sea

References for the data used in each location.

**Rotterdam:** Berendsen et al. (2007); Hijma and Cohen (2010, 2019); Hijma et al. (2009); Jelgersma (1961); Kiden (1995); Slupik et al. (2013); van de Plassche (1982, 1995); van Heteren et al. (2002); Vos (1992, 2013); Vos and Cohen (2014); Vos et al. (2010, 2011, 2015); ?

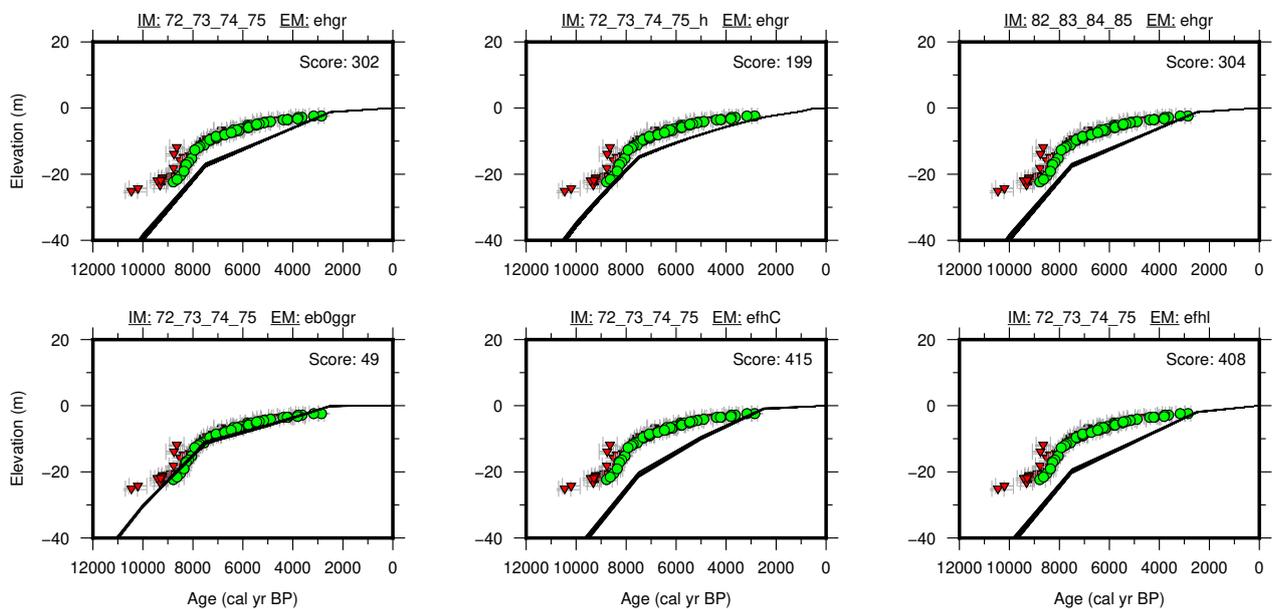
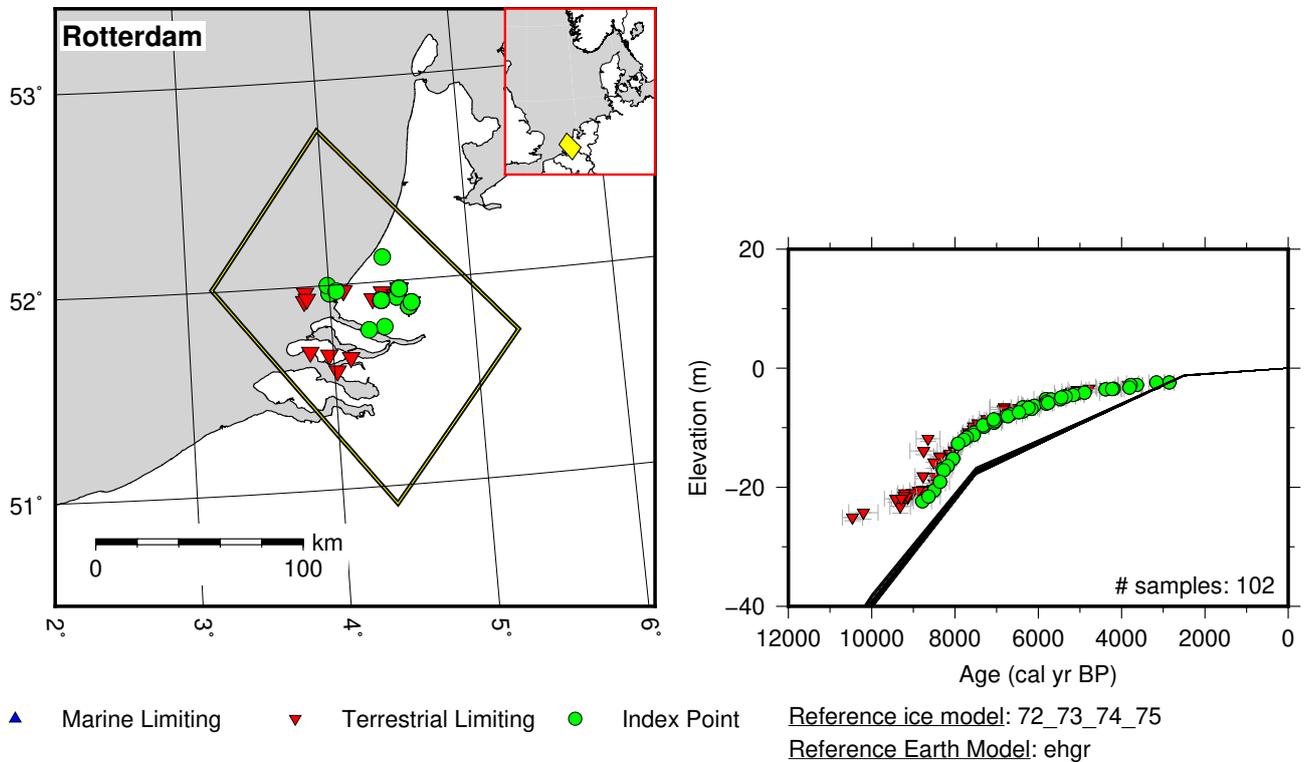


Figure 74: Paleo-sea level and comparison of six models for subregion North Sea, location Rotterdam.

## 8.4 Western Norway

References for the data used in each location.

**Stavanger:** Helle (2008); Prøsch-Danielsen (2006); Thomsen (1982)

**Sotra:** Bondevik et al. (2006); Håkansson (1980); Kaland et al. (1984); Krzywinski and Stabell (1984); Lohne et al. (2007); Stabell and Krzywinski (1978, 1979)

**Torvikbygd:** Helle (2008); Romundset et al. (2010)

**Sula:** Bondevik et al. (1997a); Hafsten (1979); Lie et al. (1983); Svendsen and Mangerud (1987)

**Bjugn:** Bondevik et al. (1997a,b); Kjemperud (1982, 1986)

**Frosta:** Kjemperud (1981a,b, 1986)

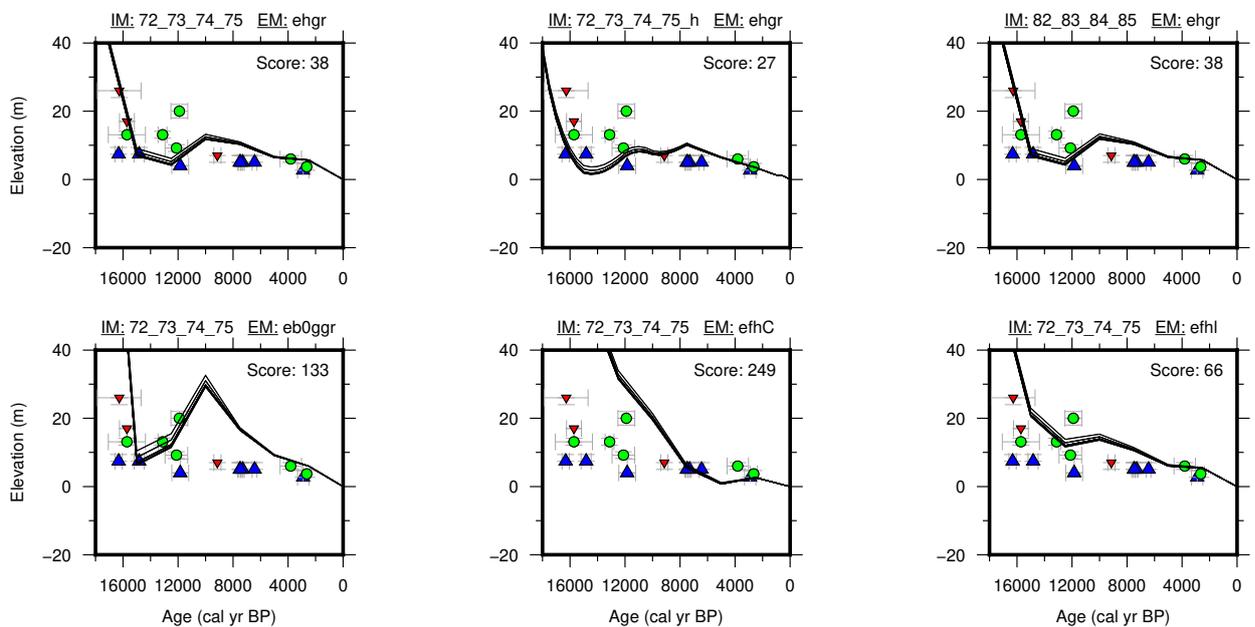
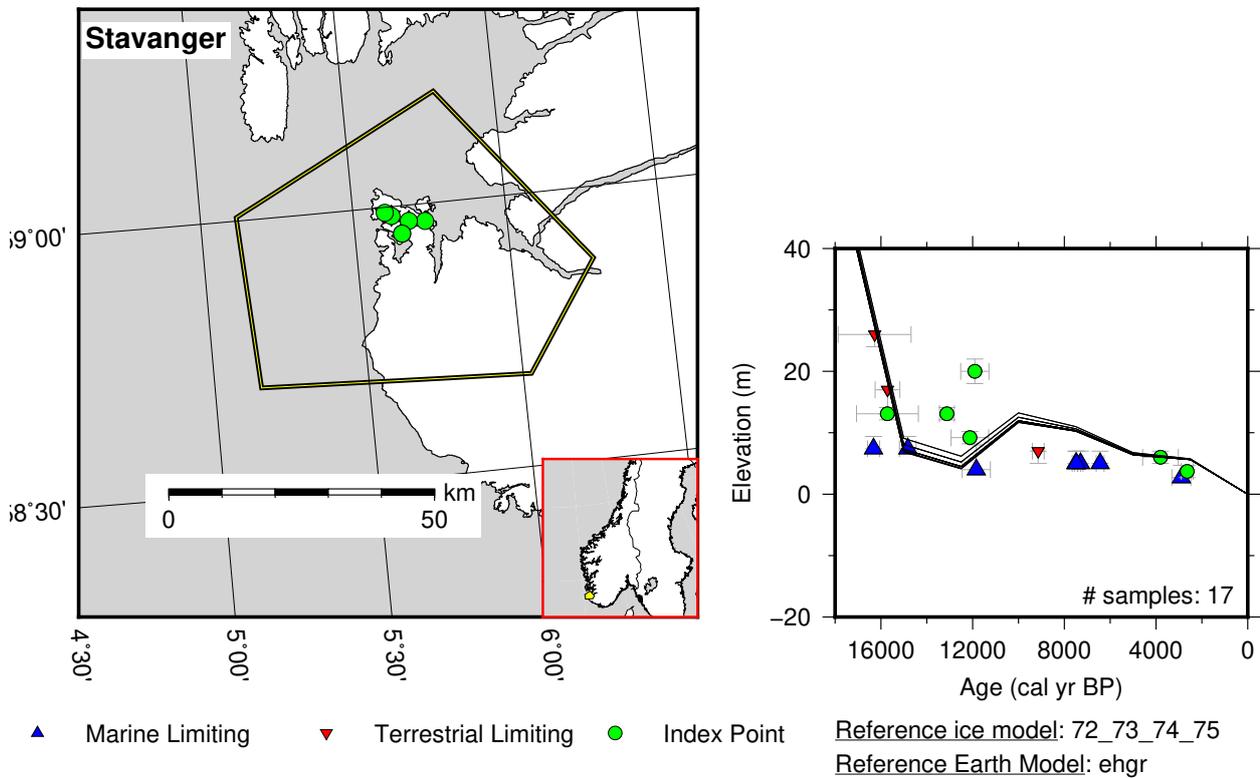


Figure 75: Paleo-sea level and comparison of six models for subregion Western Norway, location Stavanger.

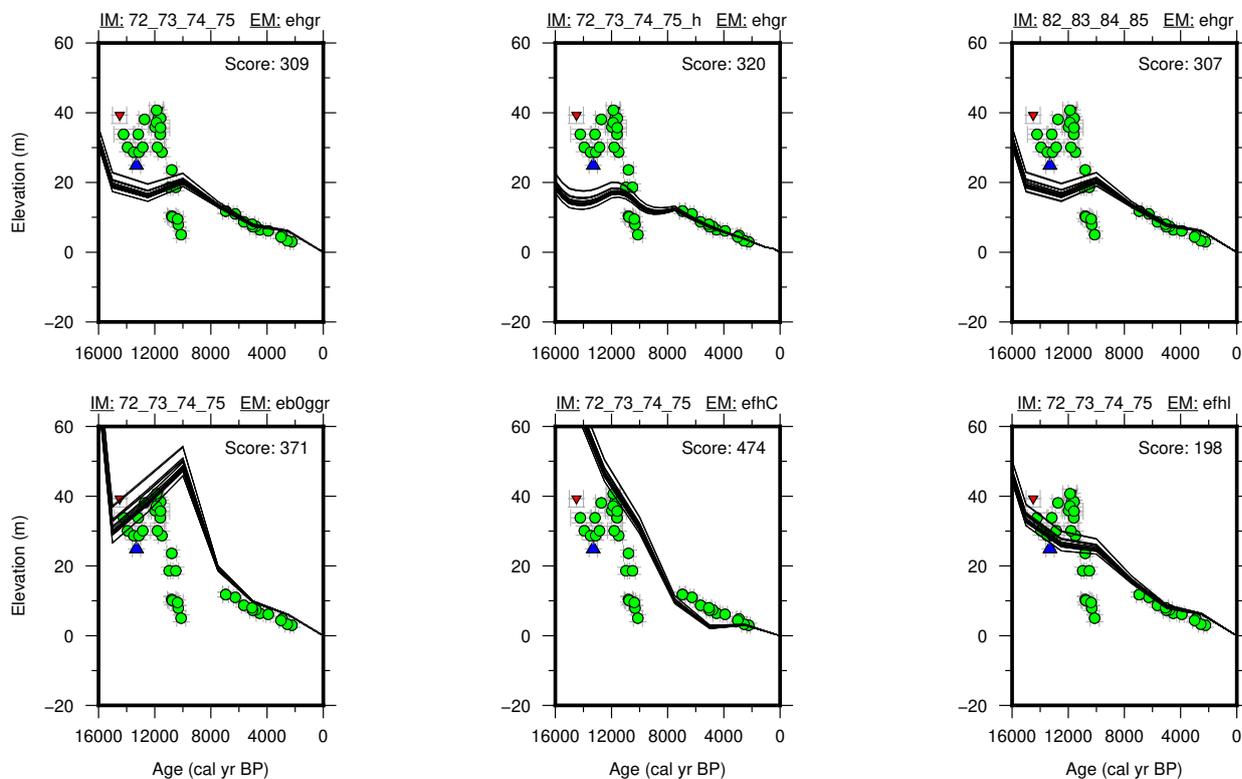
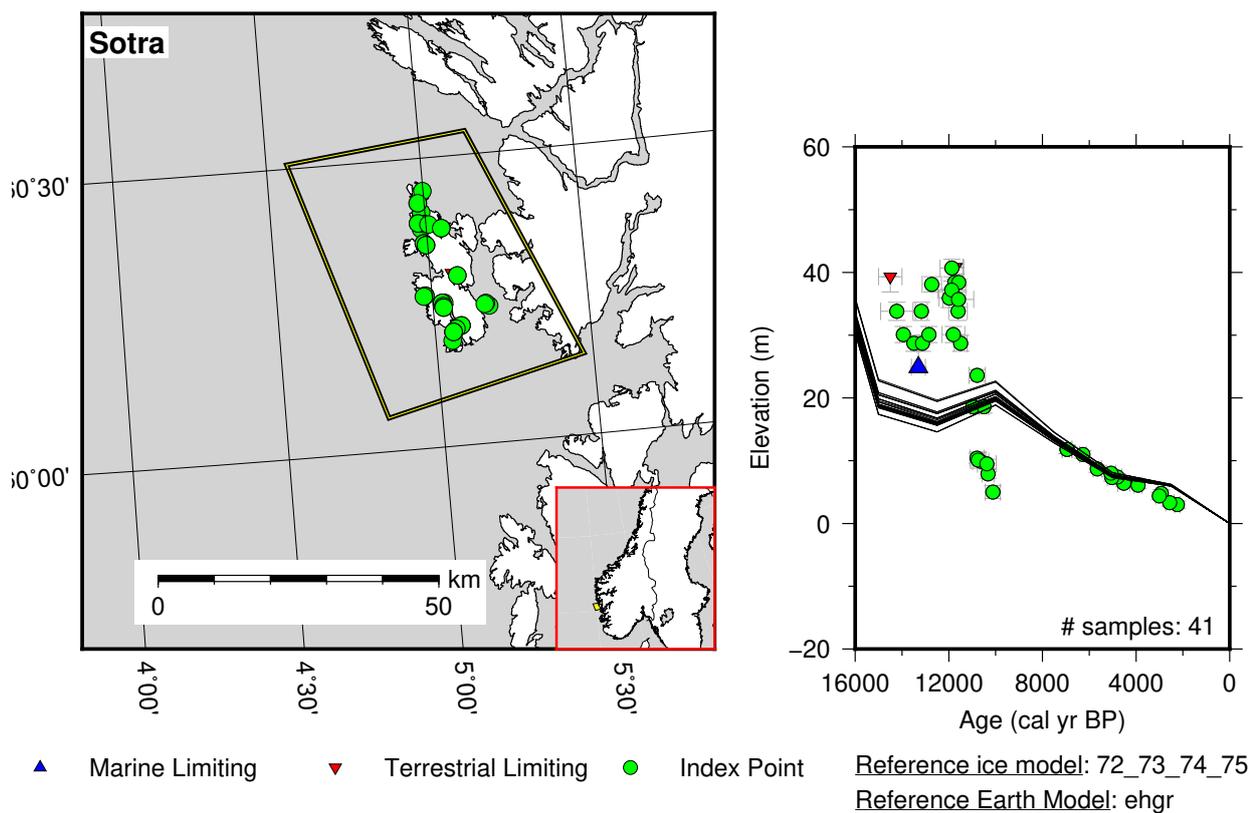
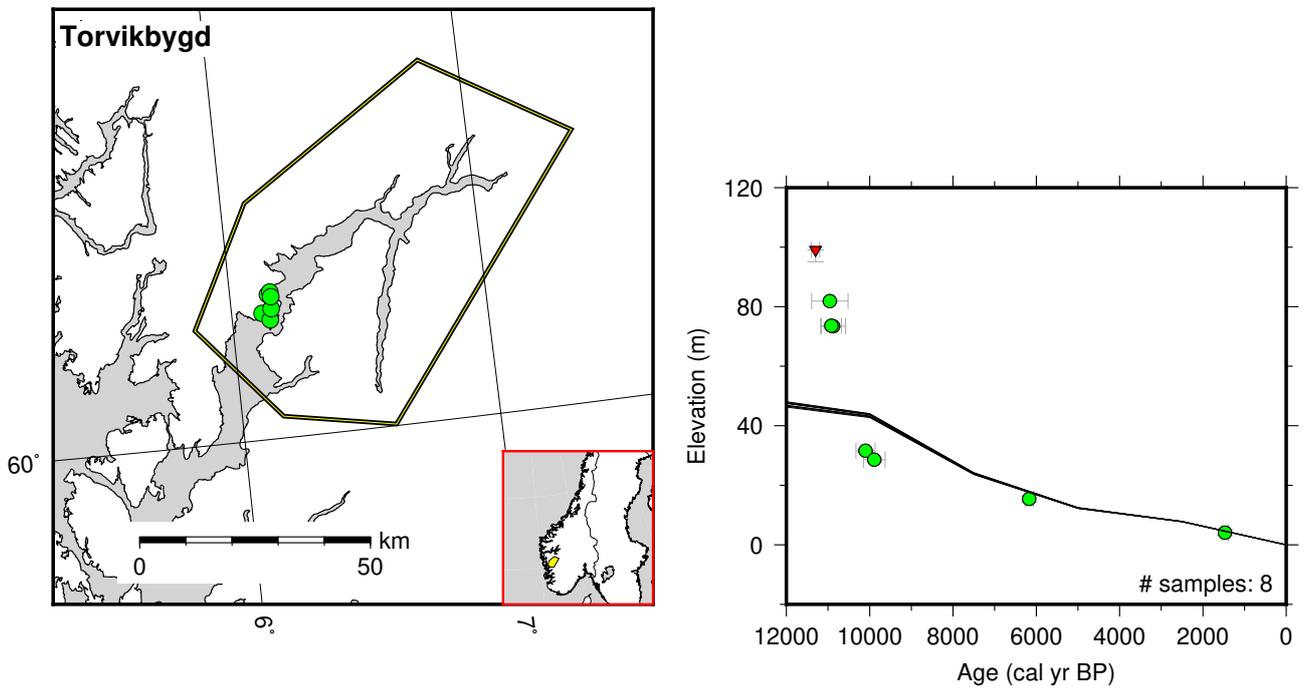


Figure 76: Paleo-sea level and comparison of six models for subregion Western Norway, location Sotra.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

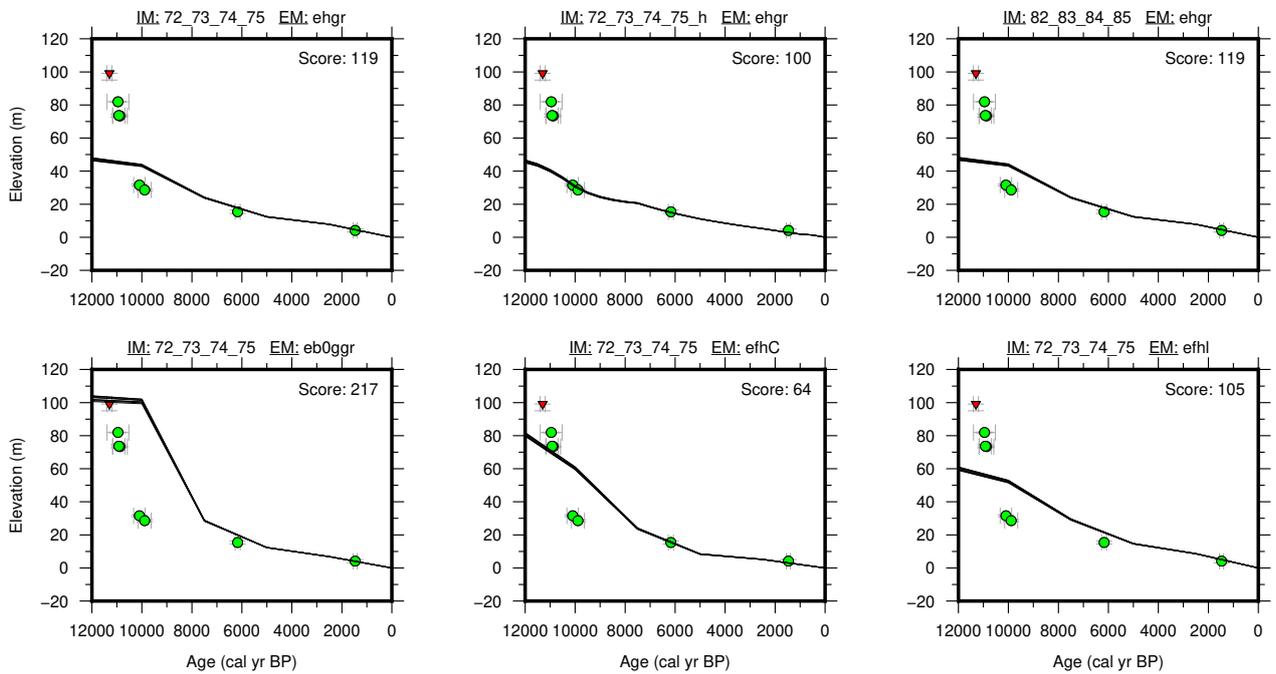
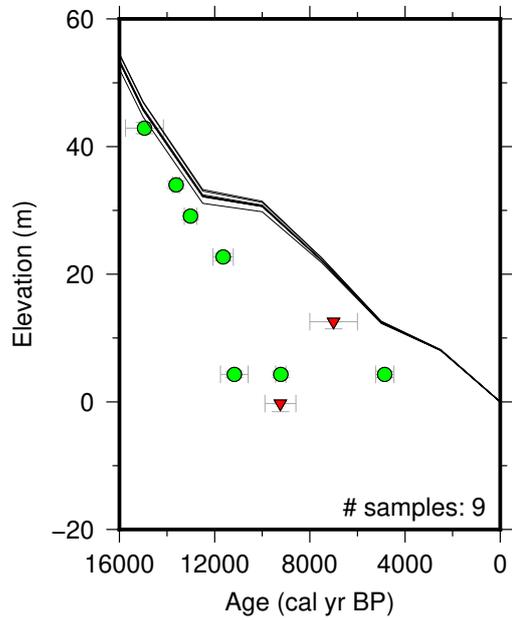
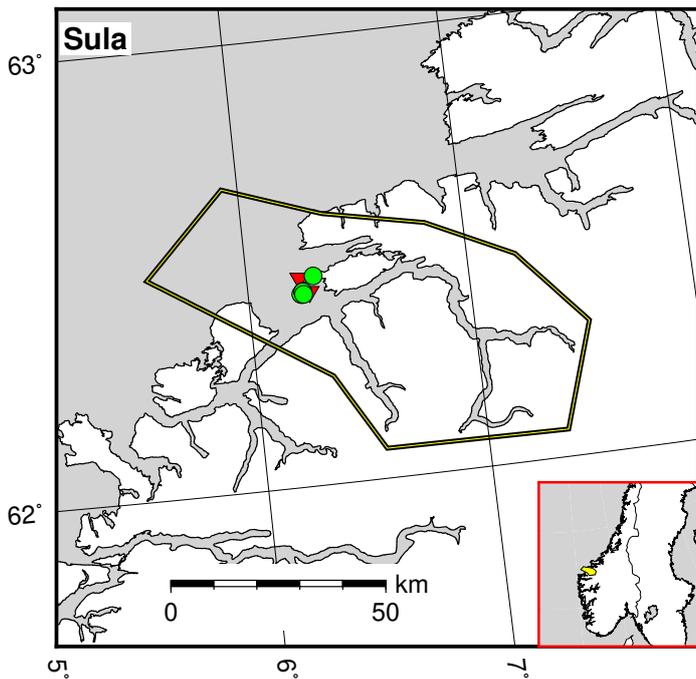


Figure 77: Paleo-sea level and comparison of six models for subregion Western Norway, location Torvikbygd.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

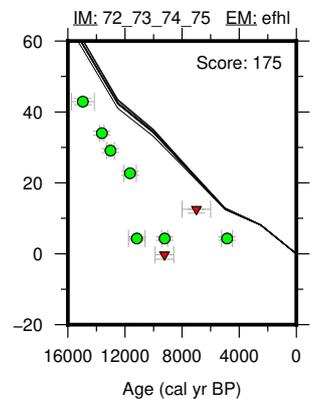
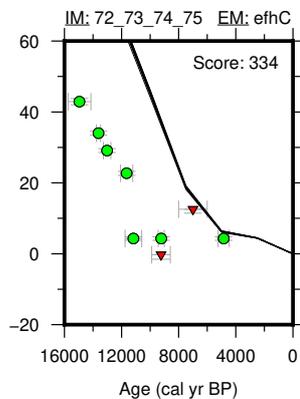
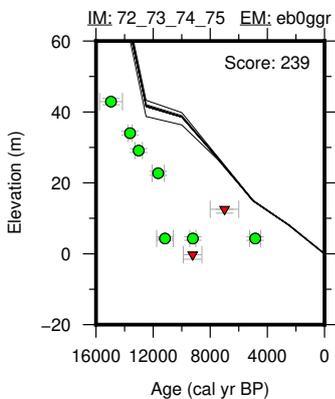
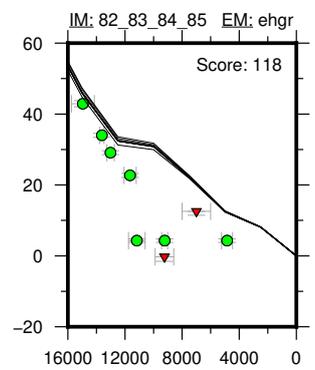
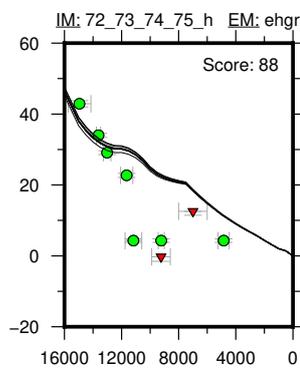
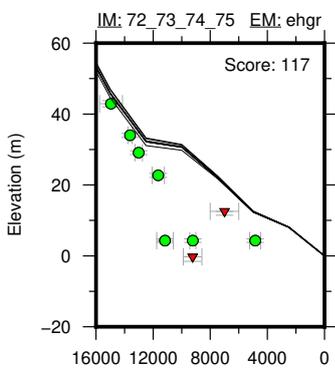
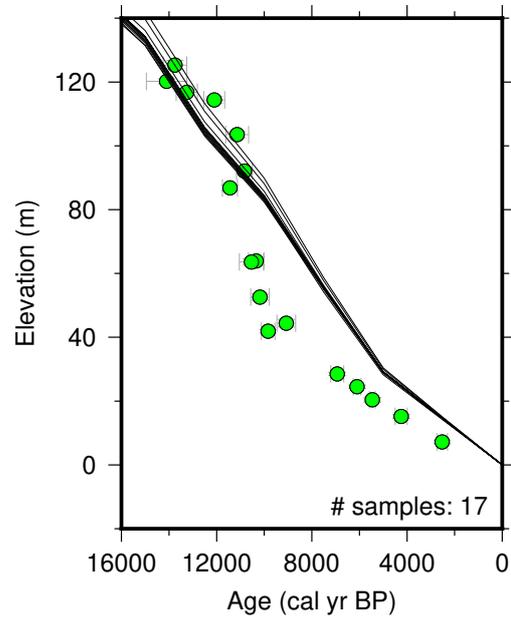
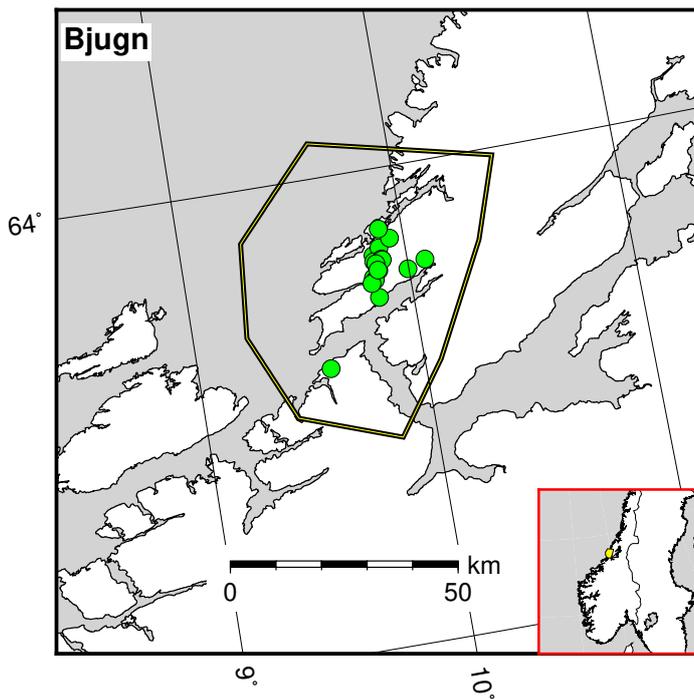


Figure 78: Paleo-sea level and comparison of six models for subregion Western Norway, location Sula.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

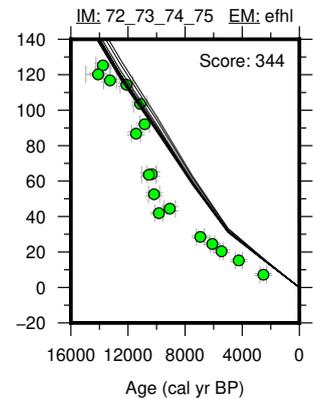
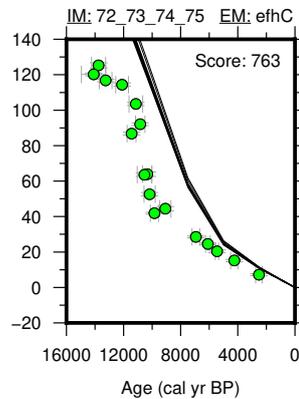
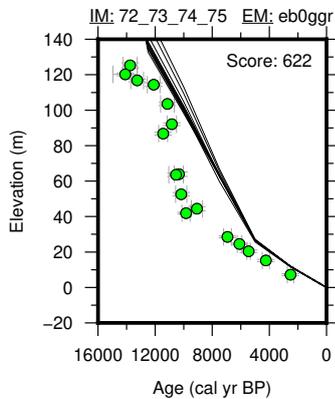
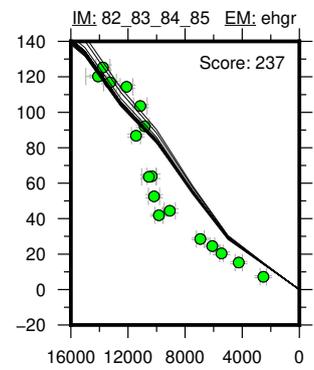
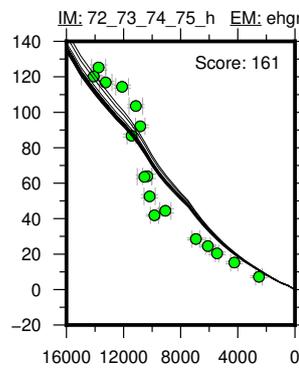
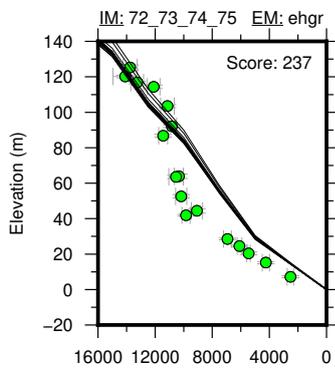


Figure 79: Paleo-sea level and comparison of six models for subregion Western Norway, location Bjugn.

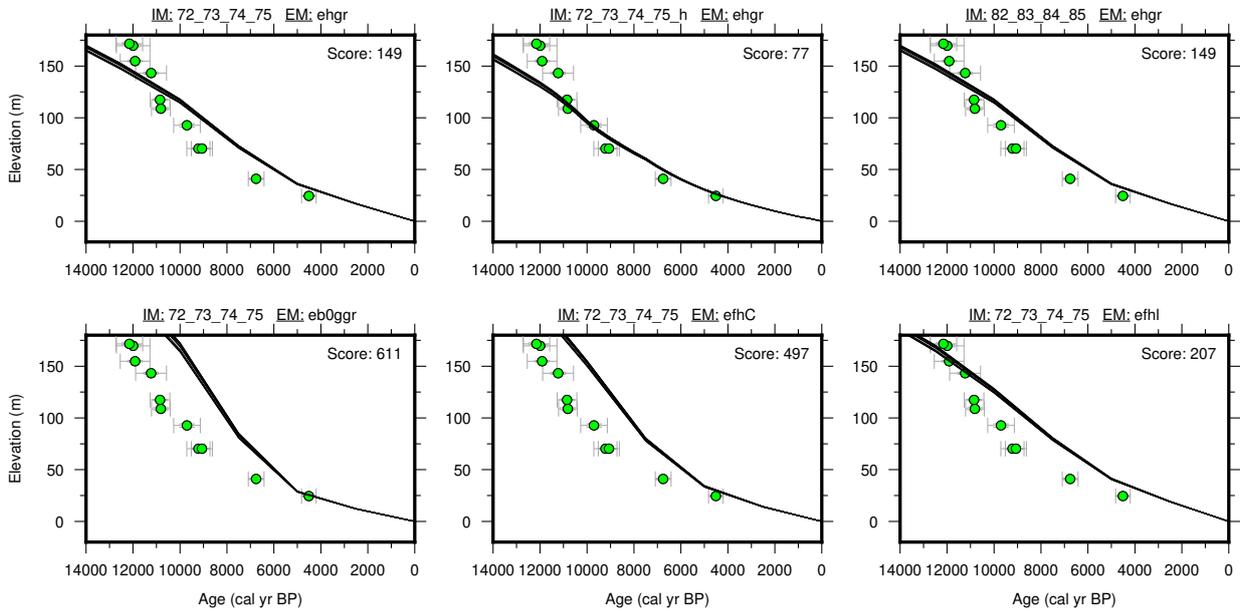
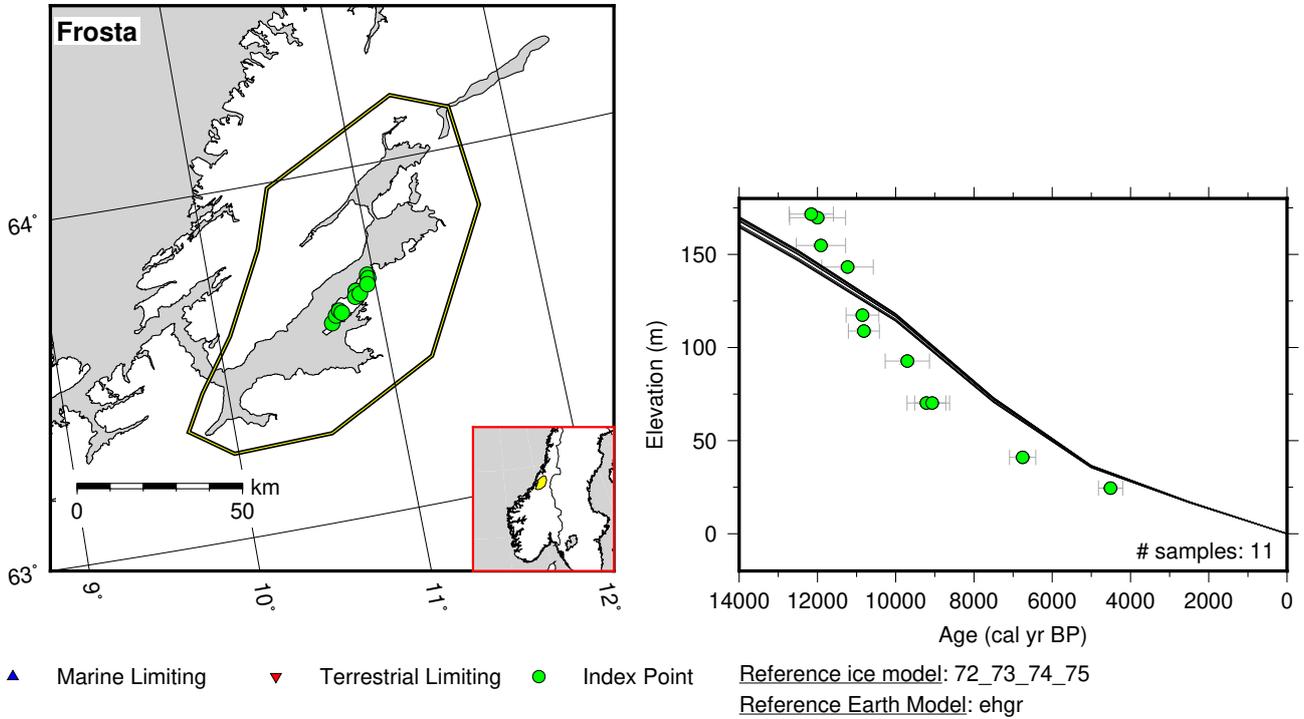


Figure 80: Paleo-sea level and comparison of six models for subregion Western Norway, location Frosta.

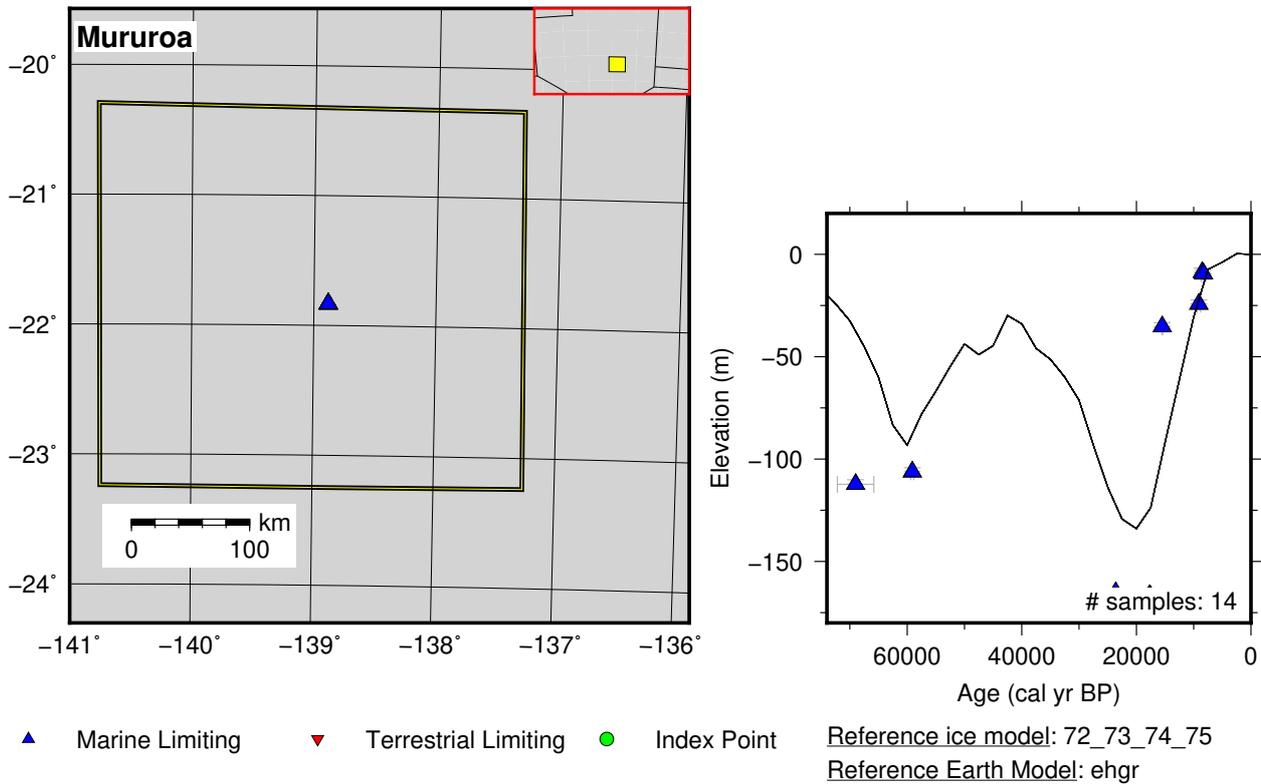
## 9 French Polynesia

### 9.1 French Polynesia

References for the data used in each location.

**Mururoa:** Camoin et al. (2001)

**Tahiti:** Bard et al. (1996, 2010); Deschamps et al. (2012); Thomas et al. (2009)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

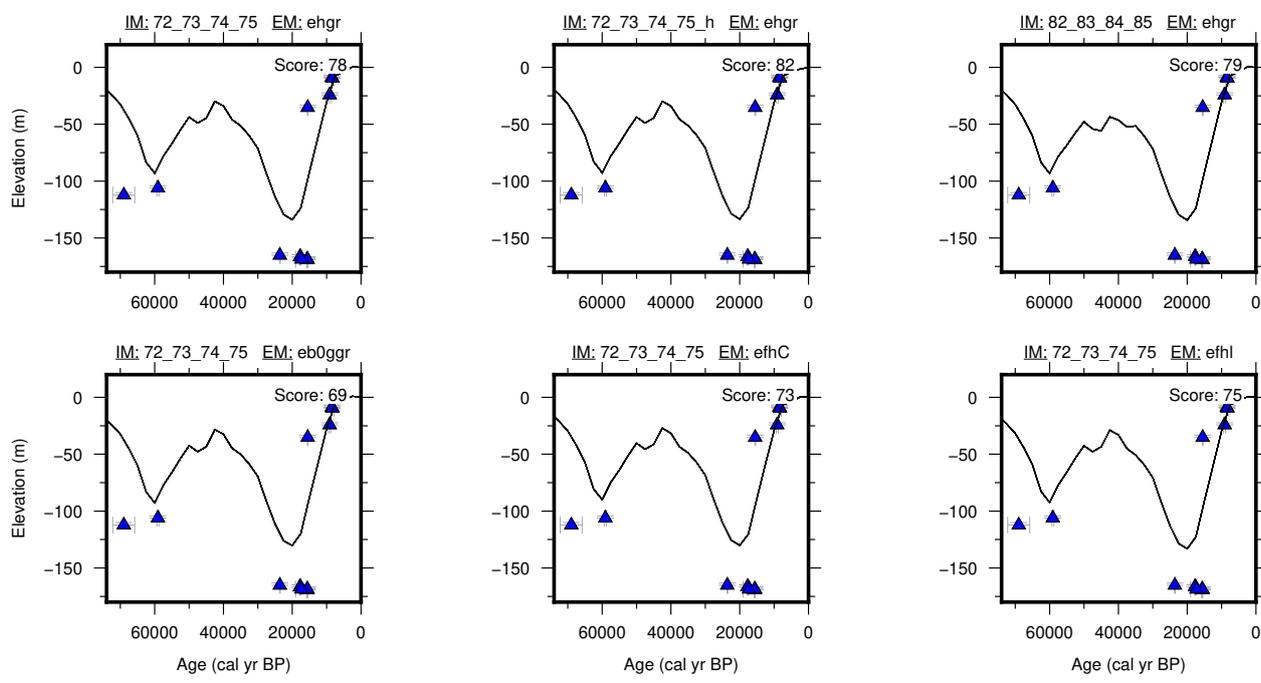


Figure 81: Paleo-sea level and comparison of six models for subregion French Polynesia, location Mururoa.

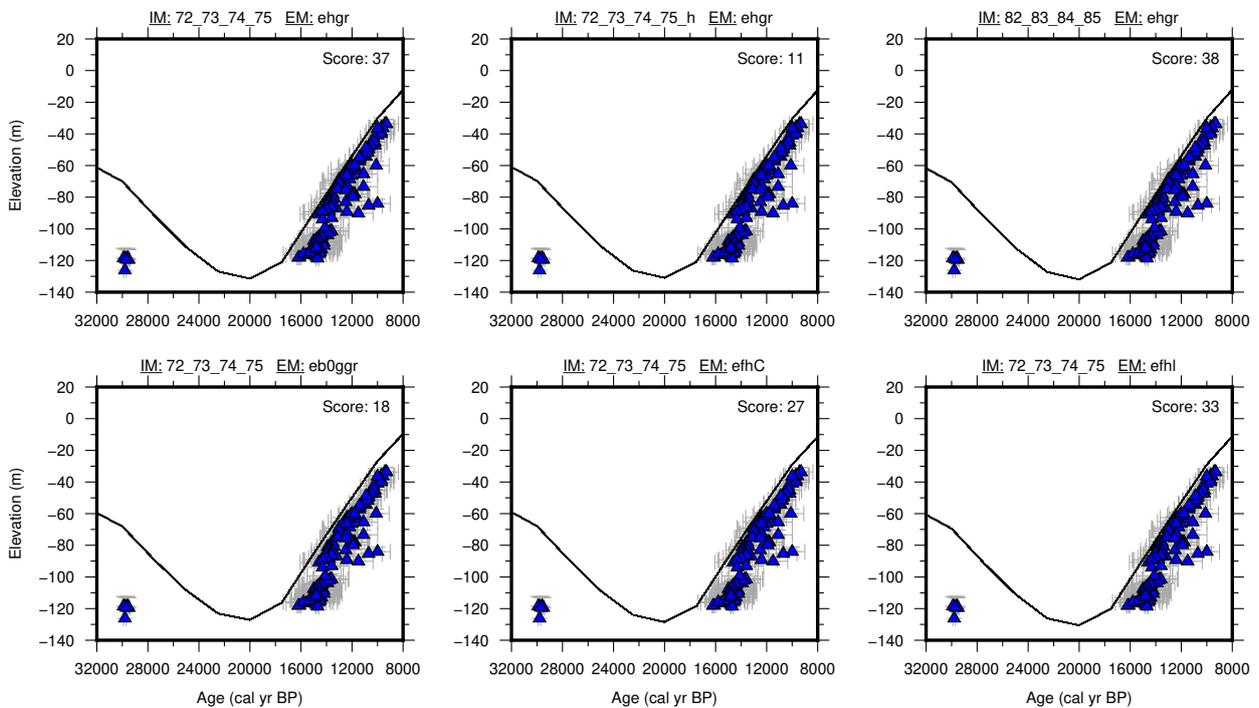
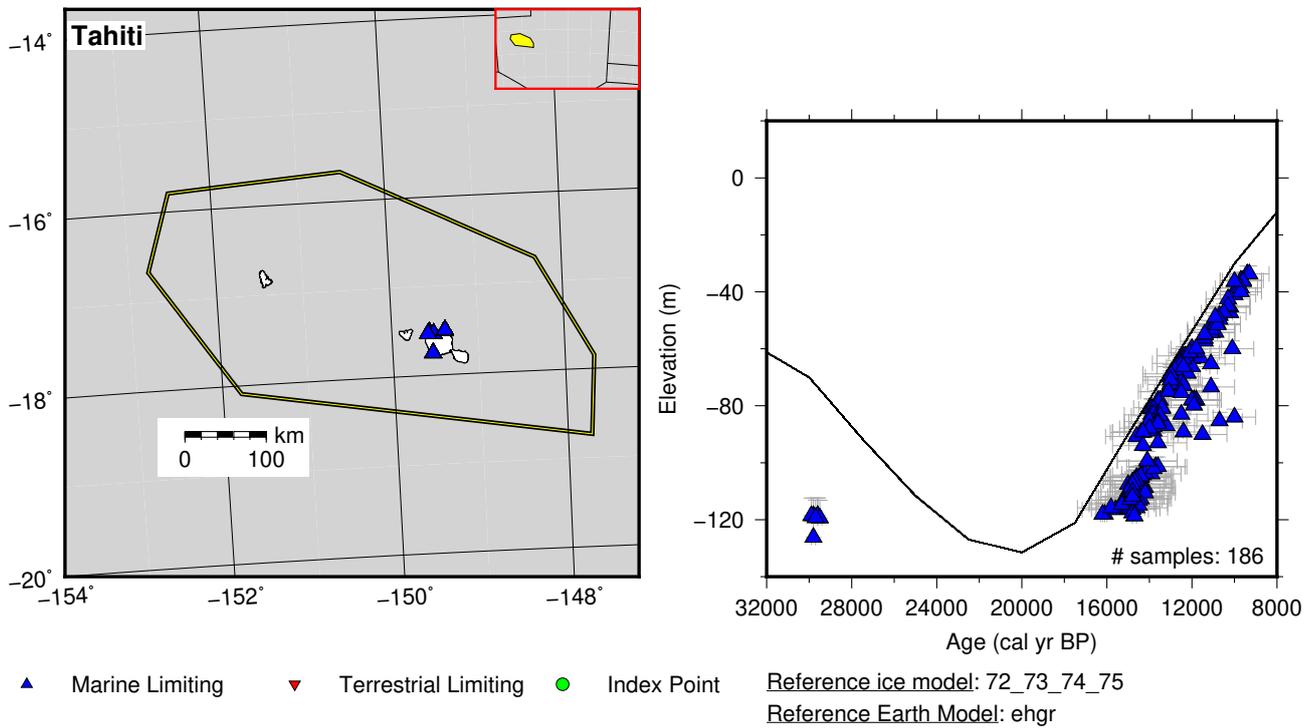


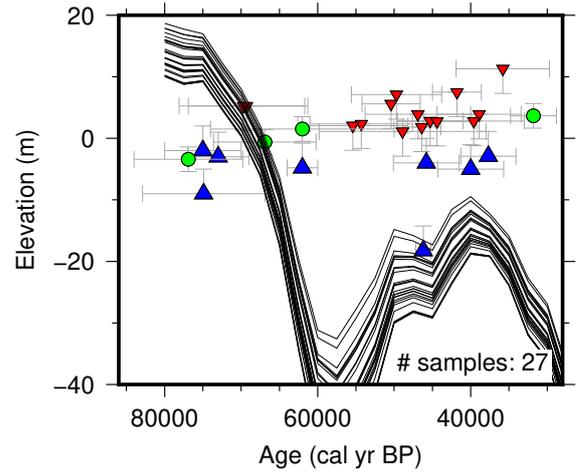
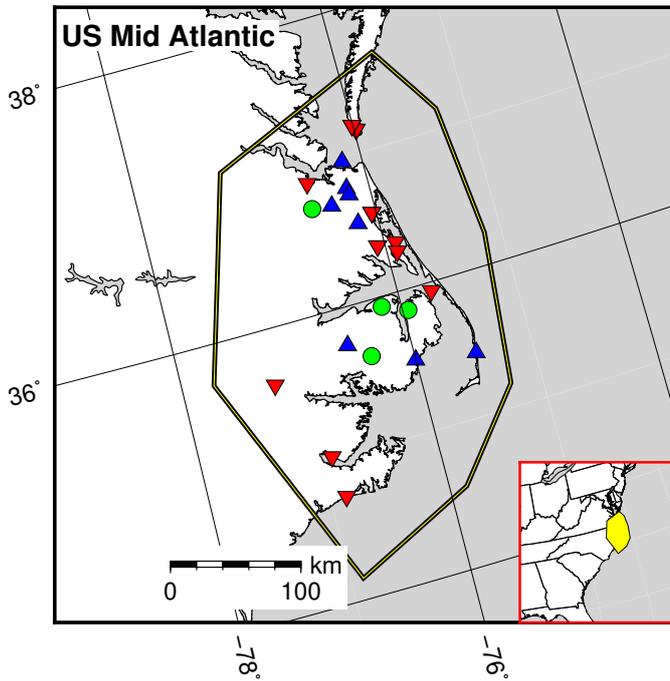
Figure 82: Paleo-sea level and comparison of six models for subregion French Polynesia, location Tahiti.

## 10 MIS 3 - MIS 4

### 10.1 Eastern United States (MIS3 - MIS4)

References for the data used in each location.

**US Mid Atlantic:** Best (2010); Cronin et al. (1981); Culver et al. (2011); Mallinson et al. (2008); Mixon et al. (1982); Moore (2009); Parham et al. (2013); Scott (2006)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

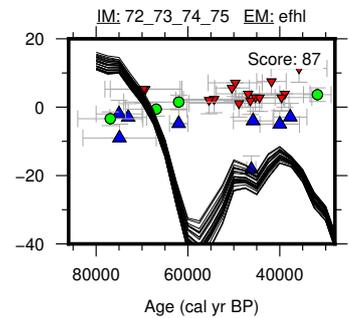
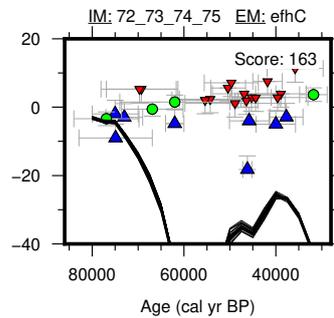
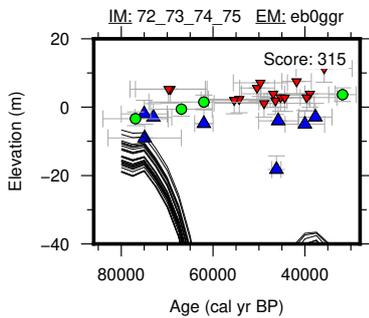
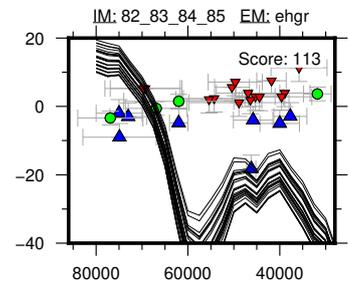
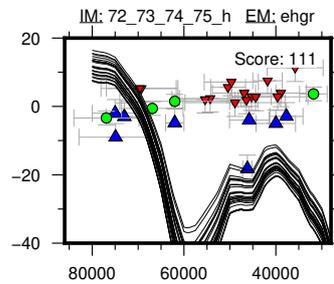
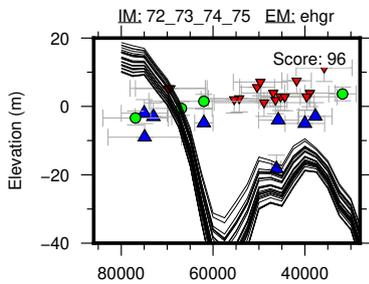


Figure 83: Paleo-sea level and comparison of six models for subregion Eastern United States (MIS3 - MIS4), location US Mid Atlantic.

## **10.2 French Polynesia (MIS3 - MIS4)**

References for the data used in each location.

**Mururoa:** Camoin et al. (2001)

**Tahiti:** Thomas et al. (2009)

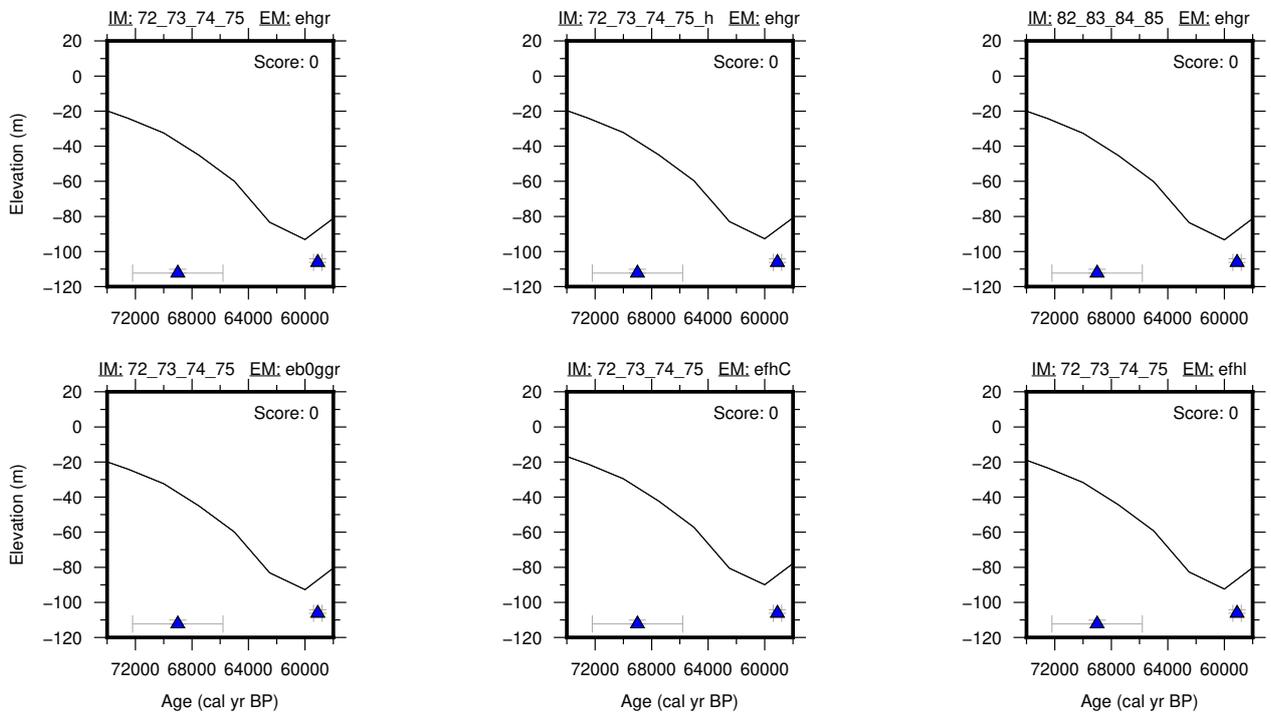
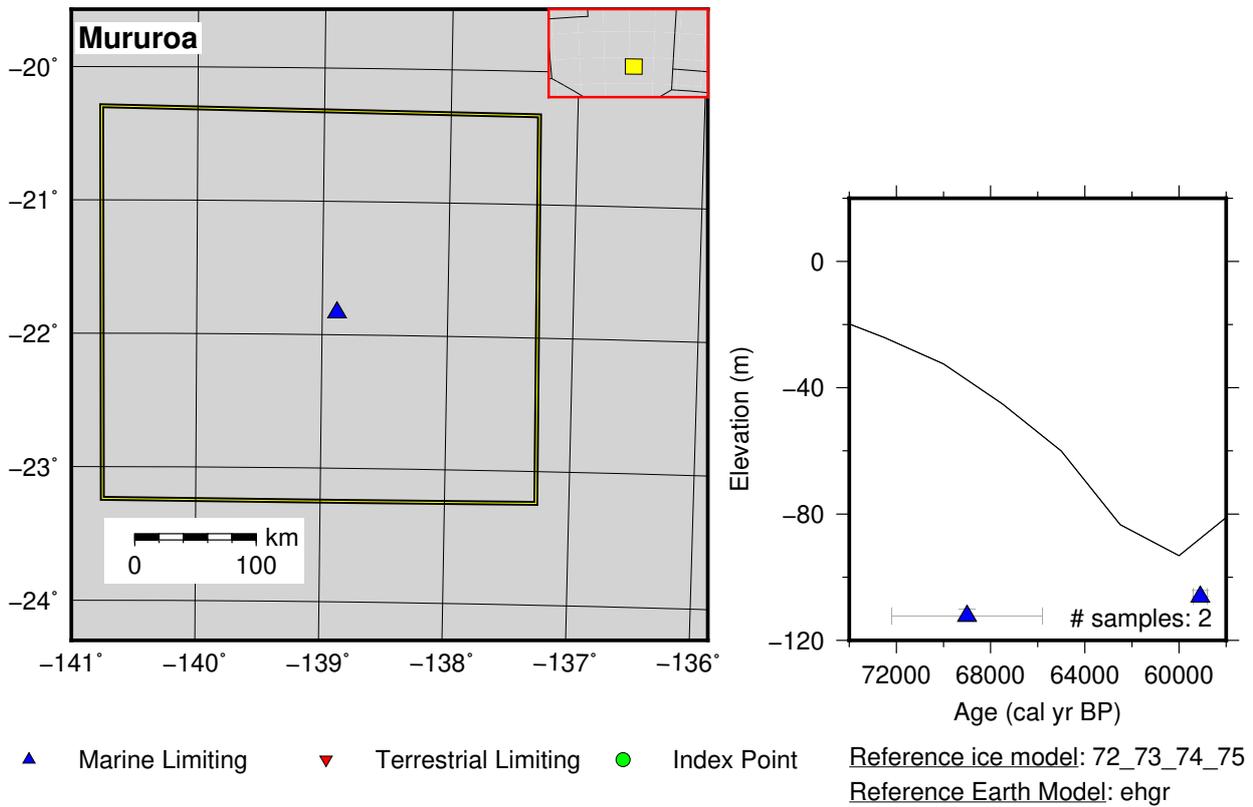


Figure 84: Paleo-sea level and comparison of six models for subregion French Polynesia (MIS3 - MIS4), location Mururoa.

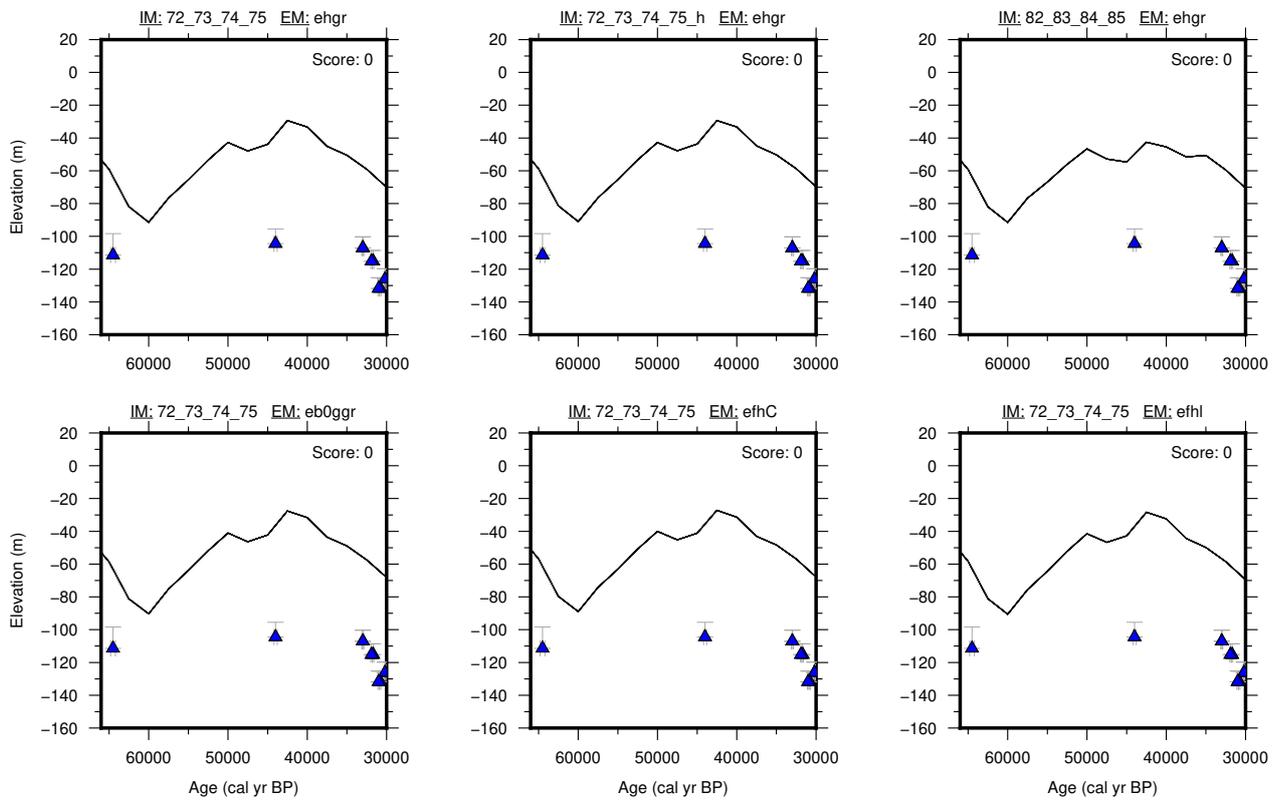
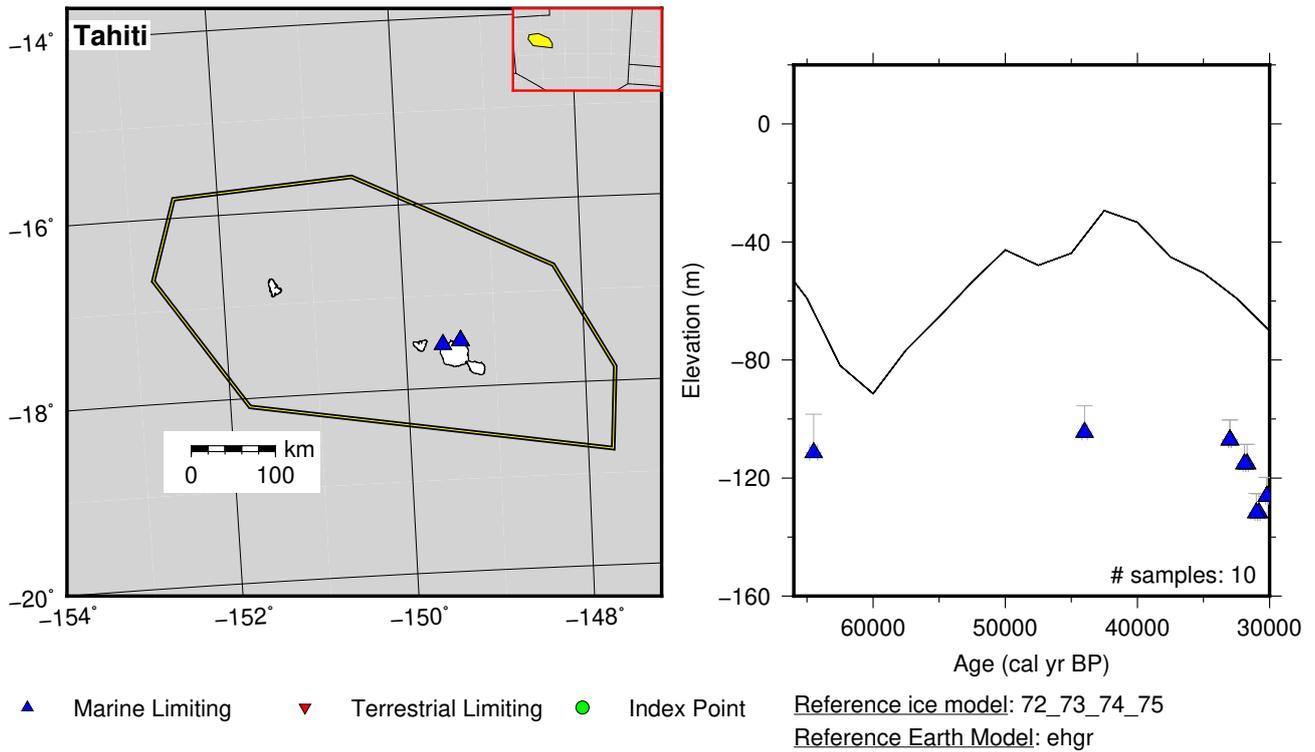


Figure 85: Paleo-sea level and comparison of six models for subregion French Polynesia (MIS3 - MIS4), location Tahiti.

### **10.3 Northeastern Australia (MIS3 - MIS4)**

References for the data used in each location.

**Cairns:** Yokoyama et al. (2018)

**Mackay:** Yokoyama et al. (2018)

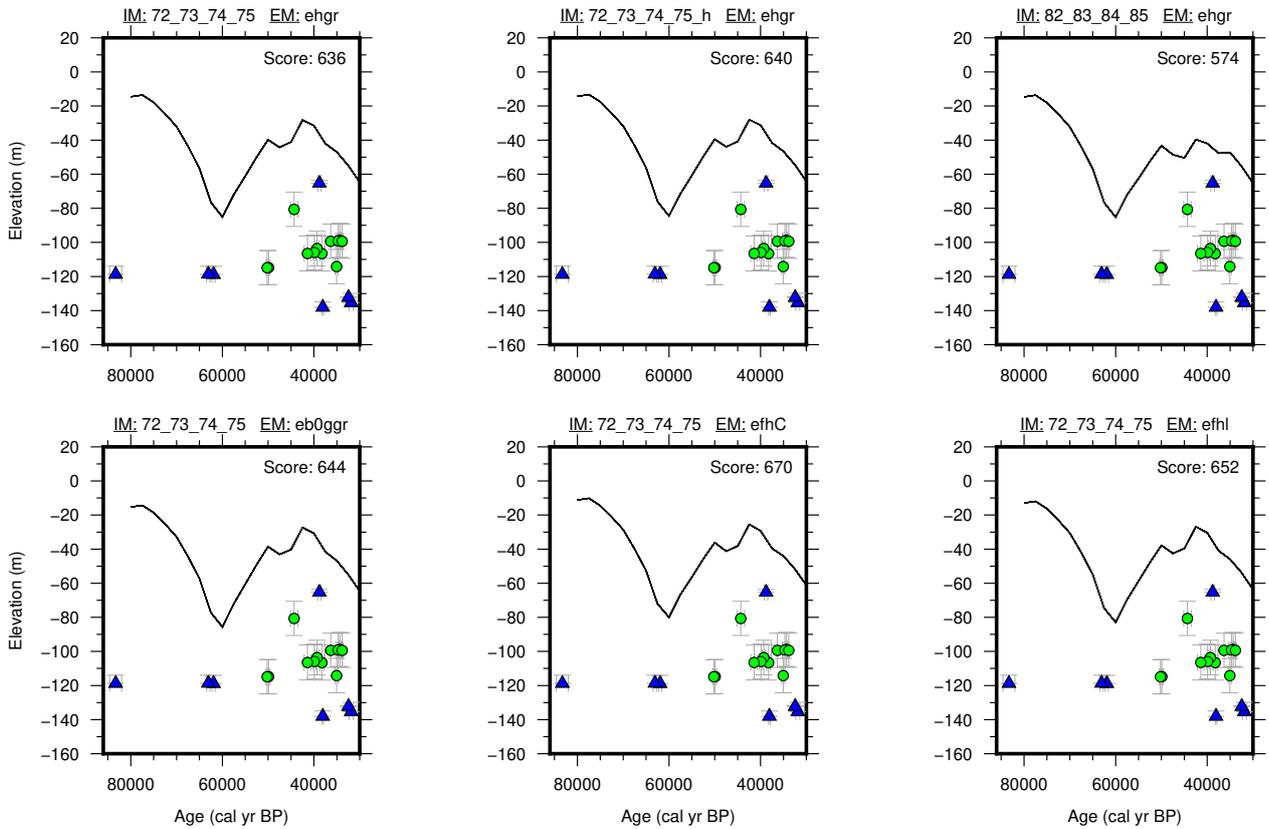
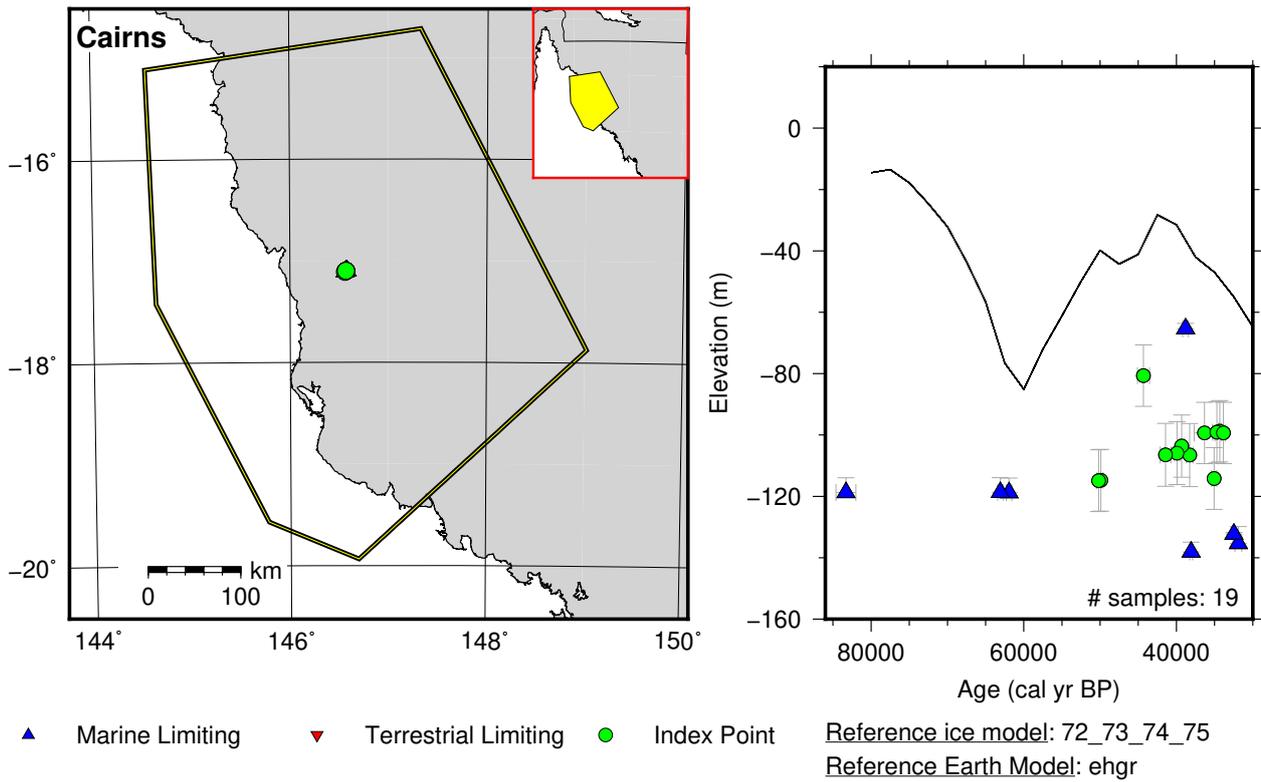


Figure 86: Paleo-sea level and comparison of six models for subregion Northeastern Australia (MIS3 - MIS4), location Cairns.

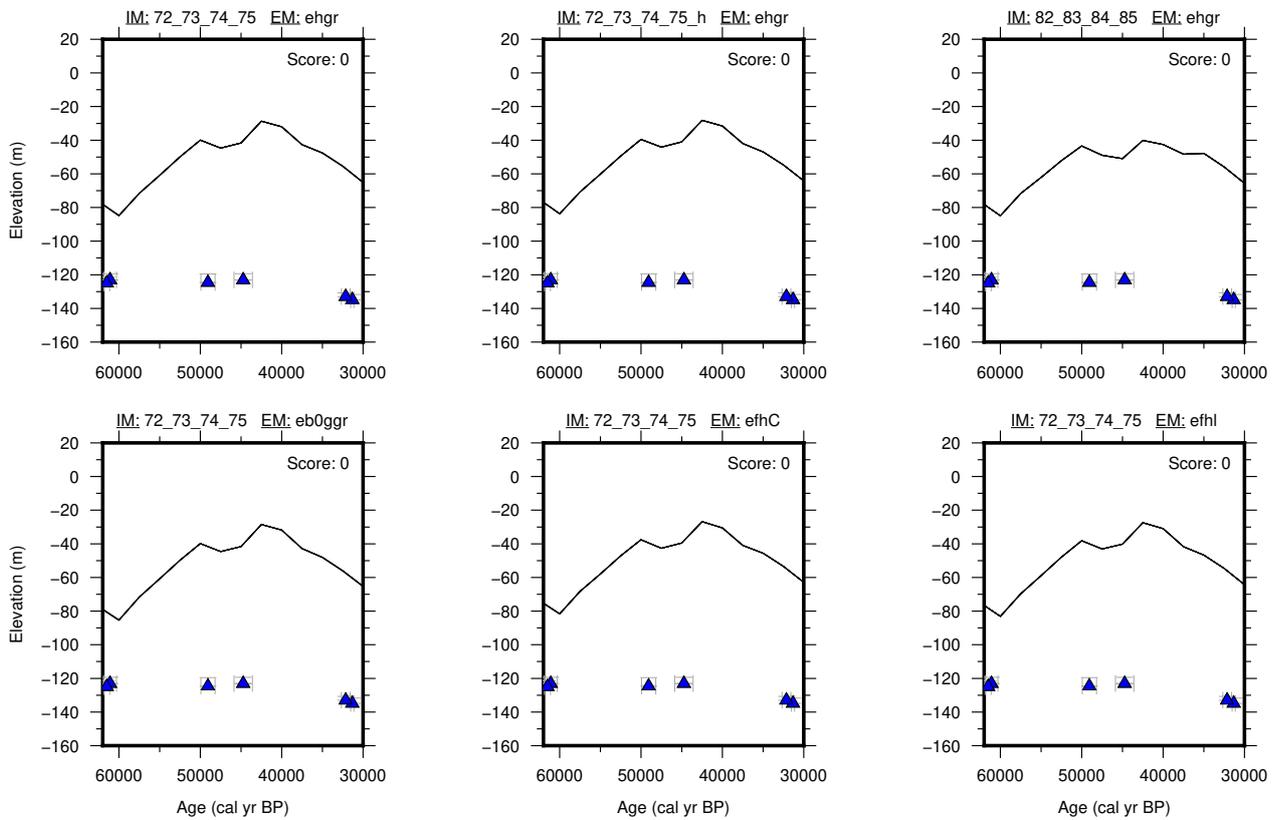
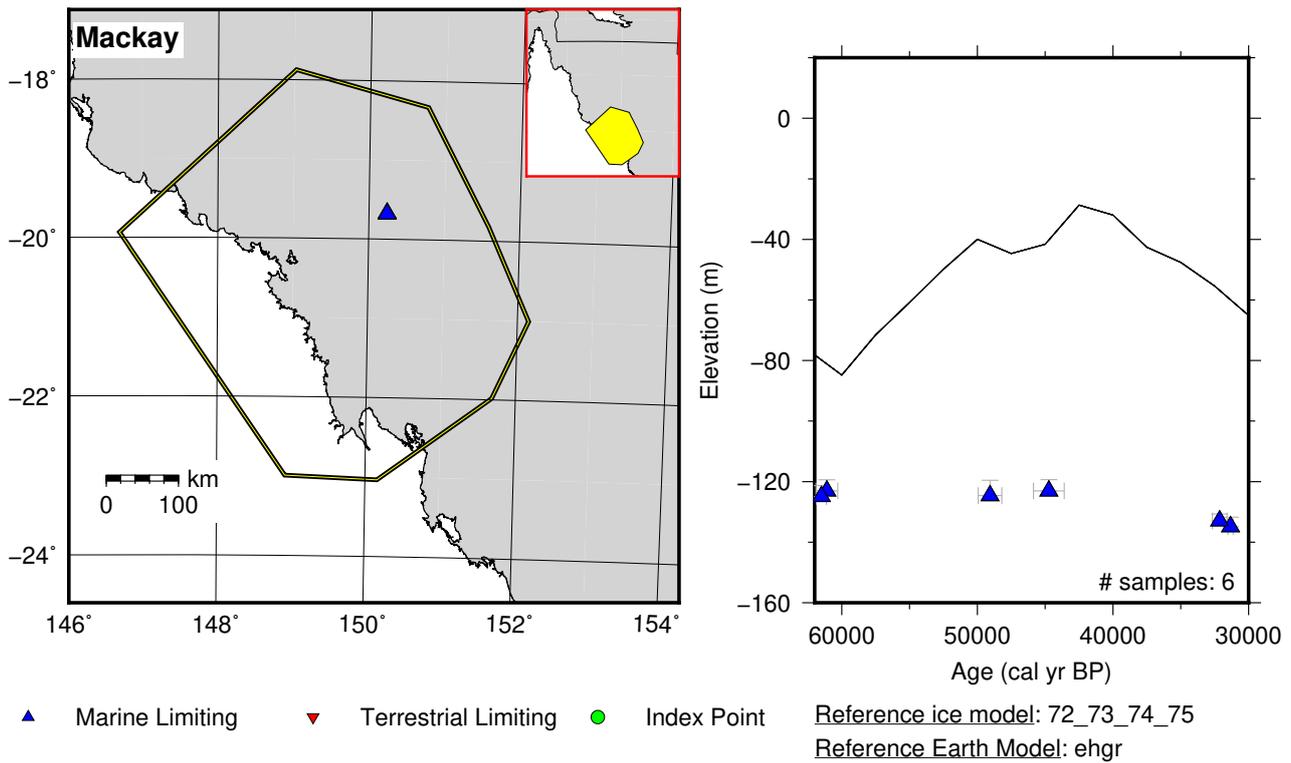


Figure 87: Paleo-sea level and comparison of six models for subregion Northeastern Australia (MIS3 - MIS4), location Mackay.

## 10.4 Papua New Guinea (MIS3 - MIS4)

References for the data used in each location.

**Huon Peninsula:** Chappell et al. (1996); Cutler et al. (2003); Hibbert et al. (2016); Yokoyama et al. (2001)

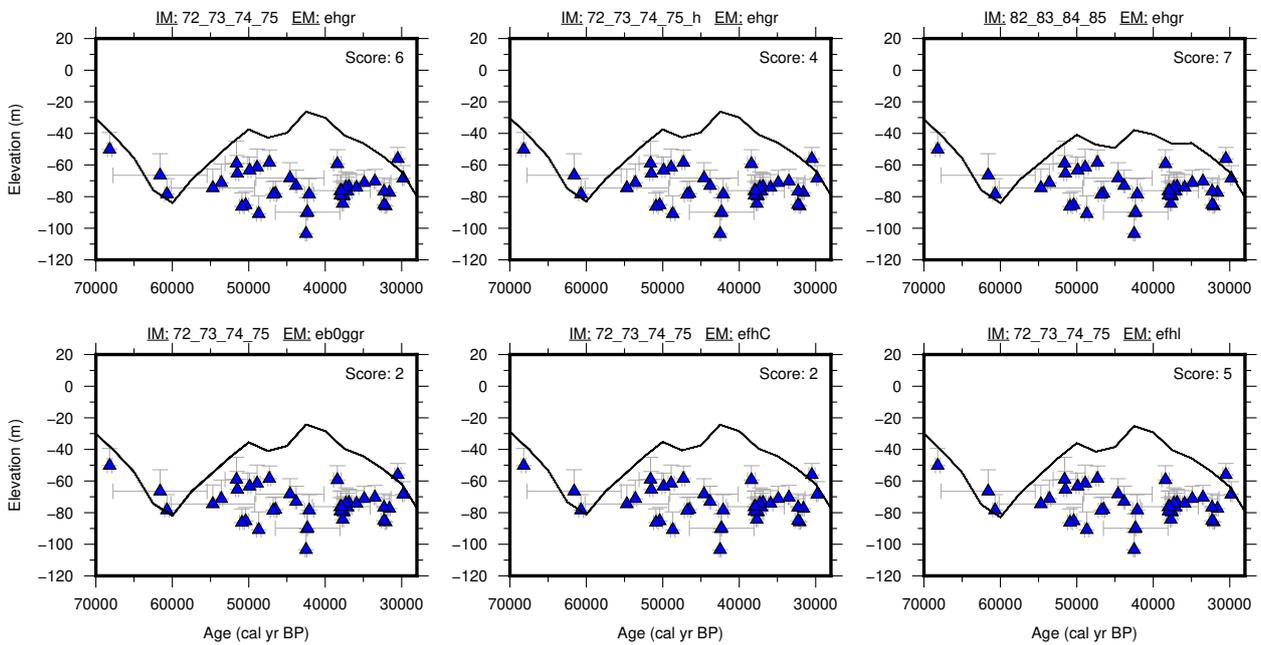
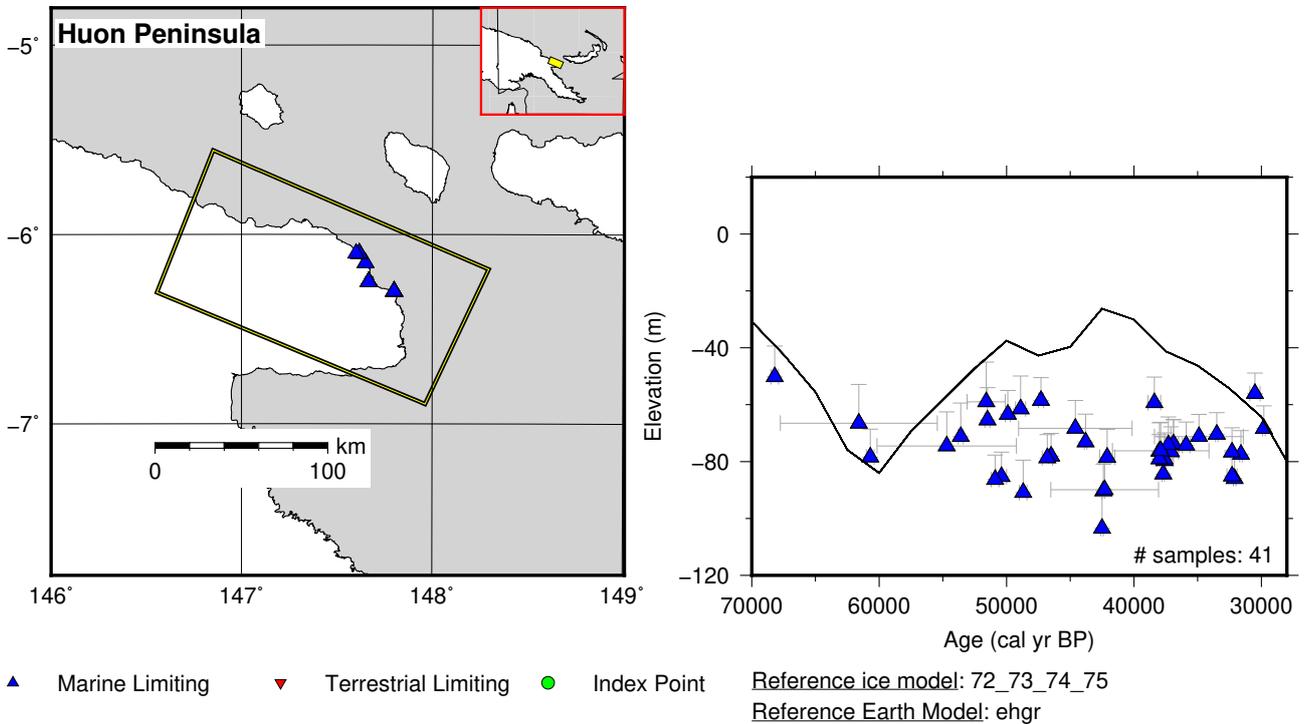


Figure 88: Paleo-sea level and comparison of six models for subregion Papua New Guinea (MIS3 - MIS4), location Huon Peninsula.

## **10.5 Sundaland (MIS3 - MIS4)**

References for the data used in each location.

**Sunda Shelf:** Hanebuth et al. (2003); Steinke et al. (2003)

**Vietnam Shelf:** Schimanski and Stattegger (2005)

**Strait Of Malacca:** Geyh et al. (1979)

**Mekong Delta:** Ta et al. (2002)

**Chao Phraya:** Tanabe et al. (2003)

**Berhala Strait:** Geyh et al. (1979)

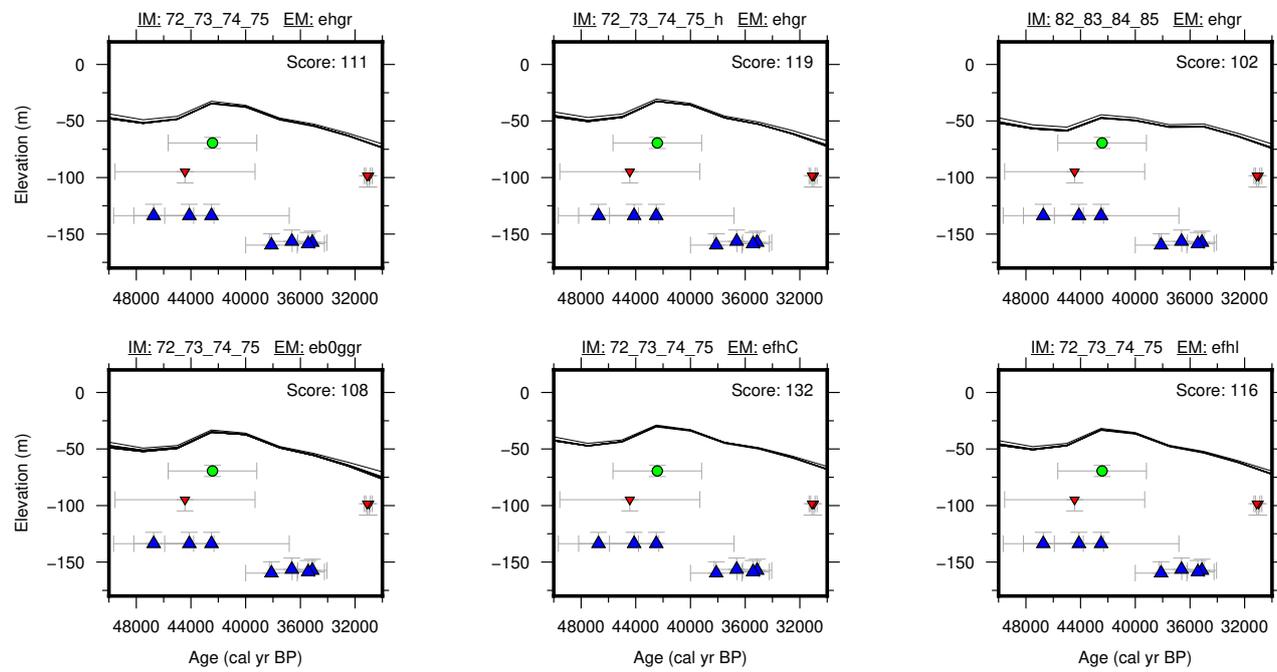
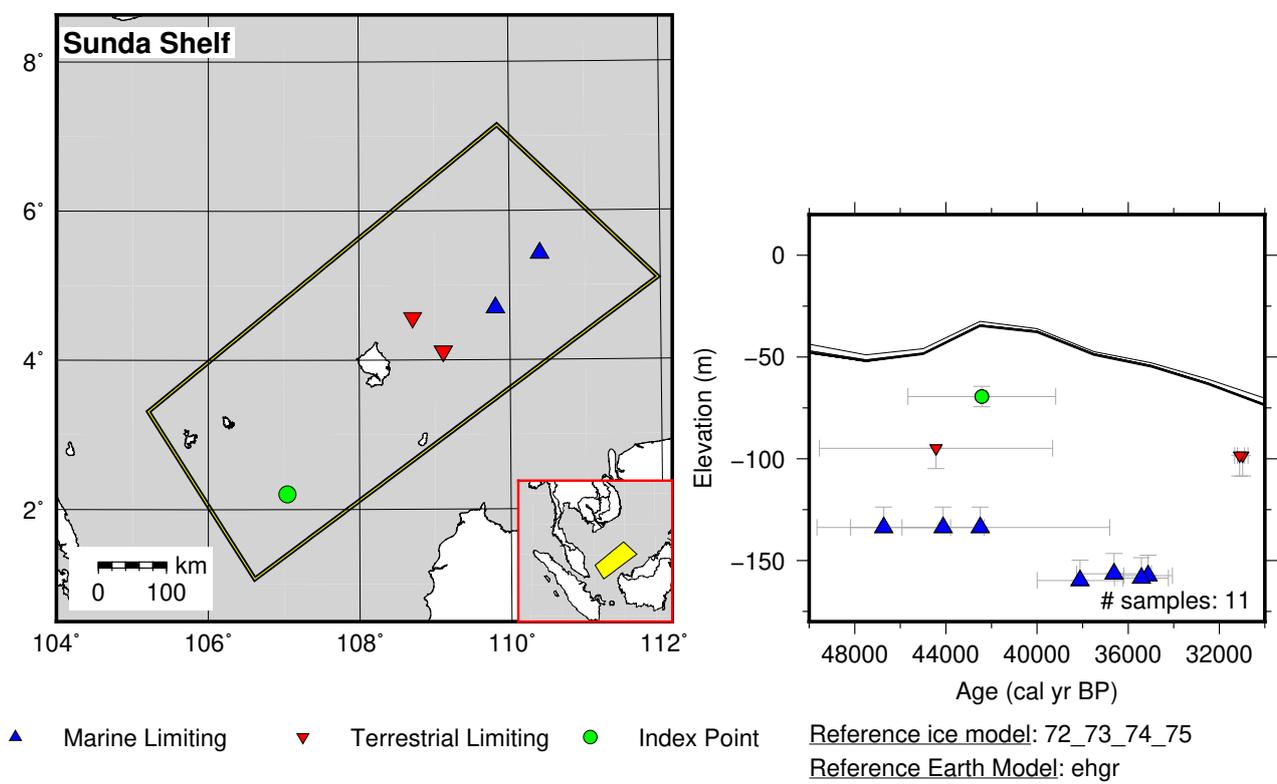
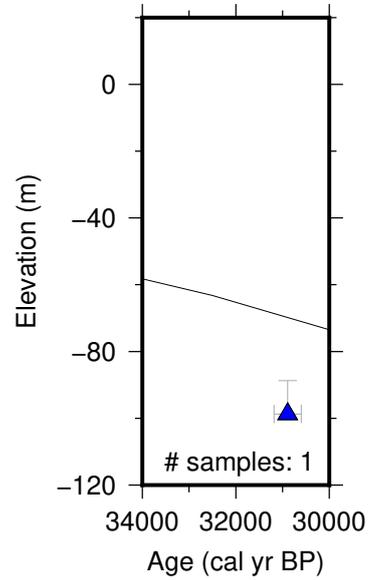
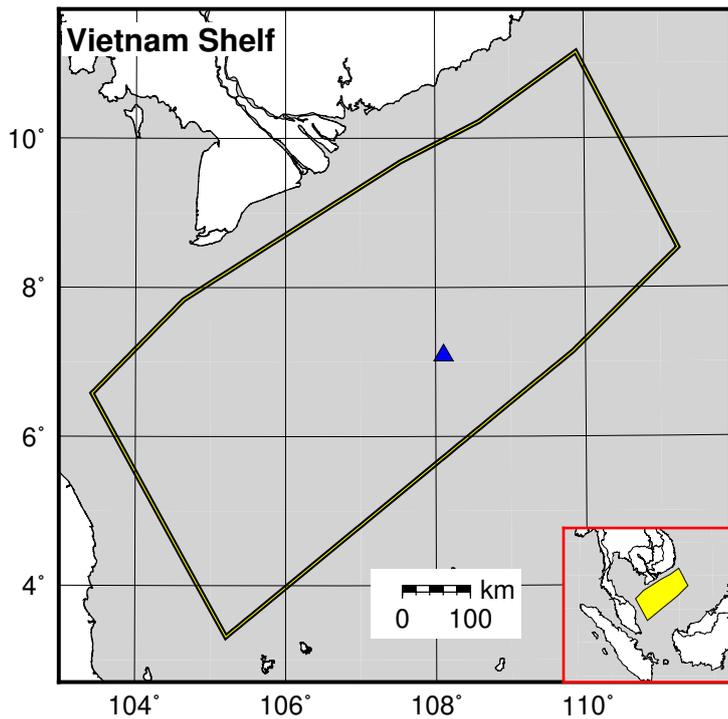


Figure 89: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Sunda Shelf.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

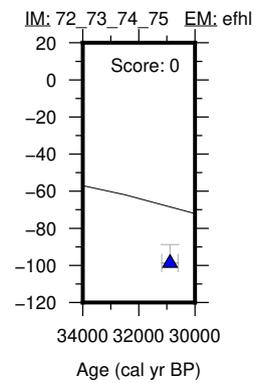
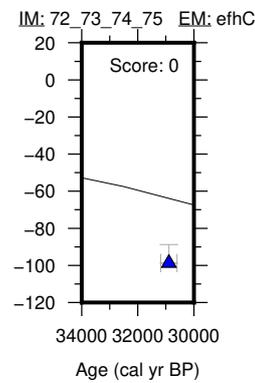
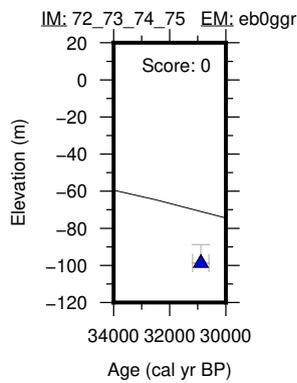
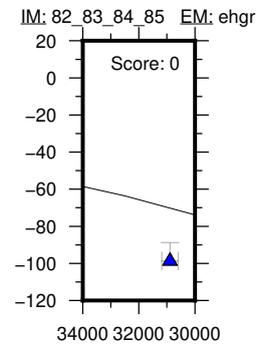
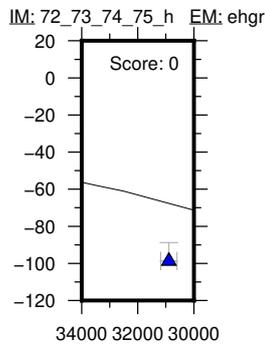
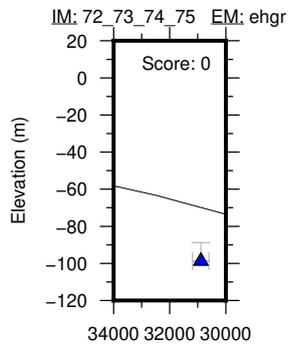


Figure 90: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Vietnam Shelf.

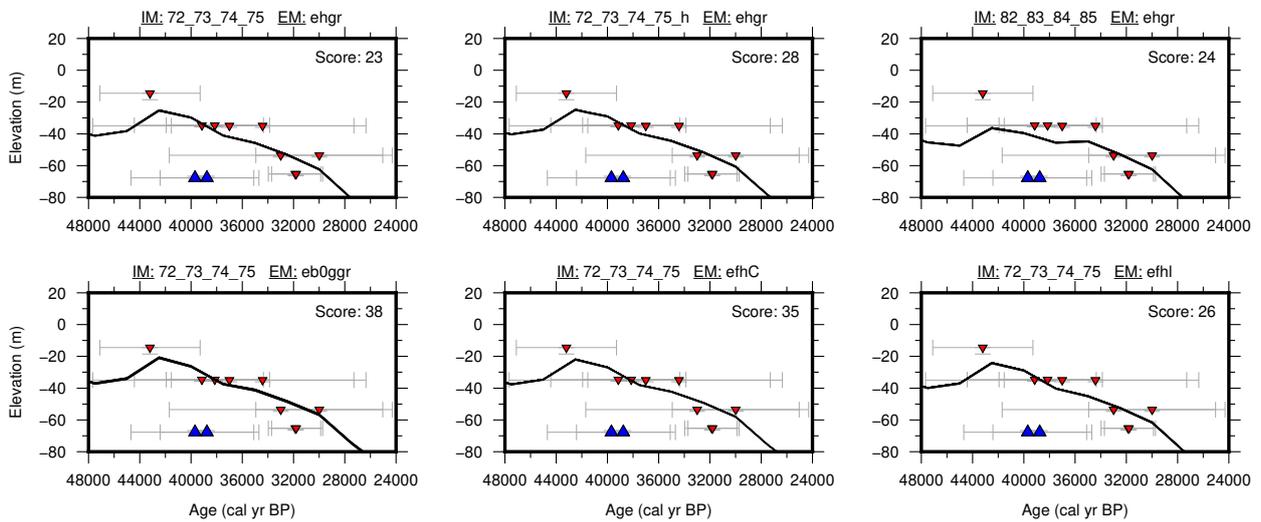
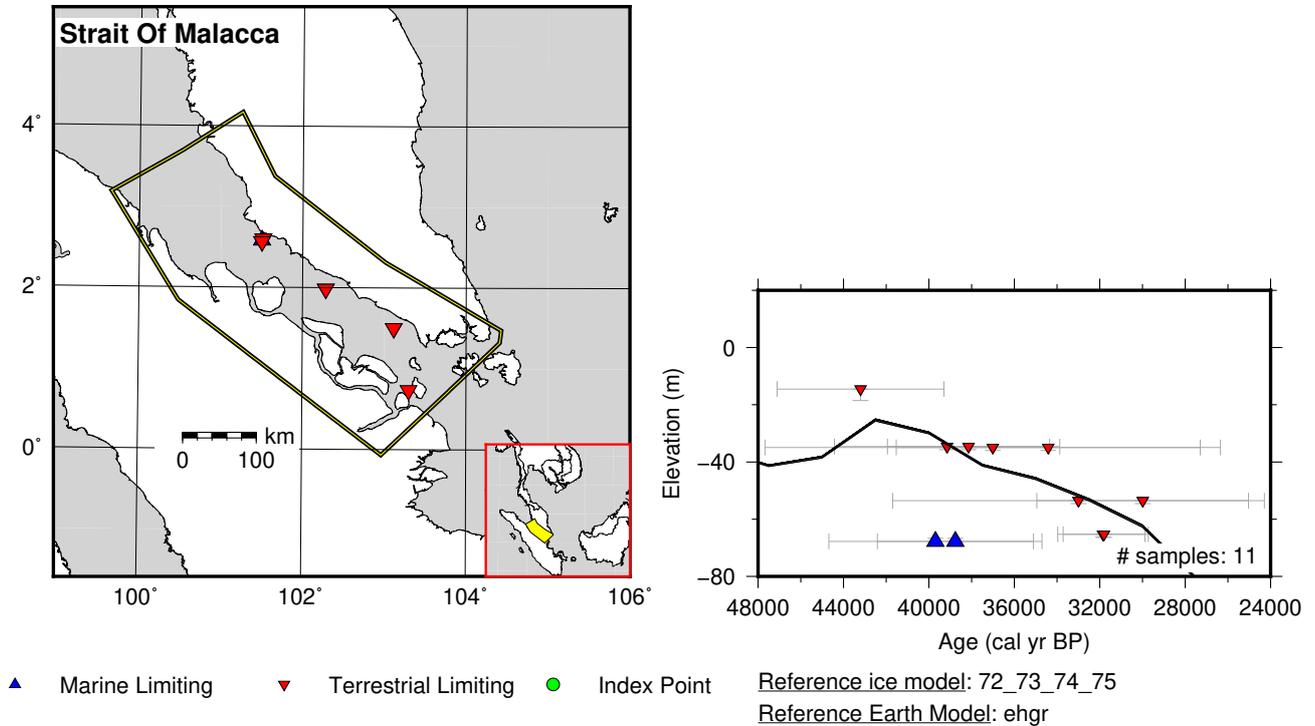
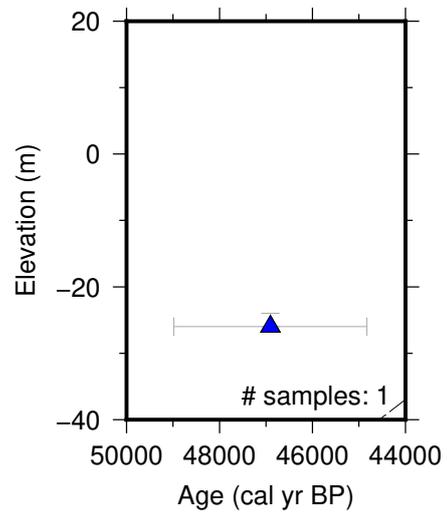
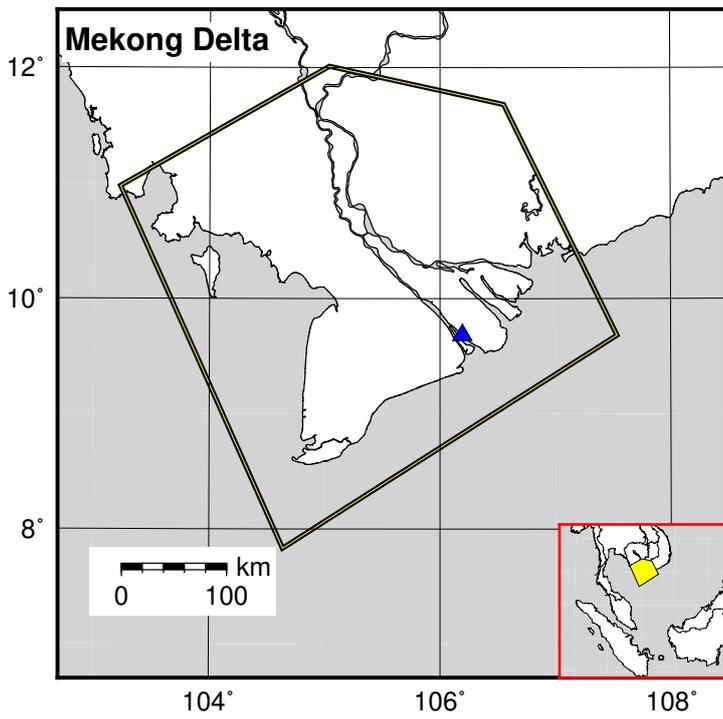


Figure 91: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Strait Of Malacca.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

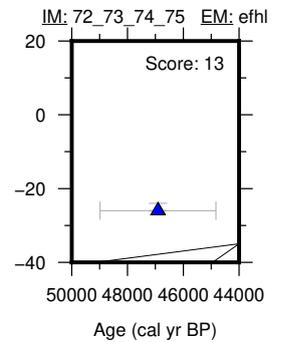
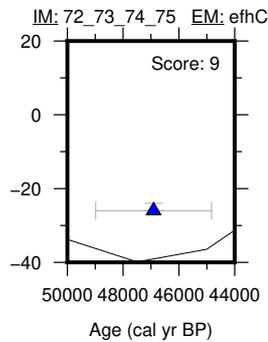
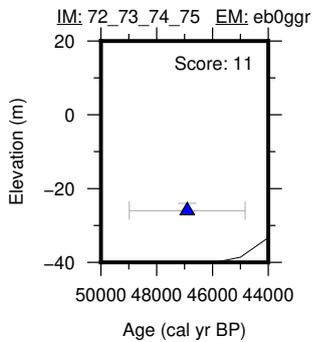
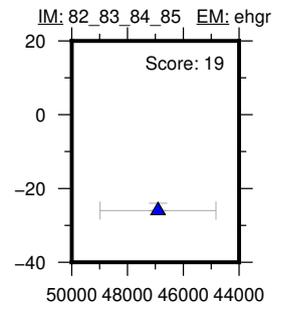
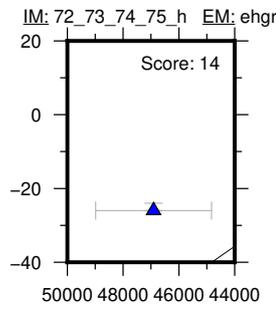
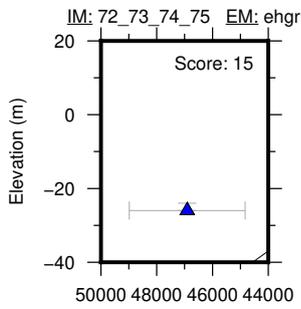


Figure 92: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Mekong Delta.

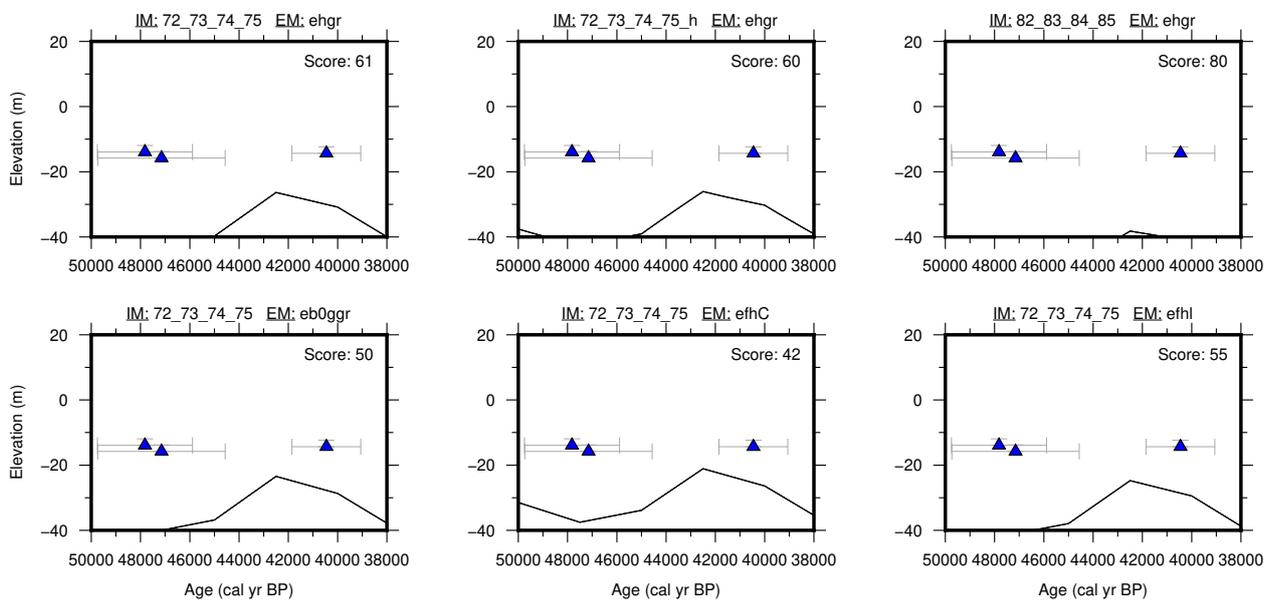
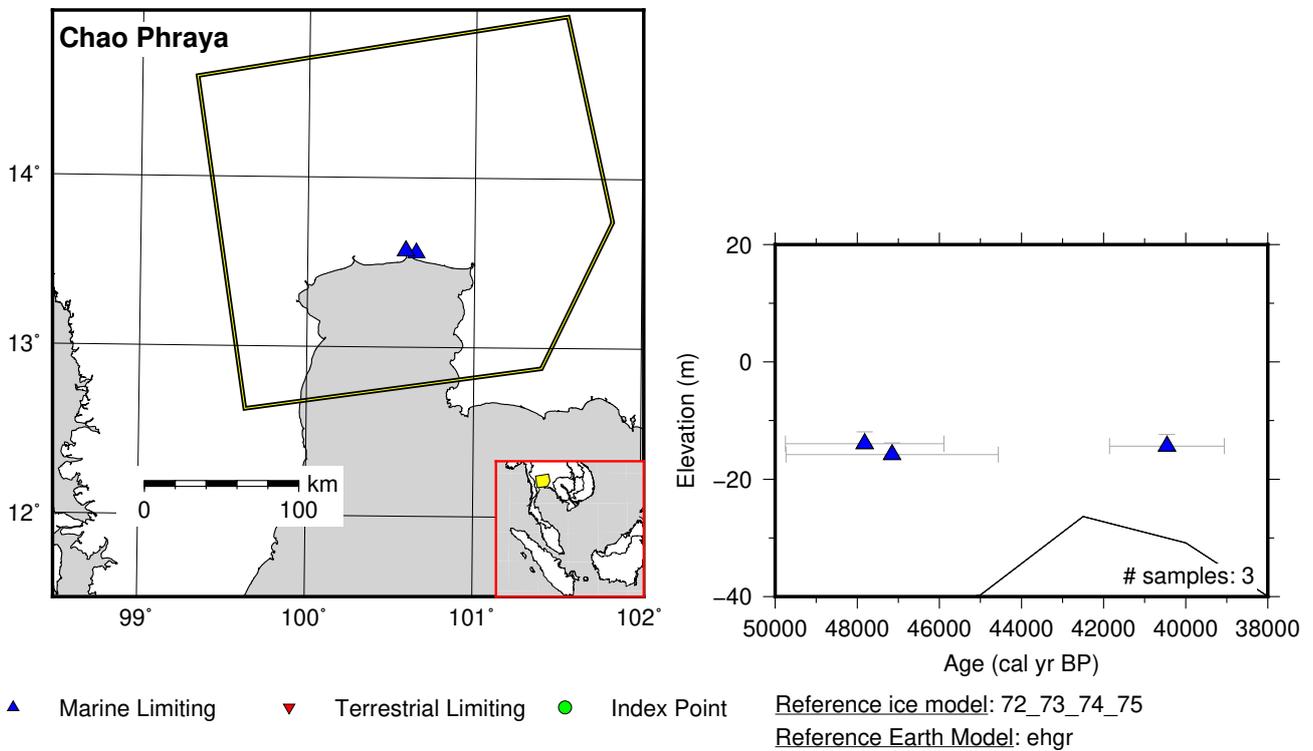


Figure 93: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Chao Phraya.

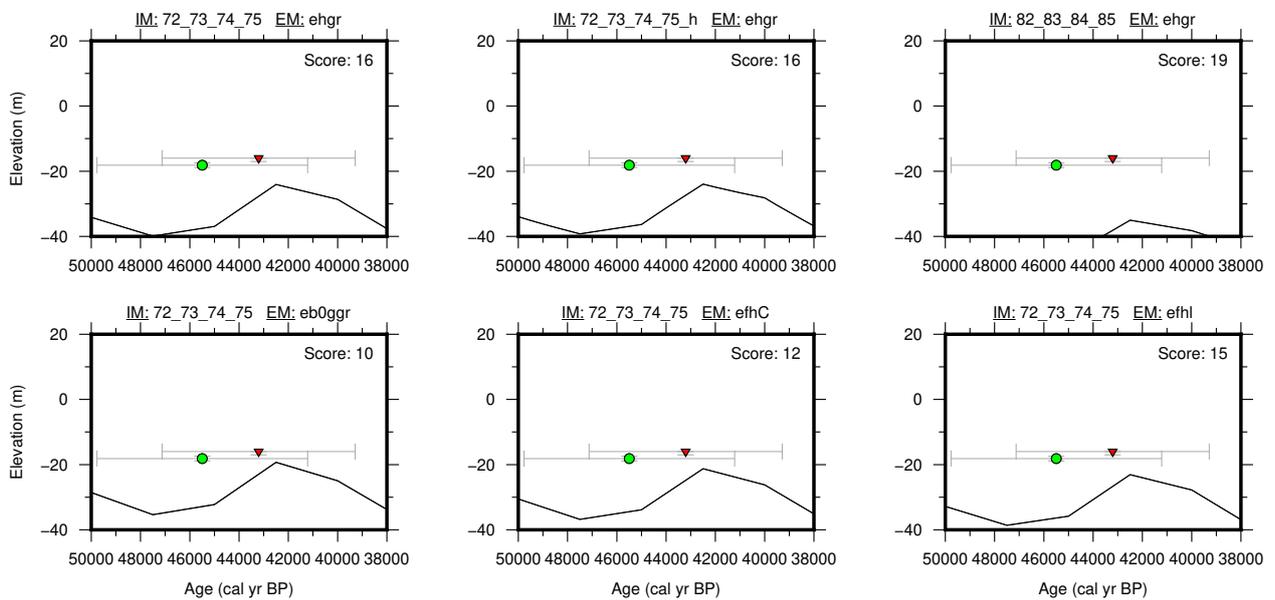
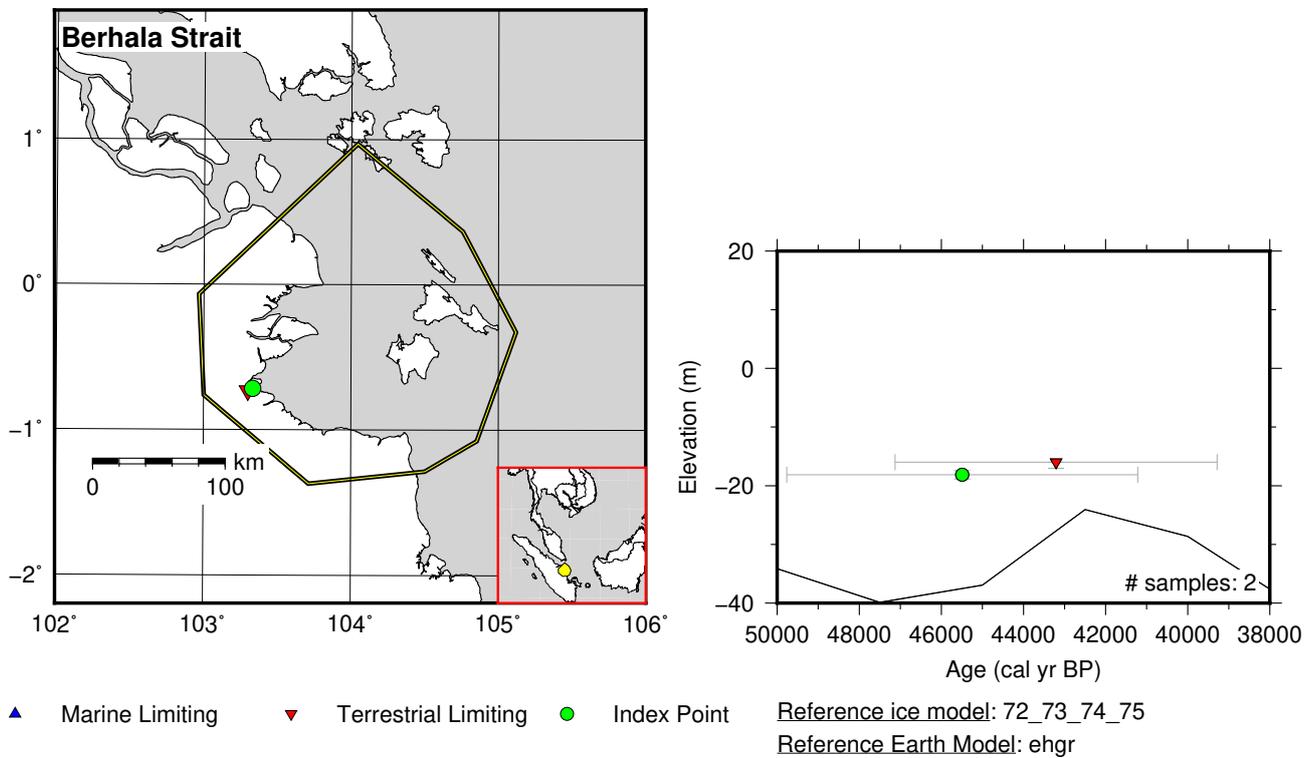


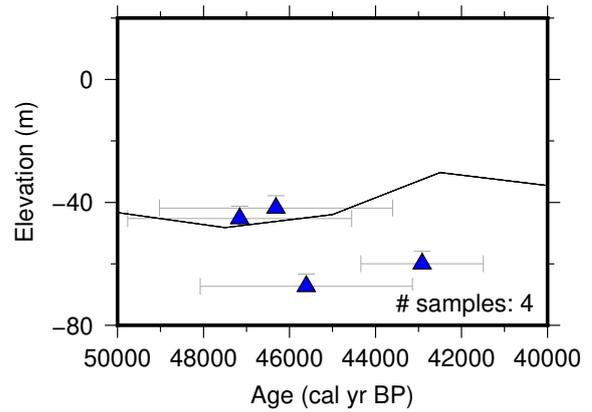
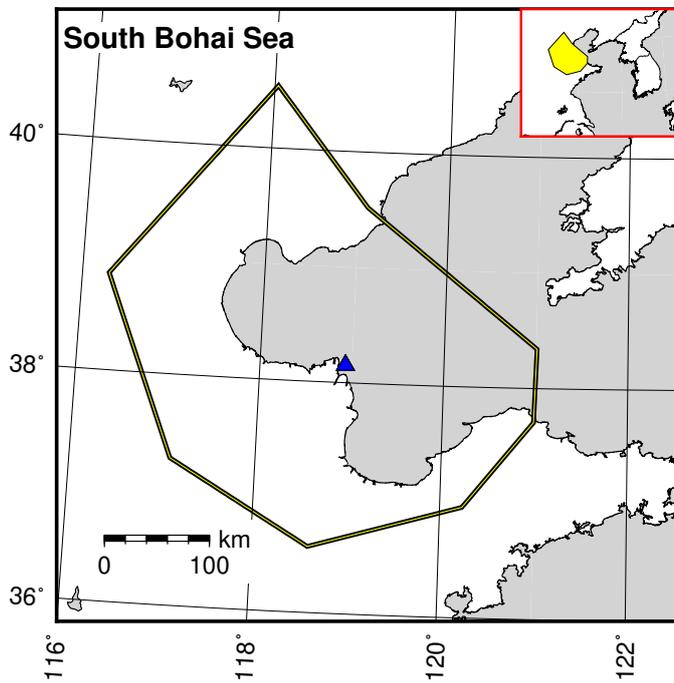
Figure 94: Paleo-sea level and comparison of six models for subregion Sundaland (MIS3 - MIS4), location Berhala Strait.

## **10.6 Yellow Sea (MIS3 - MIS4)**

References for the data used in each location.

**South Bohai Sea:** Liu et al. (2009); Pico et al. (2016)

**Yellow Sea:** Liu et al. (2010); Pico et al. (2016); Wang et al. (2014)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

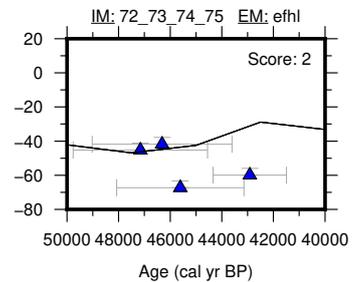
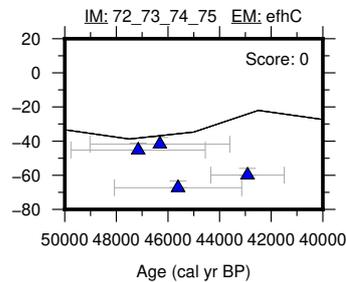
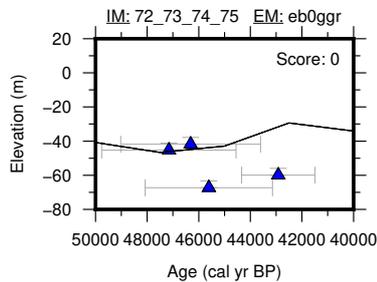
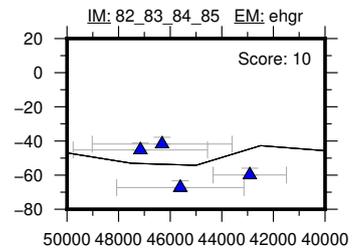
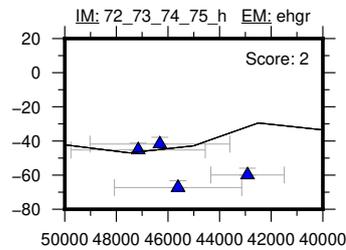
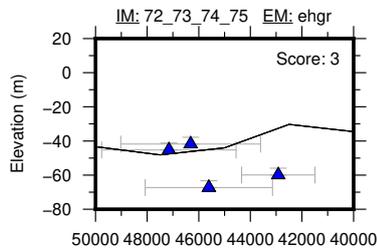
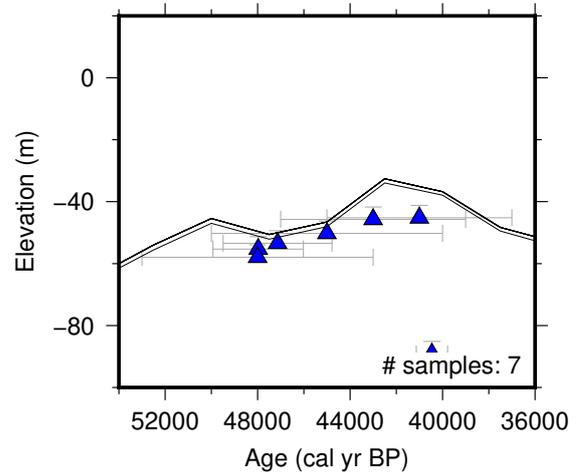
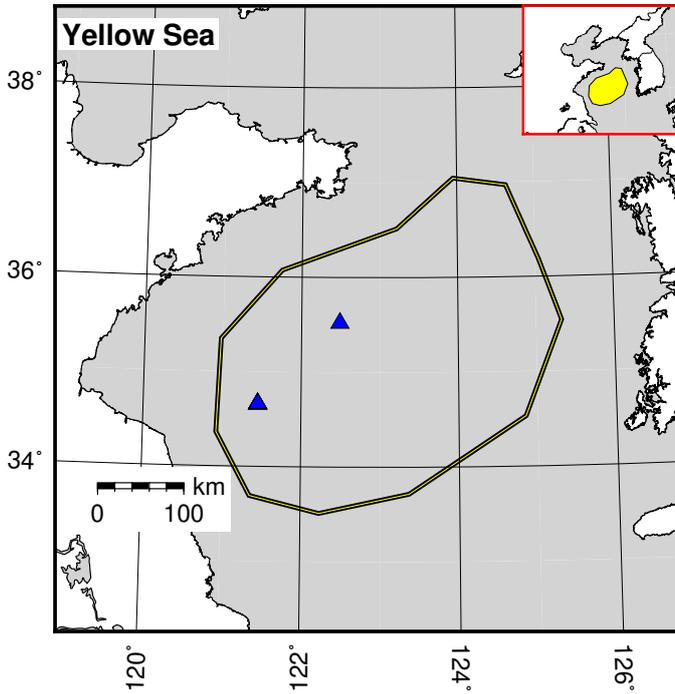


Figure 95: Paleo-sea level and comparison of six models for subregion Yellow Sea (MIS3 - MIS4), location South Bohai Sea.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

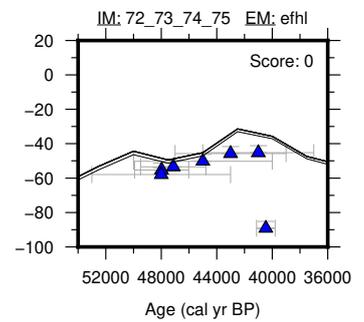
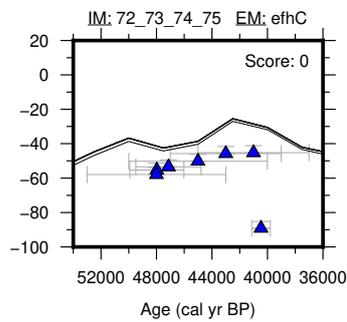
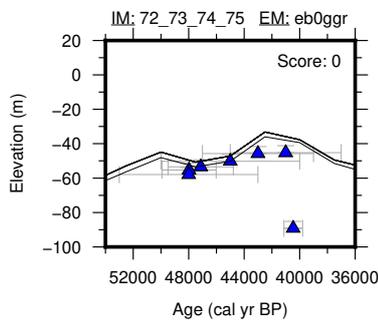
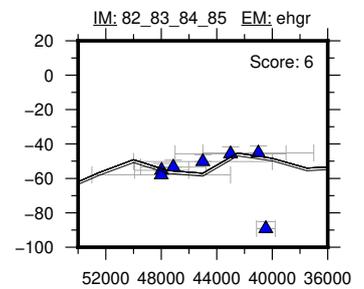
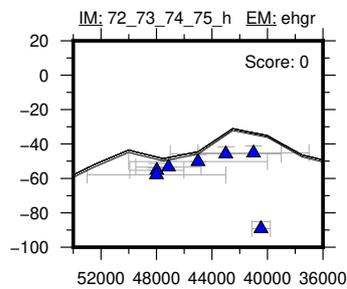
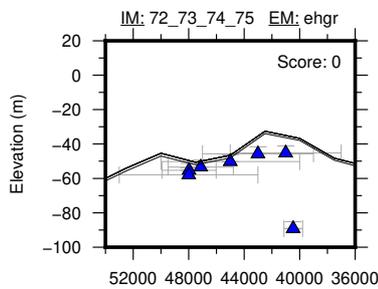


Figure 96: Paleo-sea level and comparison of six models for subregion Yellow Sea (MIS3 - MIS4), location Yellow Sea.

# 11 North America

## 11.1 Eastern United States

References for the data used in each location.

**Outer Delaware:** Belknap (1975); Fletcher et al. (1993); Nikitina et al. (2000); Ramsey and Baxter (1996)

**Inner Delaware:** Belknap (1975); Kraft (1976); Leorri et al. (2006); Marx (1981); Nikitina et al. (2000); Ramsey and Baxter (1996); Rogers and Pizzuto (1994)

**Inner Chesapeake:** Cinquemani et al. (1982); Colman et al. (2002)

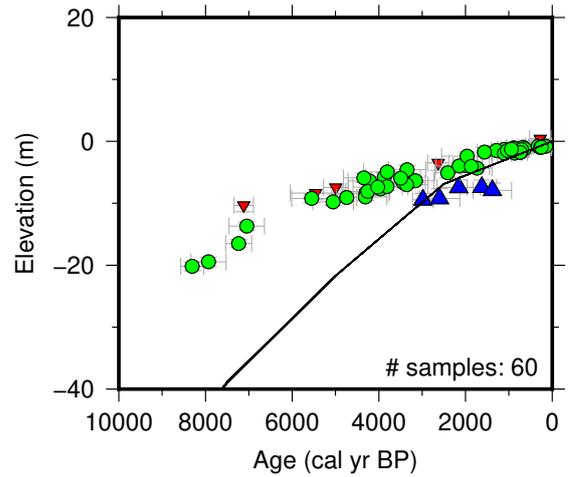
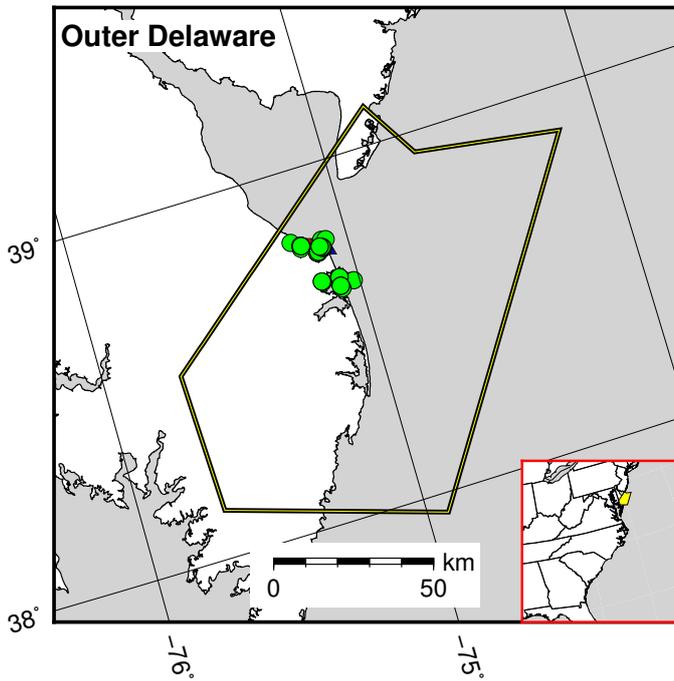
**Eastern Shore:** Engelhart et al. (2009); Finkelstein and Ferland (1987); Newman and Rusnak (1965); van de Plassche (1990)

**Northern North Carolina:** Emery et al. (1967); Horton et al. (2009); Kemp (2009); Mallinson et al. (2005); Sears (1973); Stanton (2008)

**Southern North Carolina:** Cinquemani et al. (1982); Culver et al. (2007); Field et al. (1979); Horton et al. (2009); Kemp (2009); Spaur and Snyder (1999)

**Northern South Carolina:** Cinquemani et al. (1982); Gayes et al. (1992)

**Southern South Carolina:** Cinquemani et al. (1982)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

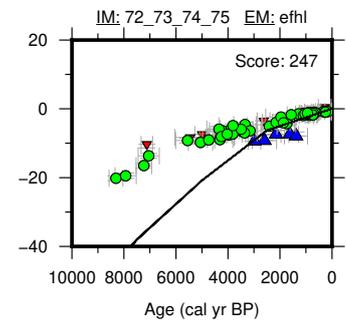
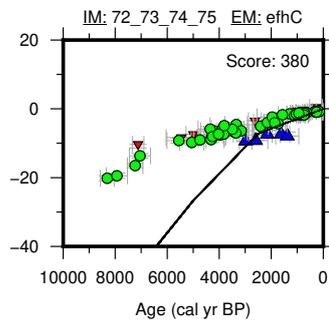
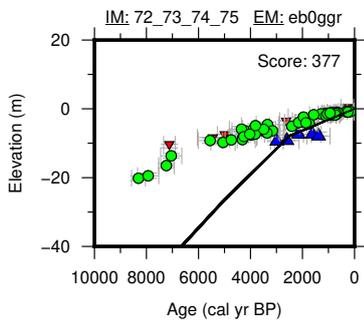
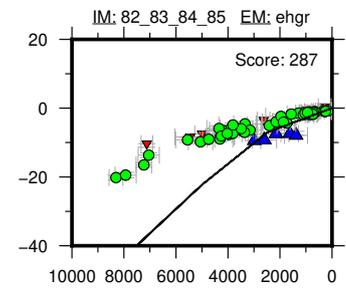
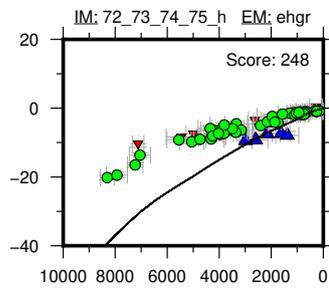
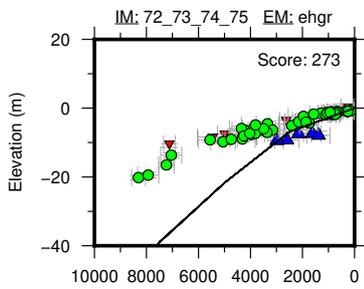


Figure 97: Paleo-sea level and comparison of six models for subregion Eastern United States, location Outer Delaware.

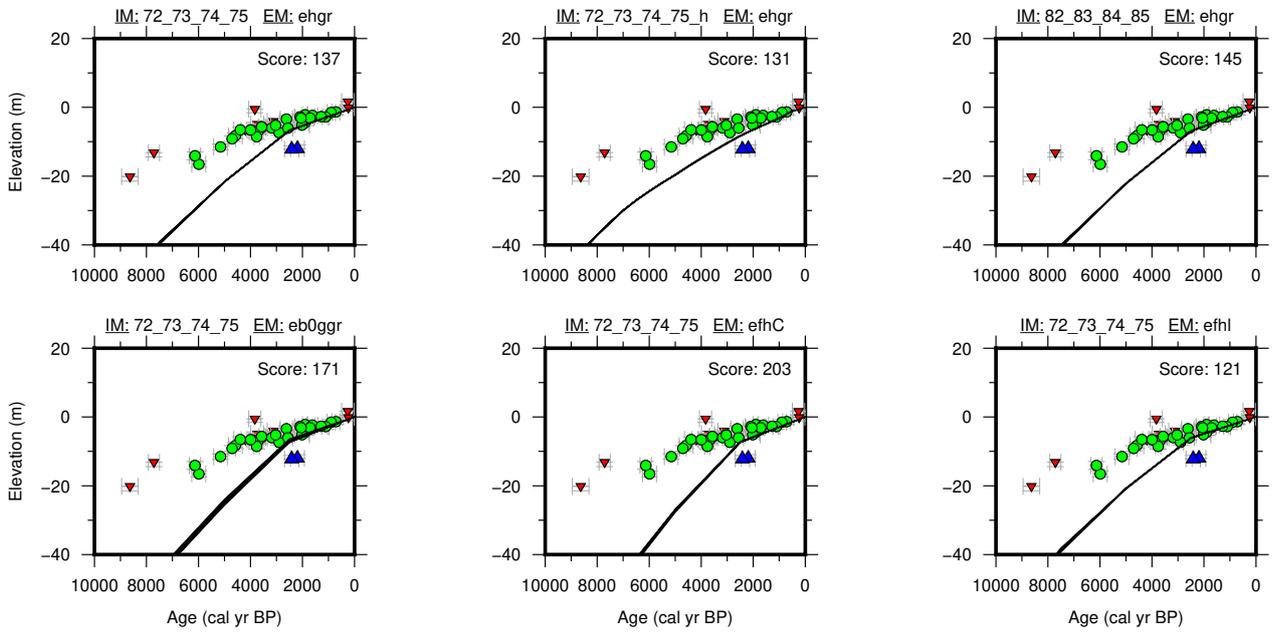
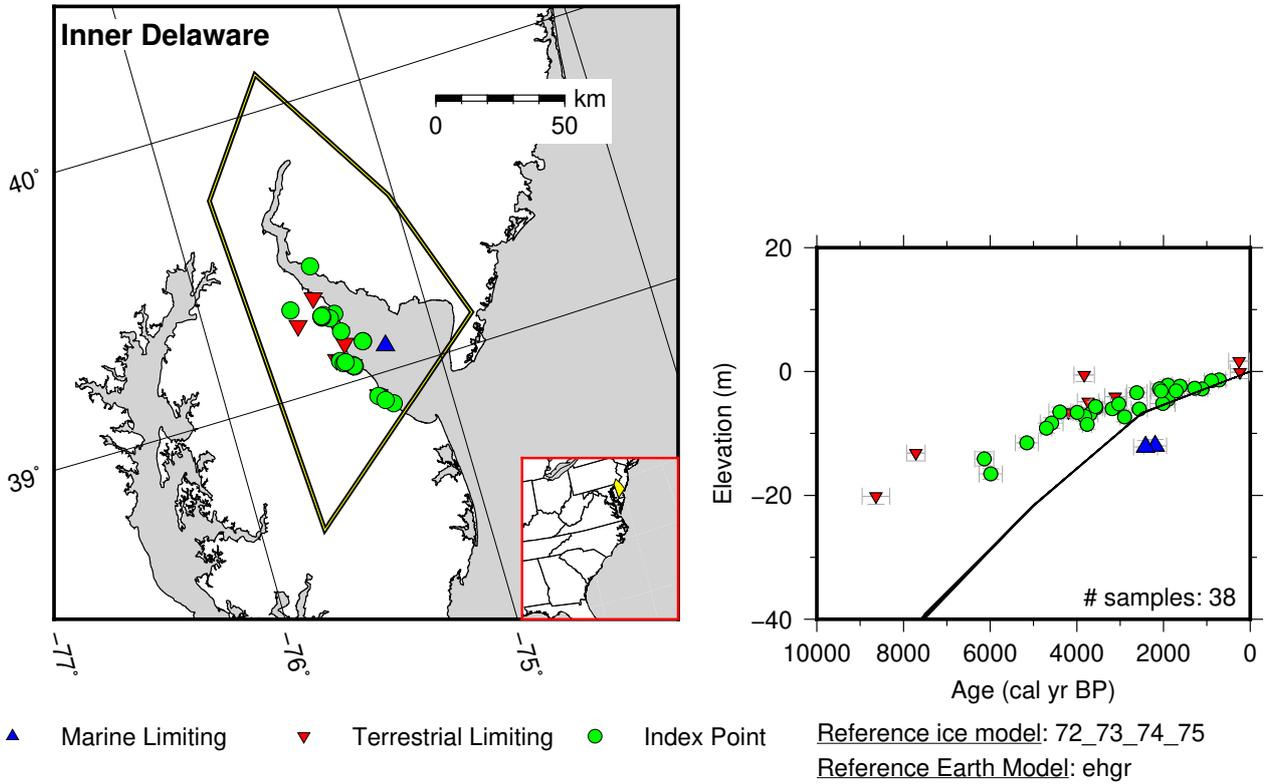


Figure 98: Paleo-sea level and comparison of six models for subregion Eastern United States, location Inner Delaware.

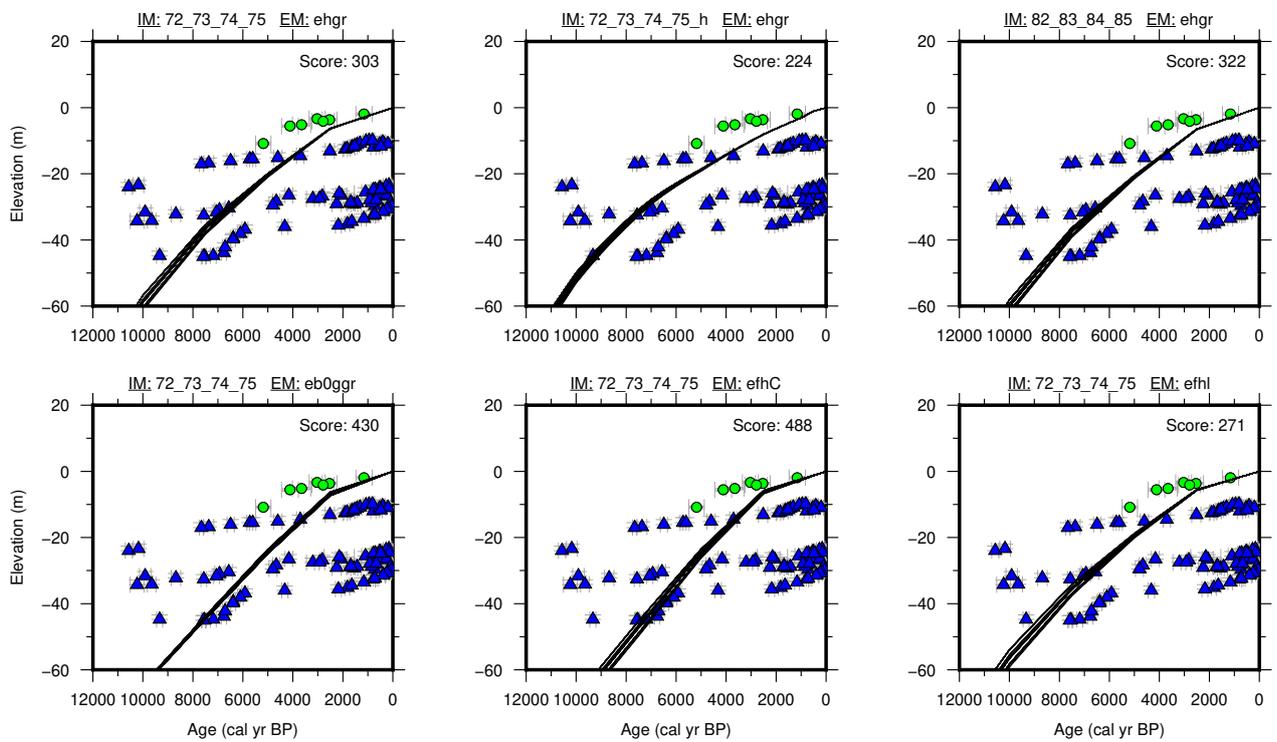
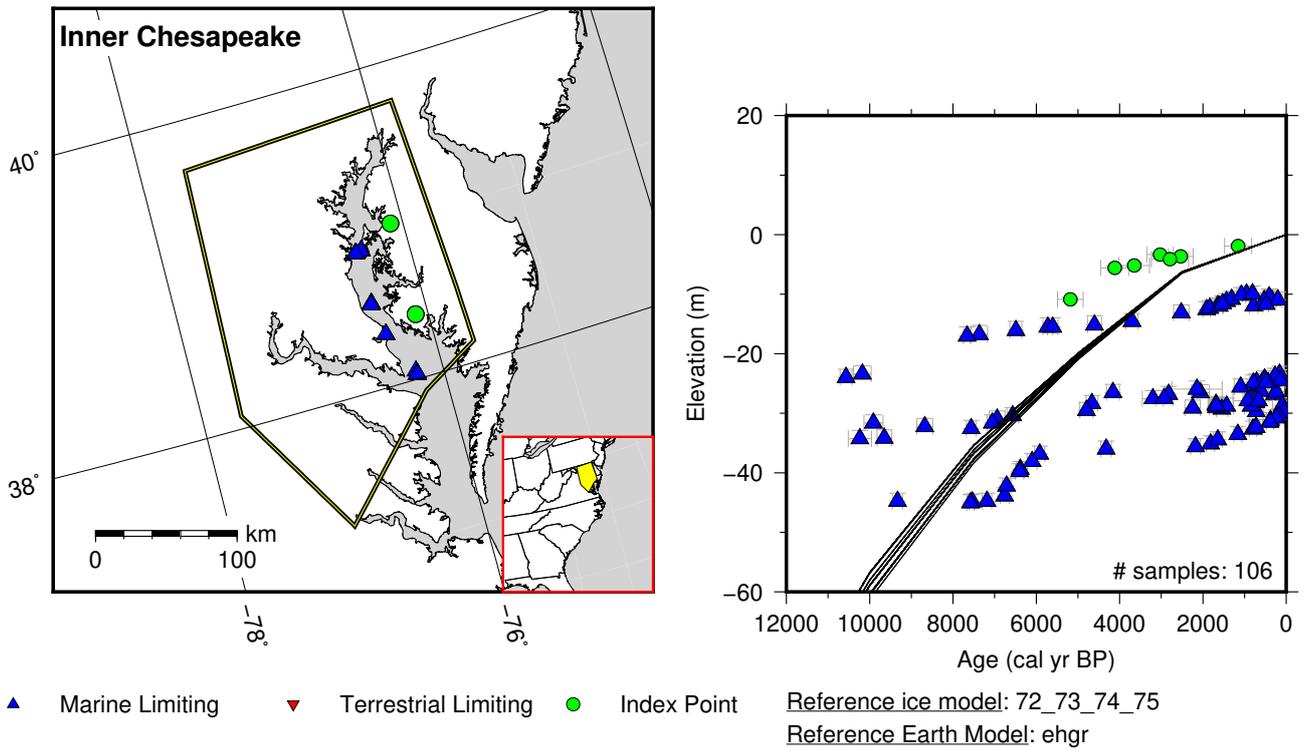
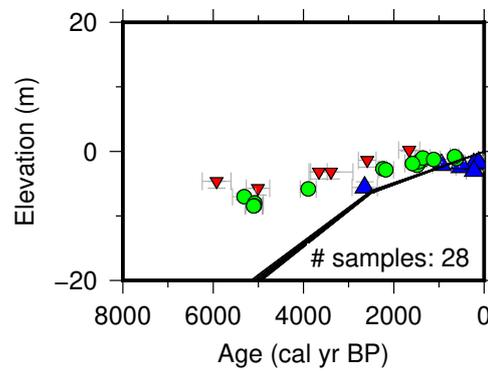
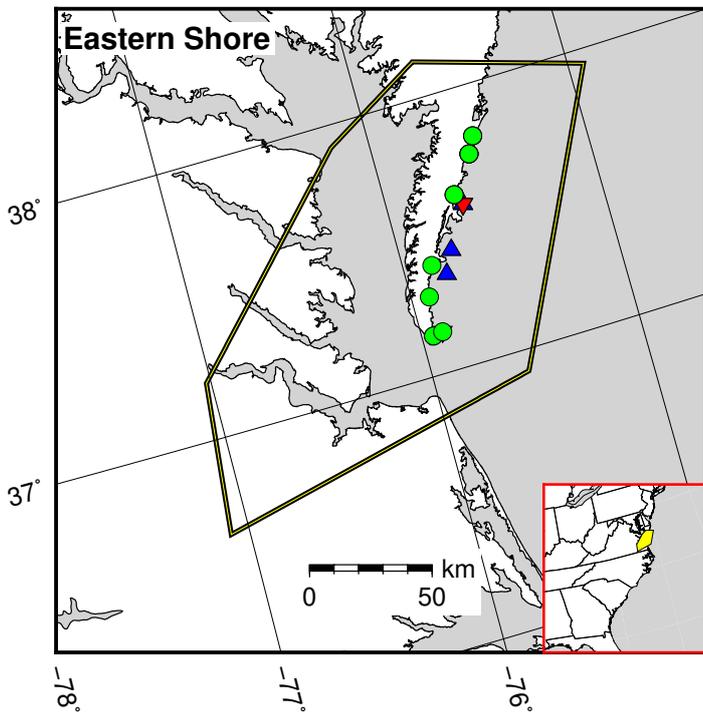


Figure 99: Paleo-sea level and comparison of six models for subregion Eastern United States, location Inner Chesapeake.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

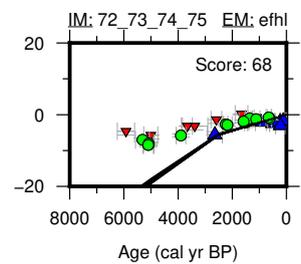
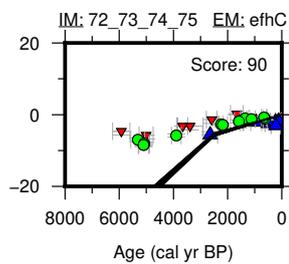
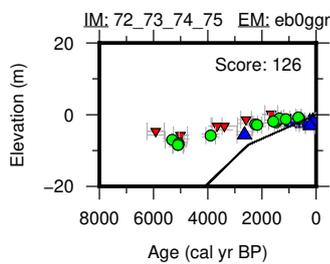
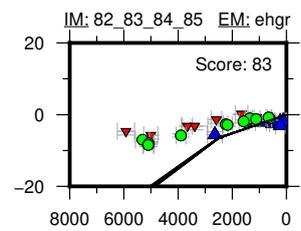
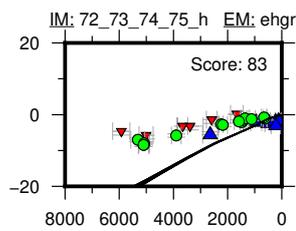
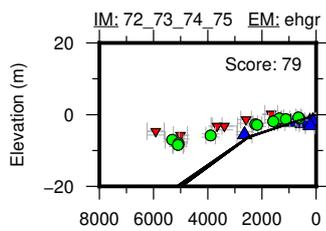


Figure 100: Paleo-sea level and comparison of six models for subregion Eastern United States, location Eastern Shore.

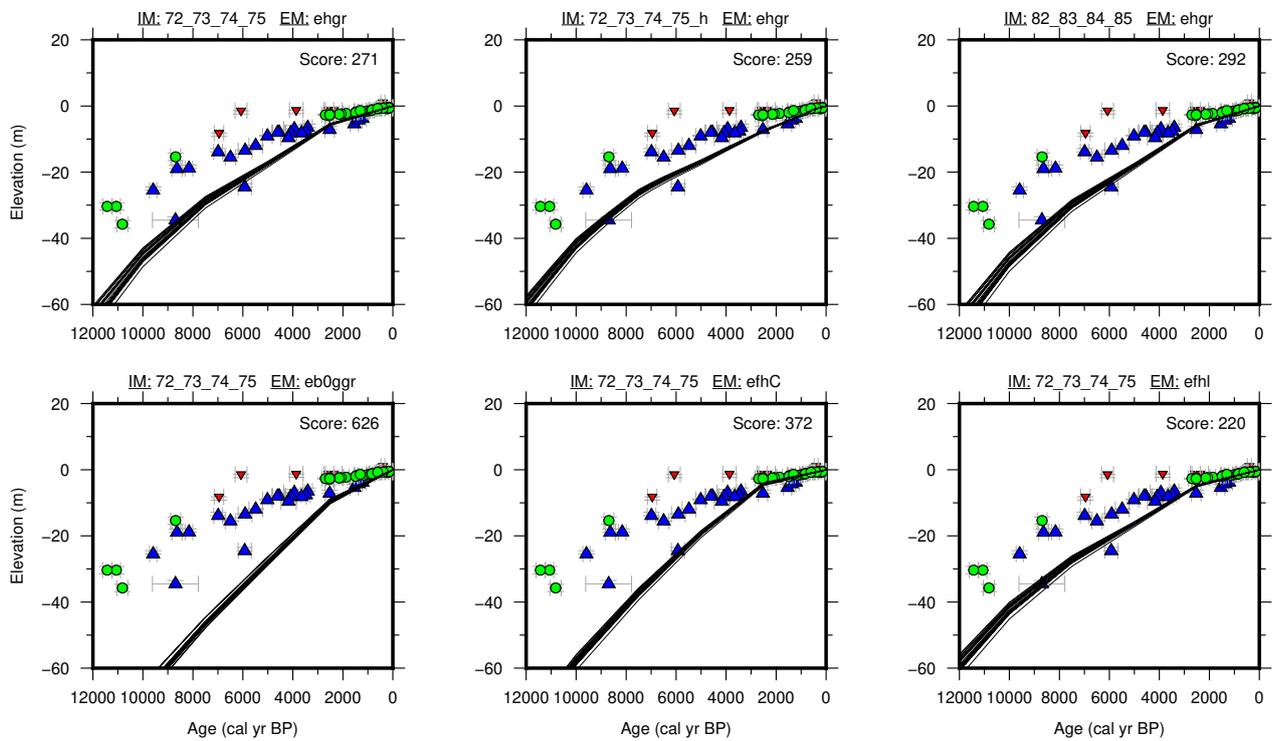
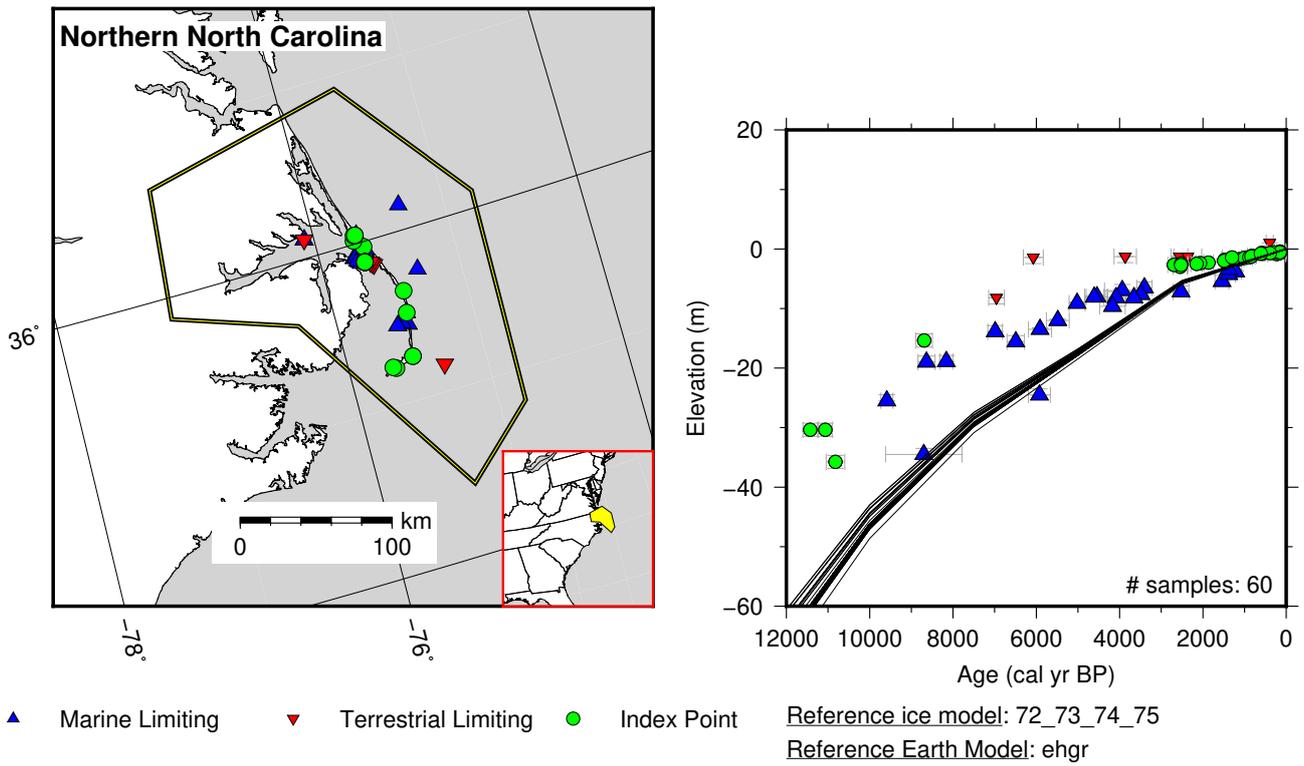
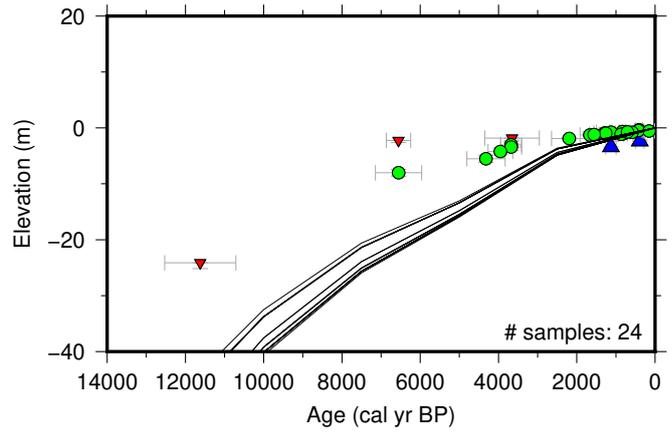
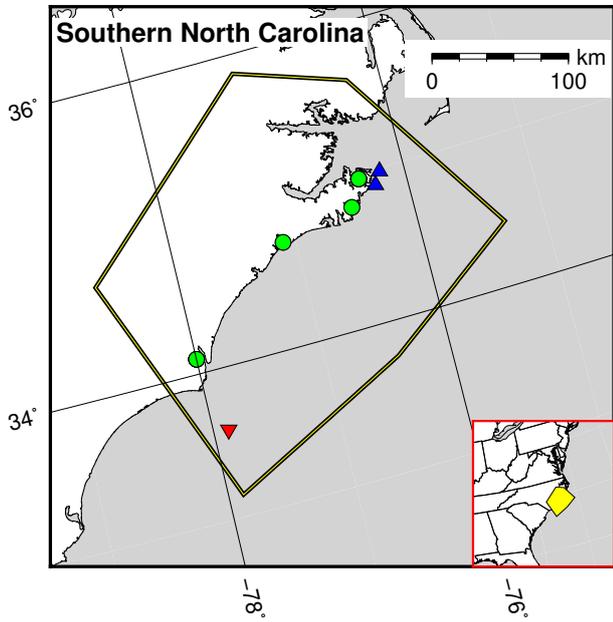


Figure 101: Paleo-sea level and comparison of six models for subregion Eastern United States, location Northern North Carolina.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

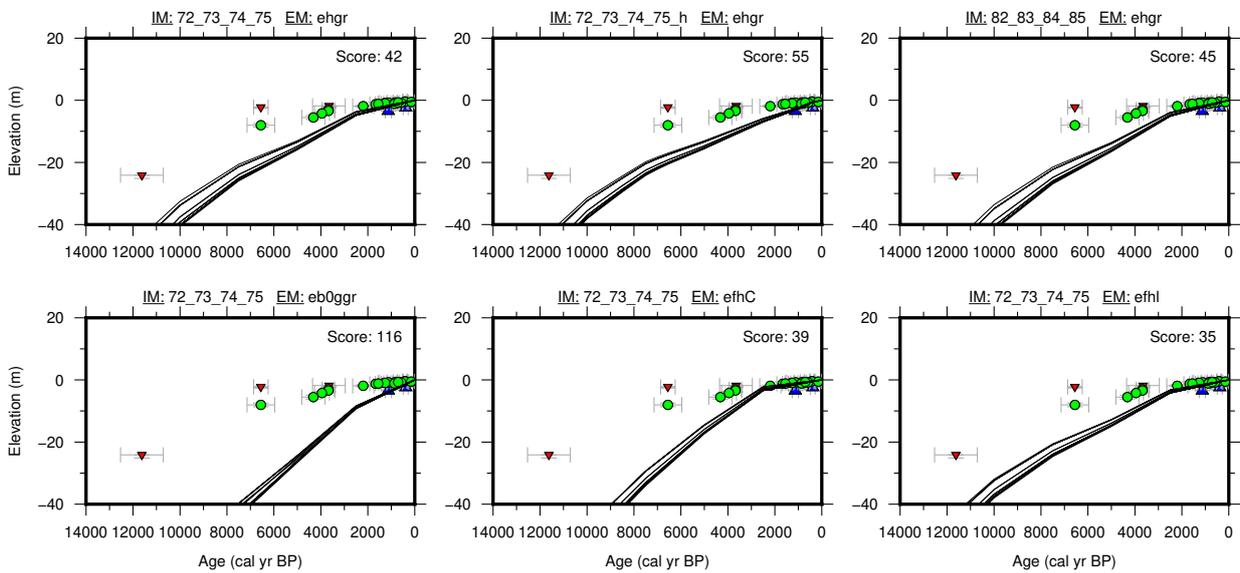
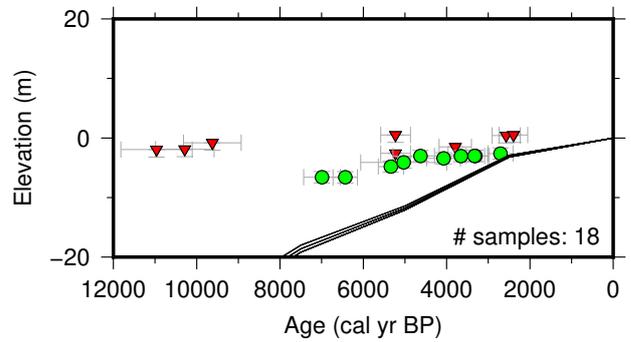
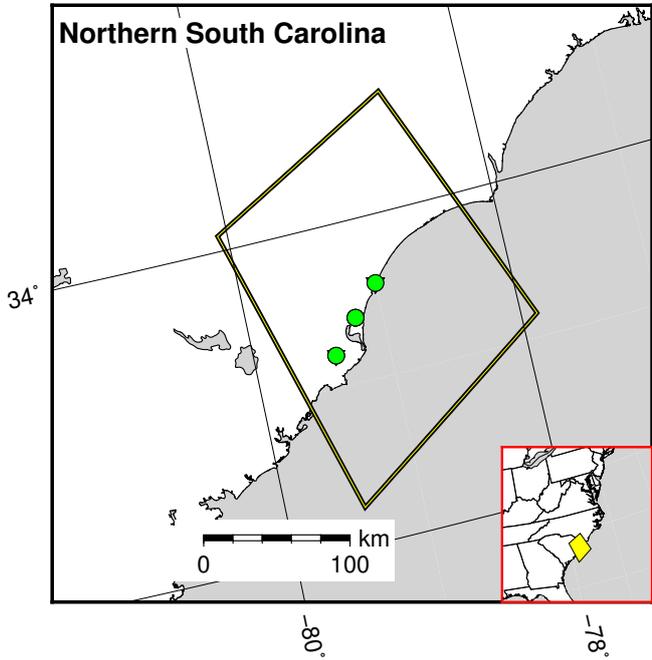


Figure 102: Paleo-sea level and comparison of six models for subregion Eastern United States, location Southern North Carolina.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

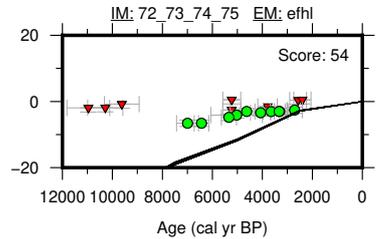
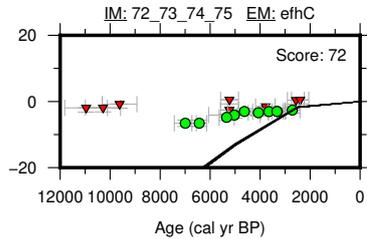
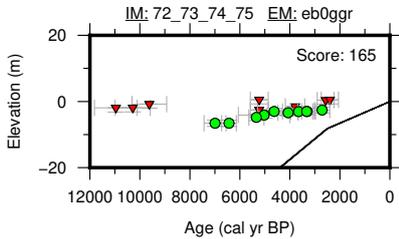
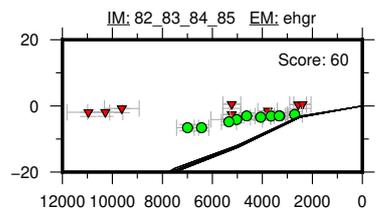
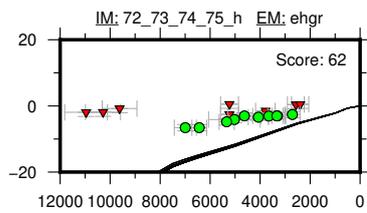
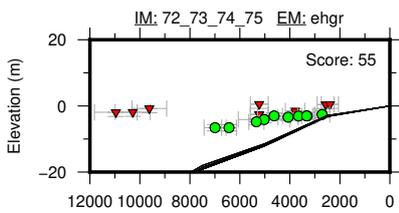
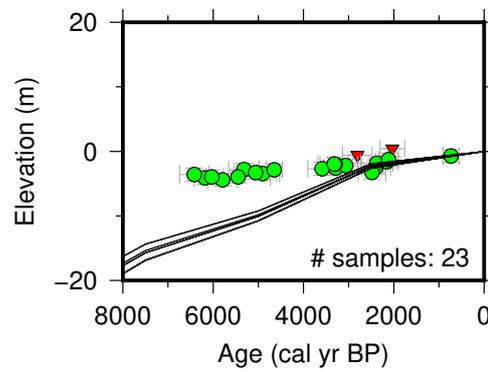
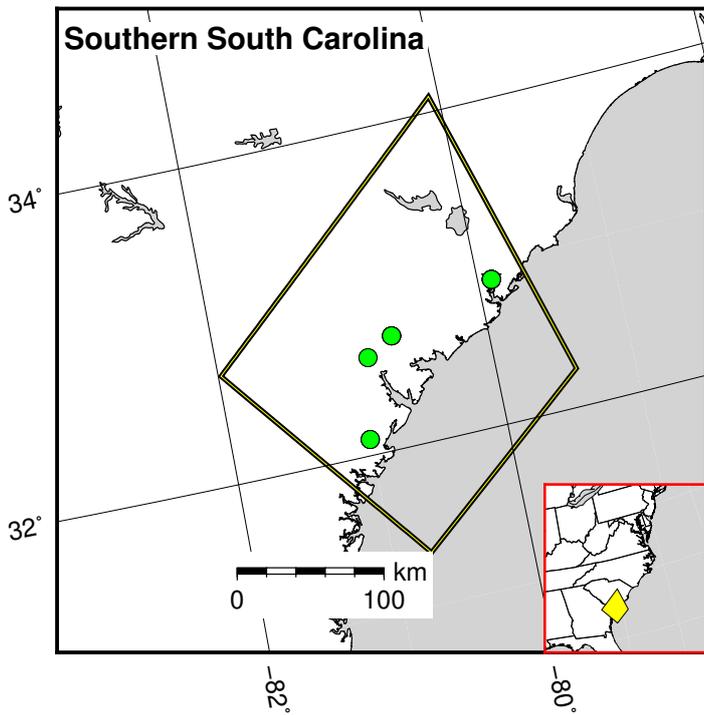


Figure 103: Paleo-sea level and comparison of six models for subregion Eastern United States, location Northern South Carolina.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

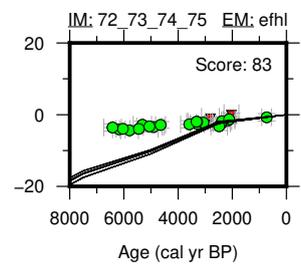
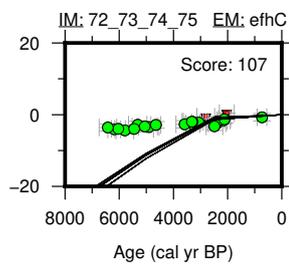
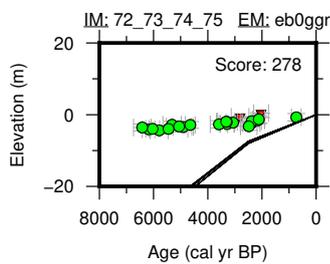
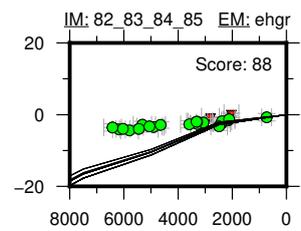
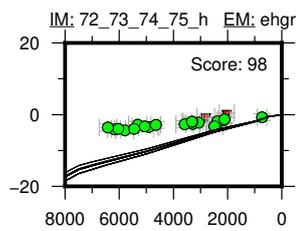
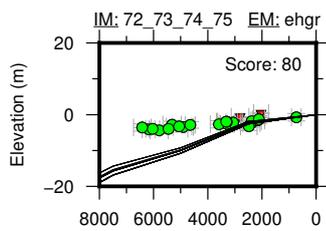


Figure 104: Paleo-sea level and comparison of six models for subregion Eastern United States, location Southern South Carolina.

## 11.2 Gulf of St Lawrence

References for the data used in each location.

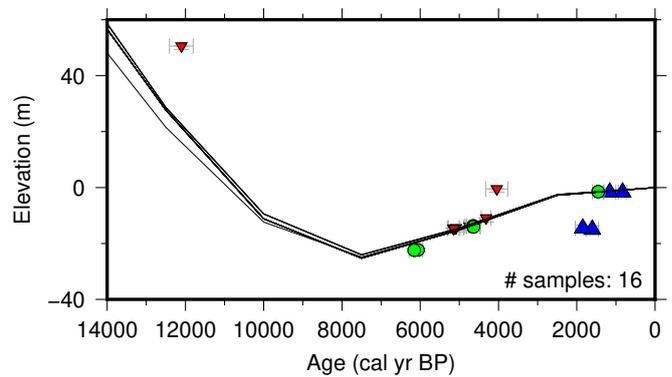
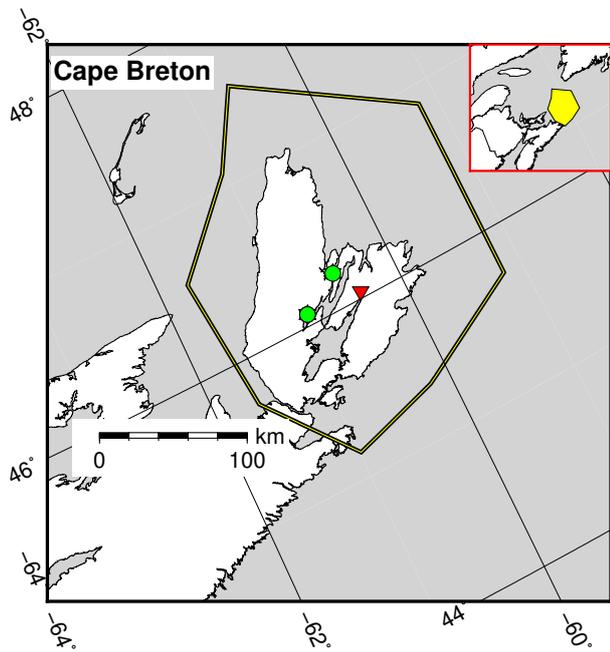
**Cape Breton:** Blake and Lowdon (1976); Miller and Livingstone (1993); Shaw et al. (2009)

**Magdalen Islands:** Barnett et al. (2017); Dredge et al. (1992); Rémillard et al. (2016, 2017)

**Prince Edward Island:** Kranck (1972); McCallum and Wittenberg (1965); McNeely and Brennan (2005); Ogden and Hart (1976); Scott et al. (1981, 1987); Stea and Mott (1989); Walton et al. (1961)

**Chaleur Bay:** McNeely and Brennan (2005); Rampton et al. (1984)

**Anticosti Island:** Dubois et al. (1988); Lavoie and Filion (2001); Painchaud et al. (1984)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

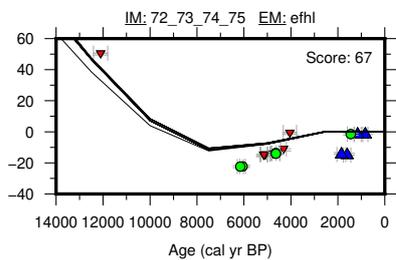
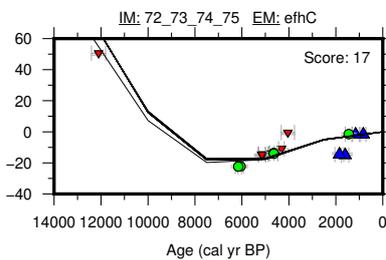
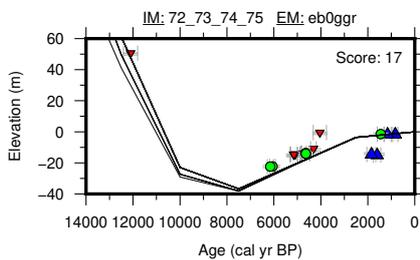
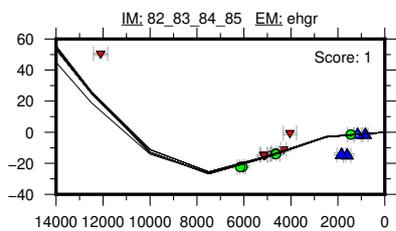
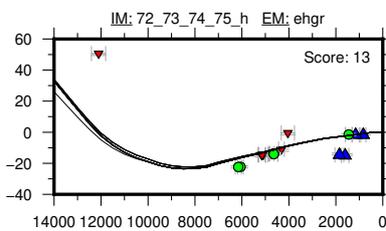
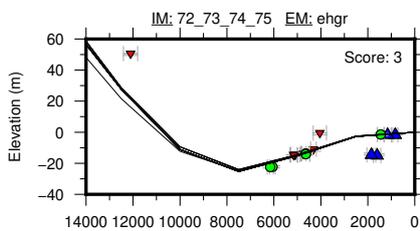


Figure 105: Paleo-sea level and comparison of six models for subregion Gulf of St Lawrence, location Cape Breton.

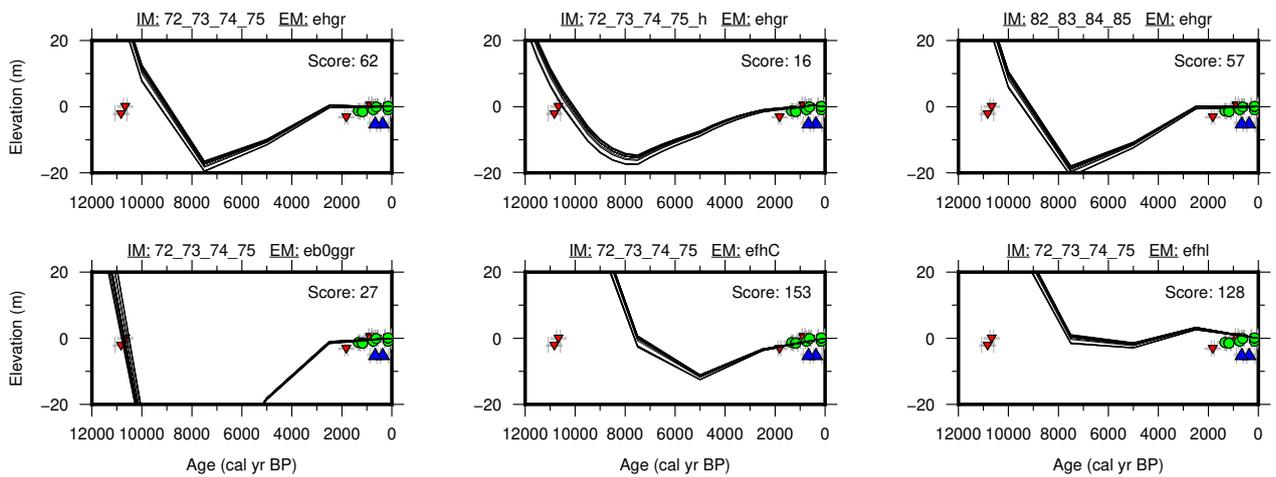
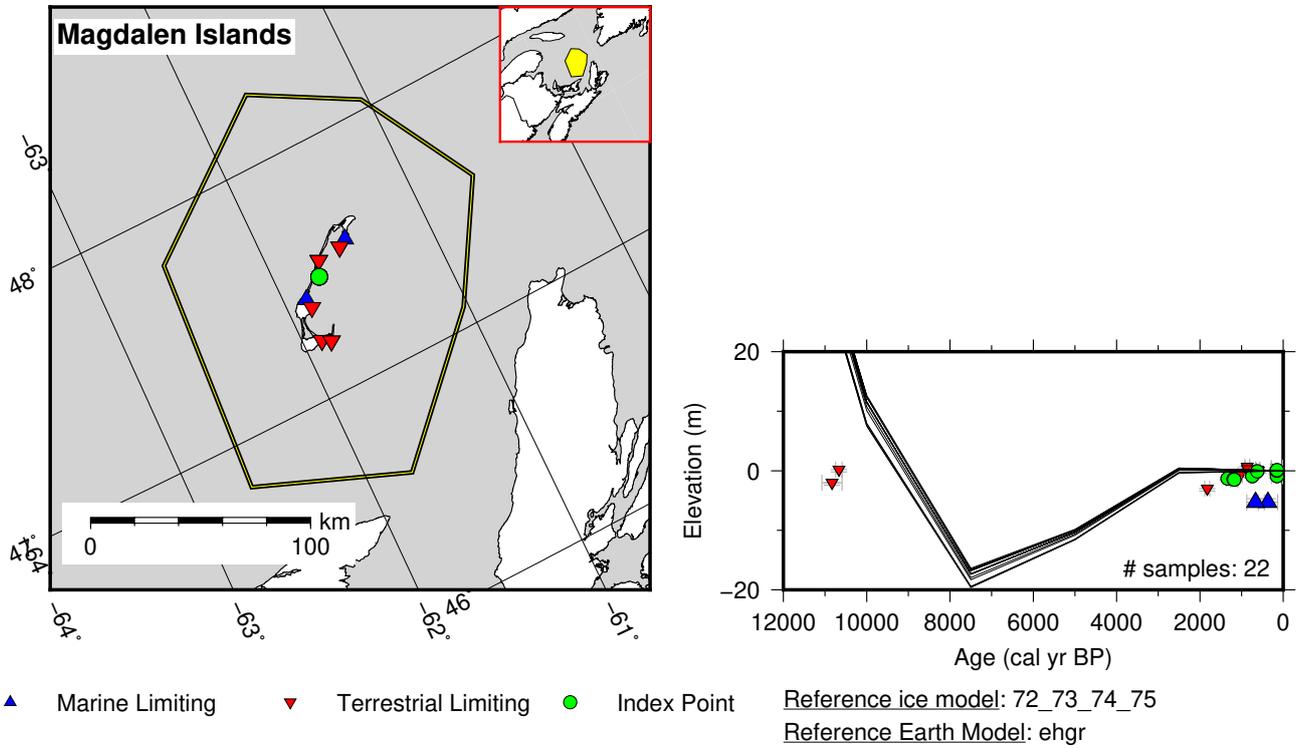
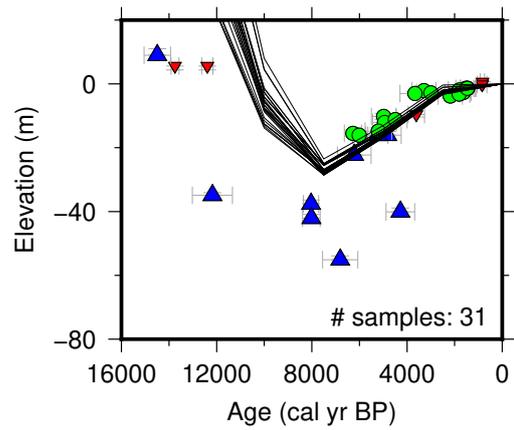
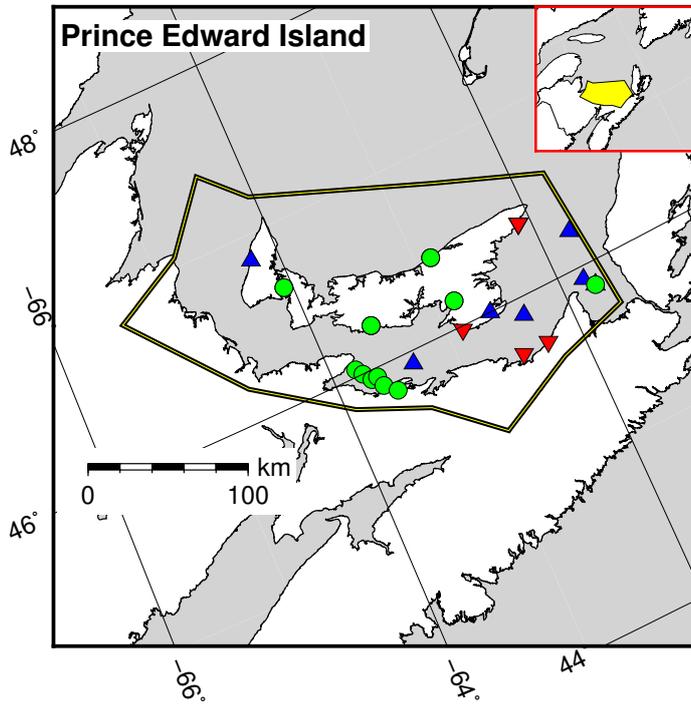


Figure 106: Paleo-sea level and comparison of six models for subregion Gulf of St Lawrence, location Magdalen Islands.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

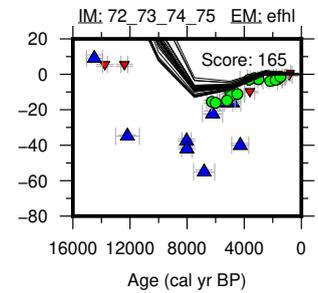
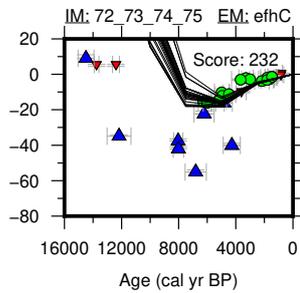
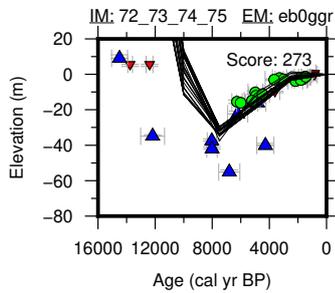
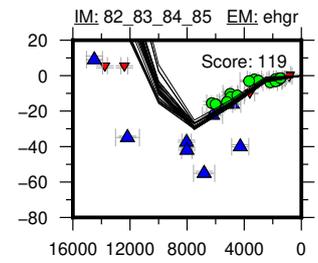
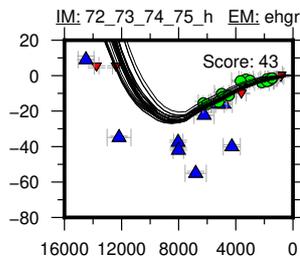
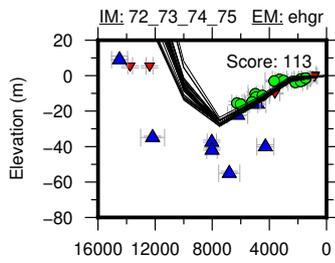


Figure 107: Paleo-sea level and comparison of six models for subregion Gulf of St Lawrence, location Prince Edward Island.

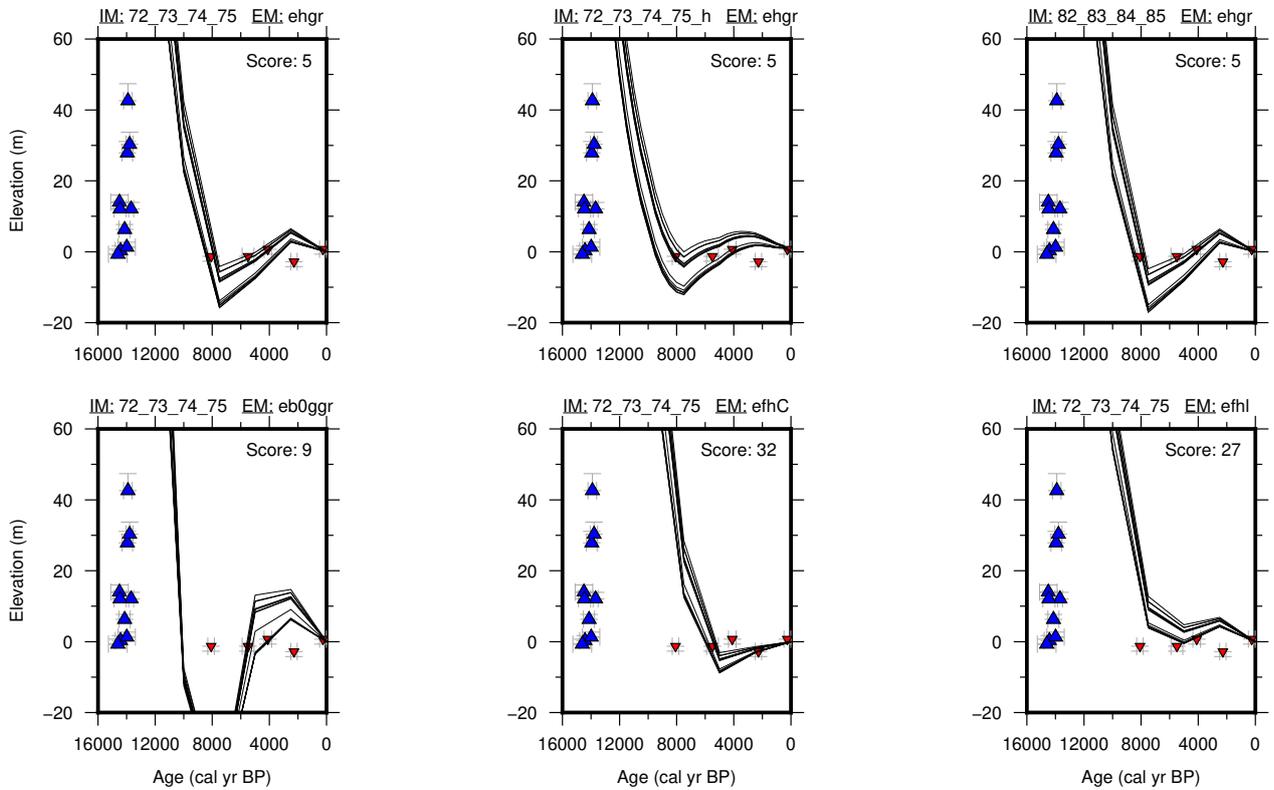
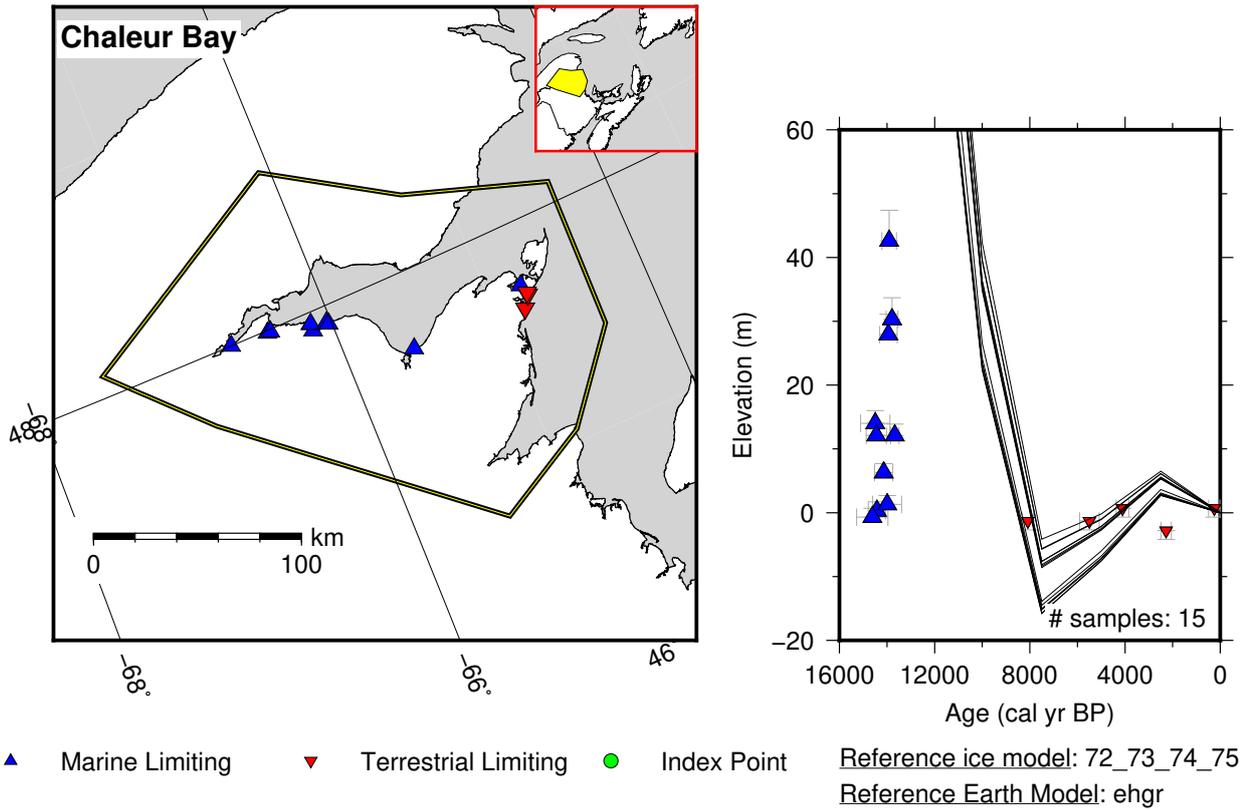
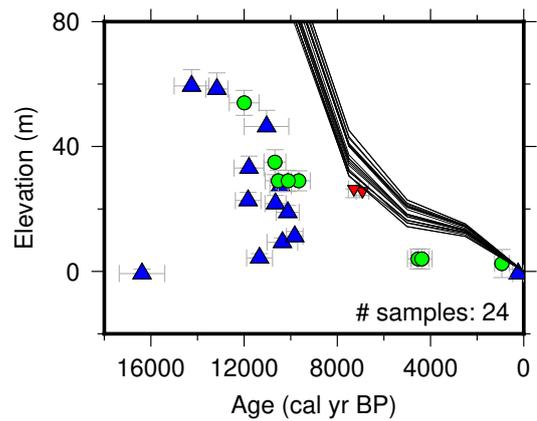
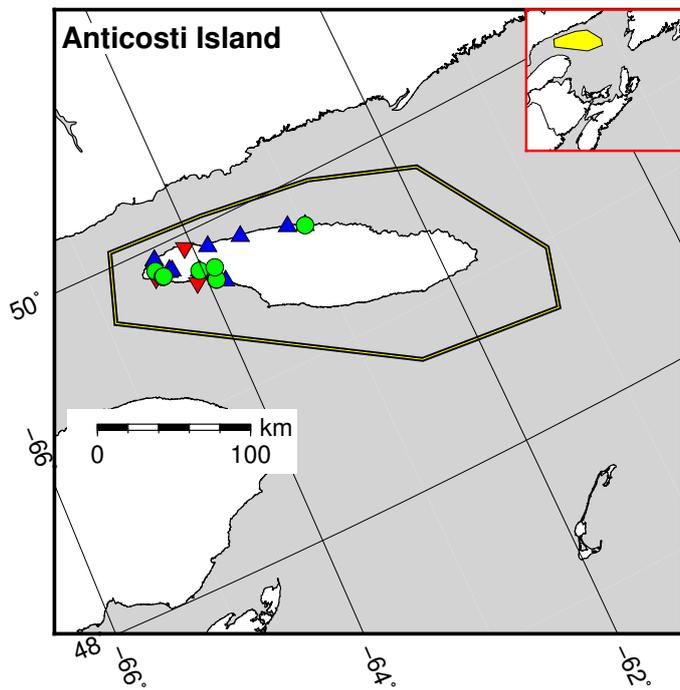


Figure 108: Paleo-sea level and comparison of six models for subregion Gulf of St Lawrence, location Chaleur Bay.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75

Reference Earth Model: ehgr

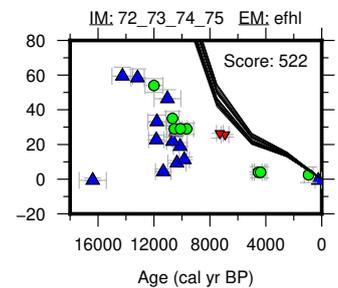
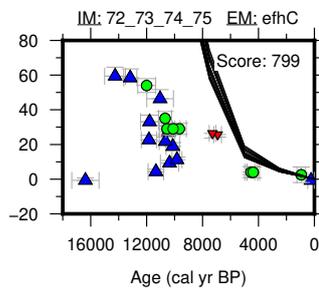
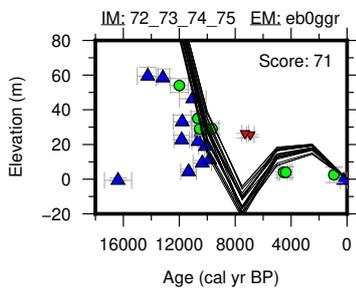
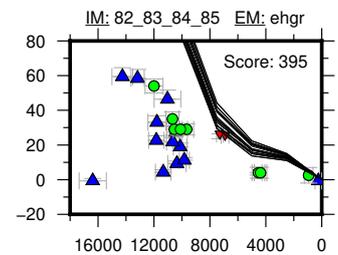
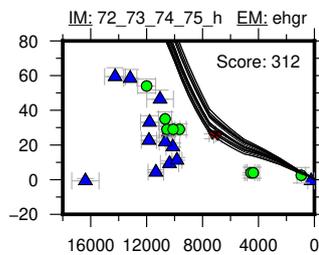
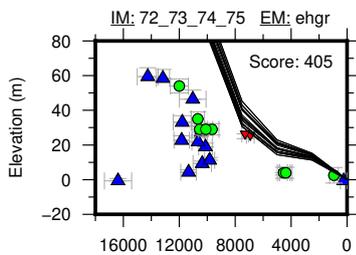


Figure 109: Paleo-sea level and comparison of six models for subregion Gulf of St Lawrence, location Anticosti Island.

## 11.3 Hudson Bay

References for the data used in each location.

**Kivalliq:** Aylsworth et al. (1981); Blake (1983, 1986, 1988); Dyck and Fyles (1962); Dyck et al. (1966); Lowdon and Blake (1970); Lowdon and Blake (1979); McNeely and Atkinson (1995); Morrison (1989); Ridler (1974); Rutherford et al. (1973, 1979); Simon et al. (2014); Walton et al. (1961)

**Churchill:** Anderson and Hodgetts (2007); Andrews and Falconer (1969); Blake (1982, 1988); Dyck and Fyles (1964); Hodgetts (2007); Kuhry (2008); Lowdon and Blake (1973); Lowdon et al. (1971); Meyer (1970); Morlan et al. (2000); Nash (1972); Wagner (1967)

**West James Bay:** Bunbury et al. (2012); Dyck et al. (1965); Dyke and Peltier (2000); Glaser et al. (2004); McAndrews et al. (1982); McNeely and Brennan (2005); Vogel and Waterbolk (1972); Webber et al. (1970)

**East James Bay:** Beaulieu-Audy et al. (2009); Farrand (1962); Hardy (1976); Pendea et al. (2010)

**Umiujaq:** Allard and Seguin (1985); Allard and Tremblay (1983a,b); Cayer (2003); Filion et al. (1991); Gajewski and Garralla (1992); Hillaire-Marcel (1976); Lajeunesse and Allard (2003); Lamarre et al. (2012); Lavoie et al. (2012); Lowdon and Blake (1980); Lowdon et al. (1967); McNeely (2006); Plumet (1974); Saulnier-Talbot and Pienitz (2001); Walcott and Craig (1975)

**Inukjuak:** Andrews and Falconer (1969); Andrews and Short (1983); Buckley and Willis (1970); Harington (2003); Lauriol and Gray (1997); Lemieux et al. (2011); Lowdon and Blake (1968); Saint-Laurent and Filion (1992); Wagner (1967)

**Ivujivik:** Daigneault (2008); Harington (2003); Martindale et al. (2020); Matthews (1966, 1967); McNeely and Brennan (2005); Wagner (1967)

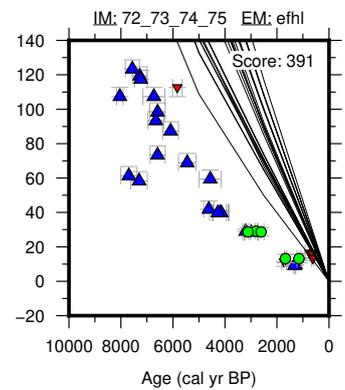
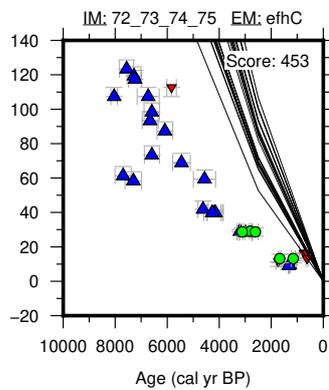
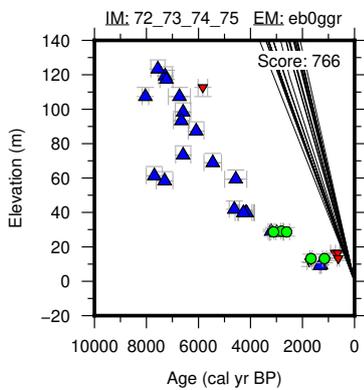
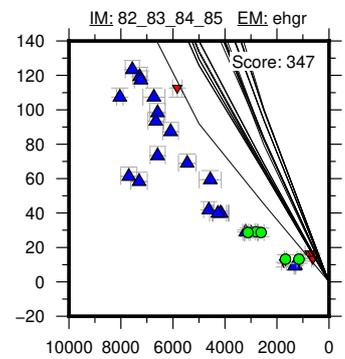
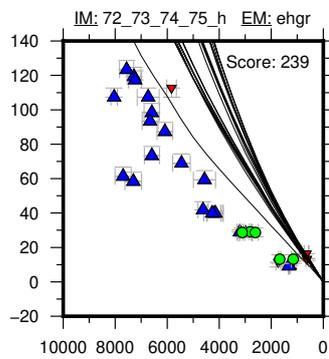
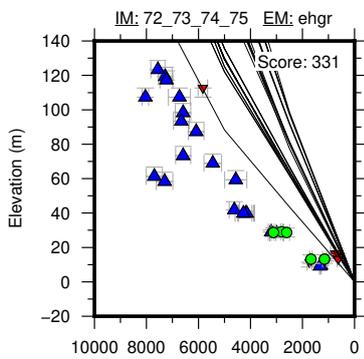
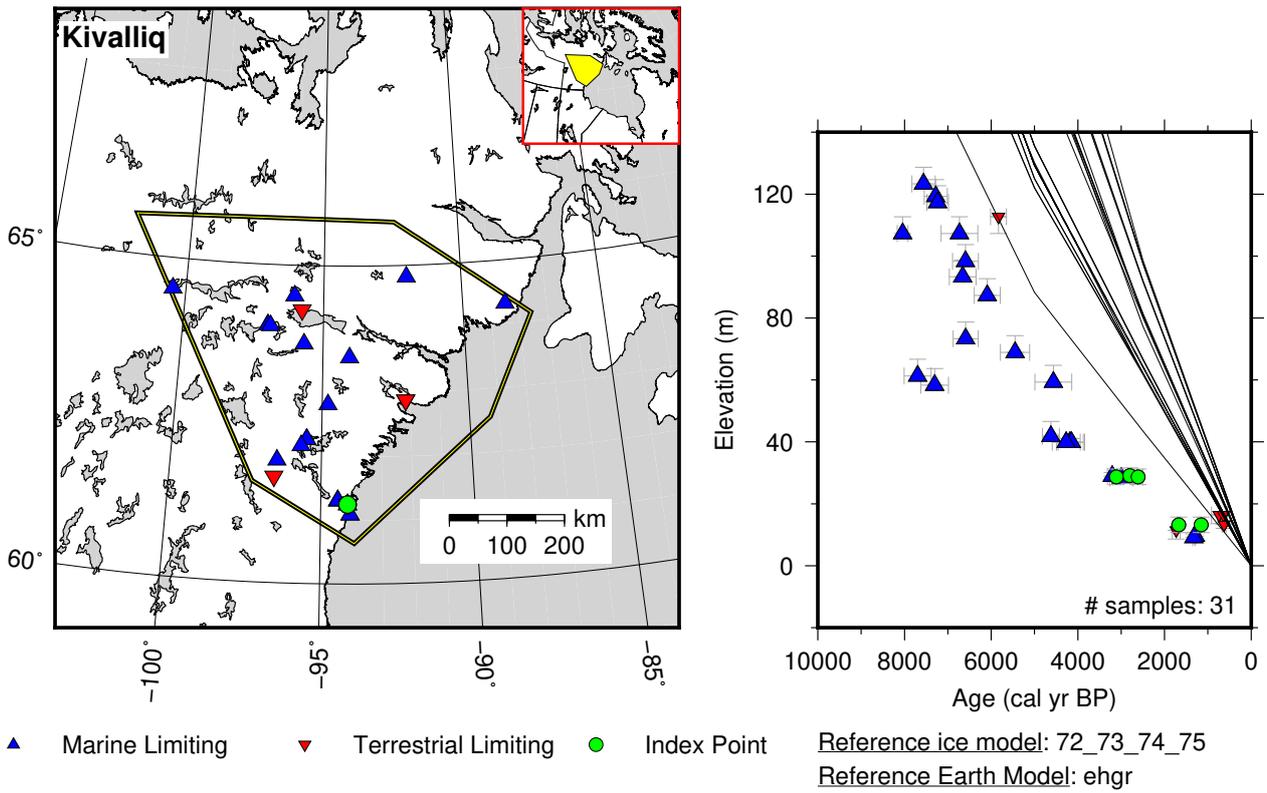


Figure 110: Paleo-sea level and comparison of six models for subregion Hudson Bay, location Kivalliq.

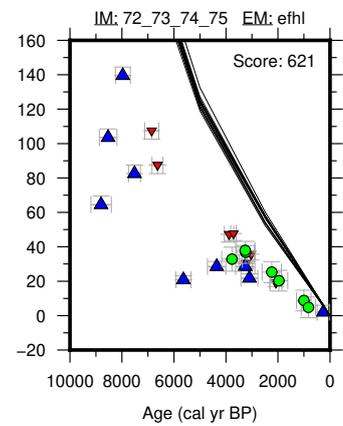
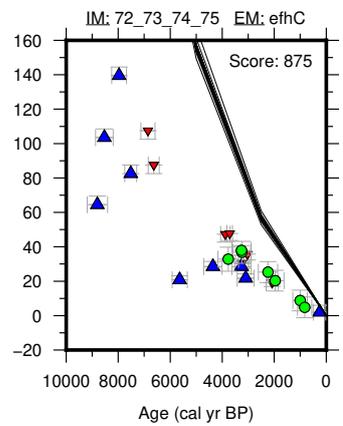
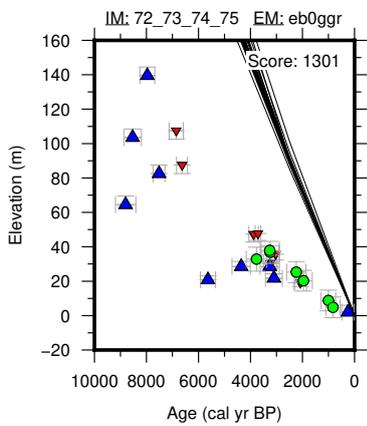
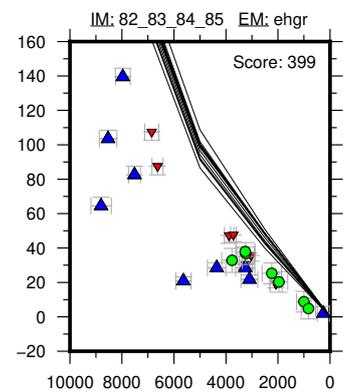
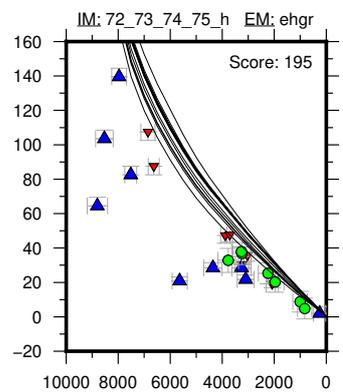
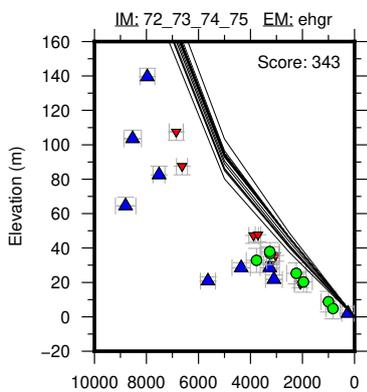
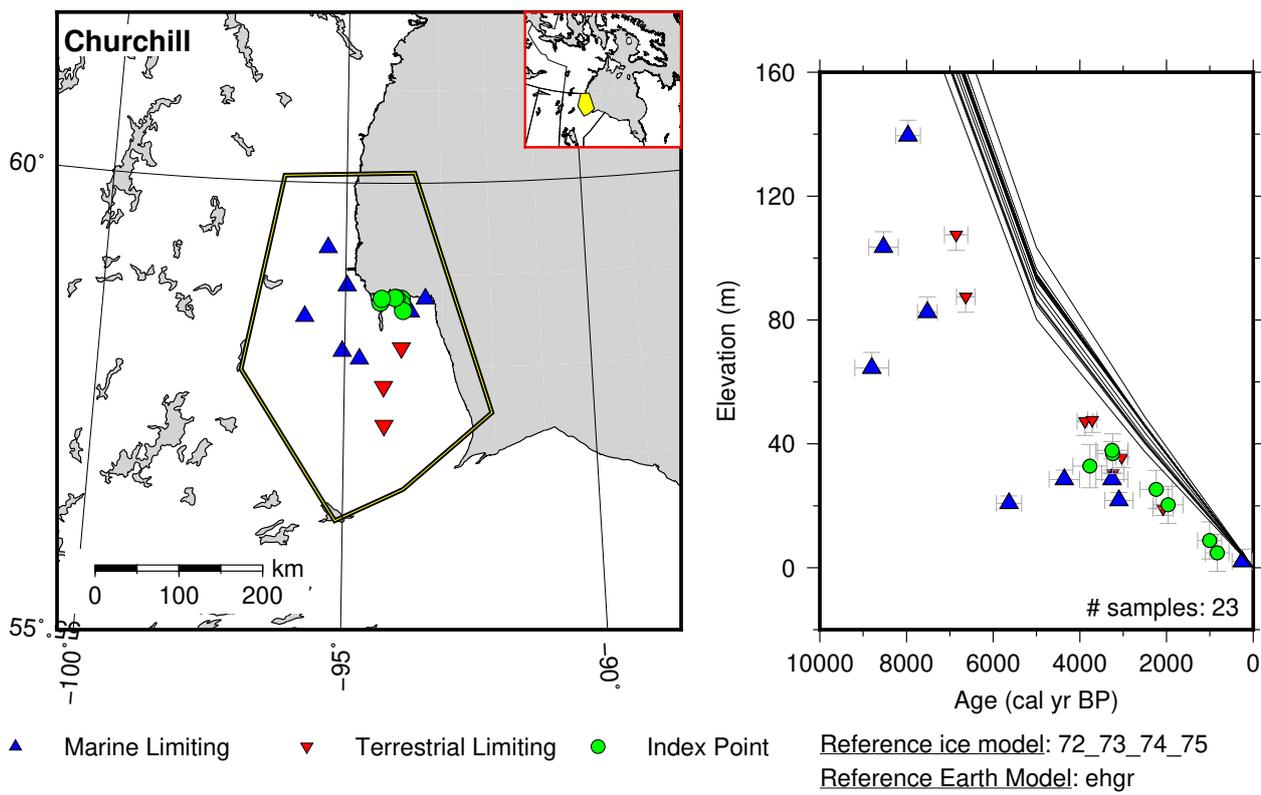


Figure 111: Paleo-sea level and comparison of six models for subregion Hudson Bay, location Churchill.

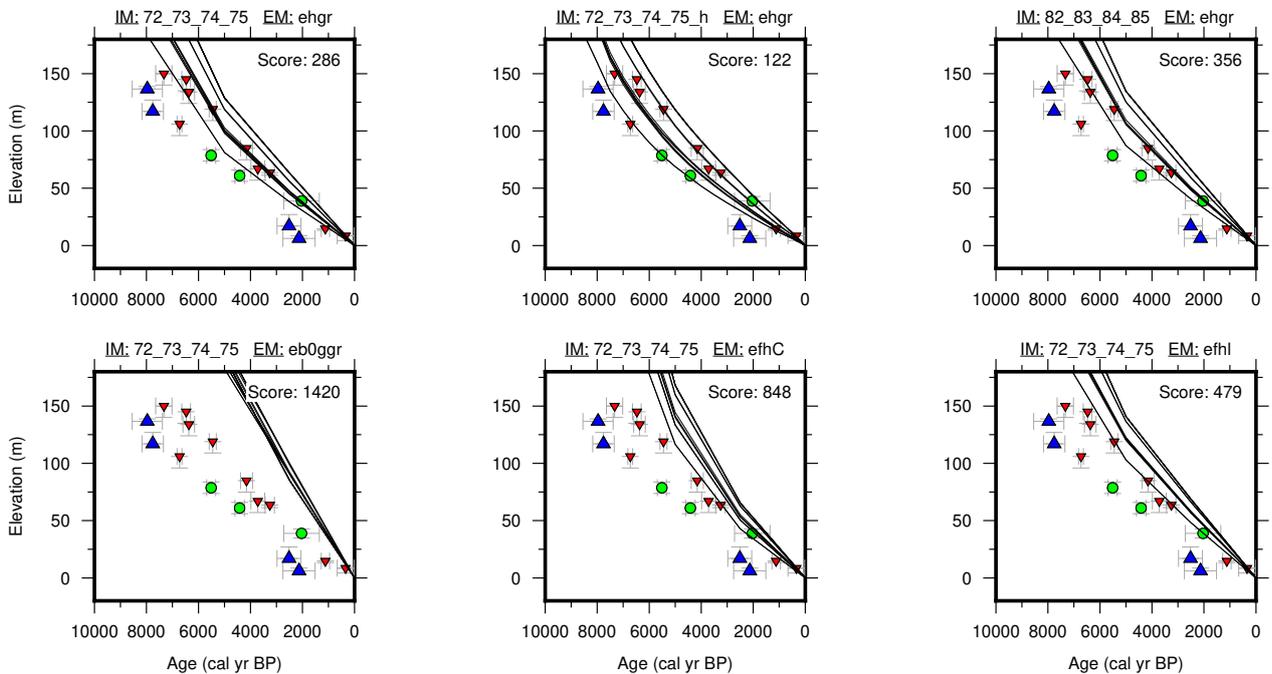
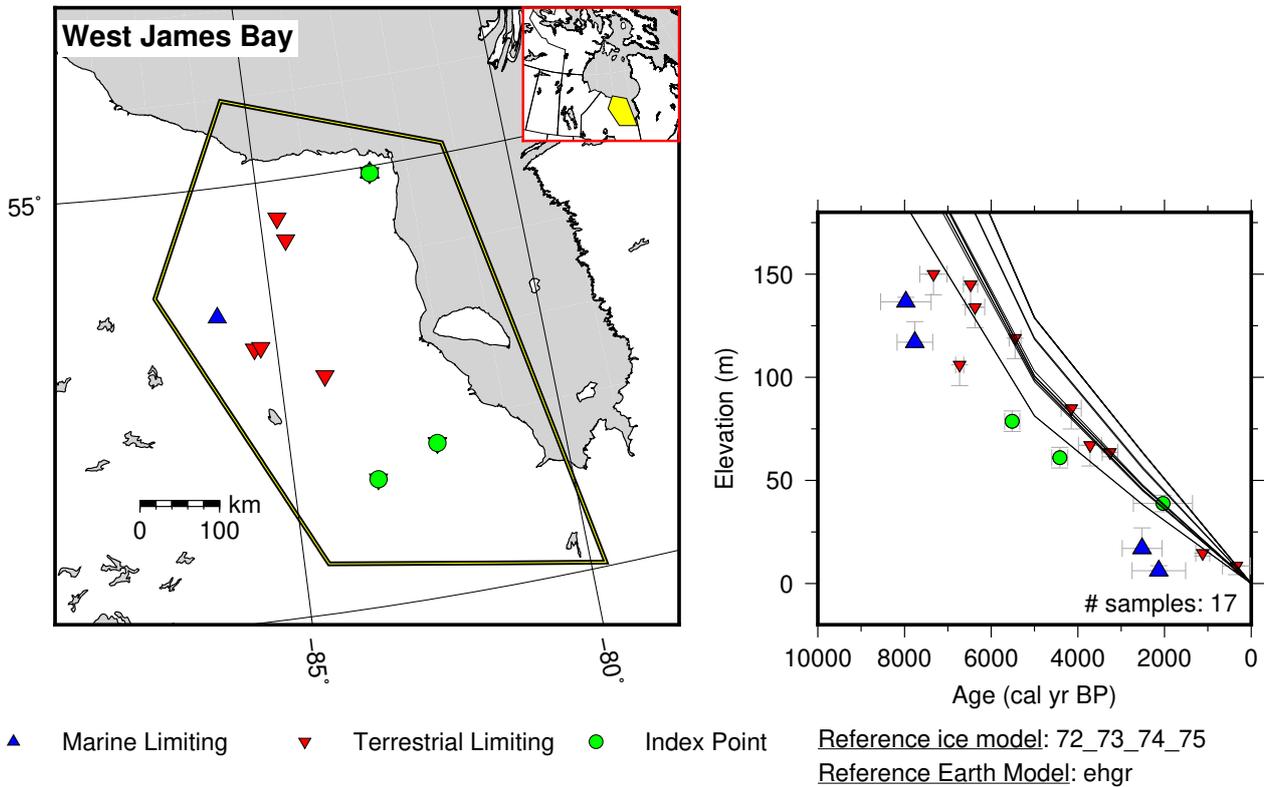


Figure 112: Paleo-sea level and comparison of six models for subregion Hudson Bay, location West James Bay.

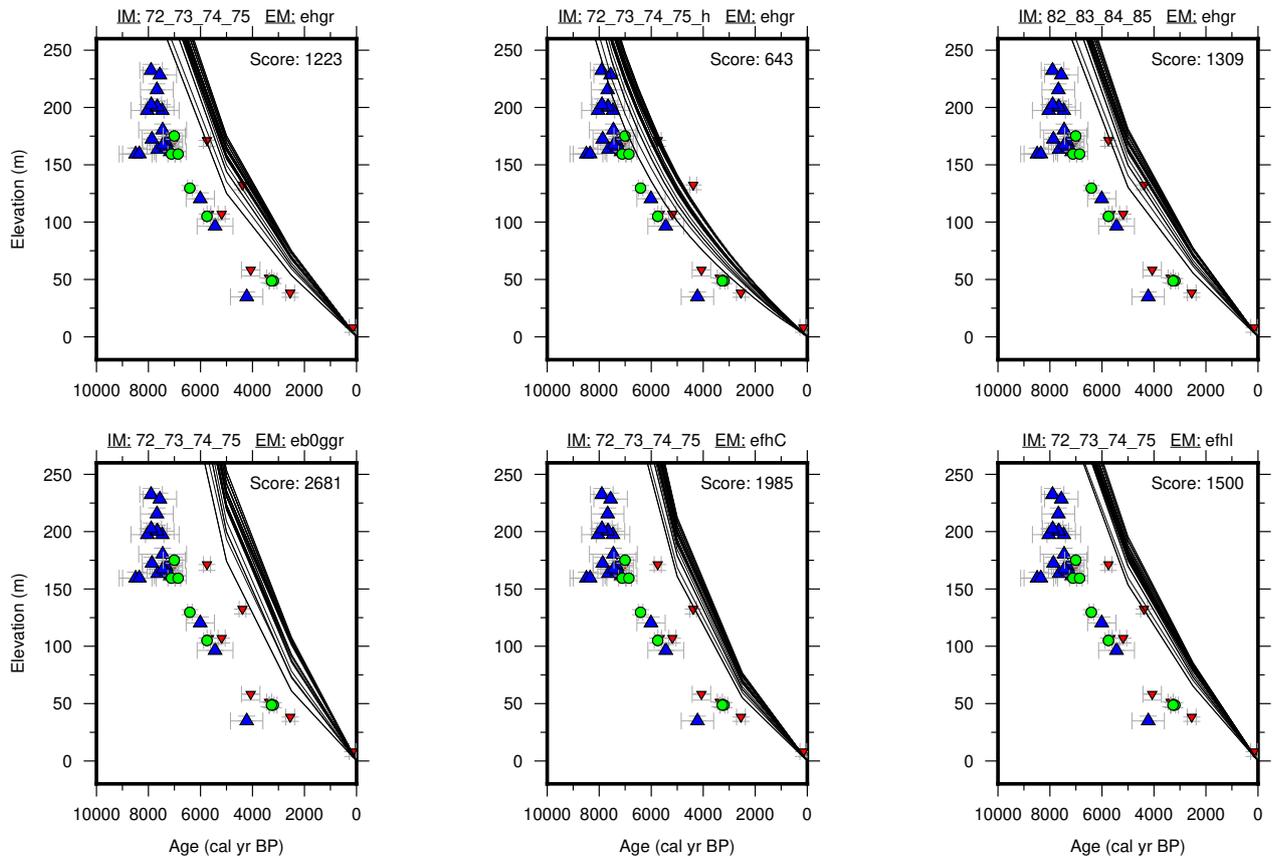
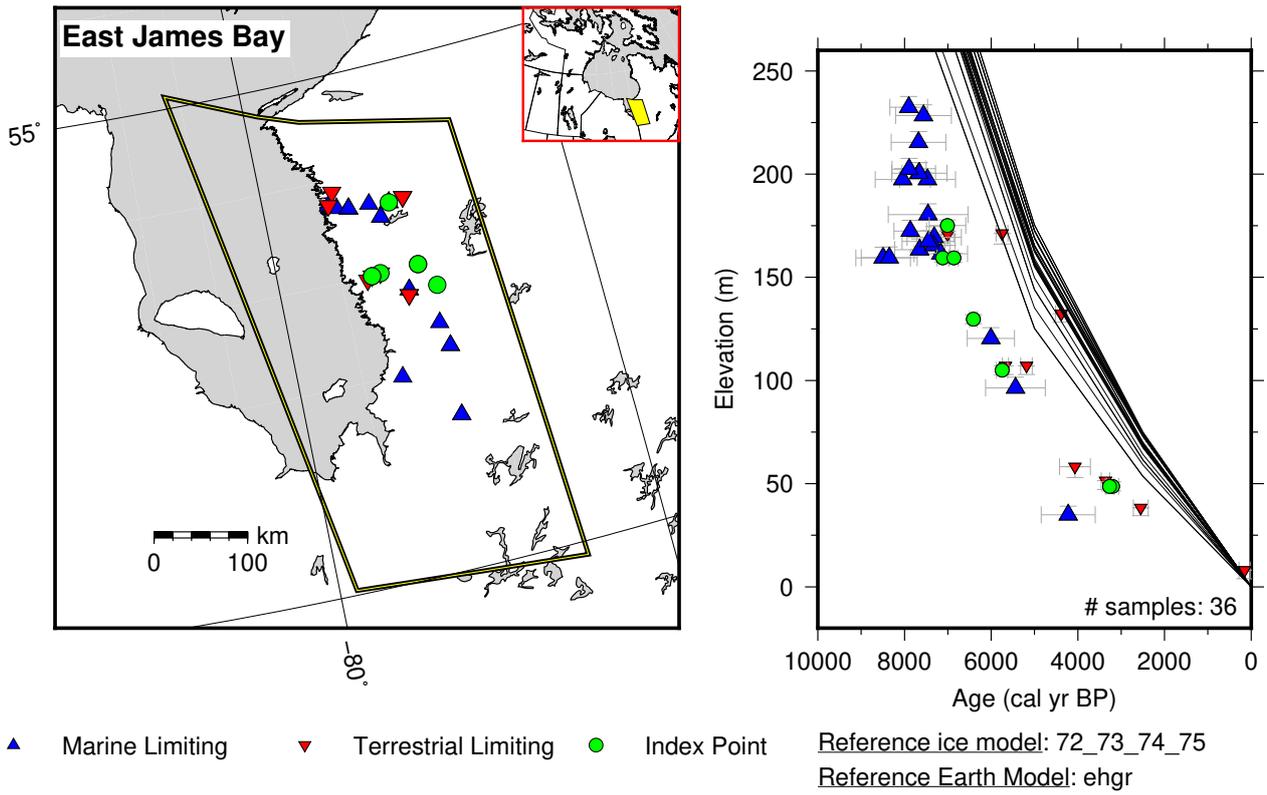


Figure 113: Paleo-sea level and comparison of six models for subregion Hudson Bay, location East James Bay.

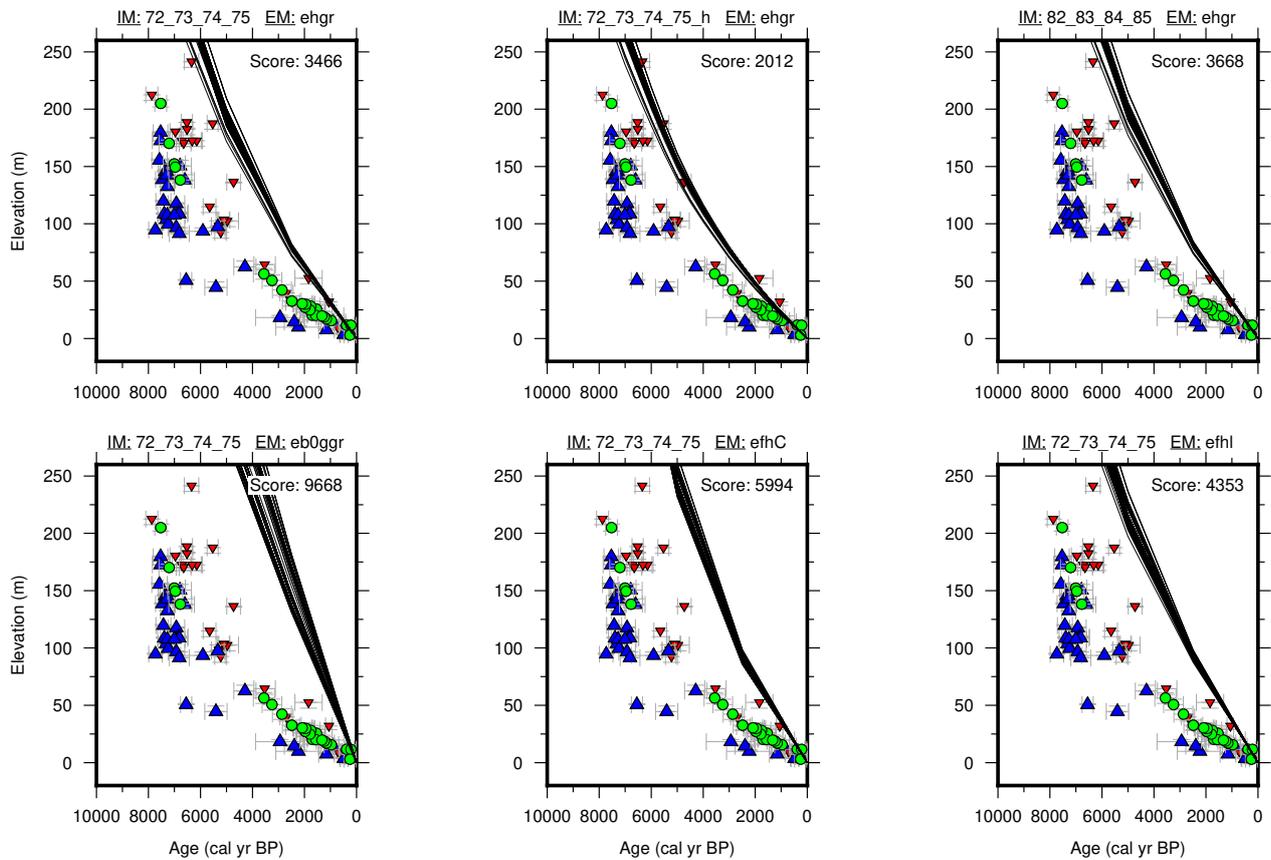
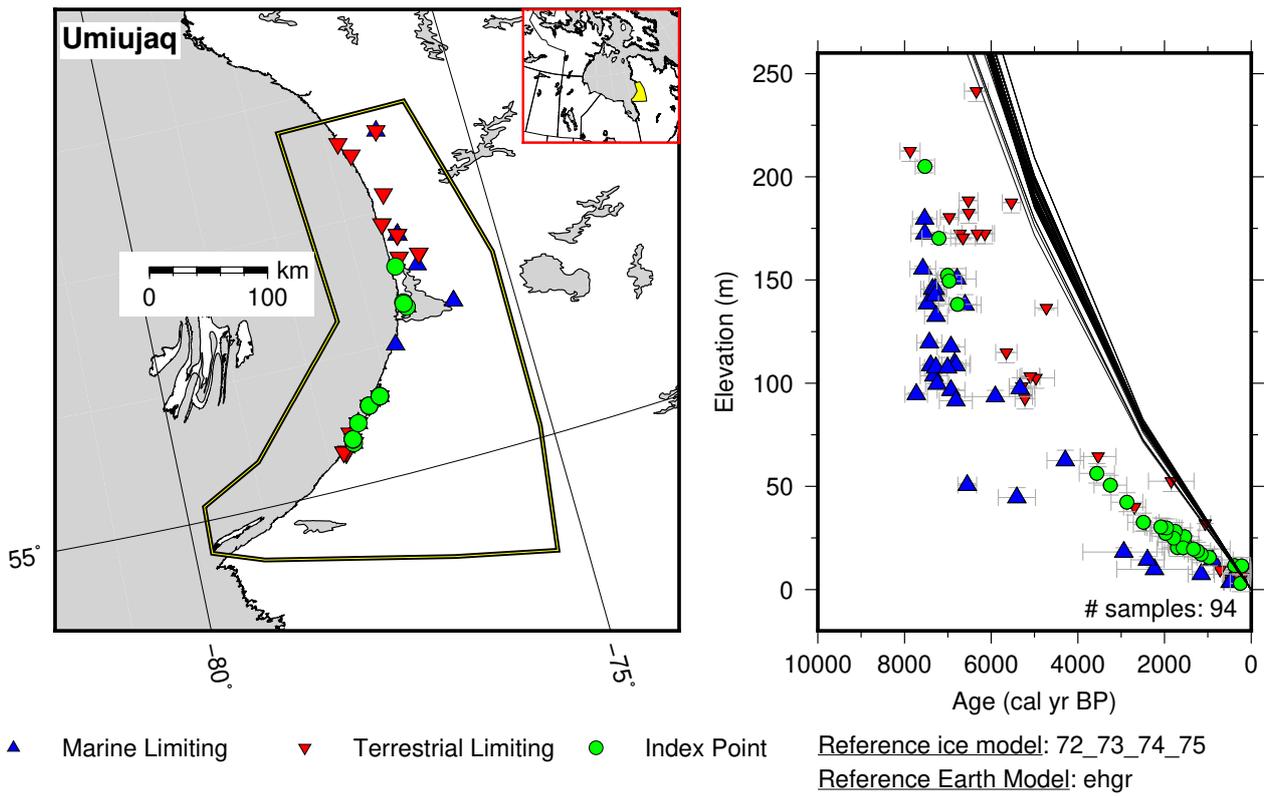


Figure 114: Paleo-sea level and comparison of six models for subregion Hudson Bay, location Umiujaq.

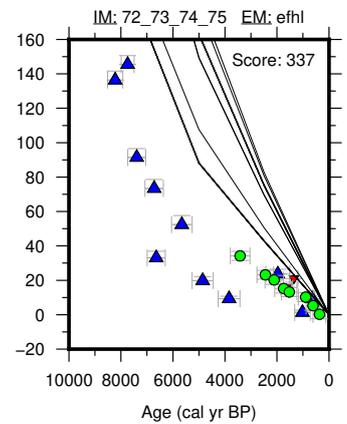
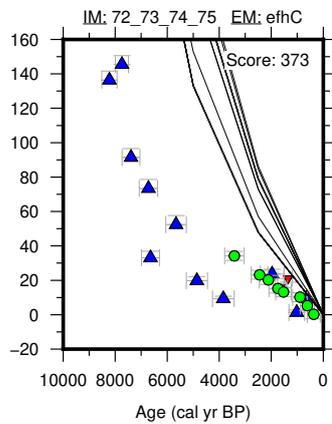
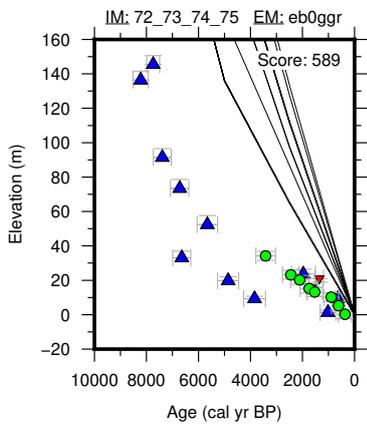
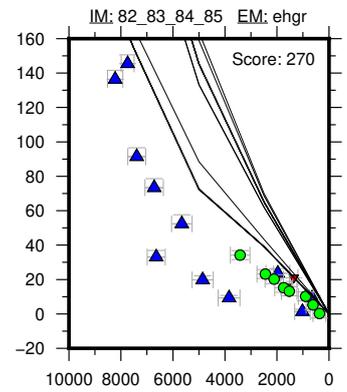
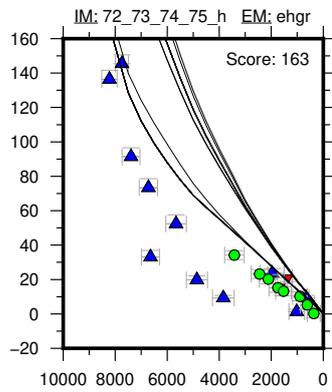
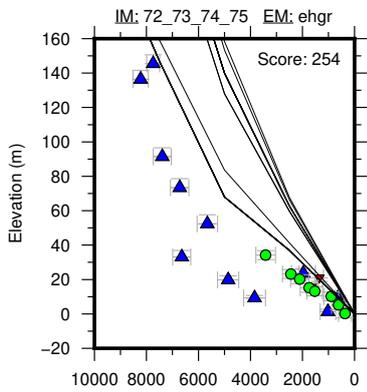
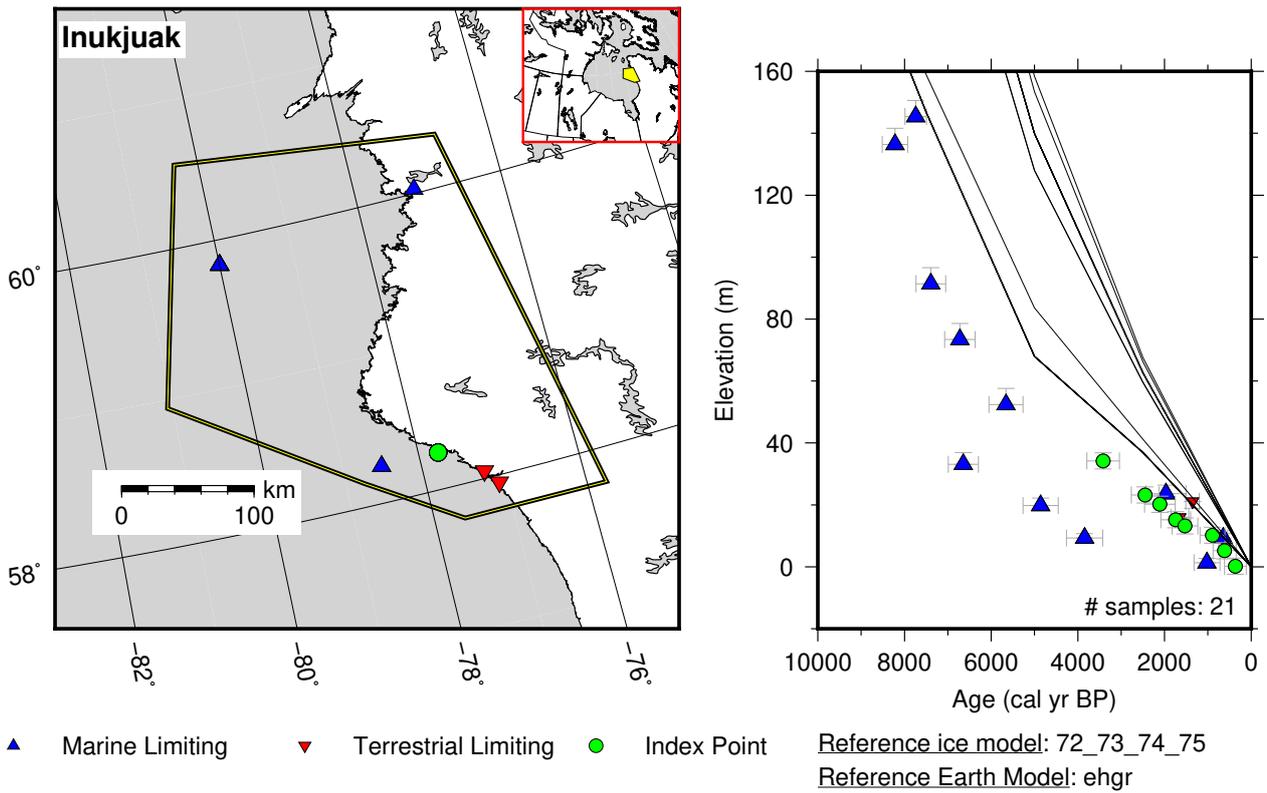


Figure 115: Paleo-sea level and comparison of six models for subregion Hudson Bay, location Inukjuak.

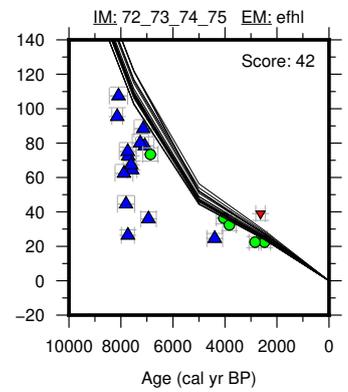
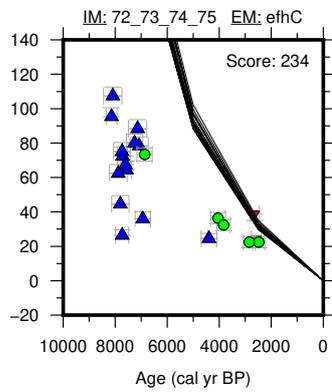
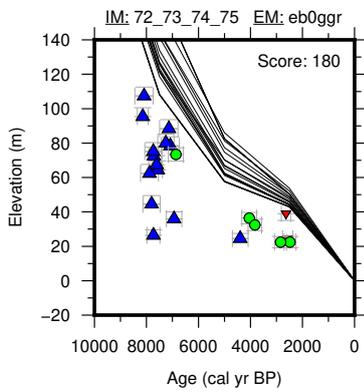
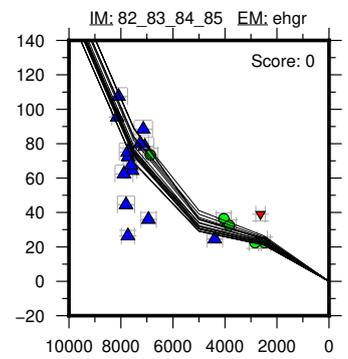
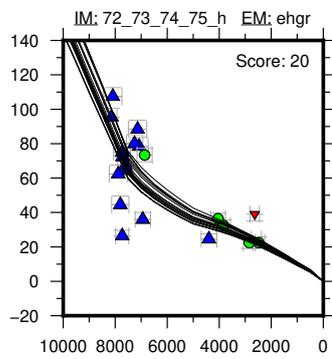
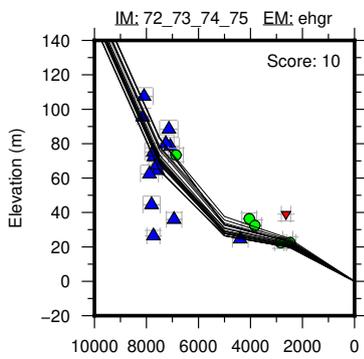
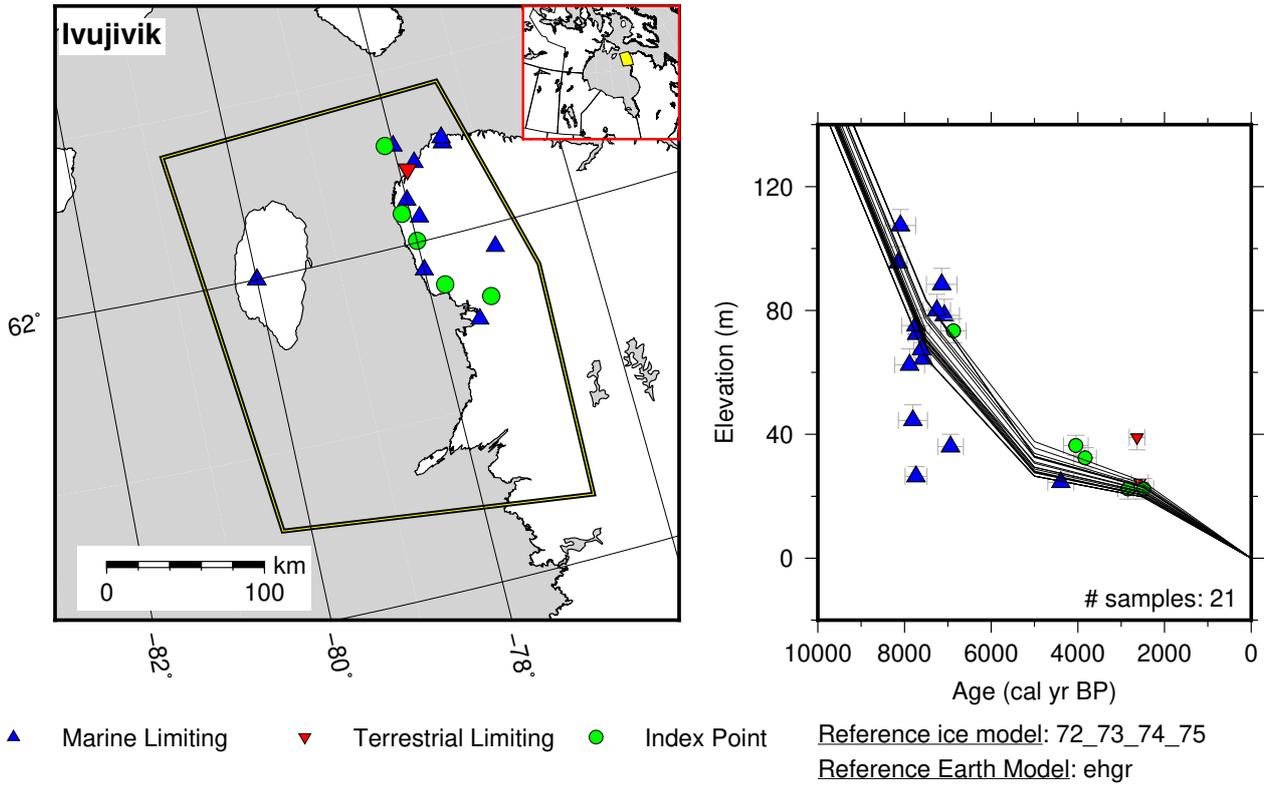


Figure 116: Paleo-sea level and comparison of six models for subregion Hudson Bay, location Ivujuvik.

## 11.4 Hudson Strait

References for the data used in each location.

**Sugluk:** Bartley and Matthews (1969); Daigneault (2008); Gray et al. (1993); Gray (2001); Gray and Lauriol (1985); Kasper and Allard (2001); Lauriol and Gray (1997); Lowdon and Blake (1968); Matthews (1966); McNeely and Brennan (2005); McNeely and McCuaig (1991); Ricard (1989); Simon et al. (2016)

**Kangijsujaq:** Gray et al. (1993); Gray (2001); Lauriol and Gray (1987); McNeely (2002, 2005); McNeely and Atkinson (1995); Vacchi et al. (2018)

**Western Ungava Bay:** Gray et al. (1980); Lauriol and Gray (1987); Lauriol et al. (1979); Løken (1978); Simon et al. (2016)

**Southern Ungava Bay:** Gray et al. (1993); Gray (2001); Pienitz et al. (1991); Simon et al. (2016)

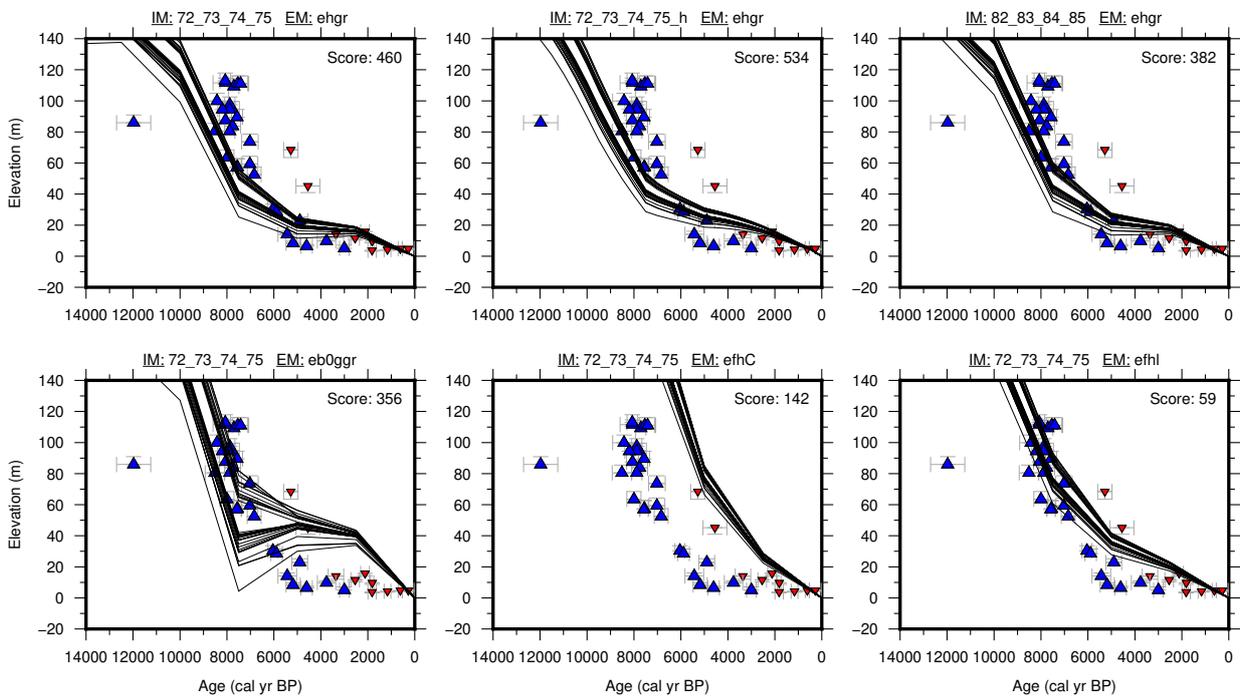
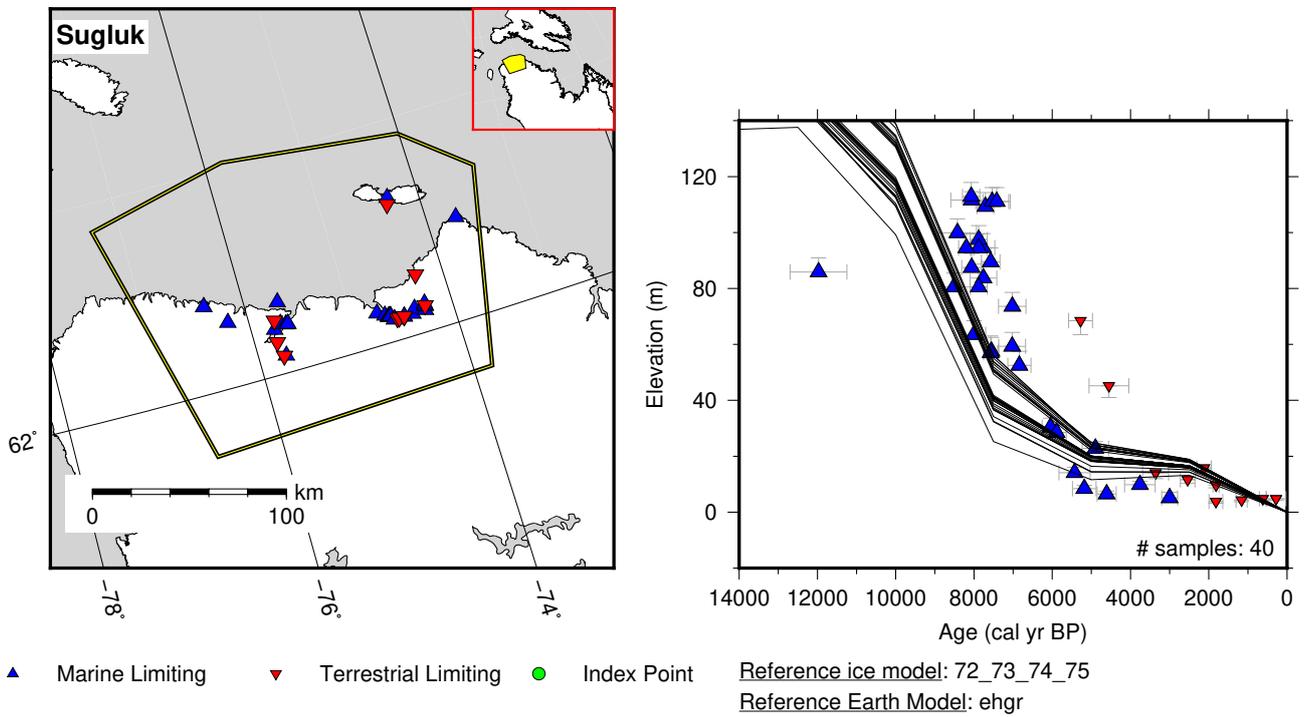


Figure 117: Paleo-sea level and comparison of six models for subregion Hudson Strait, location Sugluk.

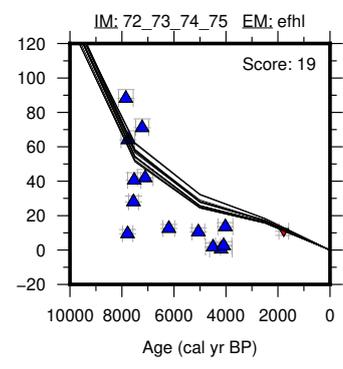
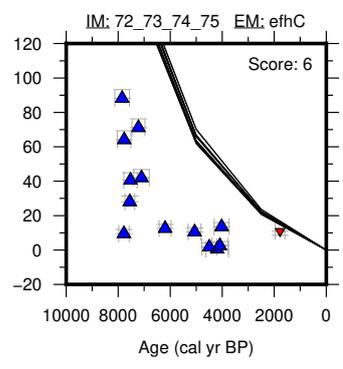
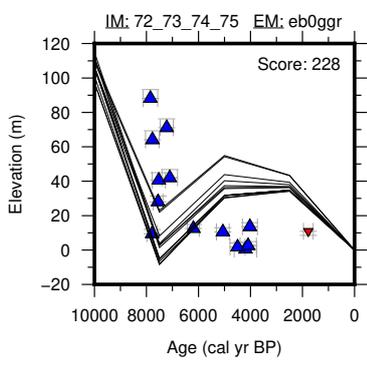
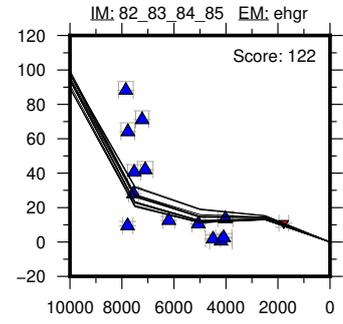
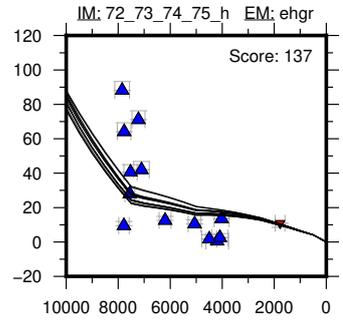
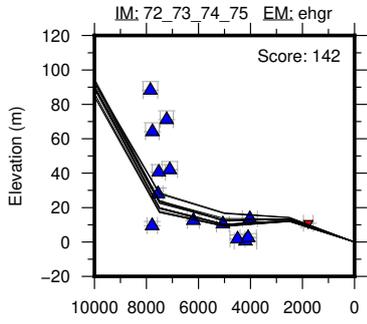
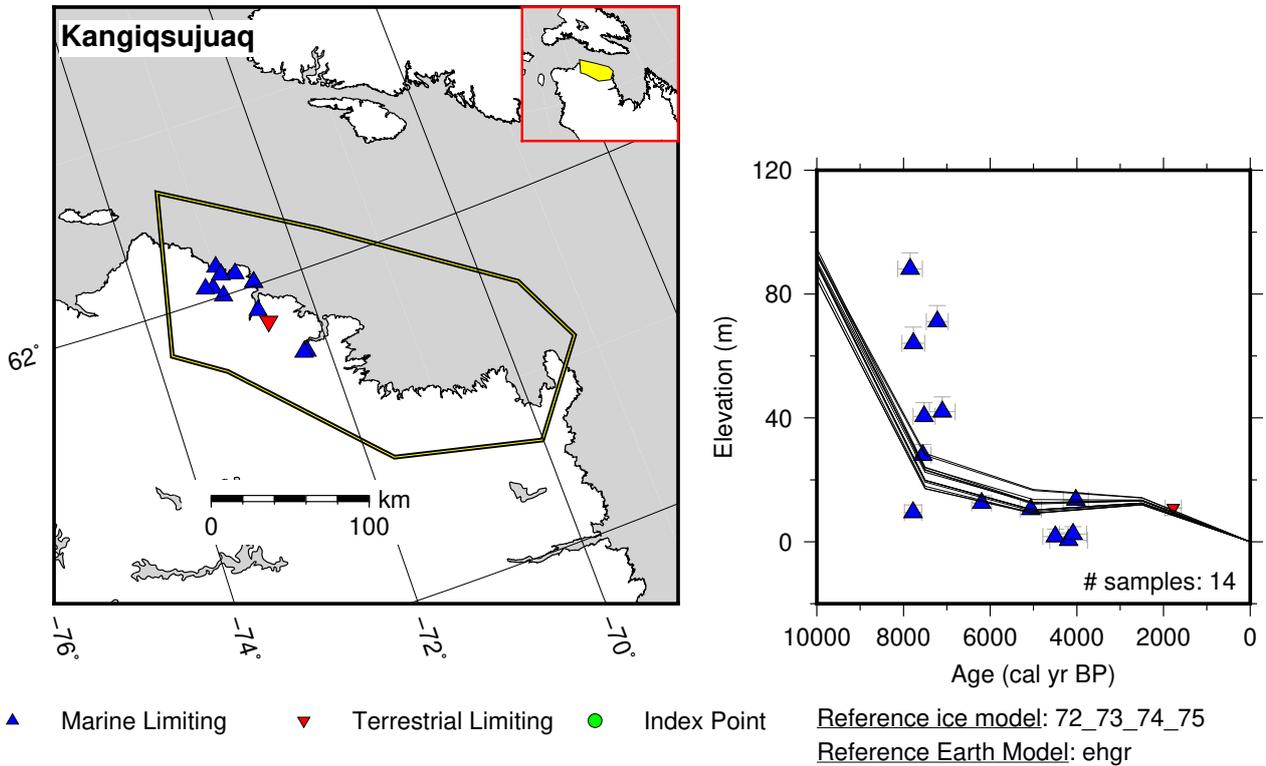


Figure 118: Paleo-sea level and comparison of six models for subregion Hudson Strait, location Kangiqsujuaq.

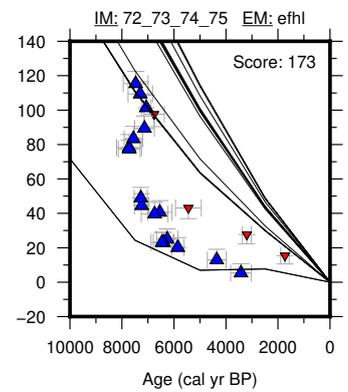
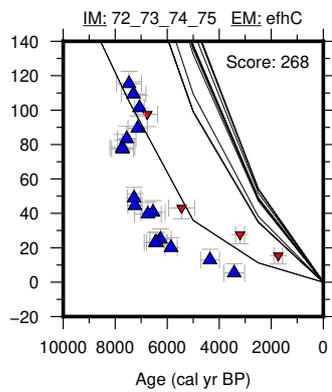
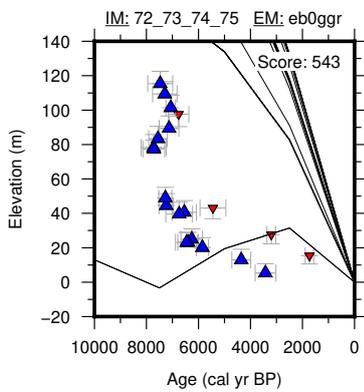
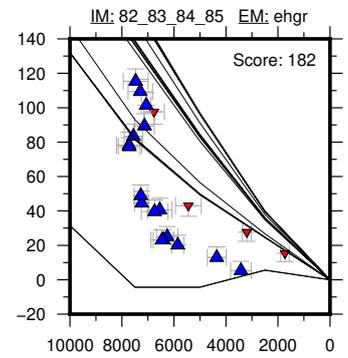
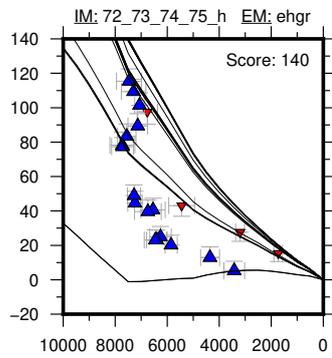
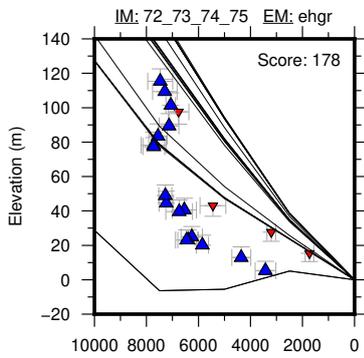
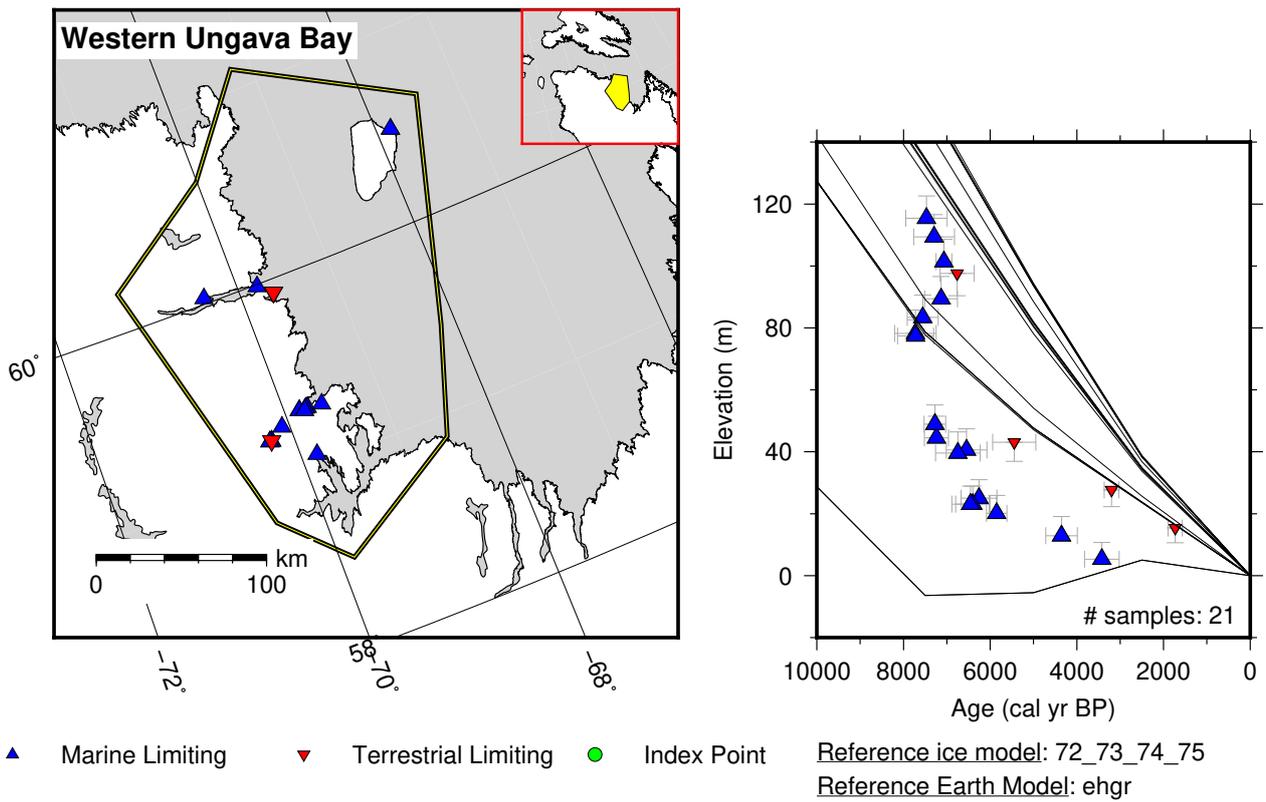
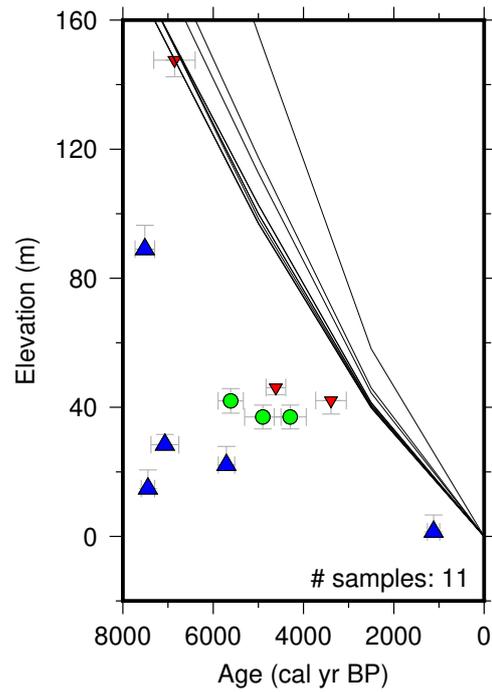
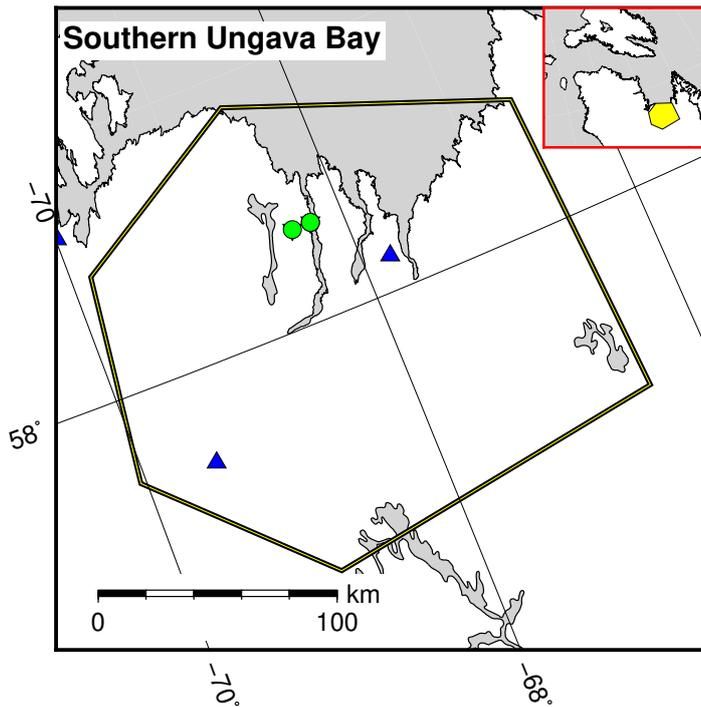


Figure 119: Paleo-sea level and comparison of six models for subregion Hudson Strait, location Western Ungava Bay.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

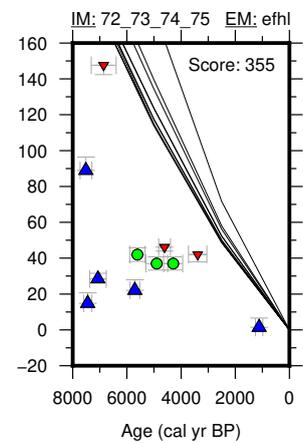
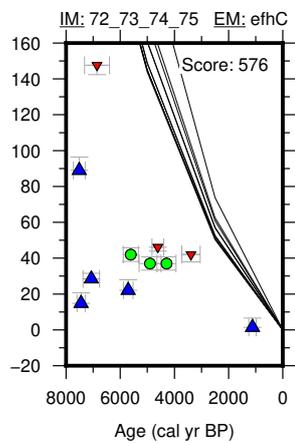
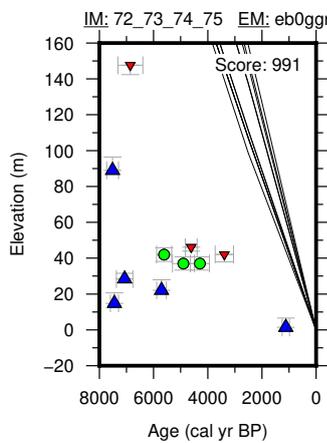
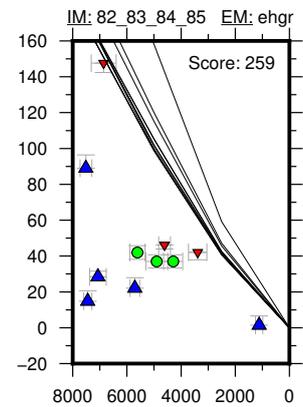
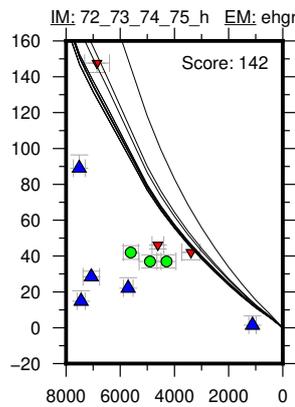
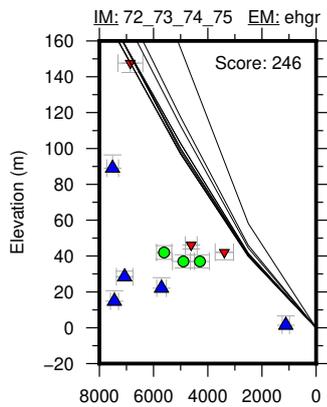


Figure 120: Paleo-sea level and comparison of six models for subregion Hudson Strait, location Southern Ungava Bay.

## 11.5 Labrador

References for the data used in each location.

**Torngat:** Dyke et al. (2003); Evans and Rogerson (1988); Lowdon and Blake (1975); Martindale et al. (2020); McNeely and Brennan (2005); Savoie and Gangloff (1980); Vacchi et al. (2018)

**Nain:** Clark and Fitzhugh (1990); Martindale et al. (2020)

**Hamilton Inlet:** Fitzhugh (1972, 1975); Lowdon and Blake (1975); Martindale et al. (2020); McNeely and Brennan (2005)

**Lake Melville:** Awadallah and Batterson (1990); Batterson (1996); Jordan (1975); King (1985); Liverman (1997); Lowdon and Blake (1975); Martindale et al. (2020); McNeely and Brennan (2005)

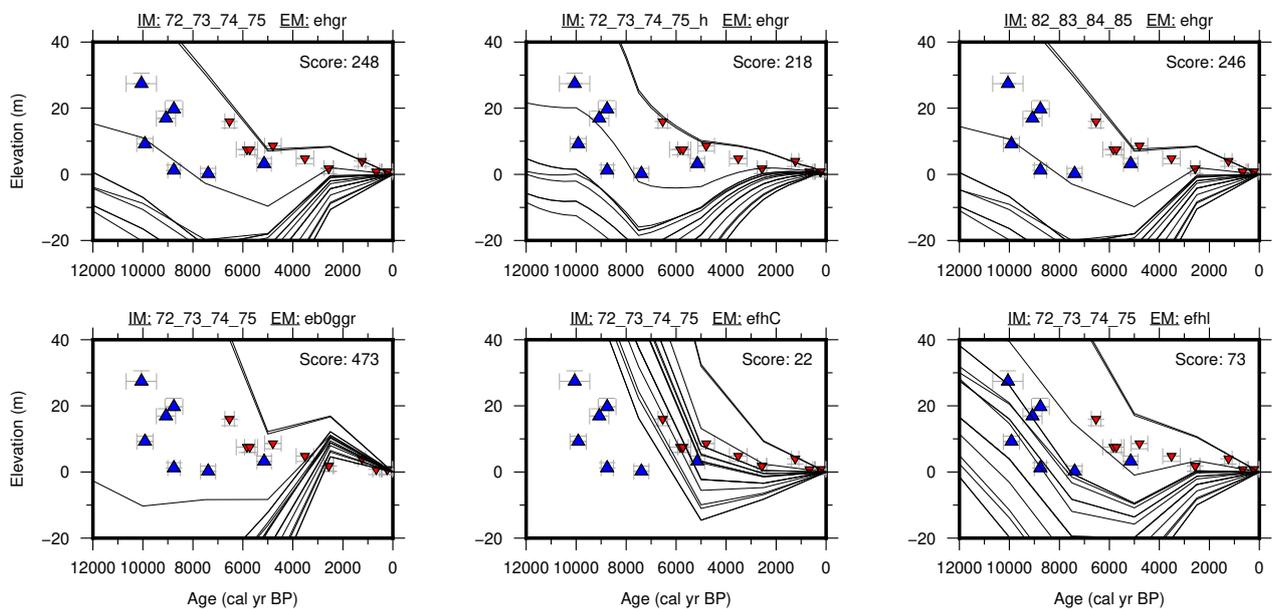
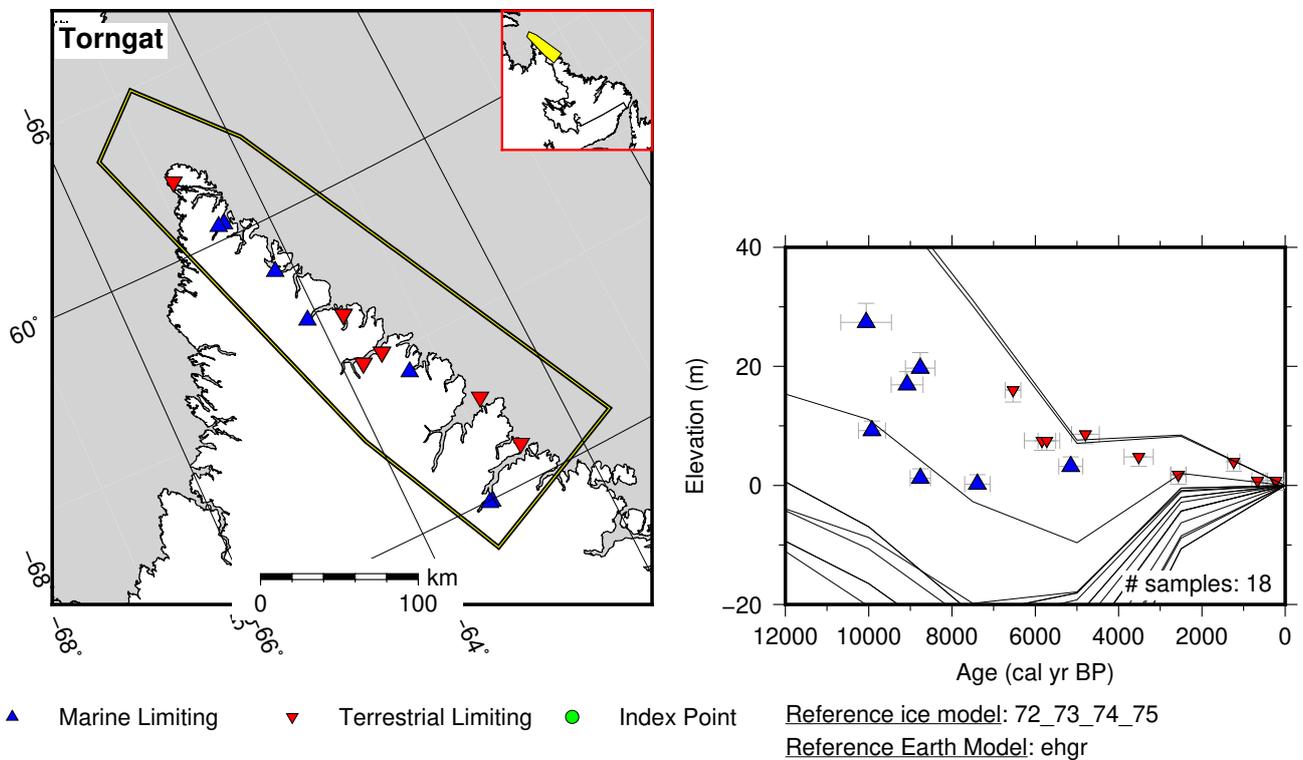


Figure 121: Paleo-sea level and comparison of six models for subregion Labrador, location Torngat.

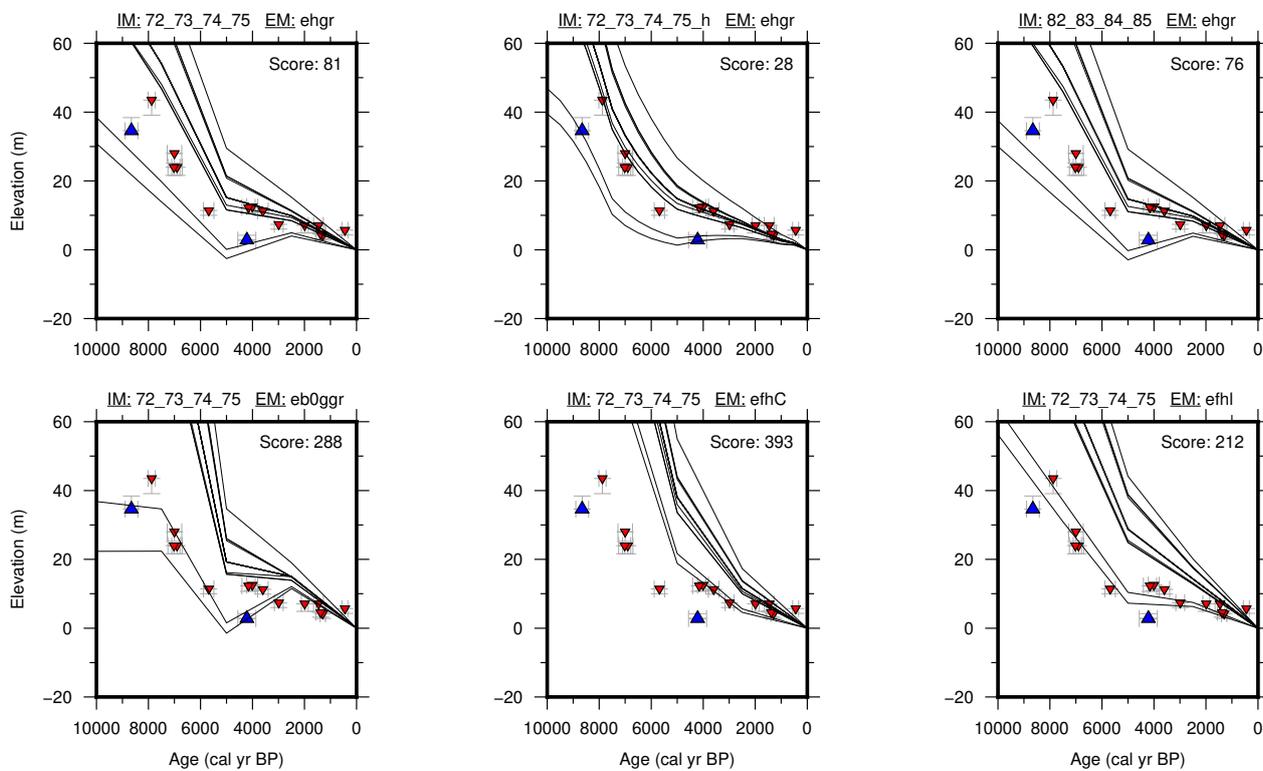
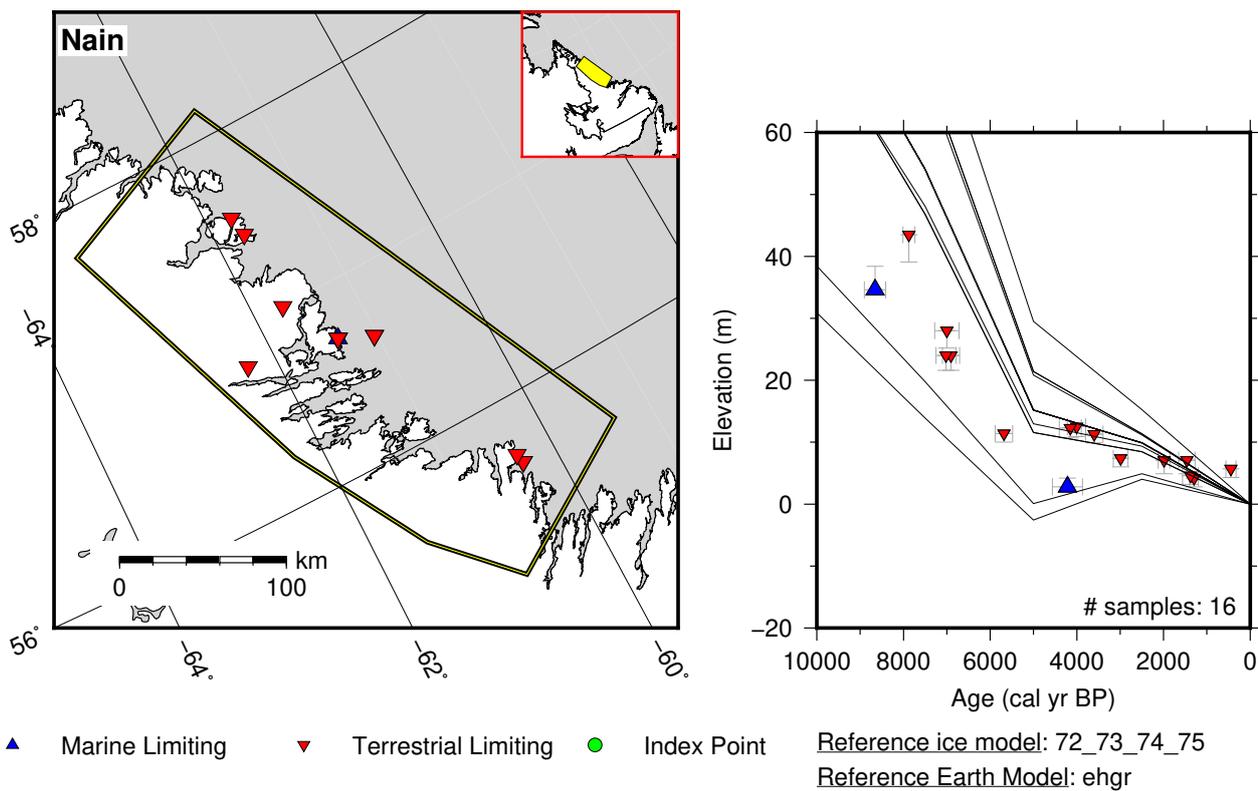


Figure 122: Paleo-sea level and comparison of six models for subregion Labrador, location Nain.

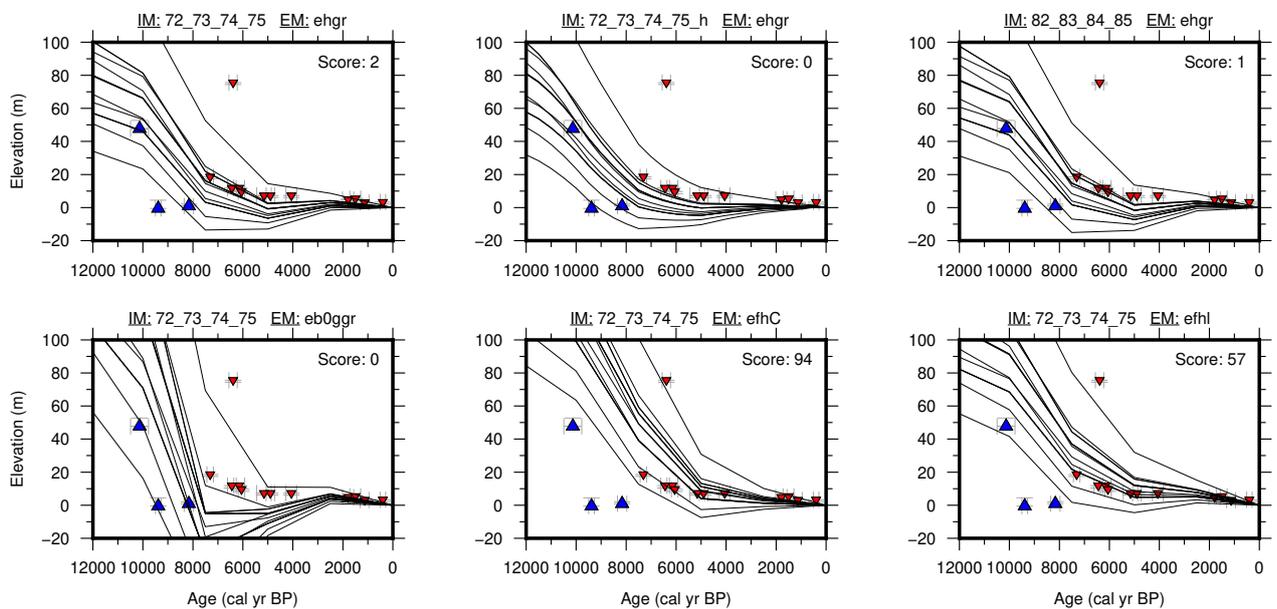
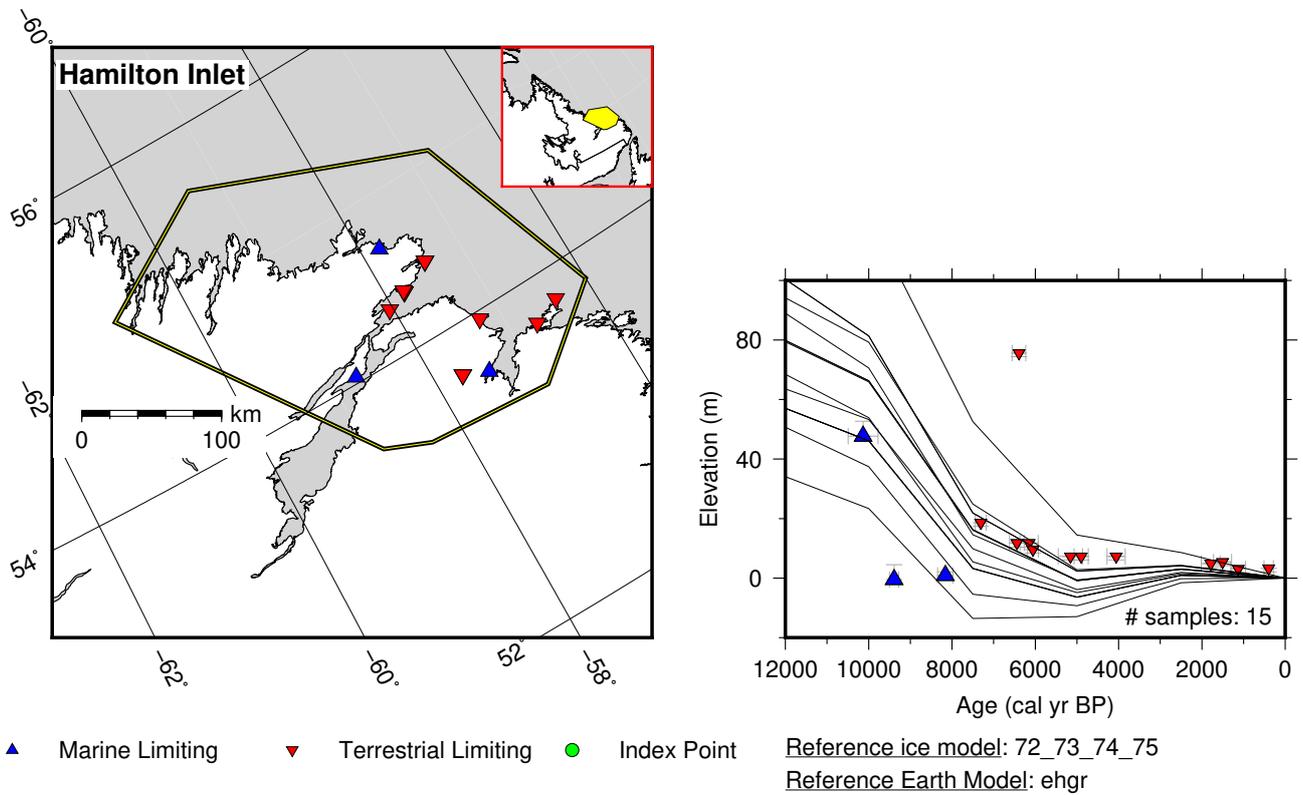


Figure 123: Paleo-sea level and comparison of six models for subregion Labrador, location Hamilton Inlet.

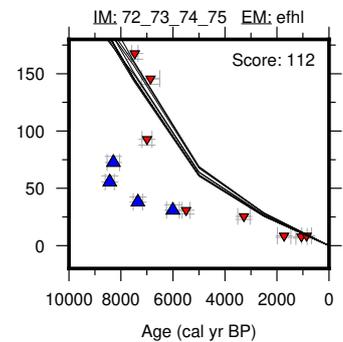
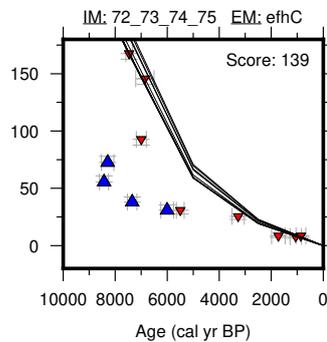
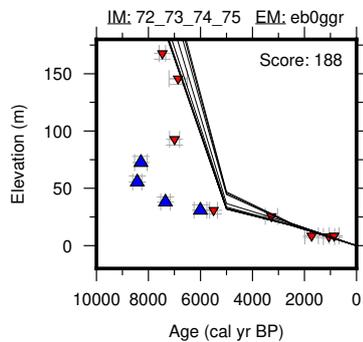
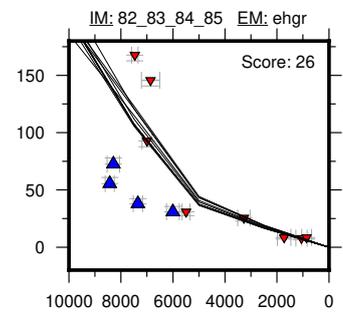
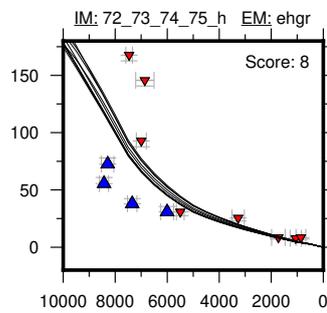
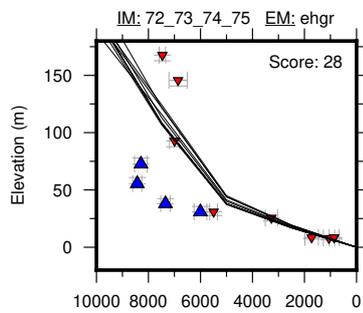
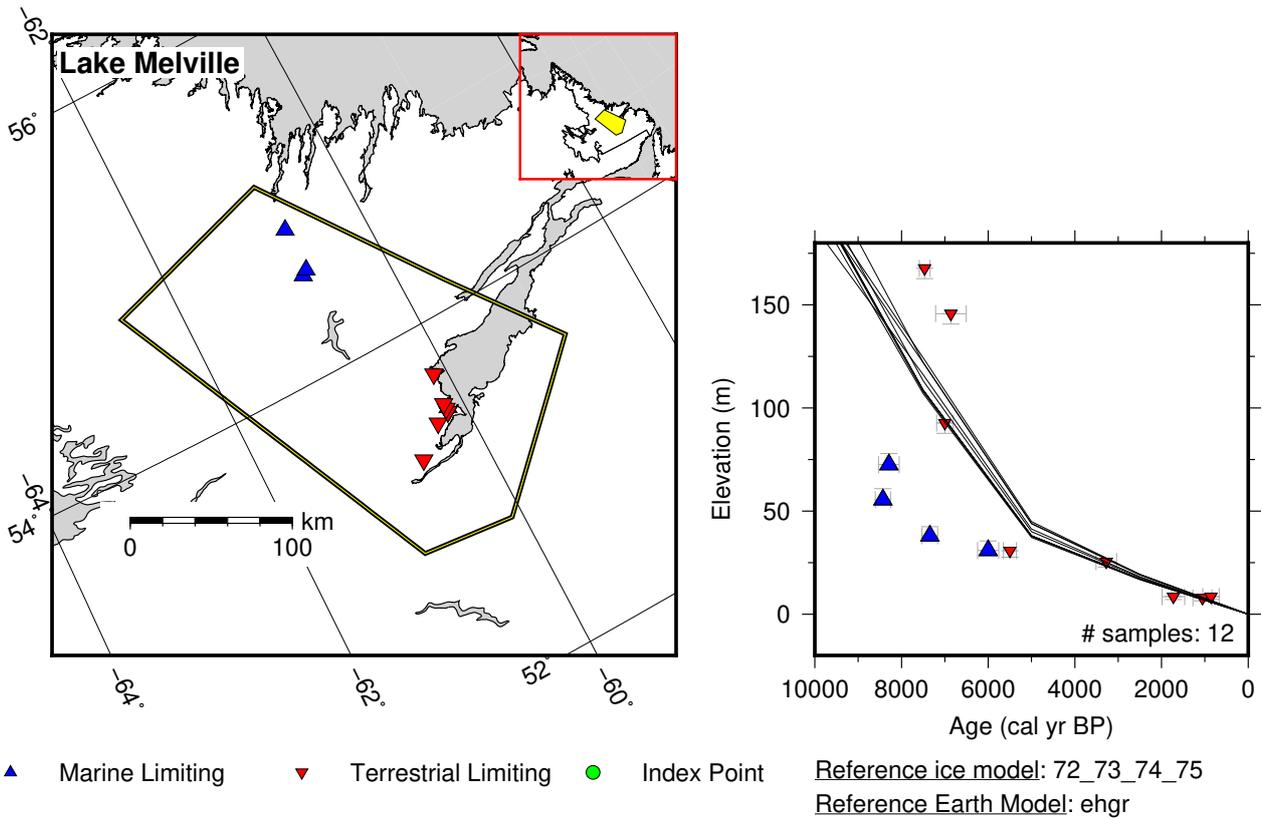


Figure 124: Paleo-sea level and comparison of six models for subregion Labrador, location Lake Melville.

## 11.6 Maritimes

References for the data used in each location.

**Sable Island:** Amos and Miller (1990); Scott et al. (1984, 1989); Vacchi et al. (2018)

**Halifax:** Blake (1988); Edgecombe et al. (1999); Gehrels et al. (2004, 2005); Miller et al. (1982); Scott and Medioli (1982); Scott et al. (1995); Shaw et al. (1993)

**Shelburne:** Blake (1983); Lowdon and Blake (1970); Scott and Greenberg (1983)

**Cumberland:** Dalrymple and Zaitlin (1994); Scott and Greenberg (1983); Shaw et al. (2010); Stea and Wightman (1987); Stuckenrath et al. (1966)

**Passamaquoddy Bay:** Blake (1984); Gehrels et al. (2004); Martindale et al. (2020); McNeely (2005); Miller (1990); Nicks (1991); Rampton et al. (1984); Seaman (2004); Stea and Mott (1998)

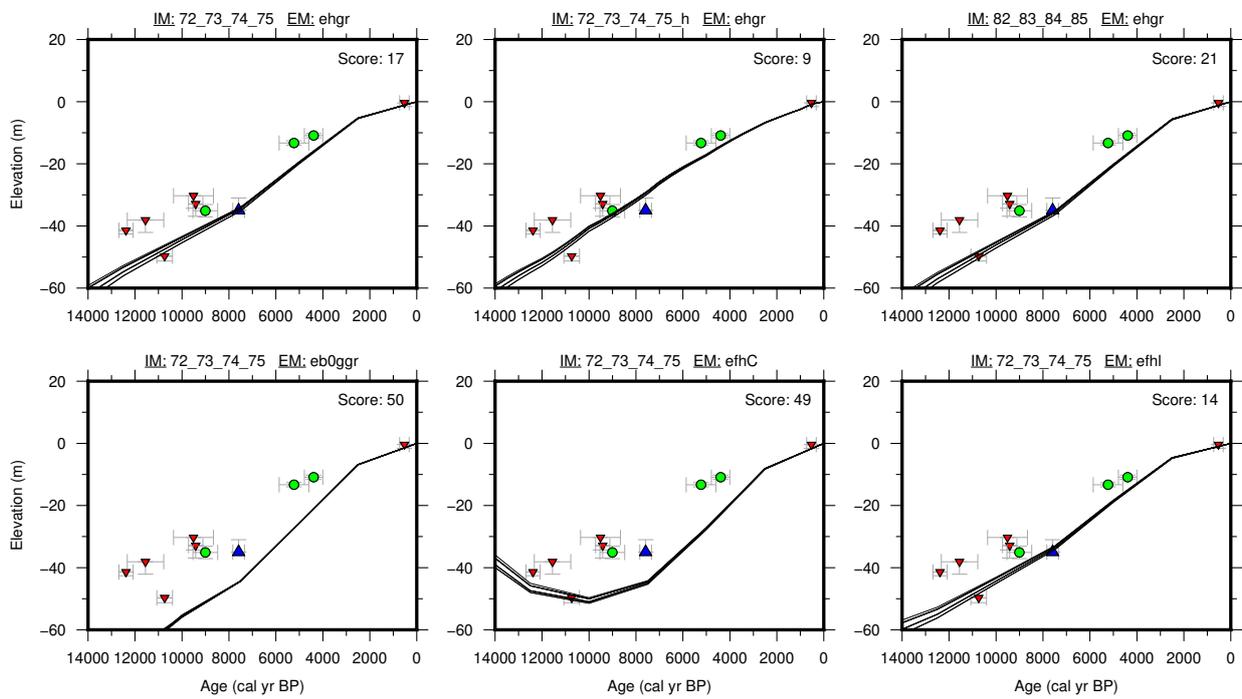
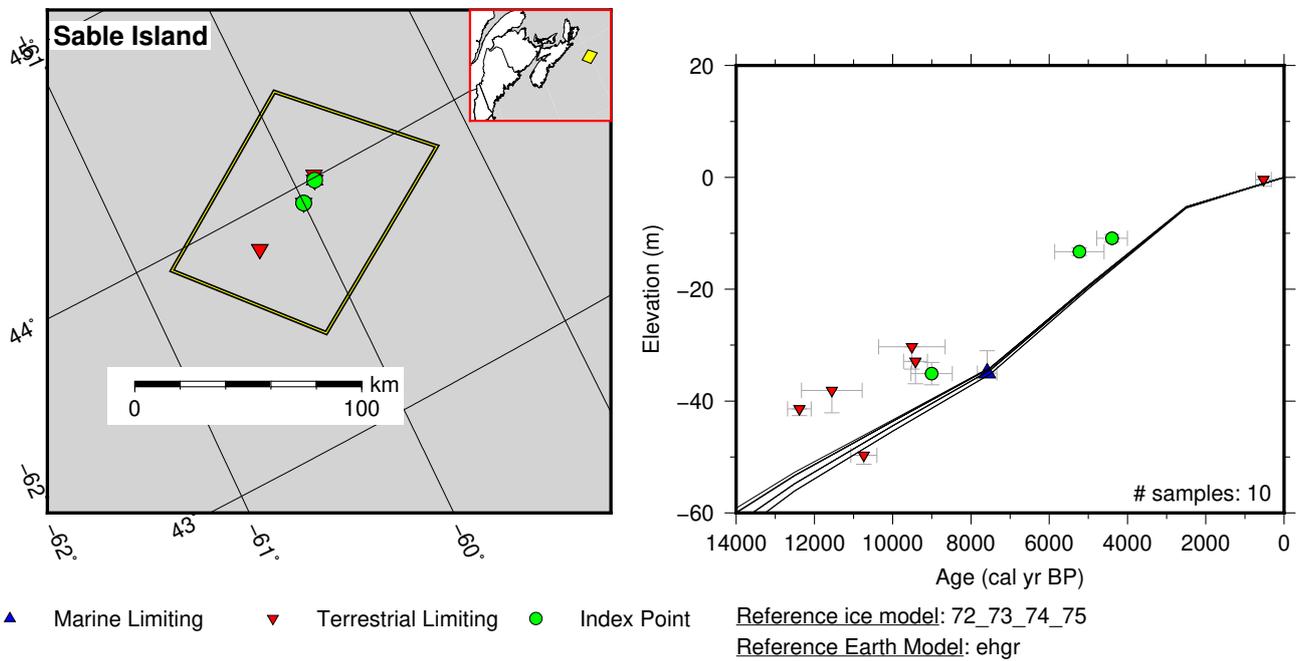
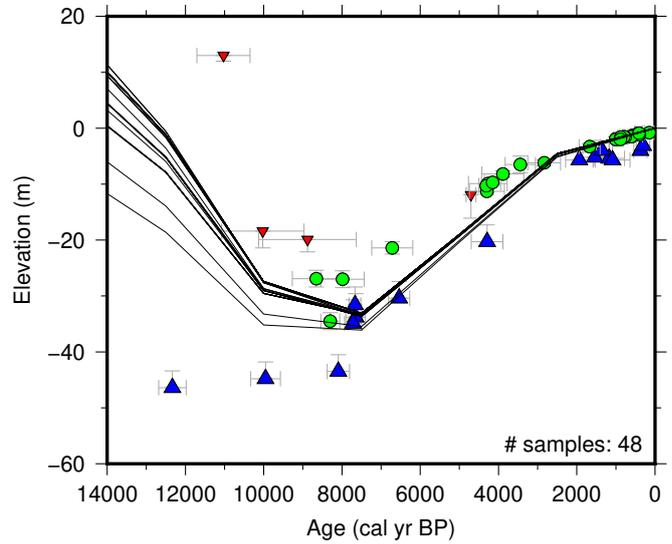
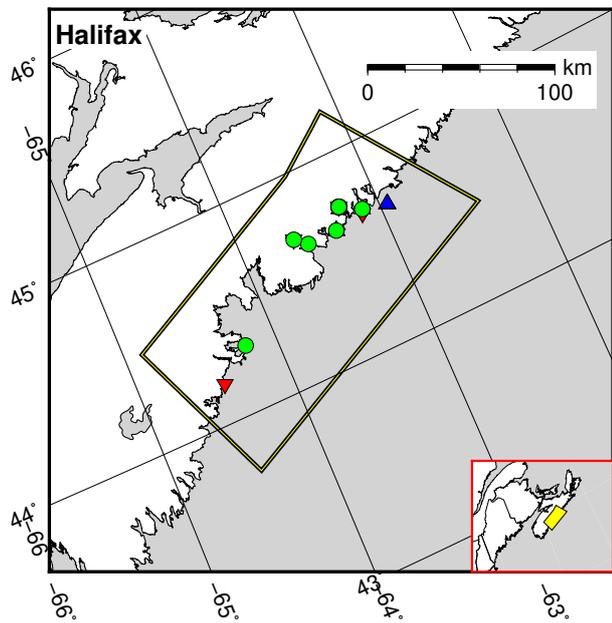


Figure 125: Paleo-sea level and comparison of six models for subregion Maritimes, location Sable Island.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

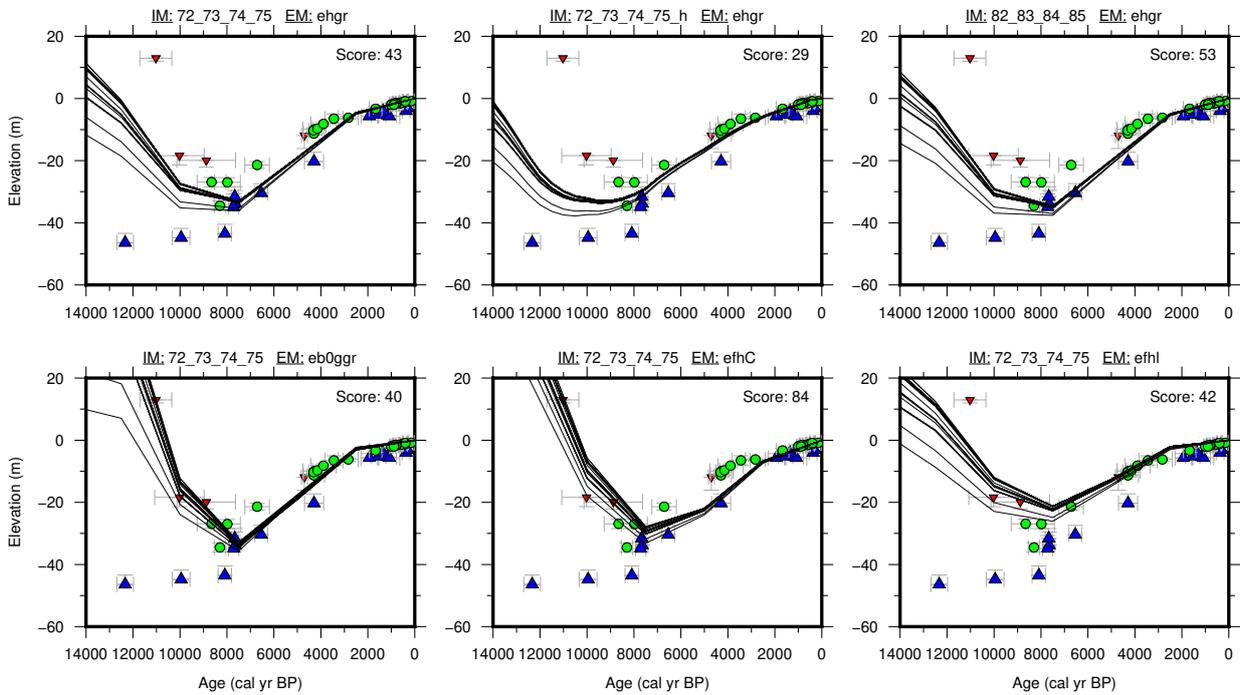
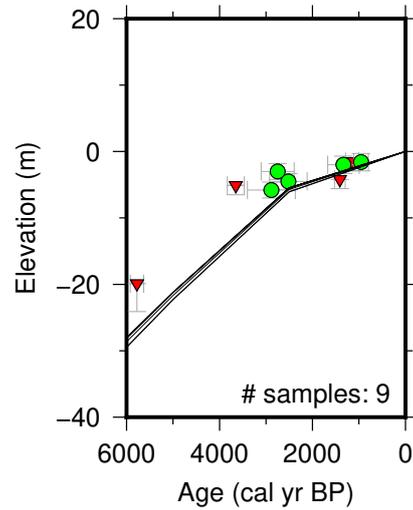
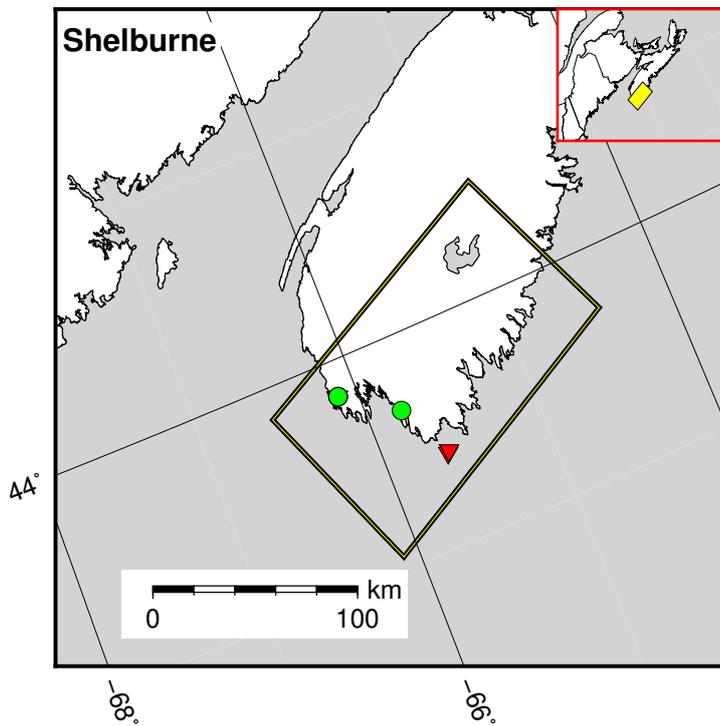


Figure 126: Paleo-sea level and comparison of six models for subregion Maritimes, location Halifax.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

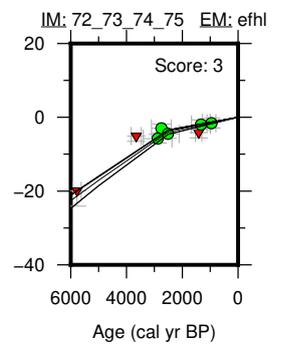
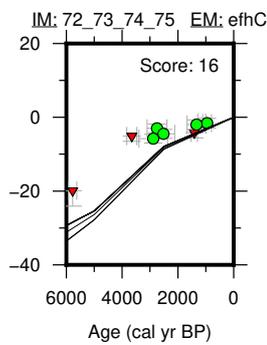
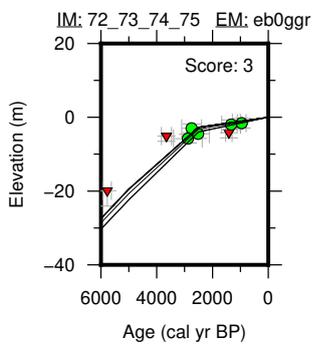
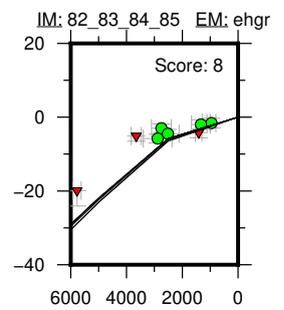
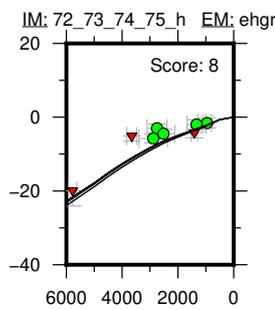
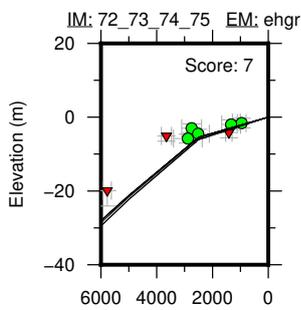
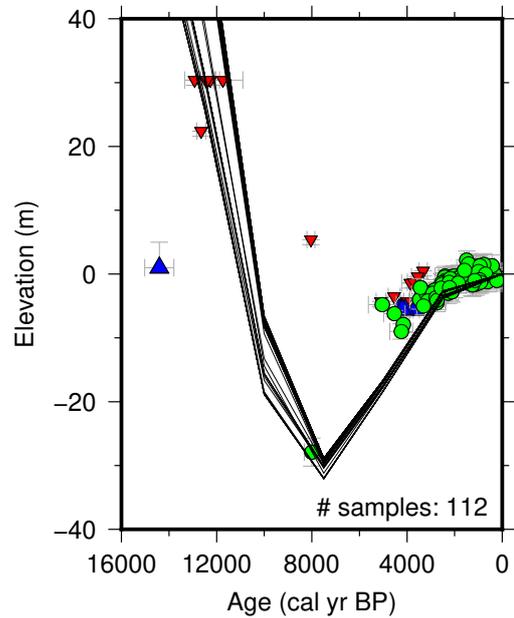
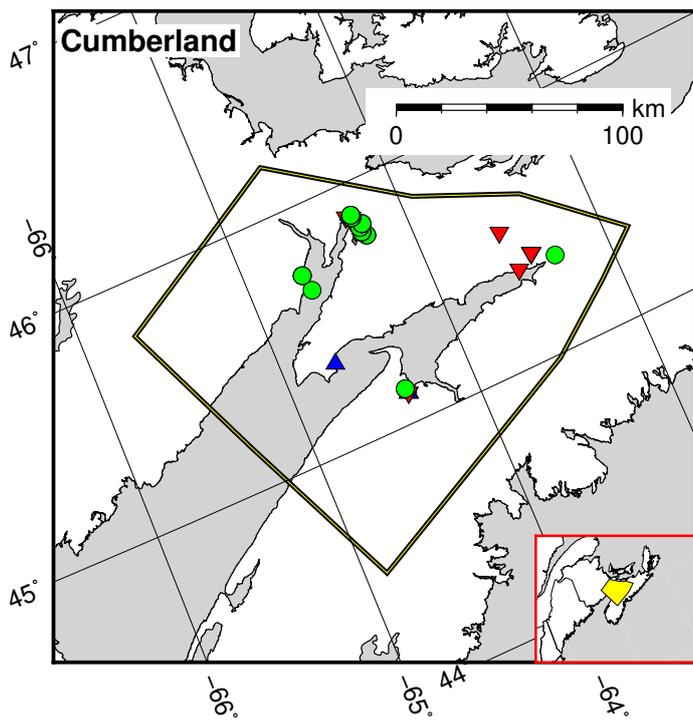


Figure 127: Paleo-sea level and comparison of six models for subregion Maritimes, location Shelburne.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

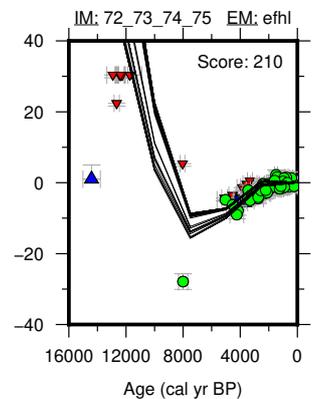
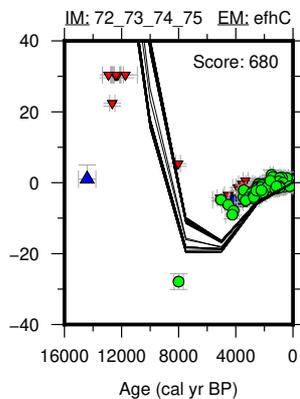
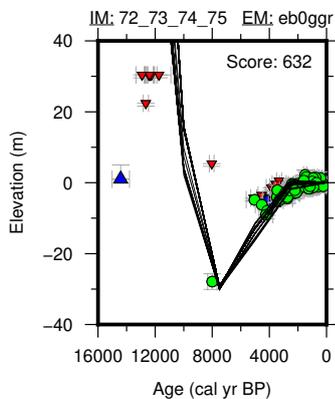
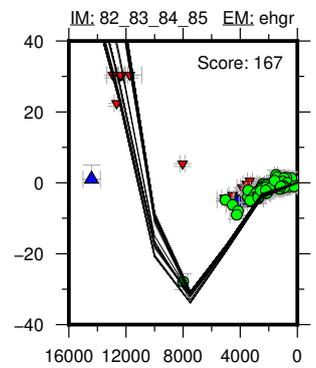
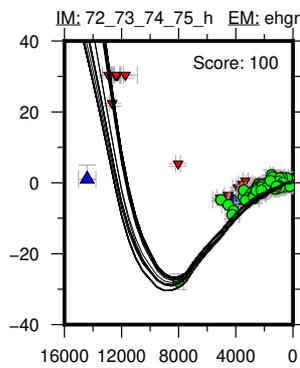
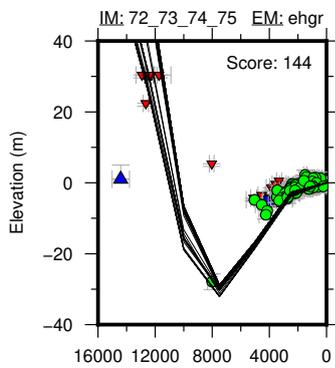


Figure 128: Paleo-sea level and comparison of six models for subregion Maritimes, location Cumberland.

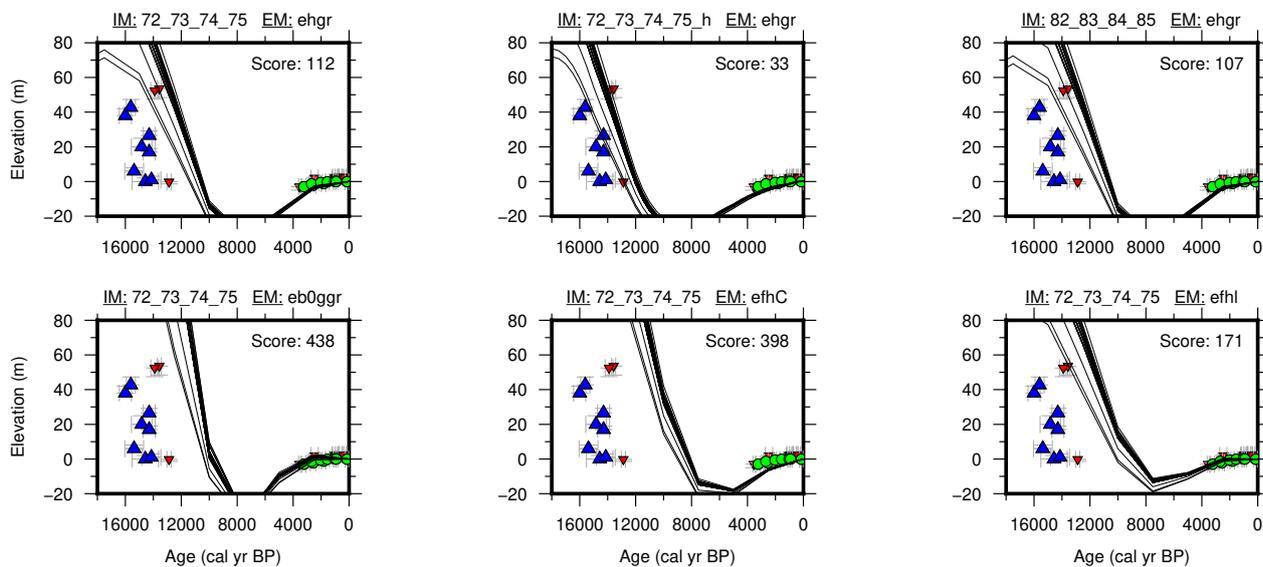
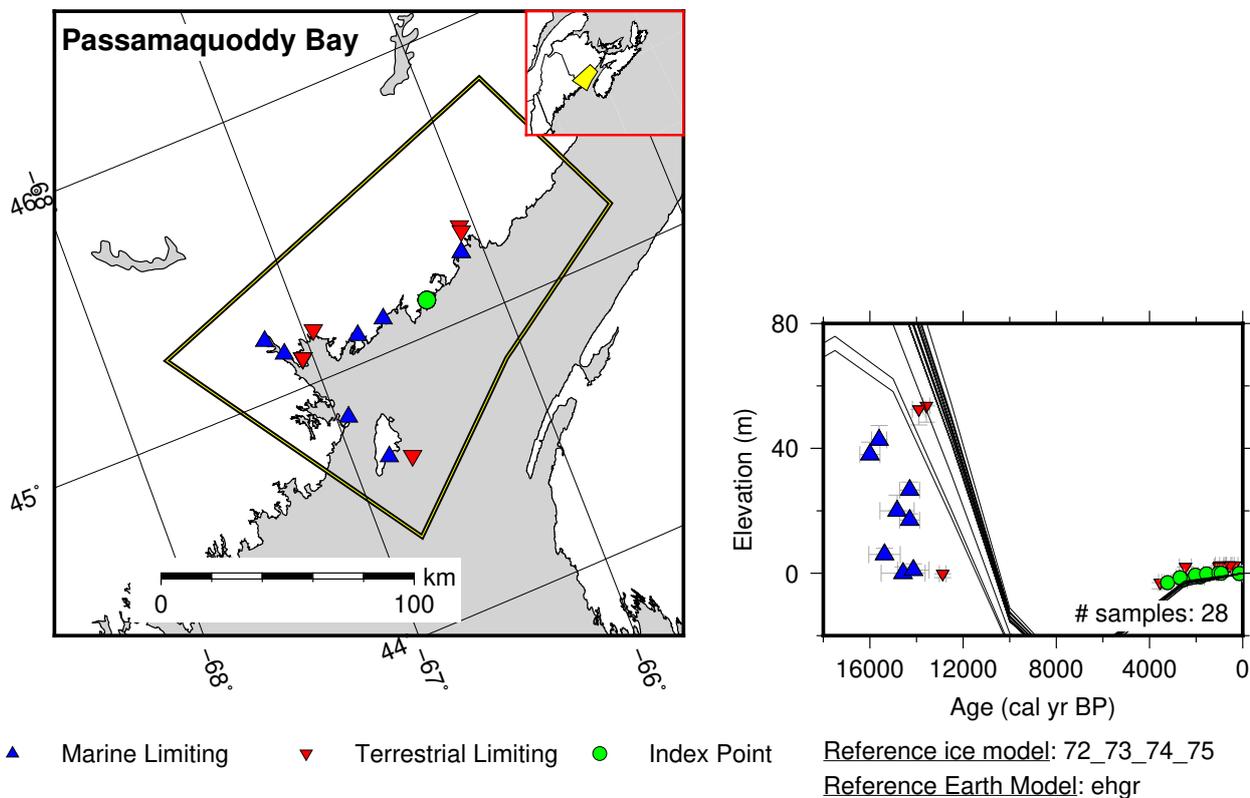


Figure 129: Paleo-sea level and comparison of six models for subregion Maritimes, location Passamaquoddy Bay.

## 11.7 Newfoundland

References for the data used in each location.

**Great Northern Peninsula:** Bell et al. (2005); Grant (1992, 1994); Martindale et al. (2020); McNeely and Jorgensen (1993); McNeely and McCuaig (1991); Nydal (1989); Tuck (1971)

**Notre Dame Bay:** Blake (1983); Daly et al. (2007); Dyck and Fyles (1963); McNeely and Brennan (2005); McNeely and McCuaig (1991); Scott et al. (1991); Shaw and Edwardson (1994)

**Avalon Peninsula:** Catto et al. (1997); Daly et al. (2007); MacPherson (1996); McNeely (2006); Shaw and Forbes (1995)

**Bay Of Islands:** Brookes et al. (1985); Brookes and Stevens (1985); Daly et al. (2007); Grant (1994); McNeely and Brennan (2005); McNeely and McCuaig (1991)

**Port Aux Basques:** Bell et al. (2003); Blake (1988); Brookes et al. (1985); Daly et al. (2007); Dyke et al. (2003); Forbes et al. (1993); Kemp et al. (2017); Lowdon and Blake (1980); Lowdon et al. (1971); McNeely (2002); McNeely and Atkinson (1995); McNeely and Brennan (2005); McNeely and Jorgensen (1992, 1993); McNeely and McCuaig (1991); Shaw and Forbes (1987, 1995); Shaw and Potter (2015)

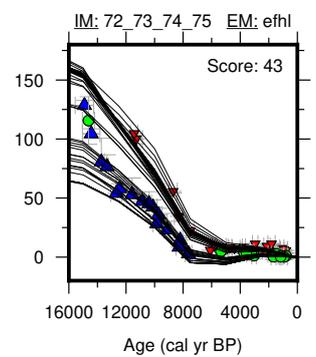
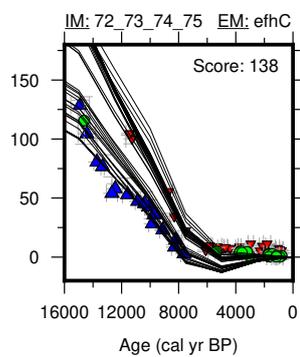
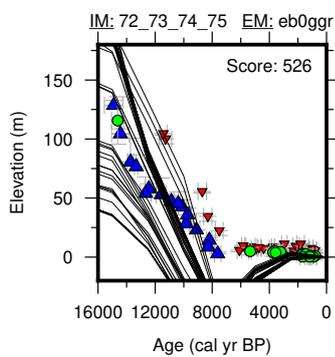
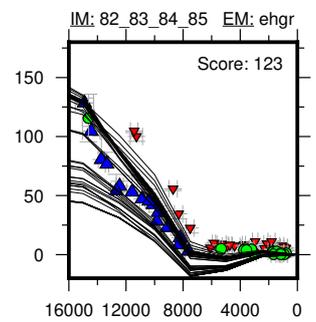
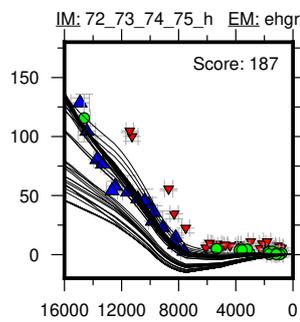
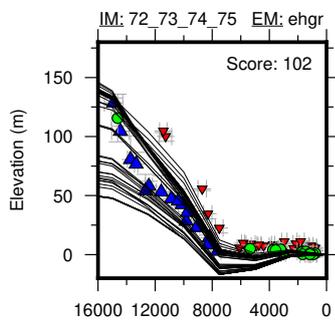
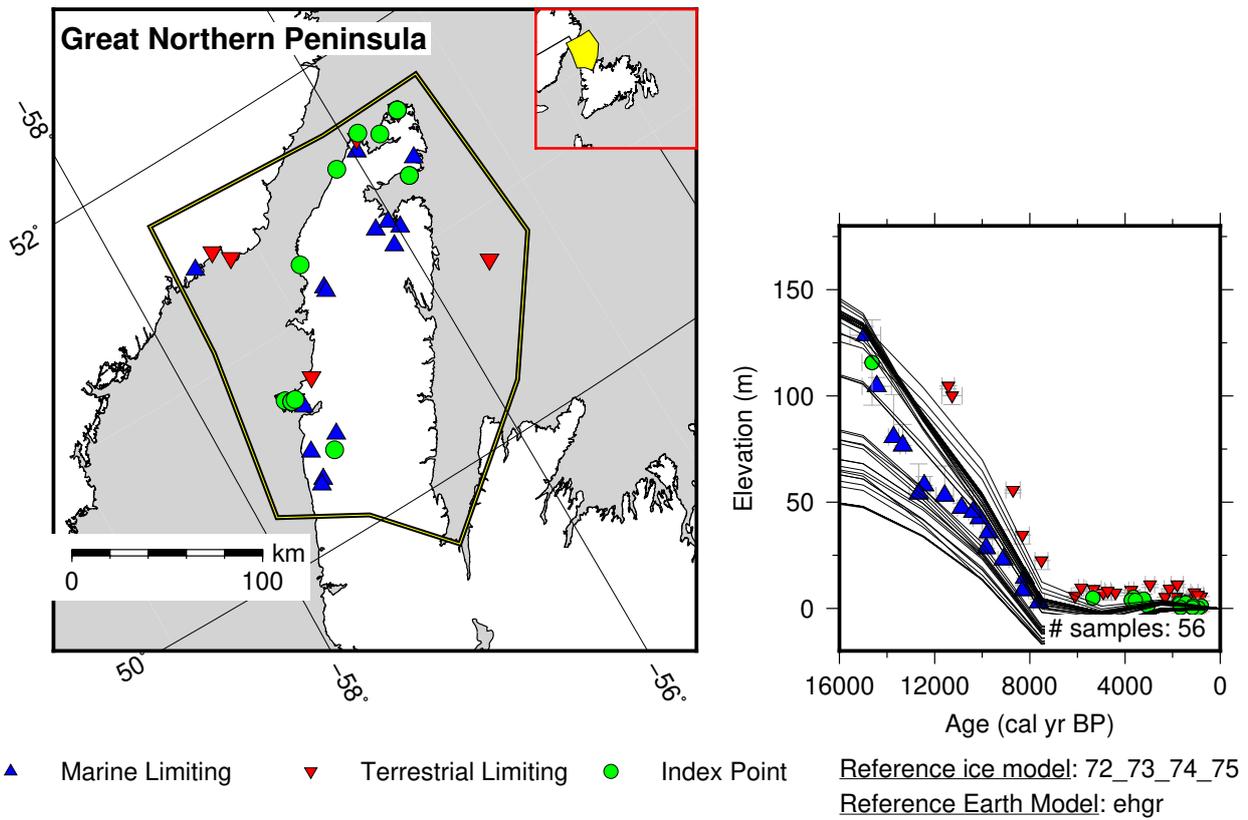
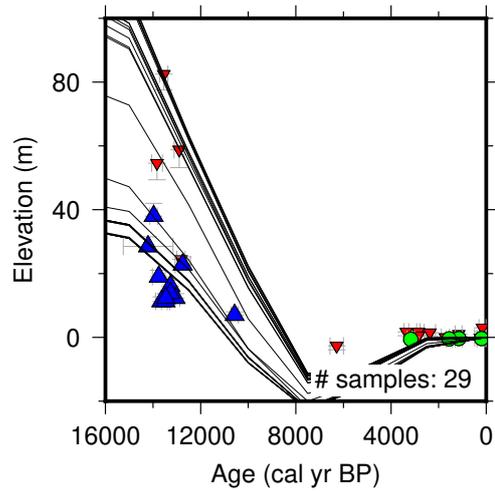
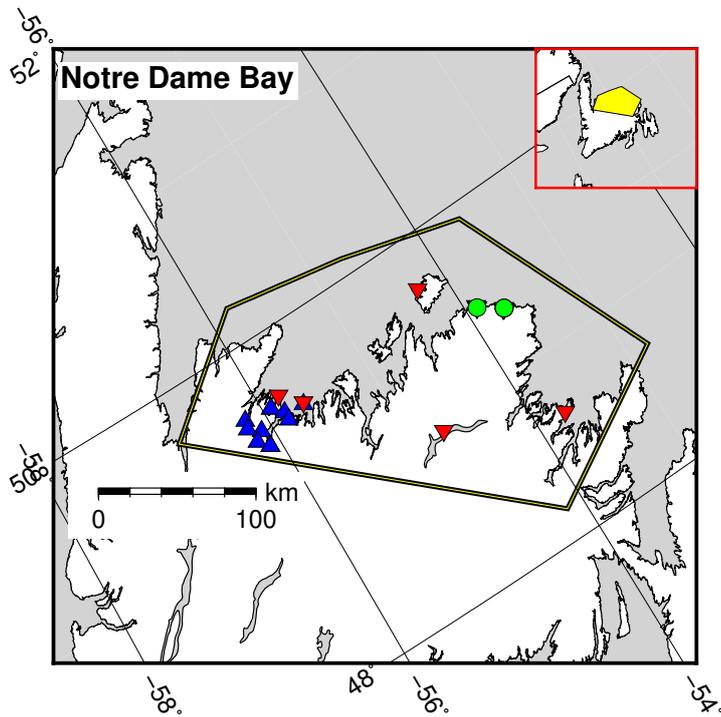


Figure 130: Paleo-sea level and comparison of six models for subregion Newfoundland, location Great Northern Peninsula.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

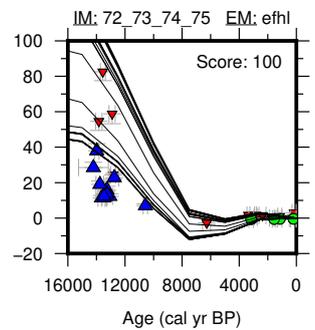
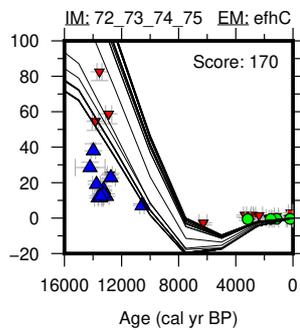
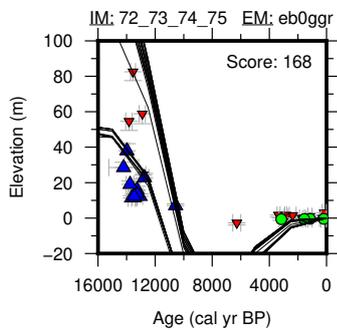
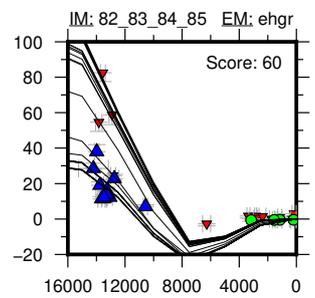
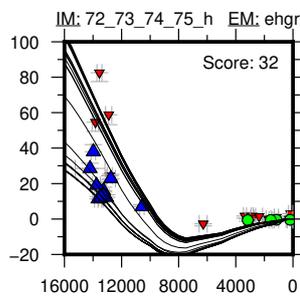
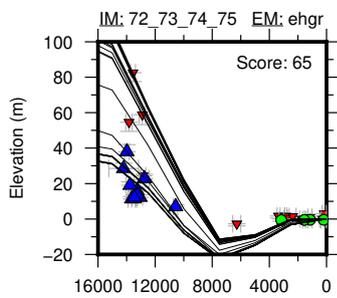


Figure 131: Paleo-sea level and comparison of six models for subregion Newfoundland, location Notre Dame Bay.

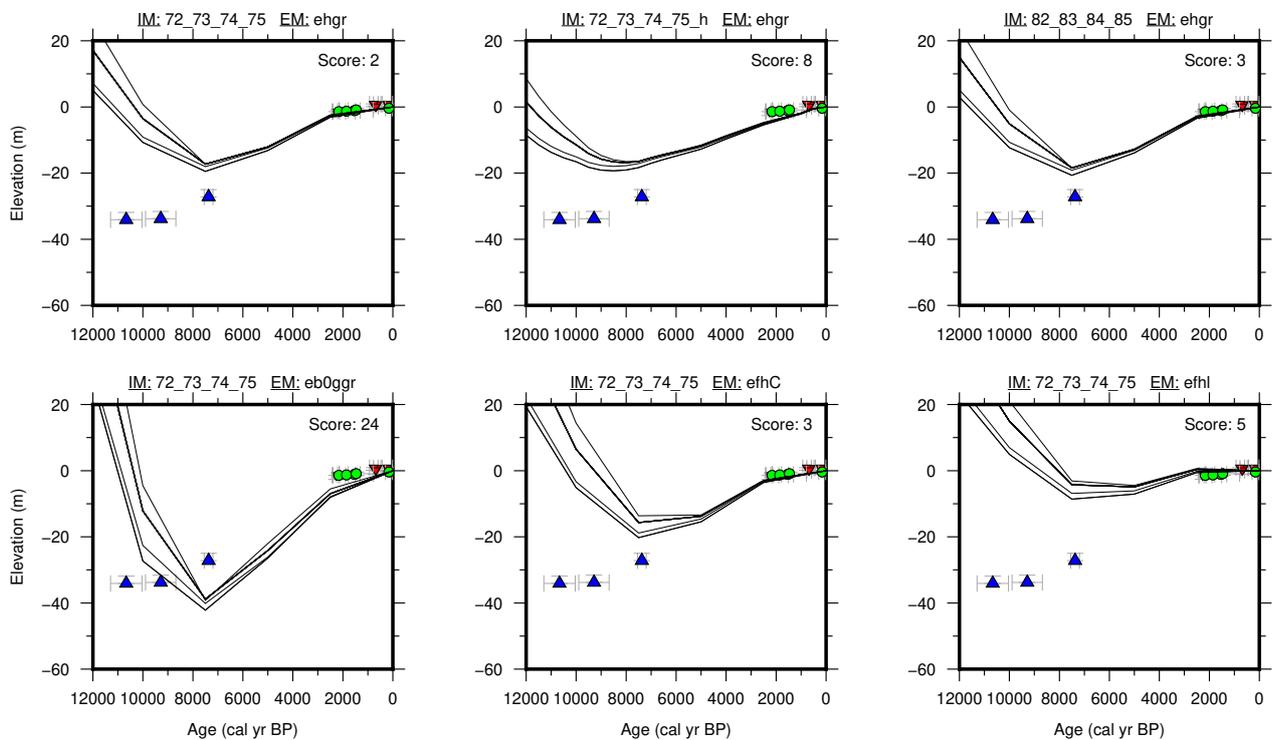
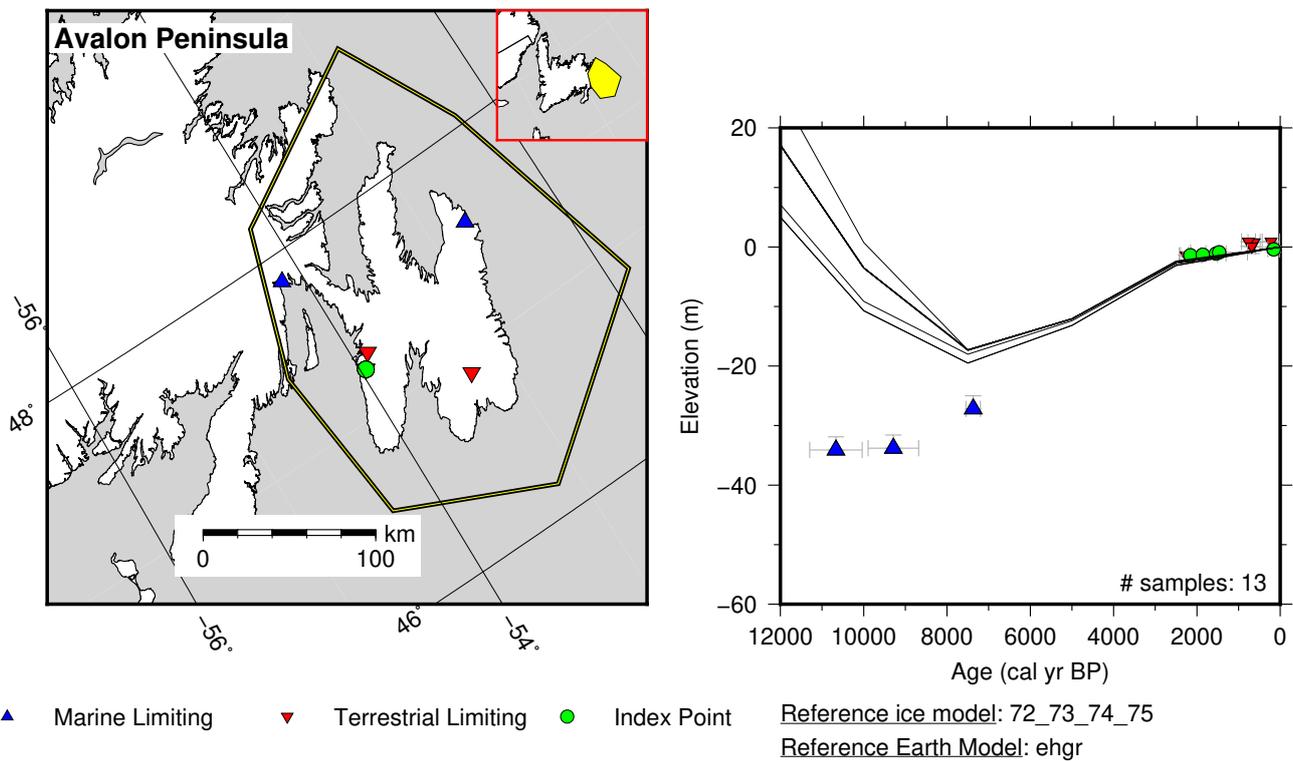
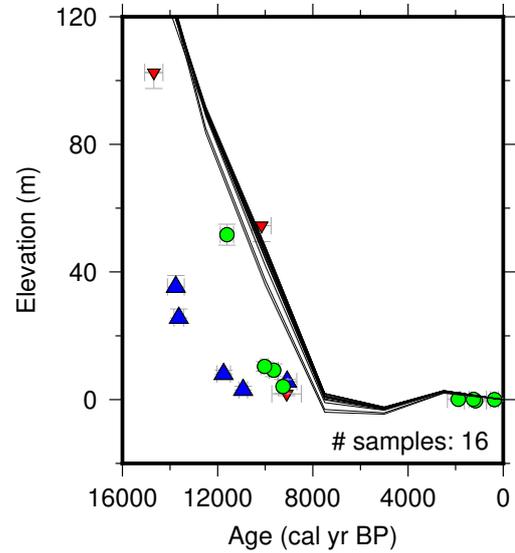
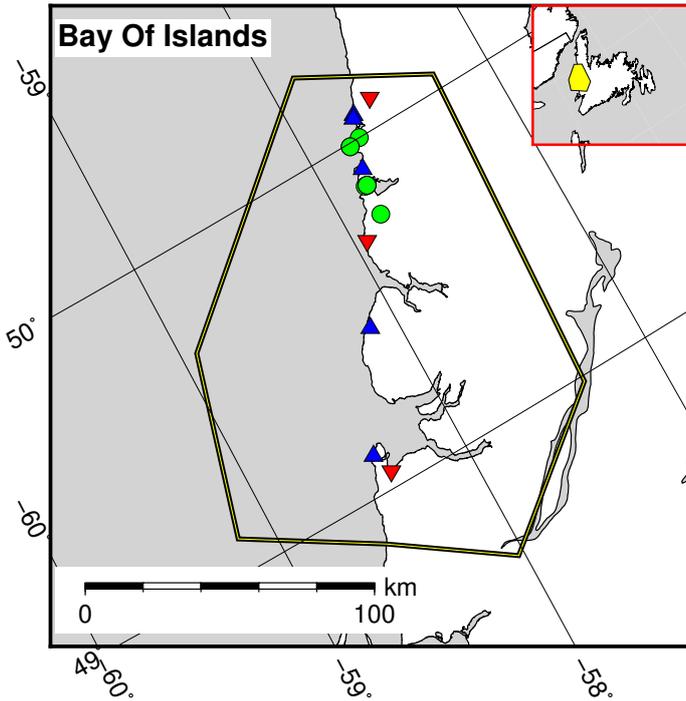


Figure 132: Paleo-sea level and comparison of six models for subregion Newfoundland, location Avalon Peninsula.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

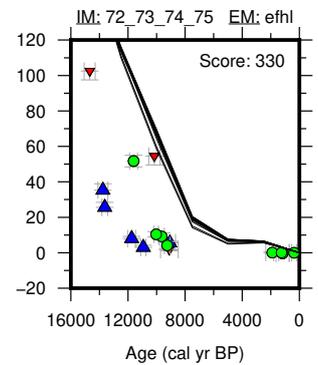
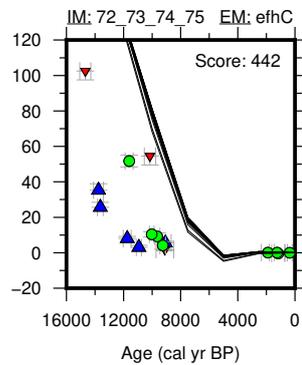
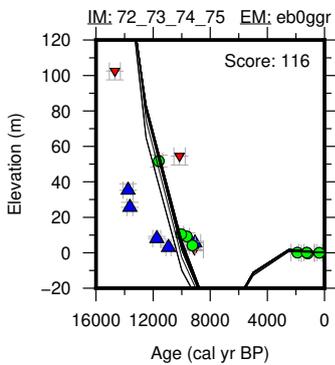
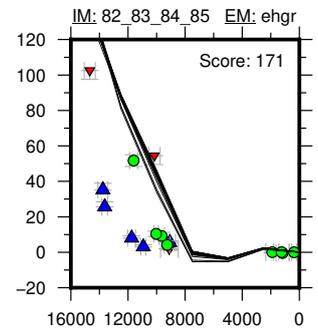
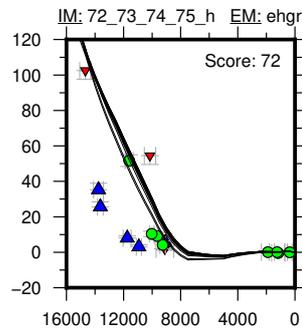
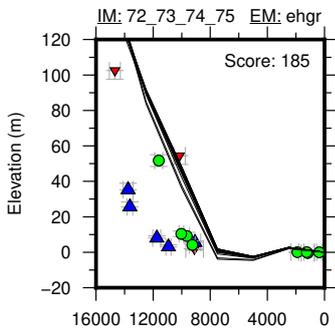
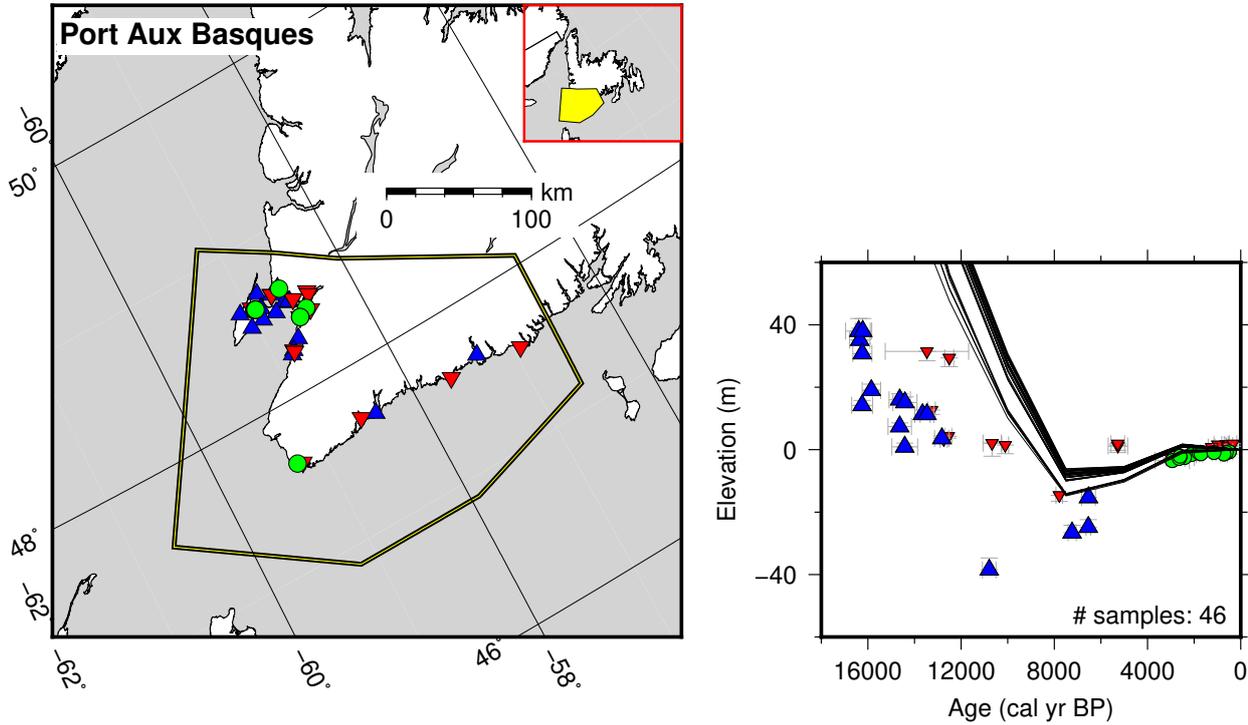


Figure 133: Paleo-sea level and comparison of six models for subregion Newfoundland, location Bay Of Islands.



▲ Marine Limiting     
 ▼ Terrestrial Limiting     
 ● Index Point     
 Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

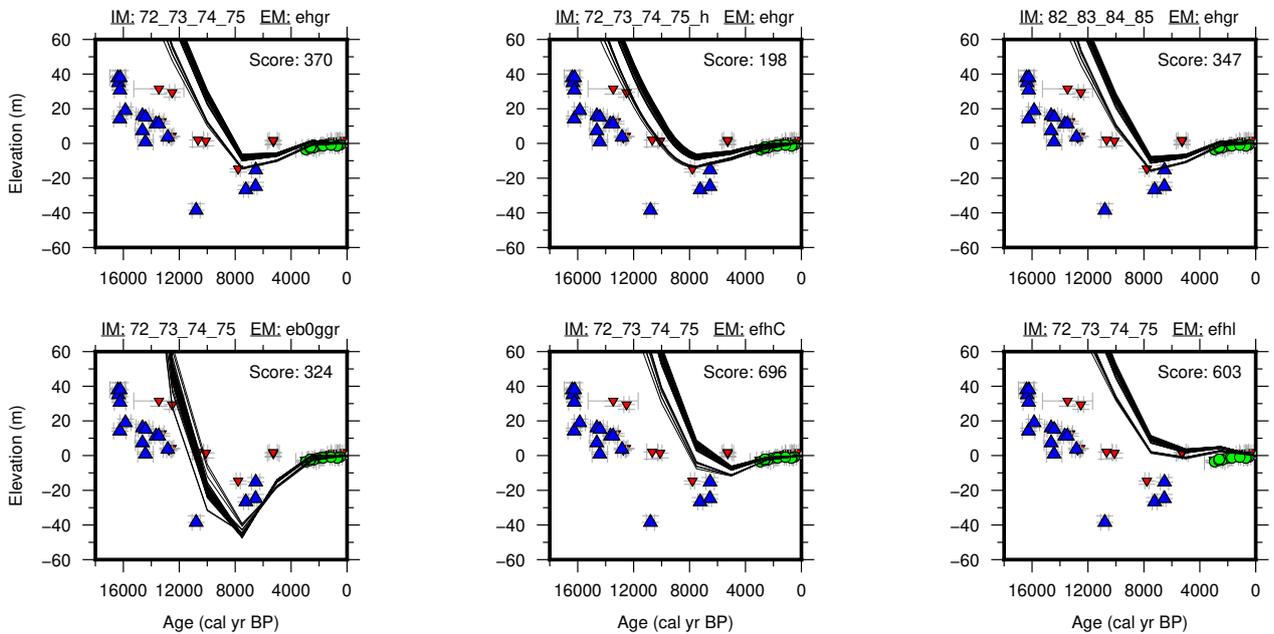


Figure 134: Paleo-sea level and comparison of six models for subregion Newfoundland, location Port Aux Basques.

## 11.8 Northeastern United States

References for the data used in each location.

**Eastern Maine:** Belknap et al. (1989); Gehrels (1999); Gehrels and Belknap (1993); Gehrels et al. (1996)

**Southern Maine:** Barnhardt et al. (1995); Belknap et al. (1989); Bloom (1963); Gehrels et al. (1996, 2002); Kelley et al. (1992, 1995)

**Northern Massachusetts:** Donnelly (2006); Kaye and Barghoorn (1964); Kirwan et al. (2011); Newman et al. (1980); Oldale et al. (1993); Redfield (1967); Redfield and Rubin (1962)

**Southern Massachusetts:** Emery et al. (1967); Field et al. (1979); Gutierrez et al. (2003); Oldale and O'Hara (1980); Redfield (1967); Redfield and Rubin (1962); Stuiver et al. (1963)

**Connecticut:** Bloom (1963); Cinquemani et al. (1982); Donnelly et al. (2004); Nydick et al. (1995); Redfield and Rubin (1962); van de Plassche (1991); van de Plassche et al. (1989, 1998, 2002)

**Long Island:** Bloom (1963); Cinquemani et al. (1982); Field et al. (1979); Pardi and Newman (1980); Pardi et al. (1984); Redfield (1967); Redfield and Rubin (1962)

**New York:** Olson and Broecker (1961); Pardi et al. (1984); Slagle et al. (2006)

**New Jersey:** Cinquemani et al. (1982); Donnelly et al. (2001); Engelhart and Horton (2012); Field et al. (1979); Miller et al. (2009); Pardi et al. (1984); Psuty (1986); Stuiver and Daddario (1963)

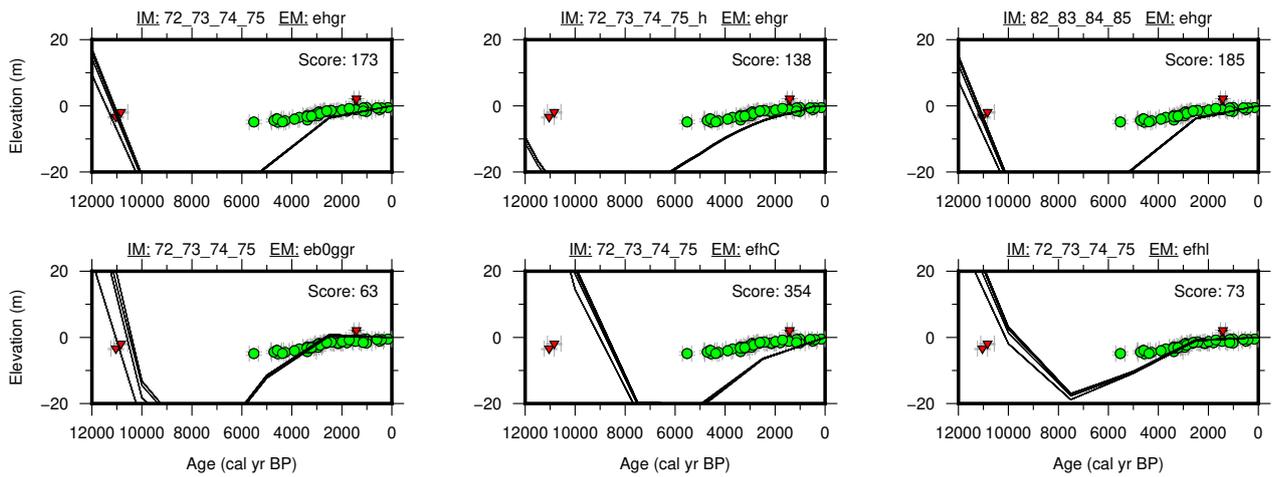
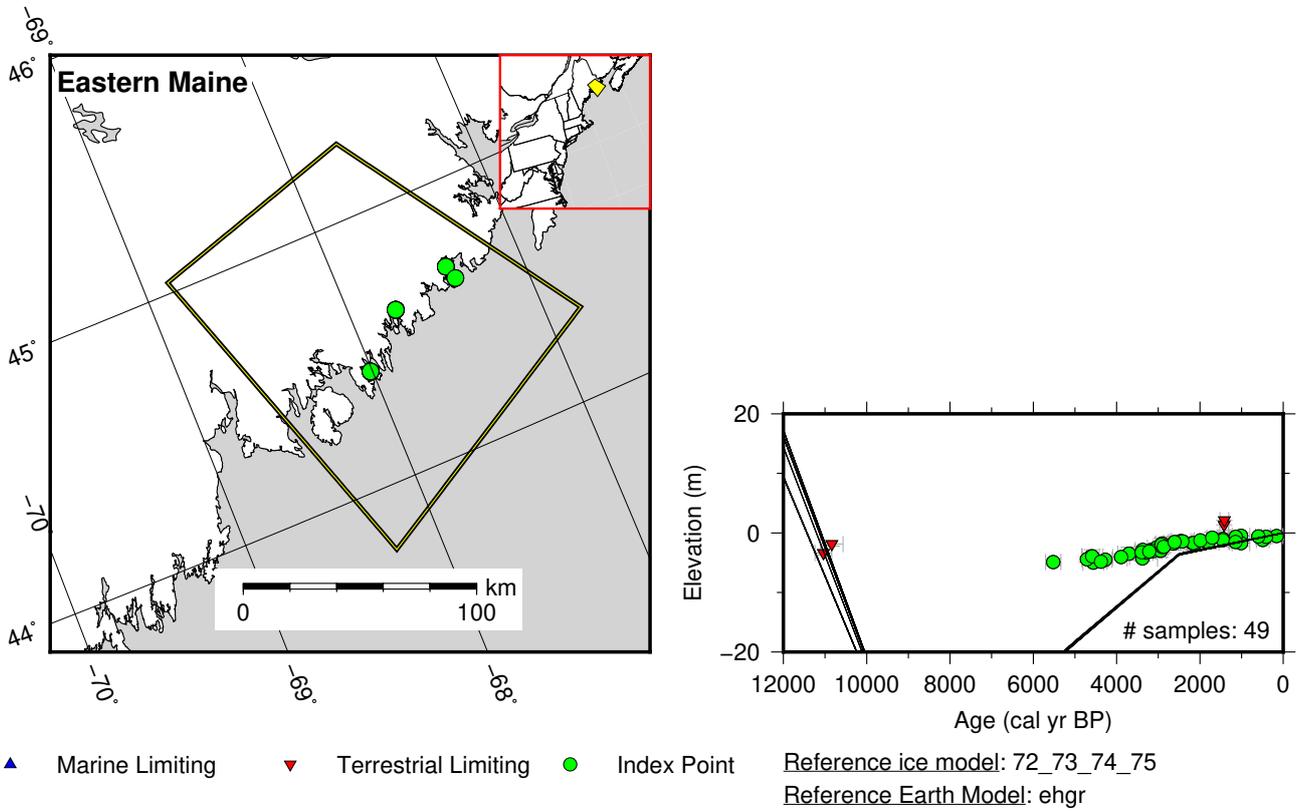


Figure 135: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Eastern Maine.

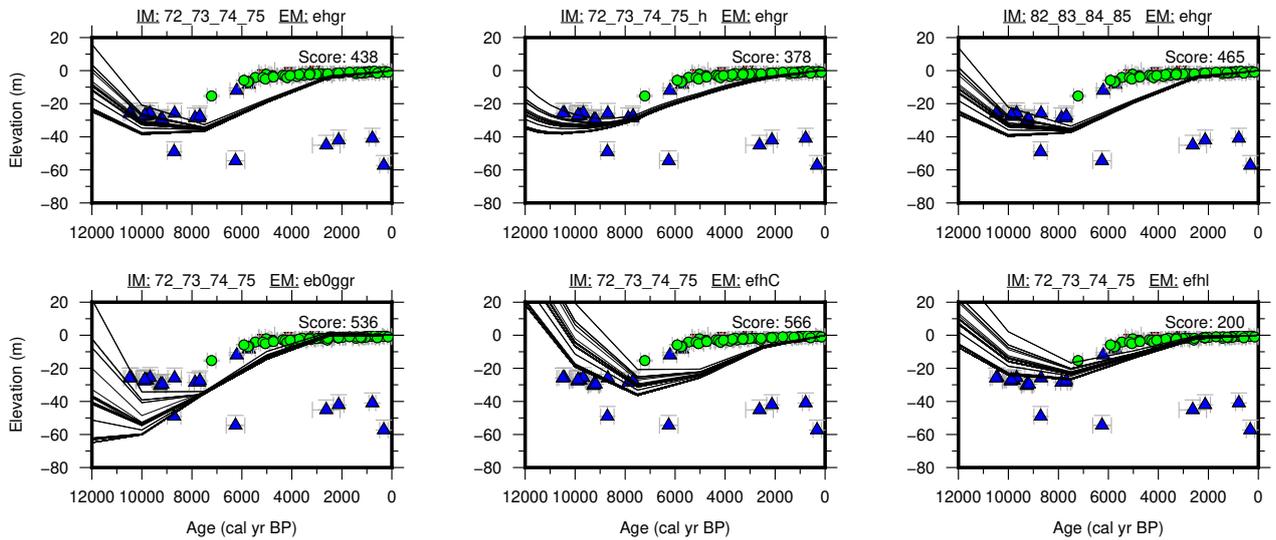
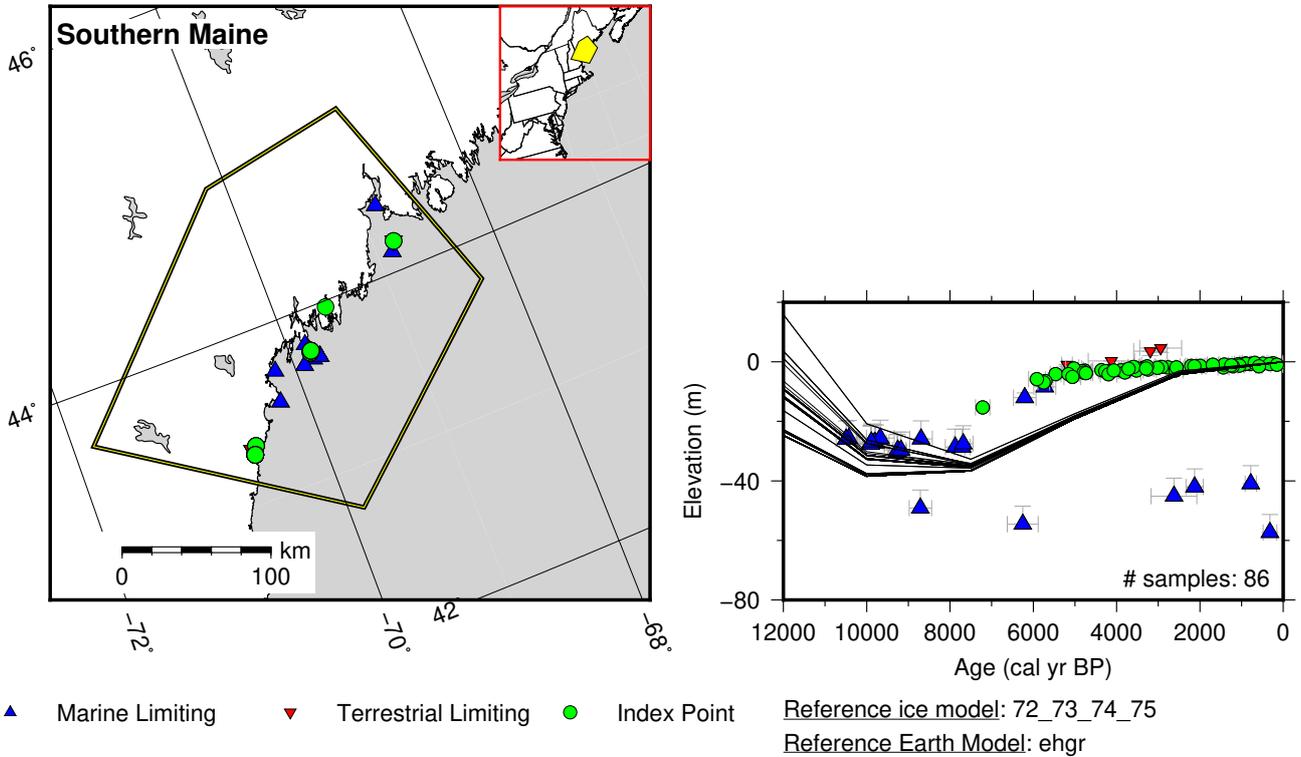


Figure 136: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Southern Maine.

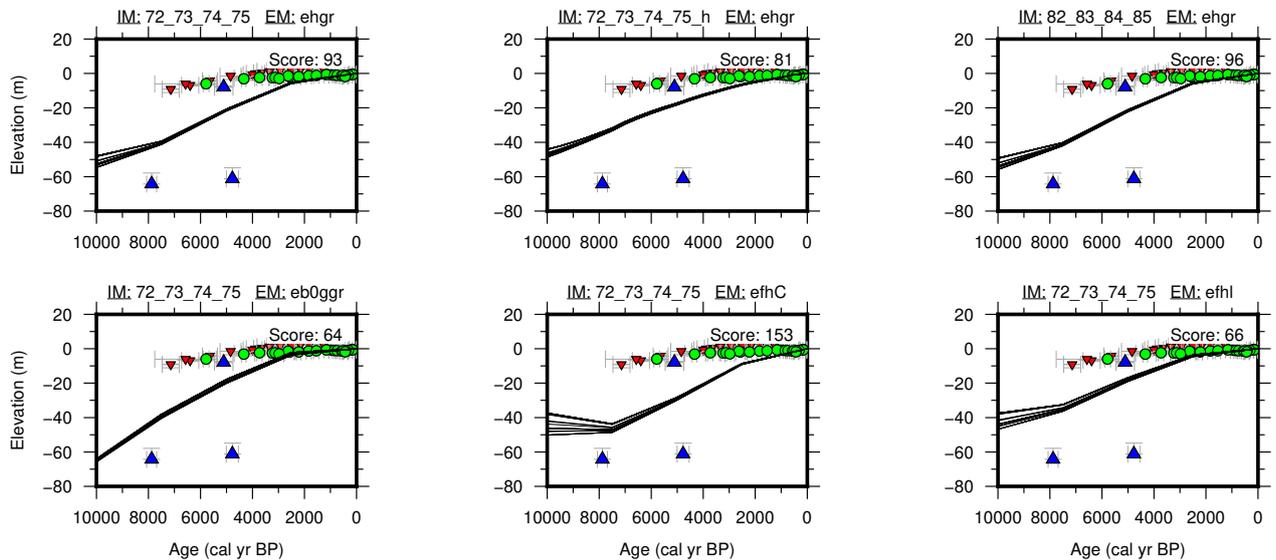
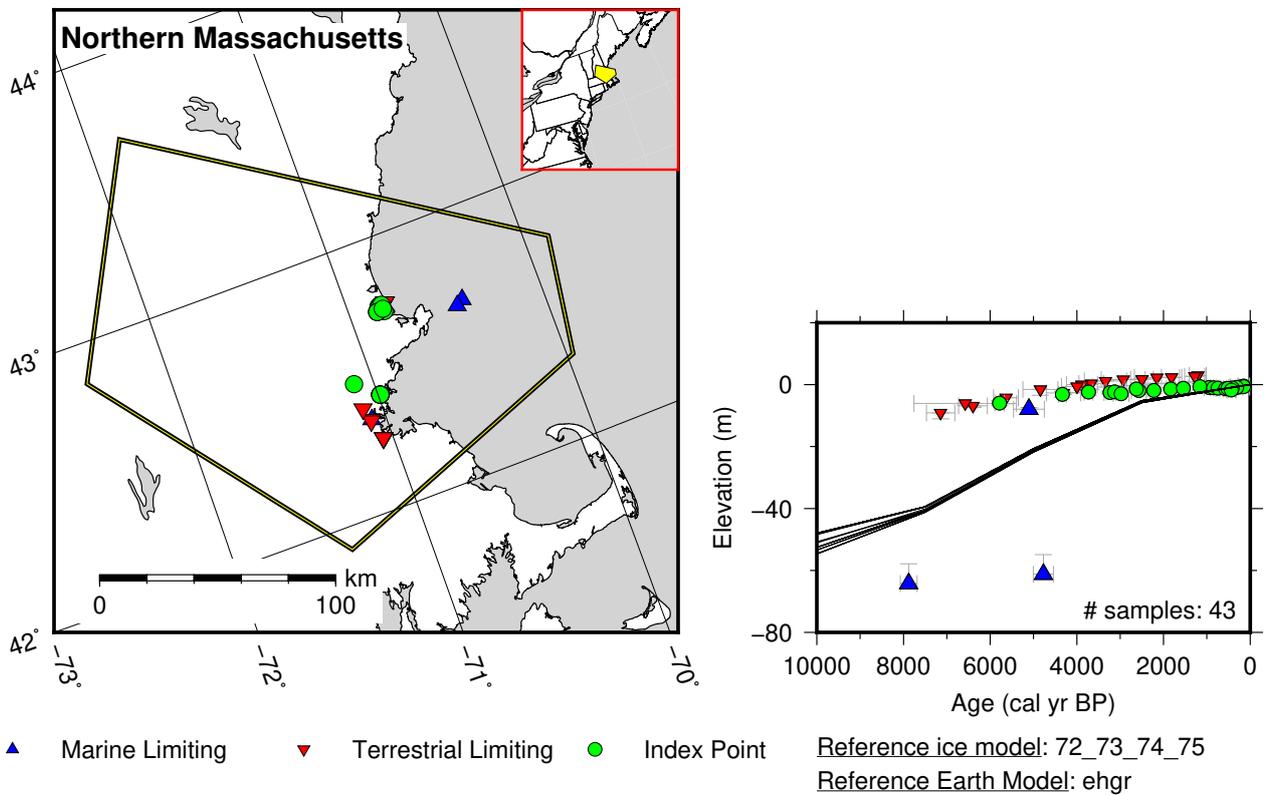


Figure 137: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Northern Massachusetts.

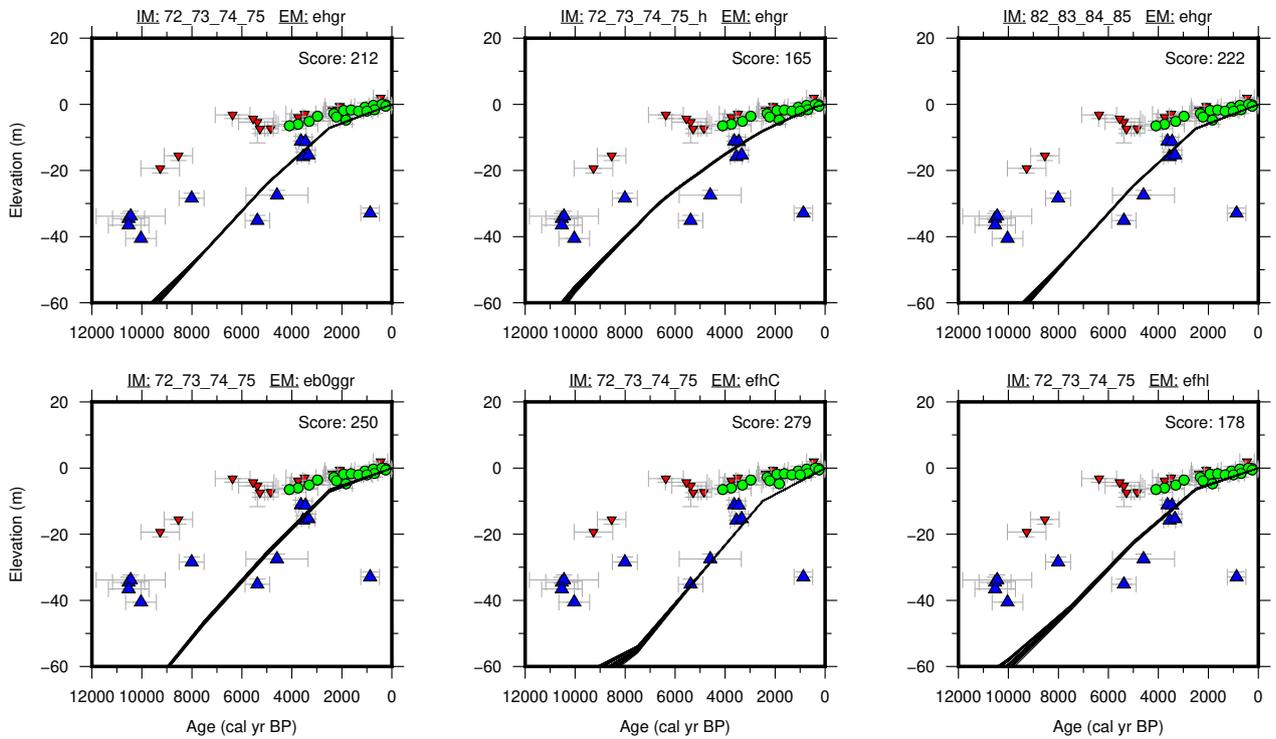
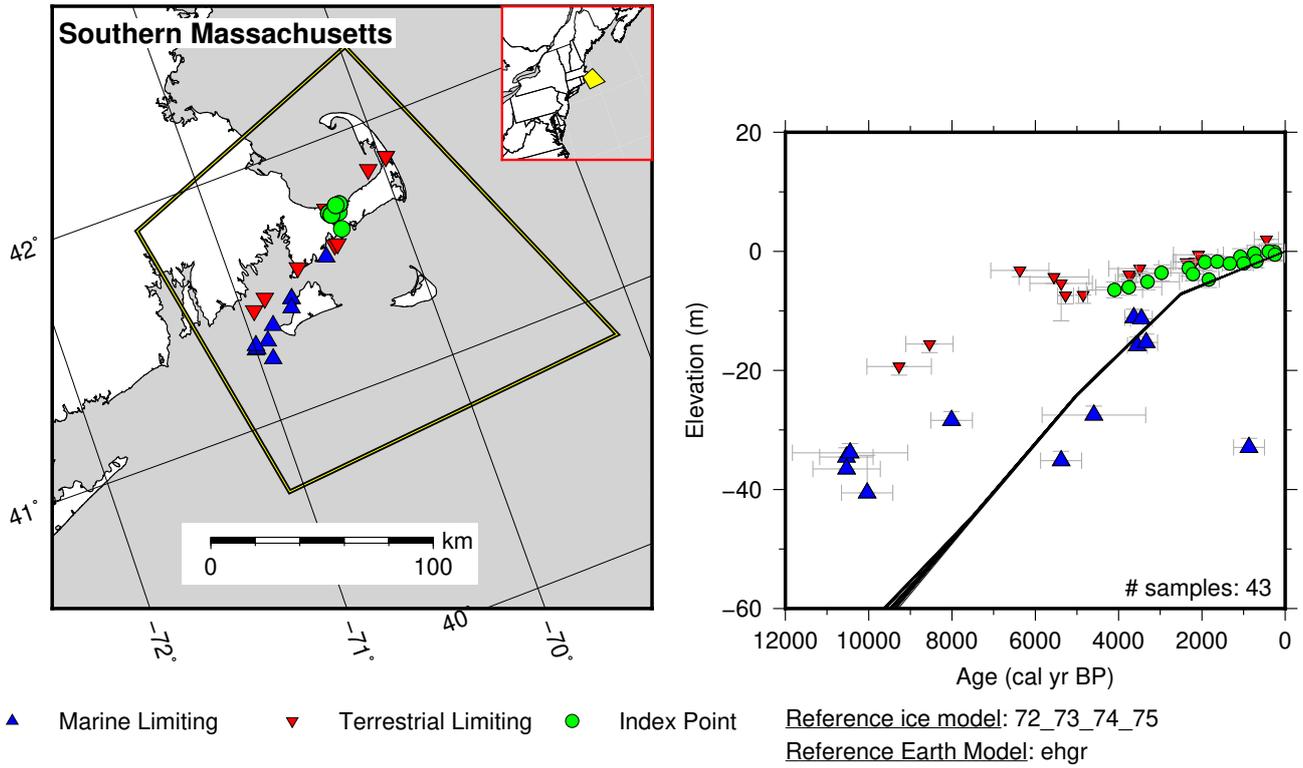
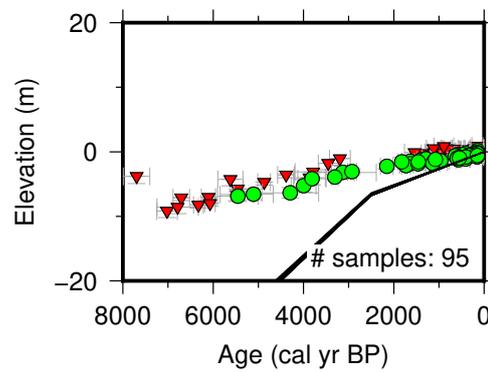
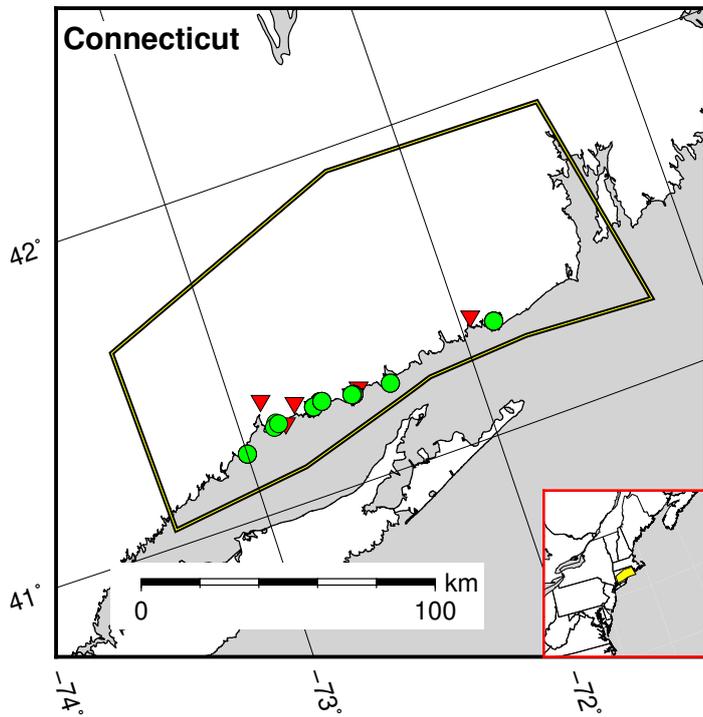


Figure 138: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Southern Massachusetts.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

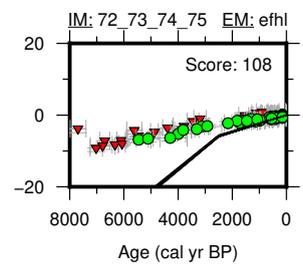
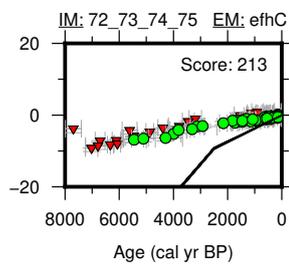
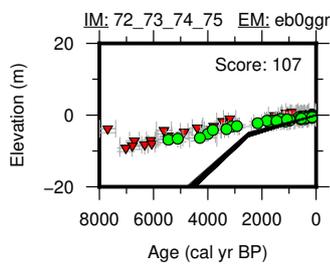
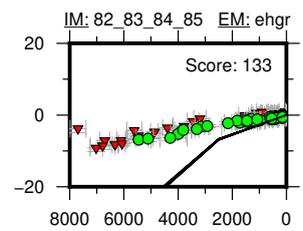
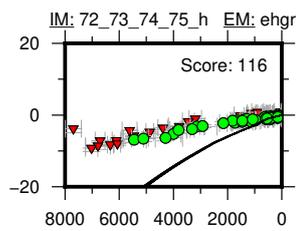
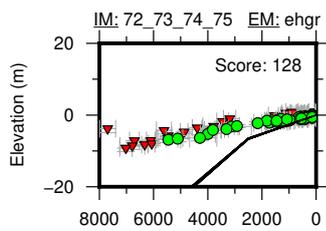
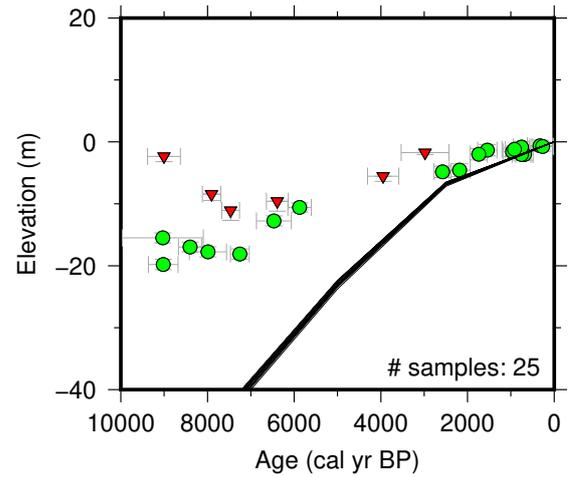
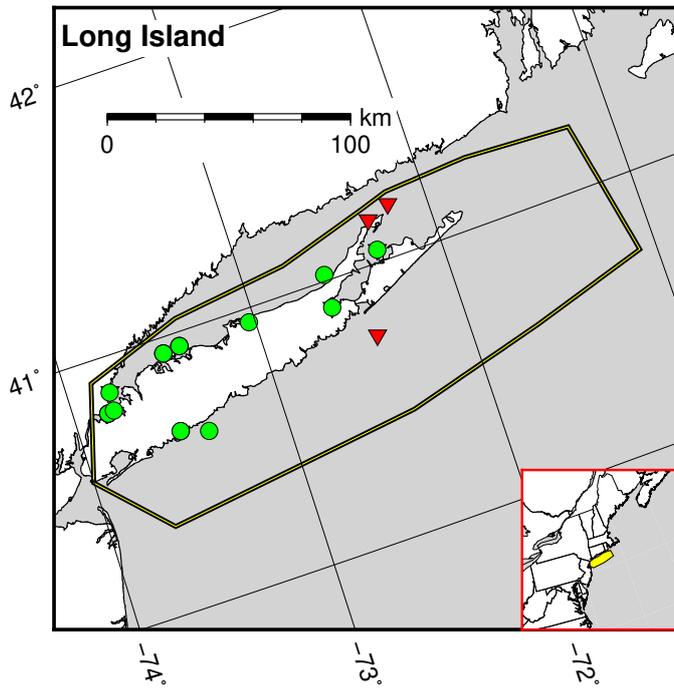


Figure 139: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Connecticut.



▲ Marine Limiting    
 ▼ Terrestrial Limiting    
 ● Index Point    
 Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

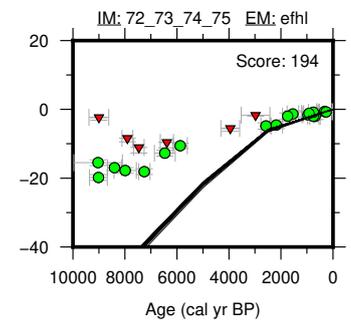
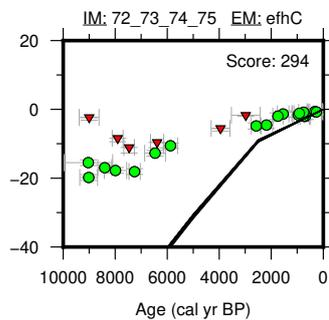
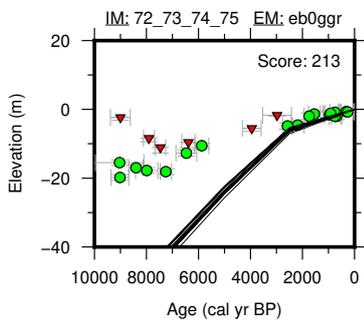
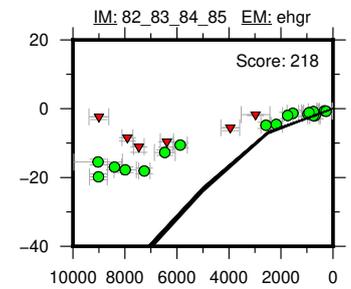
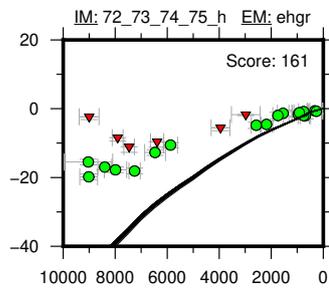
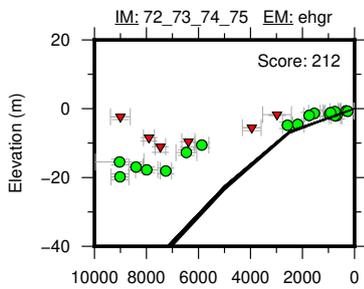


Figure 140: Paleo-sea level and comparison of six models for subregion Northeastern United States, location Long Island.

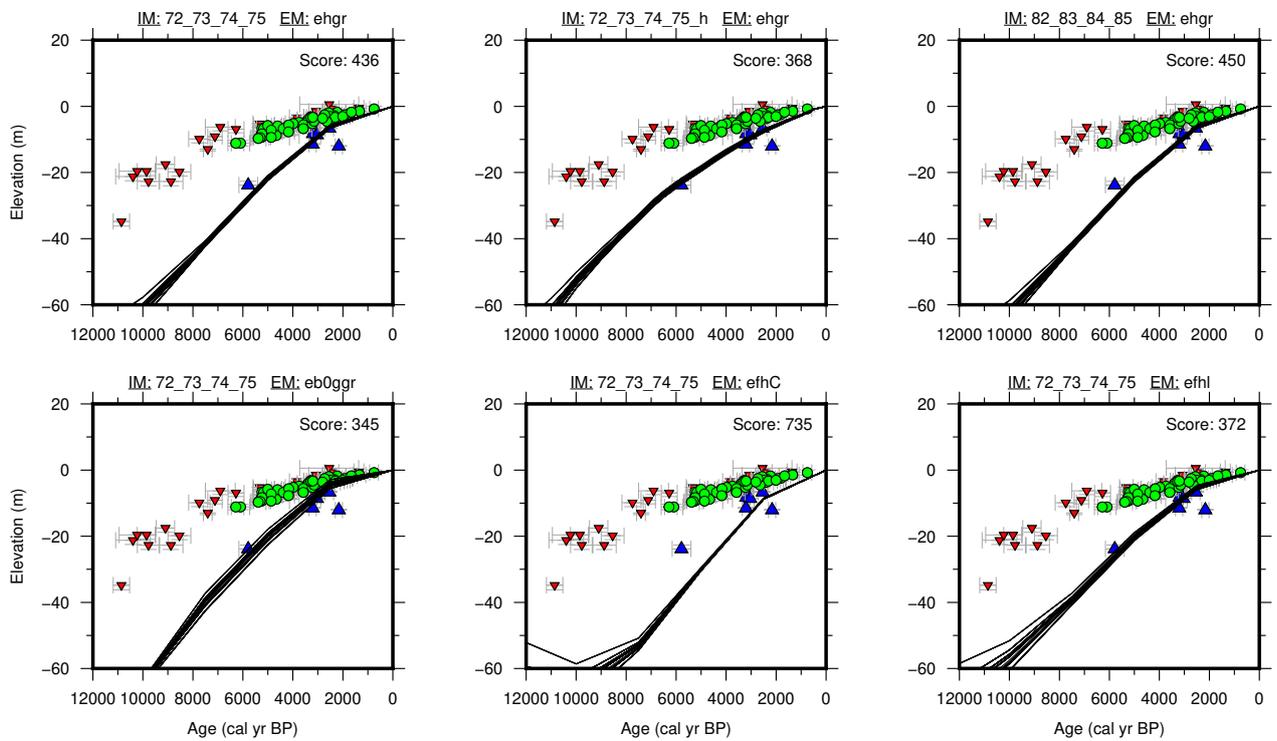
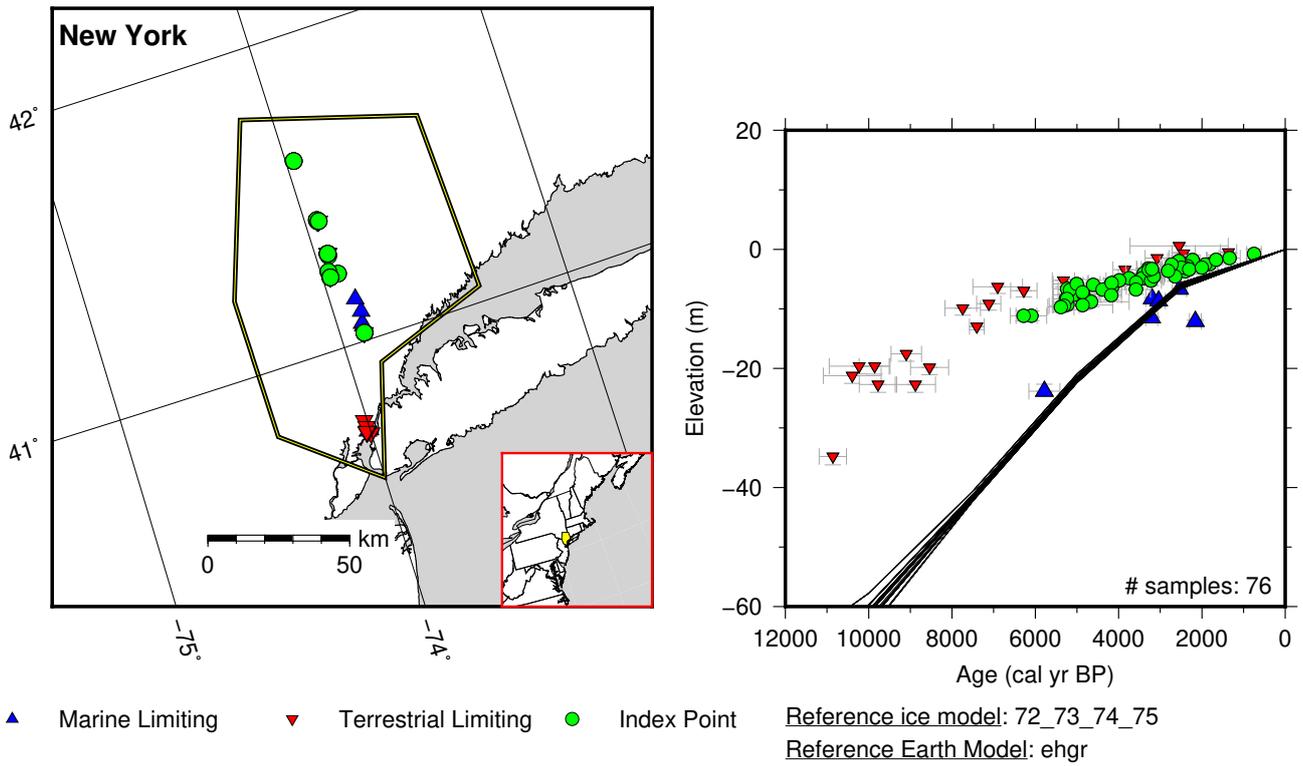


Figure 141: Paleo-sea level and comparison of six models for subregion Northeastern United States, location New York.

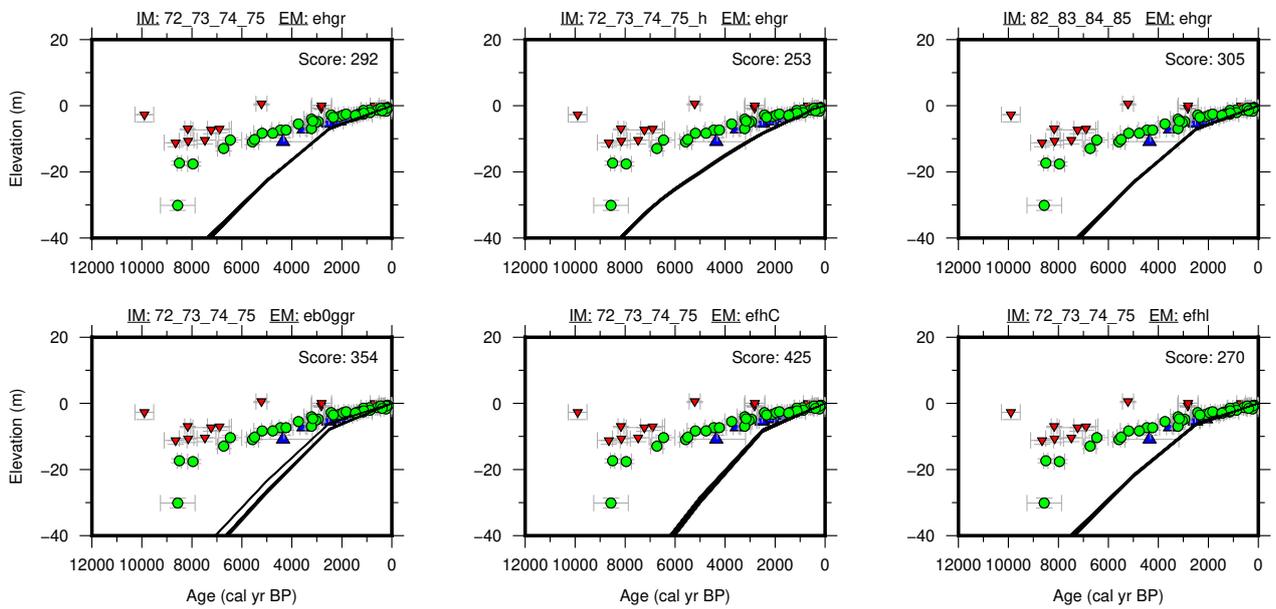
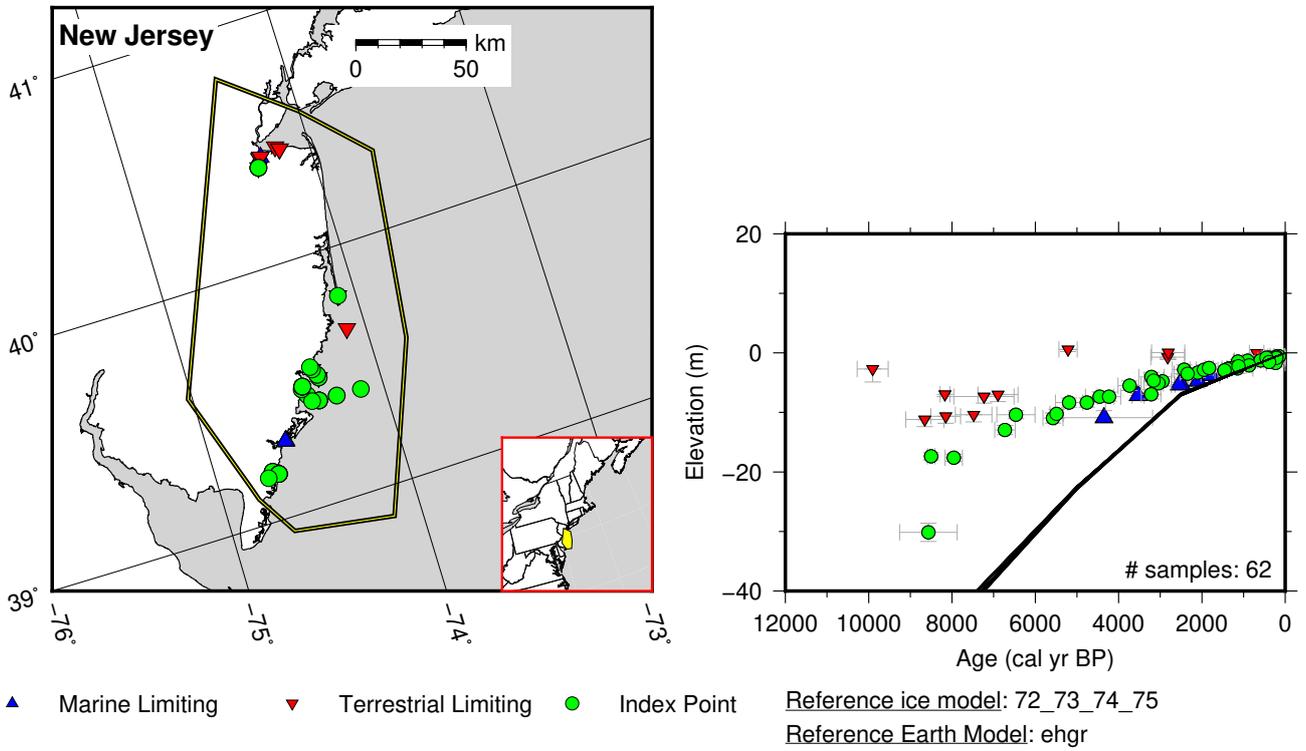


Figure 142: Paleo-sea level and comparison of six models for subregion Northeastern United States, location New Jersey.

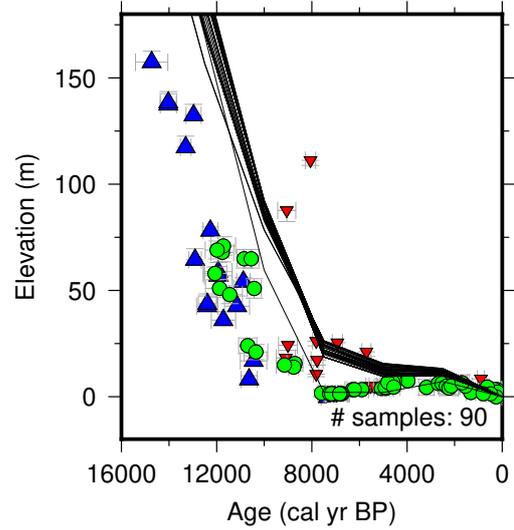
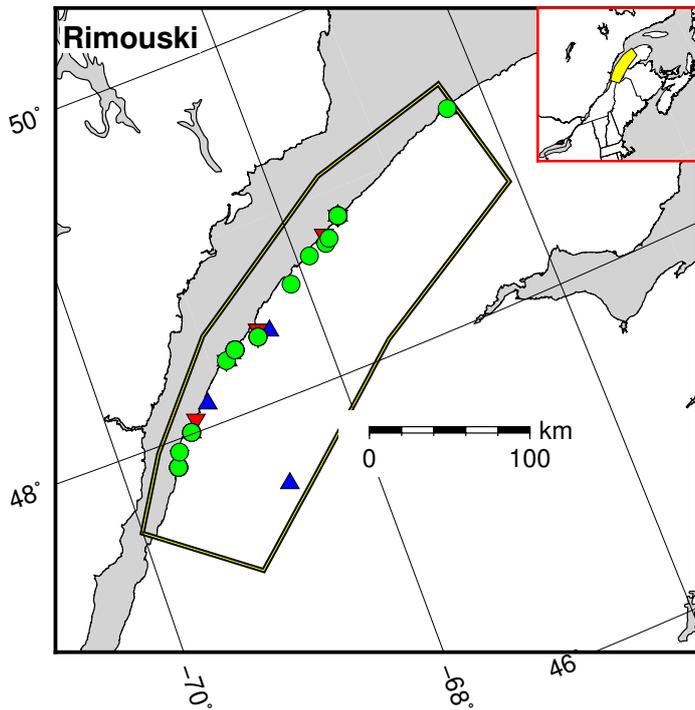
## 11.9 St Laurence Lowlands

References for the data used in each location.

**Rimouski:** Blake and Lowdon (1976); Dionne (1990, 1999, 2001a, 2005); Dionne and Coll (1995); Dyck and Fyles (1963); Harington (2003); Héту (1994, 1998); Héту and Bail (1996); Locat (1977); Vacchi et al. (2018)

**Forestville:** Dietrich et al. (2017); Dionne (1996, 2001b); Dionne and Occhietti (1996); Dionne et al. (2004); Dubois et al. (1988); Martindale et al. (2020)

**Quebec City:** Bhiry et al. (2000); Brodeur and Allard (1985); Dionne (1988, 1997, 1998); Filion (1987); Govare and Gangloff (1989); McNeely (2006); McNeely and Brennan (2005); Occhietti et al. (2001); Parent and Occhietti (1988); Samson et al. (1977)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

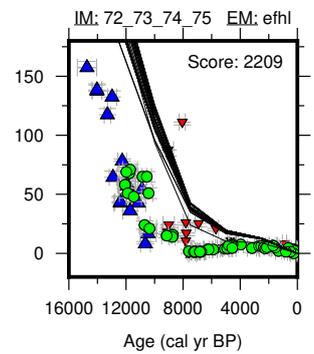
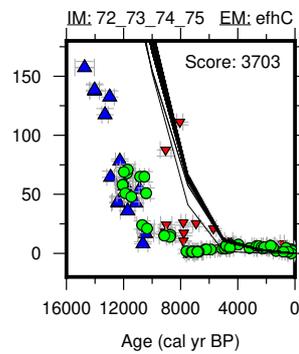
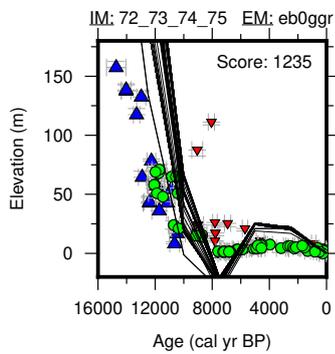
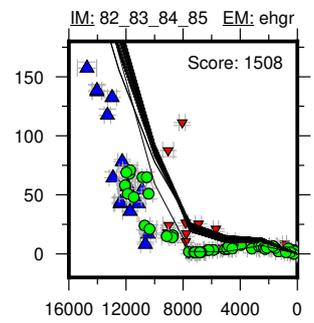
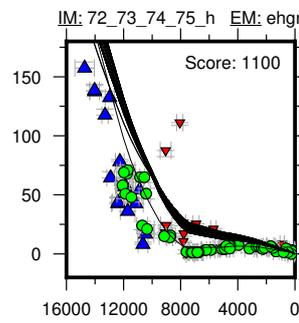
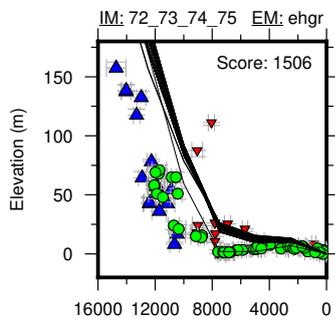


Figure 143: Paleo-sea level and comparison of six models for subregion St Lawrence Lowlands, location Rimouski.

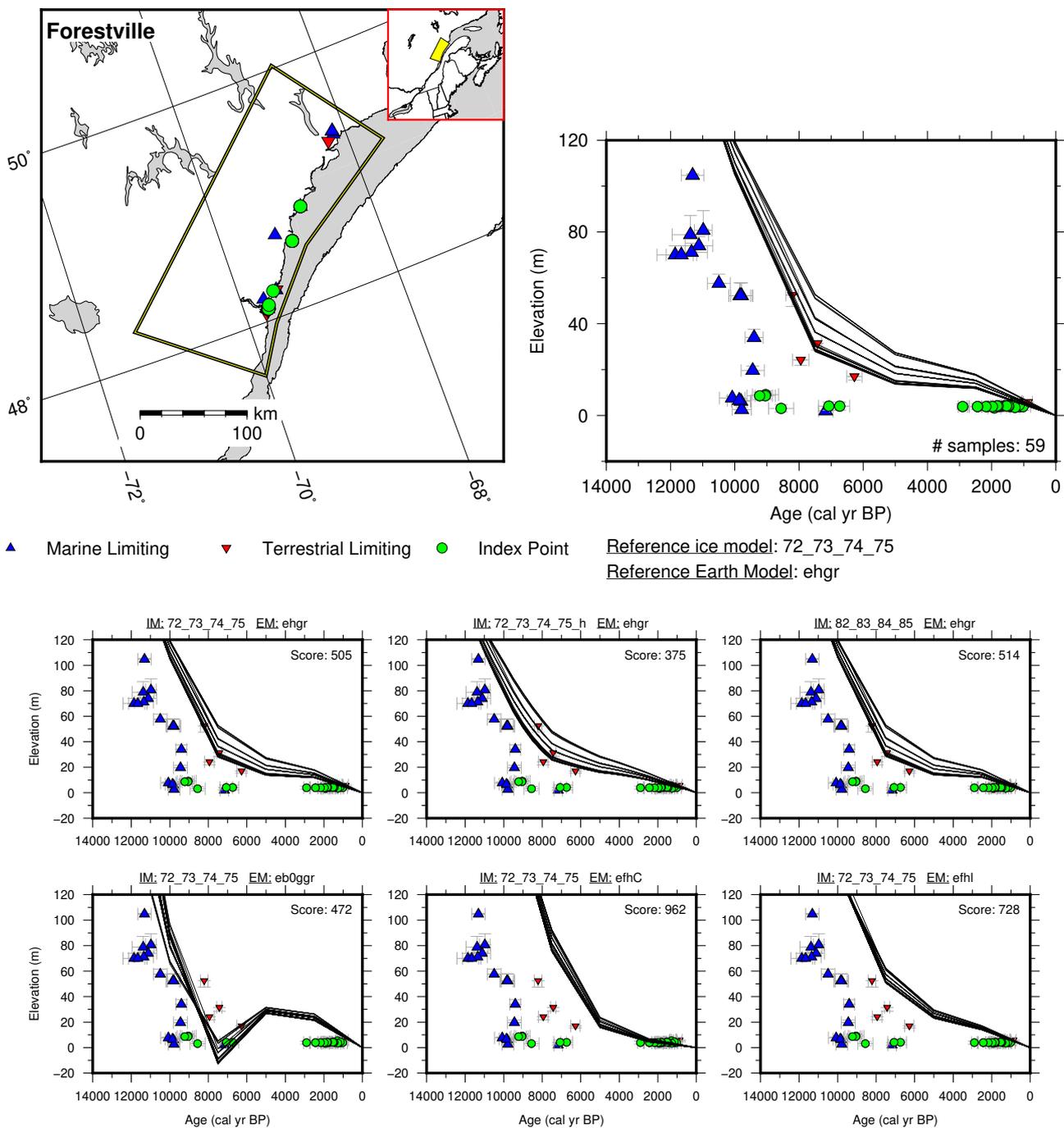


Figure 144: Paleo-sea level and comparison of six models for subregion St Laurent Lowlands, location Forestville.

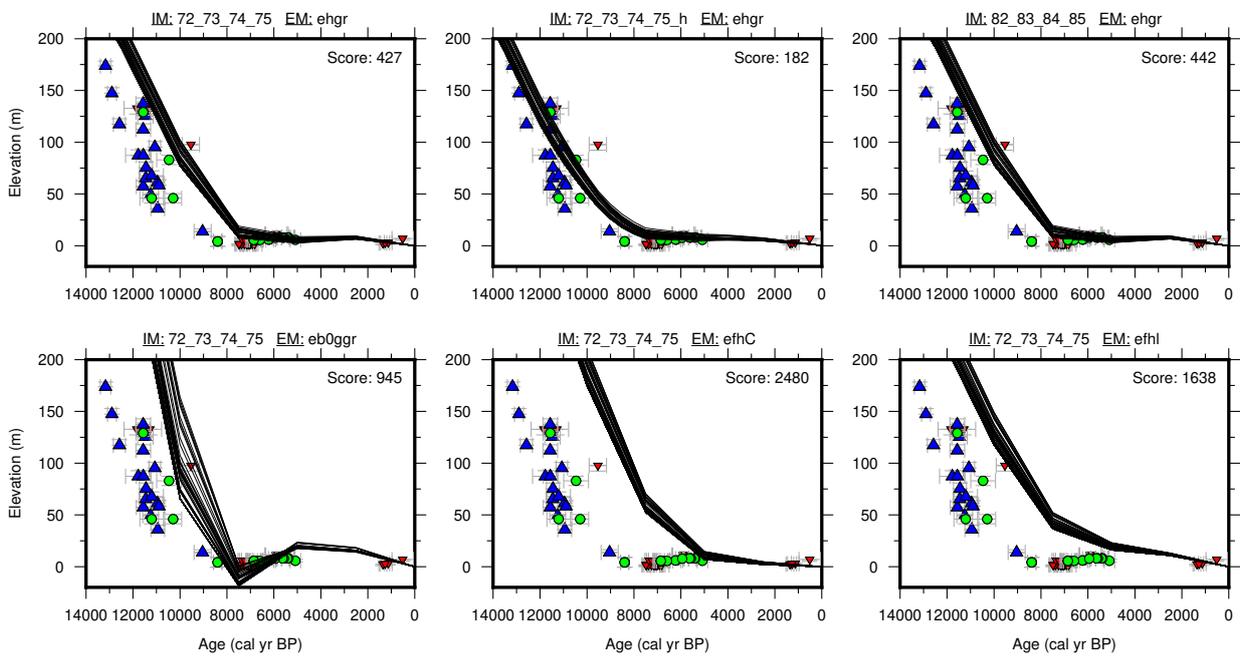
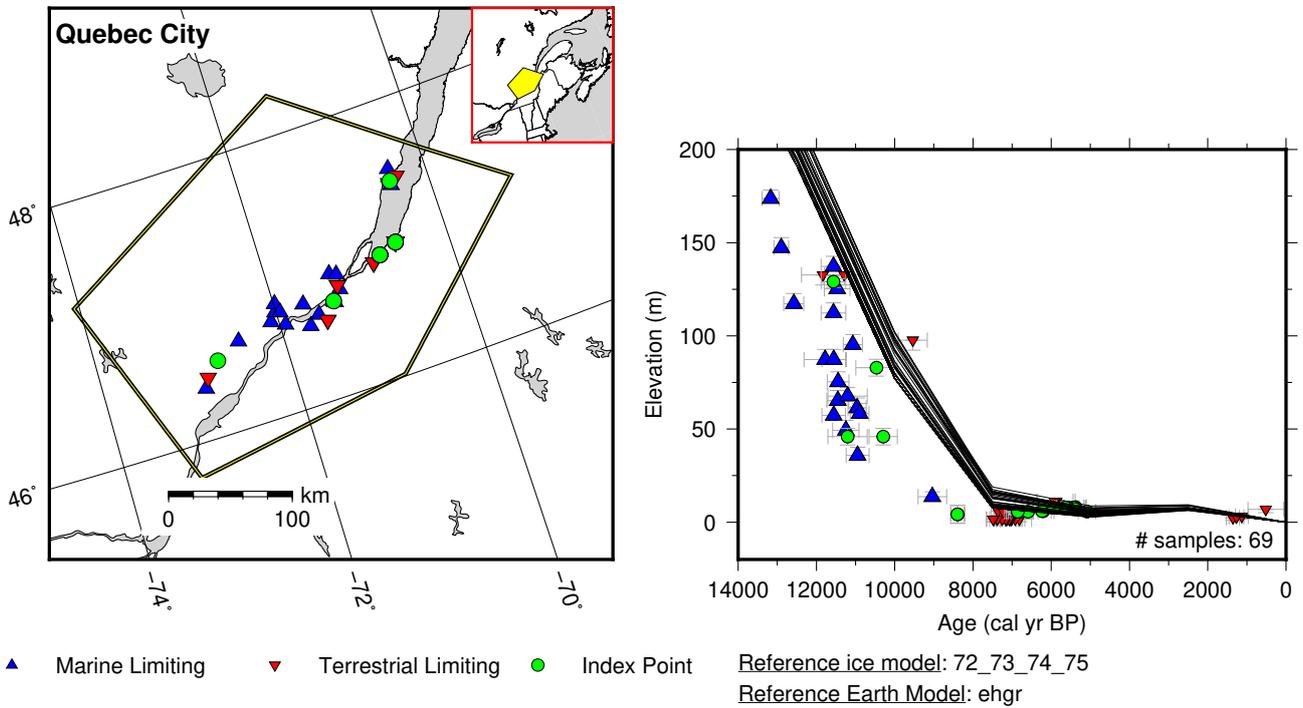


Figure 145: Paleo-sea level and comparison of six models for subregion St Lawrence Lowlands, location Quebec City.

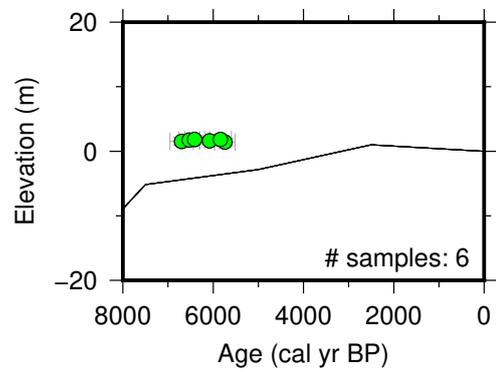
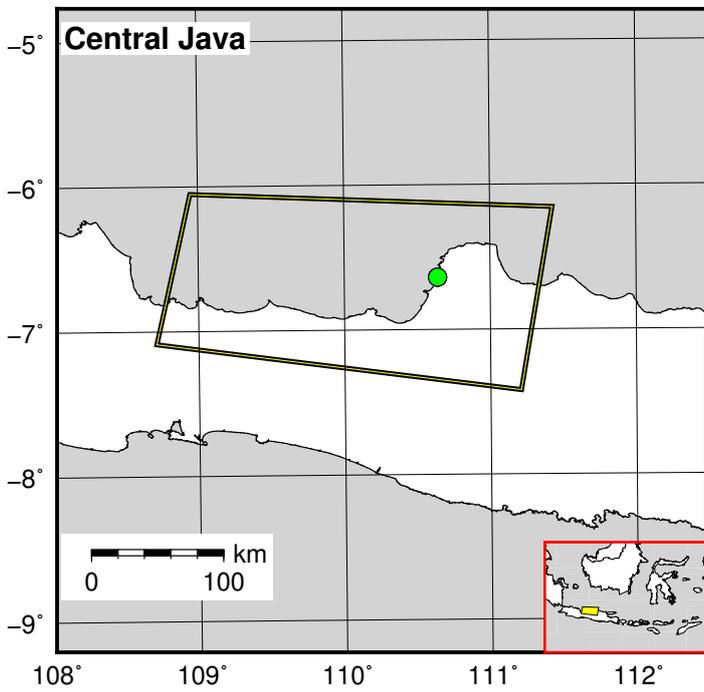
## **12 Southeast Asia**

### **12.1 Java Sea**

References for the data used in each location.

**Central Java:** Azmy et al. (2010)

**South Sulawesi:** de Klerk (1982); Mann et al. (2016); Tjia et al. (1972)



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

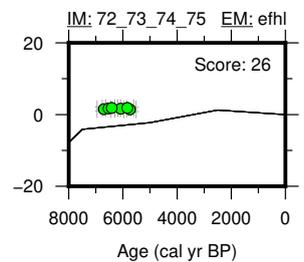
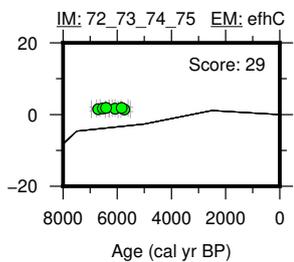
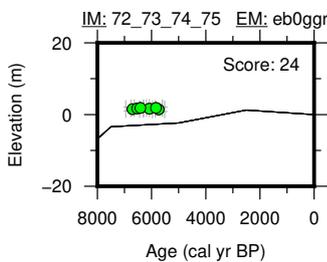
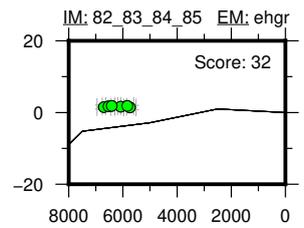
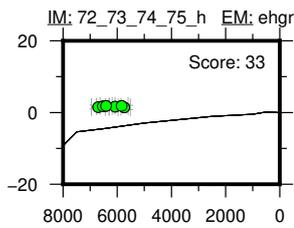
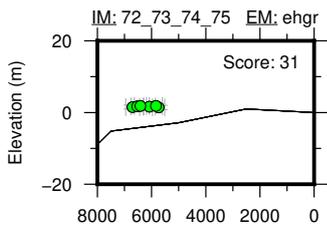
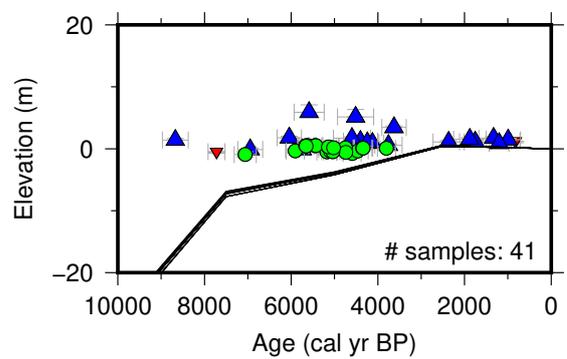
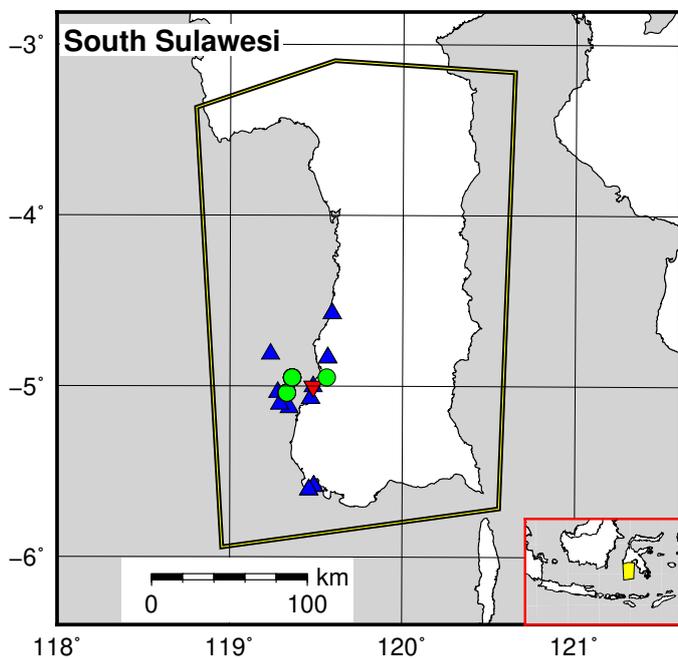


Figure 146: Paleo-sea level and comparison of six models for subregion Java Sea, location Central Java.



▲ Marine Limiting    
 ▼ Terrestrial Limiting    
 ● Index Point    
 Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

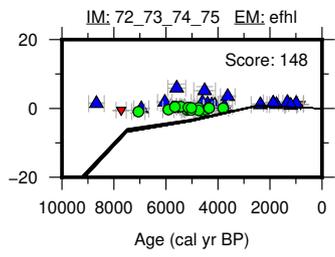
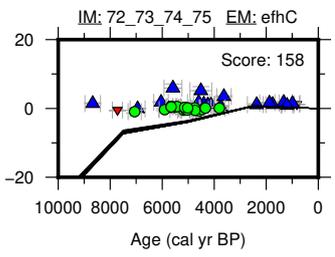
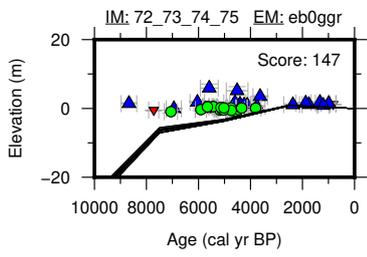
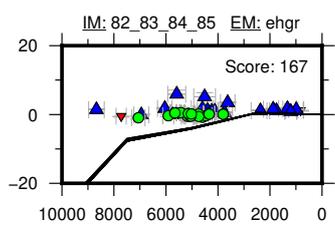
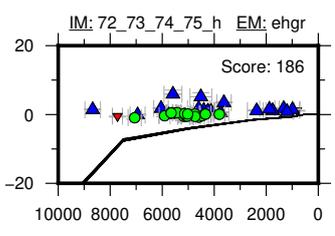
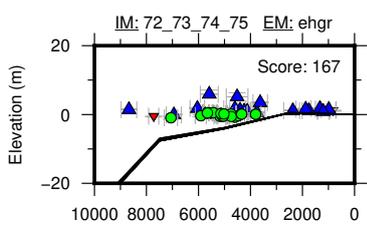


Figure 147: Paleo-sea level and comparison of six models for subregion Java Sea, location South Sulawesi.

## 12.2 Papua New Guinea

References for the data used in each location.

**Huon Peninsula:** Chappell and Polach (1991); Cutler et al. (2003, 2004); Edwards et al. (1993); Hibbert et al. (2016)

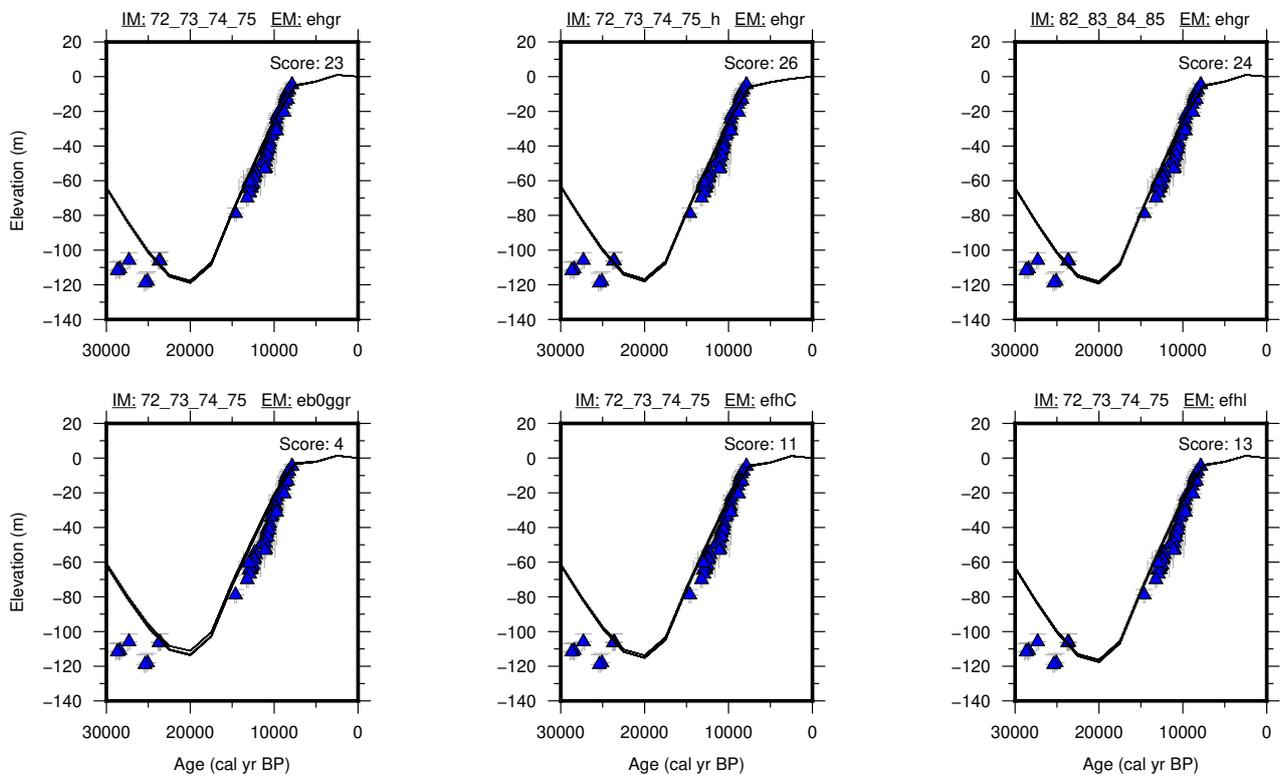
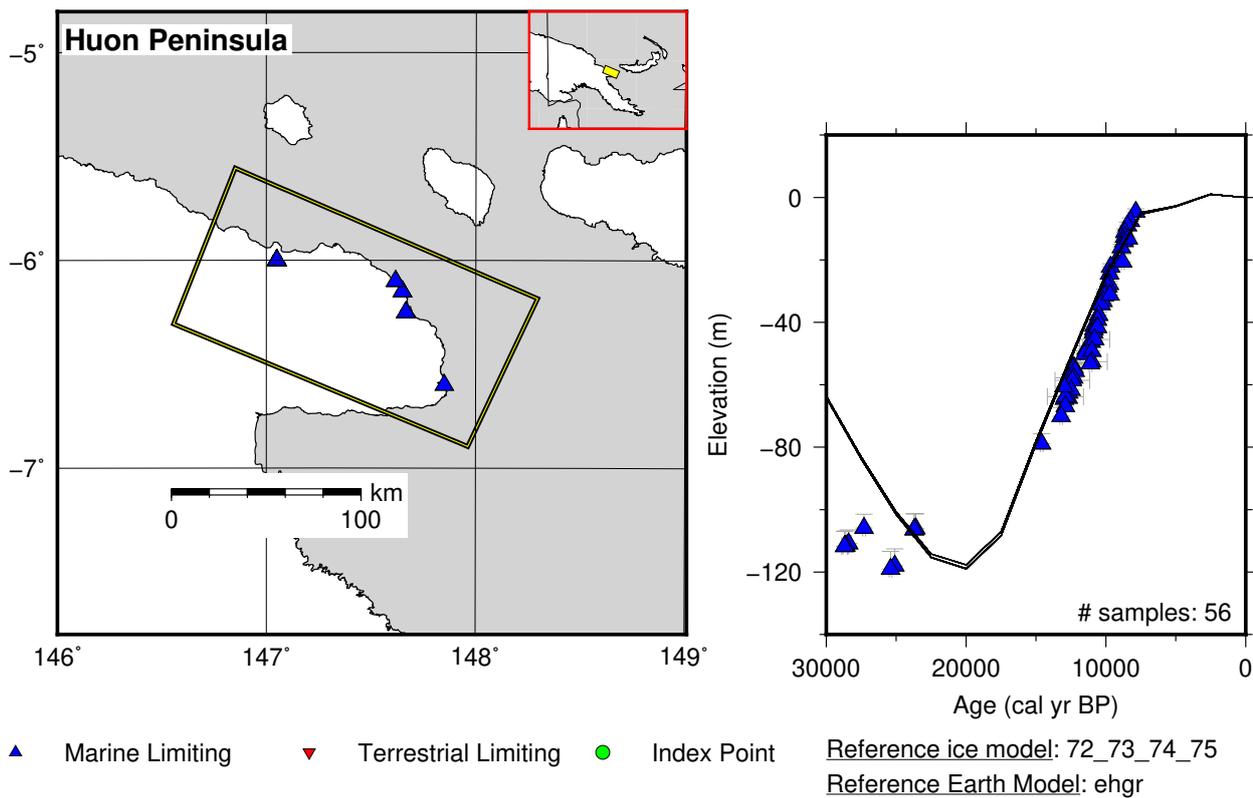


Figure 148: Paleo-sea level and comparison of six models for subregion Papua New Guinea, location Huon Peninsula.

## 12.3 Sundaland

References for the data used in each location.

**Chao Phraya:** Horton et al. (2005); Sinsakul (1992); Somboon (1988); Somboon and Thiramongkol (1992)

**Mekong Delta:** Hanebuth et al. (2012); Stattegger et al. (2013); Tamura et al. (2007, 2009)

**Strait Of Malacca:** Bird et al. (2007, 2010); Geyh et al. (1979); Hassan (2001); Hesp et al. (1998); Horton et al. (2005); Tjia and Fujii (1992)

**Sunda Shelf:** Hanebuth et al. (2000, 2003, 2009)

**Vietnam Shelf:** Hanebuth et al. (2000)

**Phuket:** Scheffers et al. (2012); Scoffin and Le Tissier (1998)

**Thale Noi:** Horton et al. (2005)

**West Malay Peninsula:** Tjia and Fujii (1992); Tjia et al. (1972)

**East Malay Peninsula:** Parham et al. (2014); Tjia and Fujii (1992)

**Southeast Malay Peninsula:** Hassan (2001); Horton et al. (2005); Tjia and Fujii (1992); Tjia et al. (1983)

**Belitung Island:** Meltzner et al. (2017)

**Ca Na:** Stattegger et al. (2013)

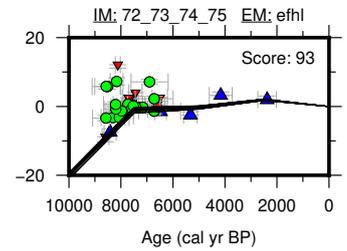
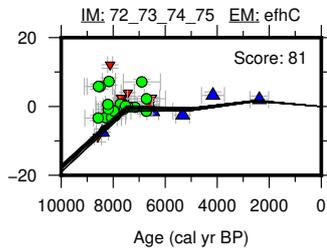
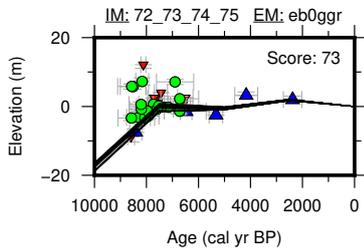
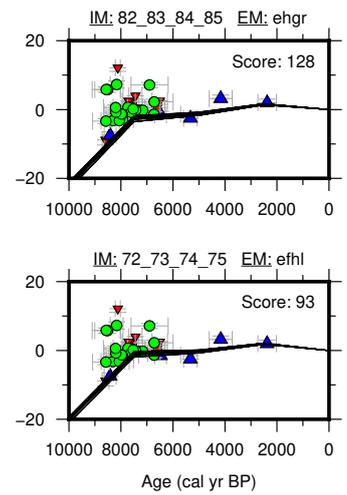
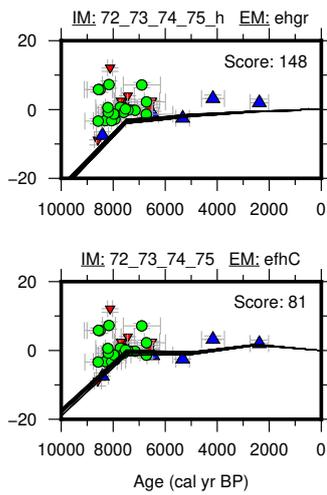
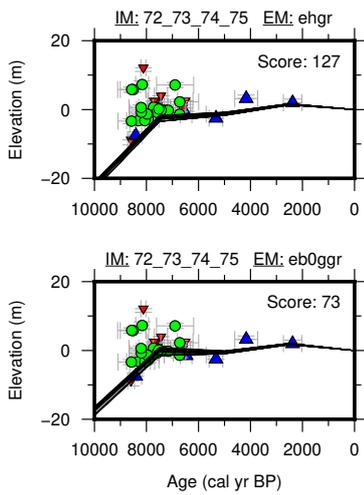
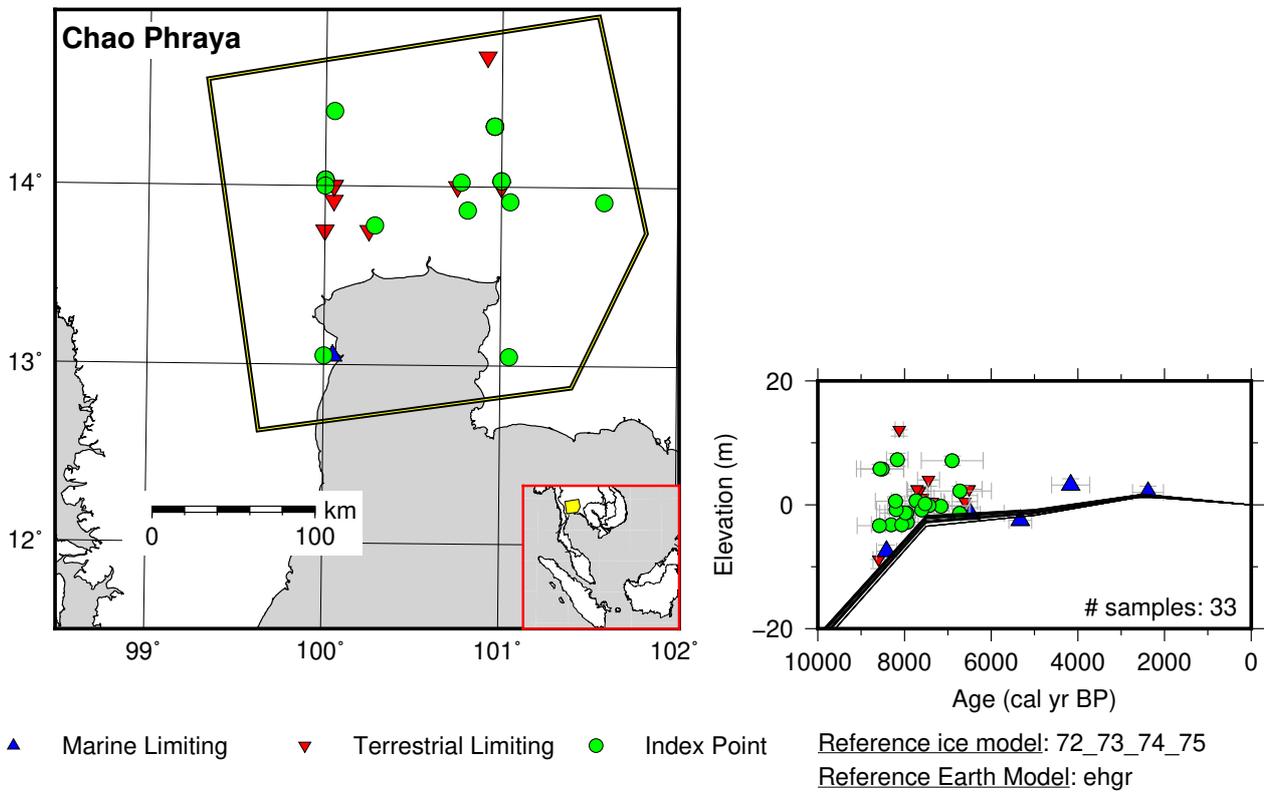
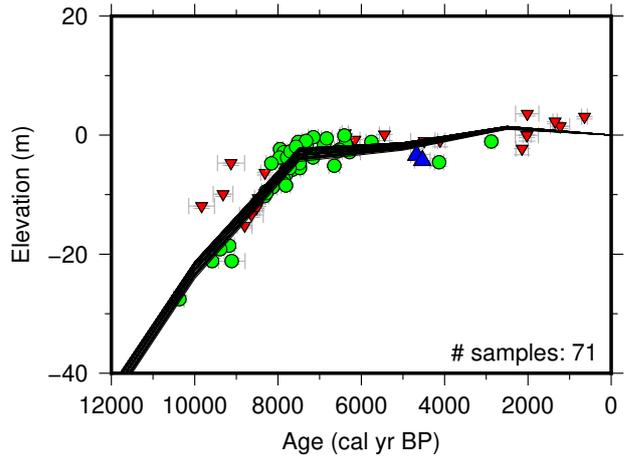
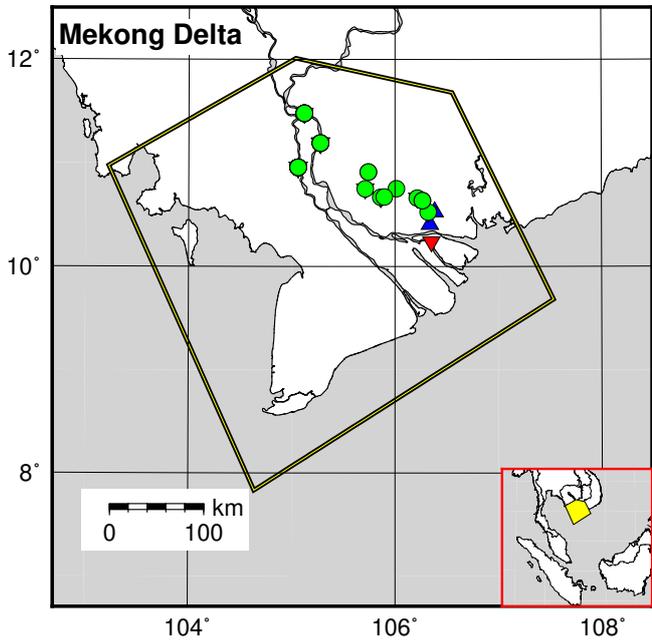


Figure 149: Paleo-sea level and comparison of six models for subregion Sundaland, location Chao Phraya.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
 Reference Earth Model: ehgr

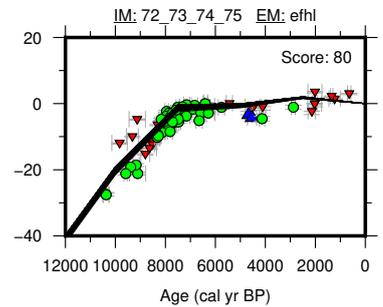
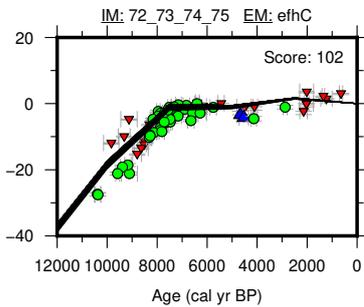
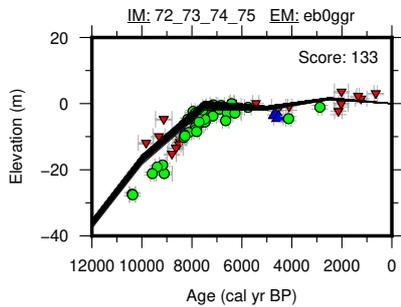
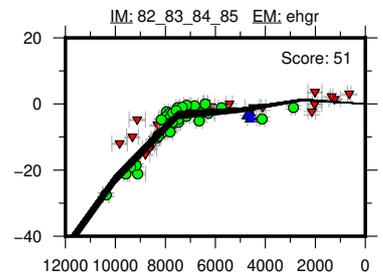
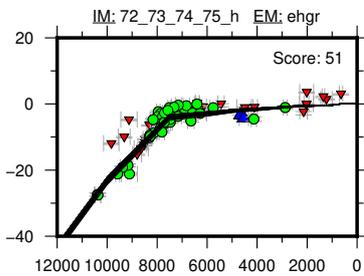
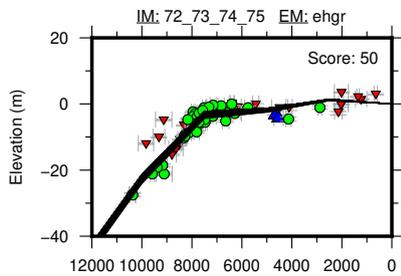


Figure 150: Paleo-sea level and comparison of six models for subregion Sundaland, location Mekong Delta.

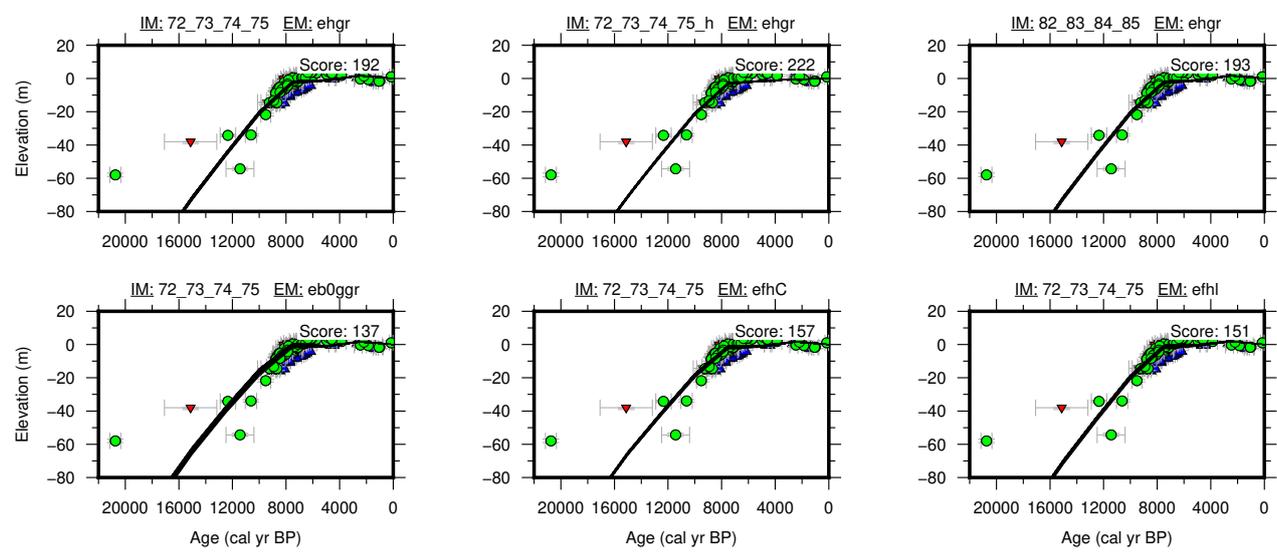
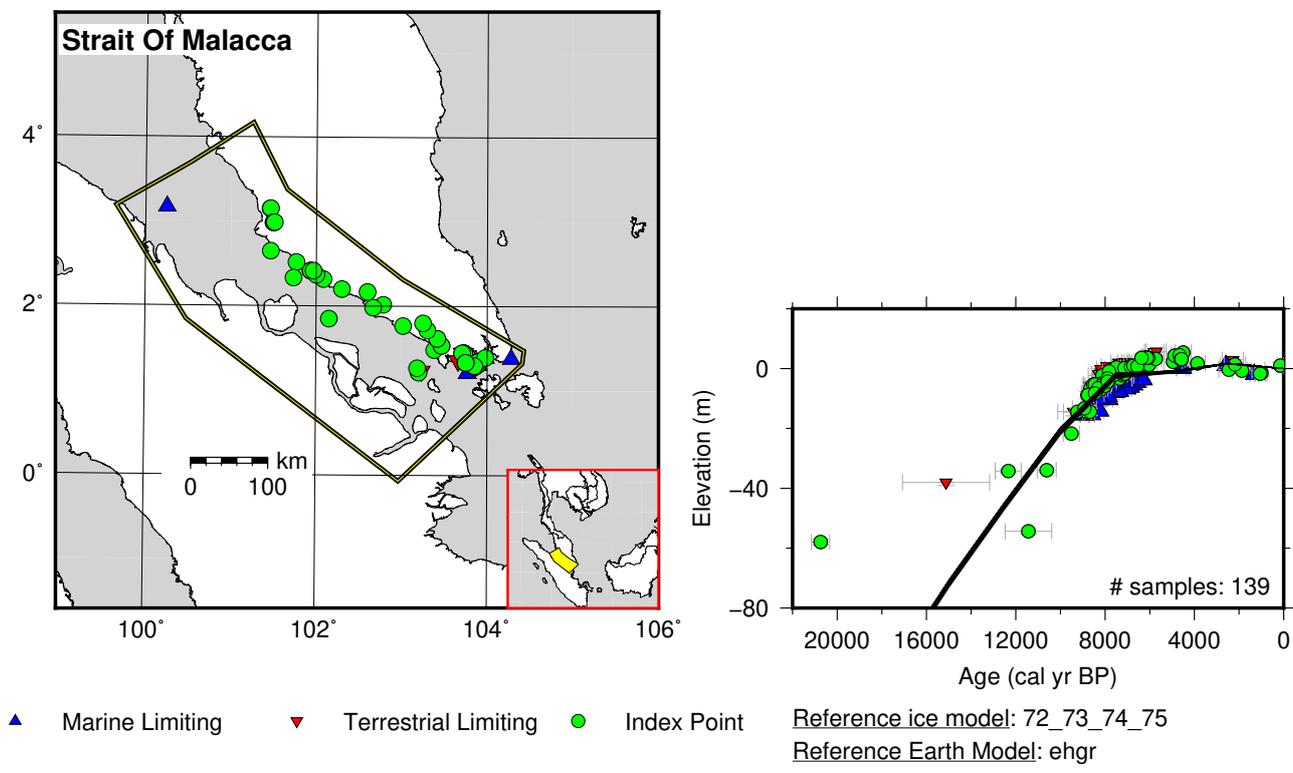


Figure 151: Paleo-sea level and comparison of six models for subregion Sundaland, location Strait Of Malacca.

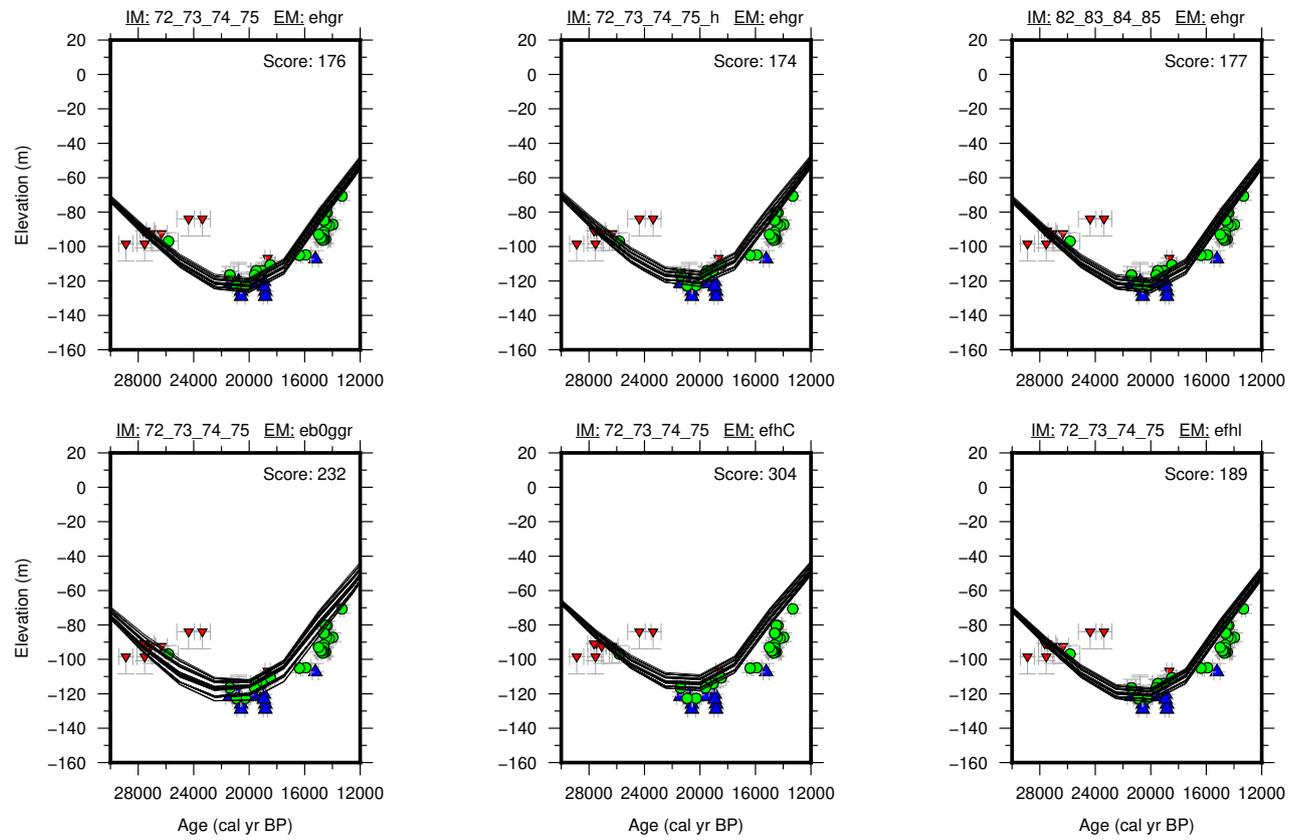
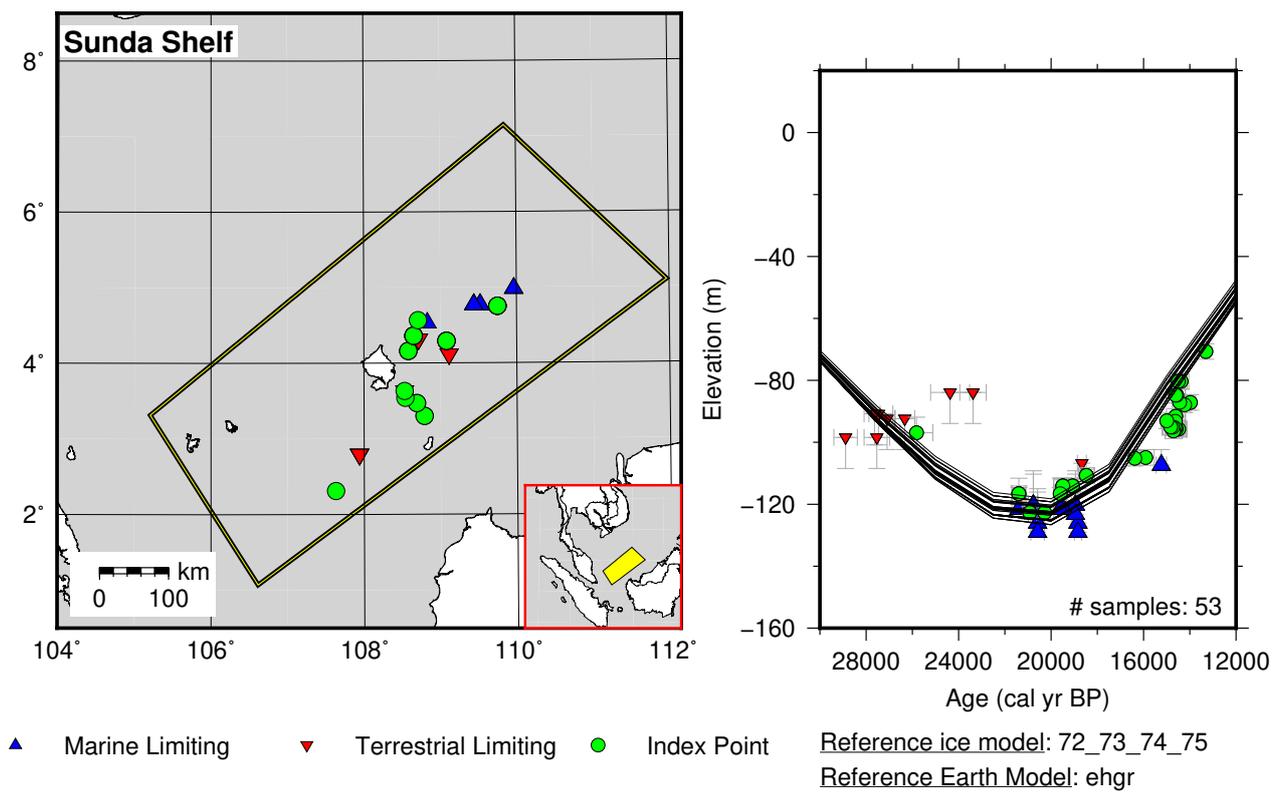
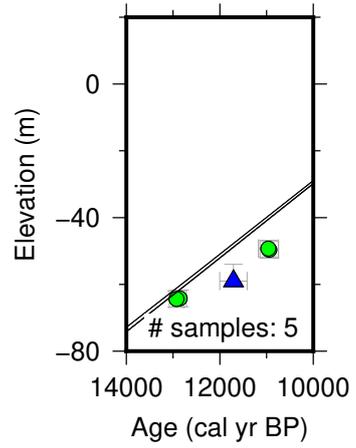
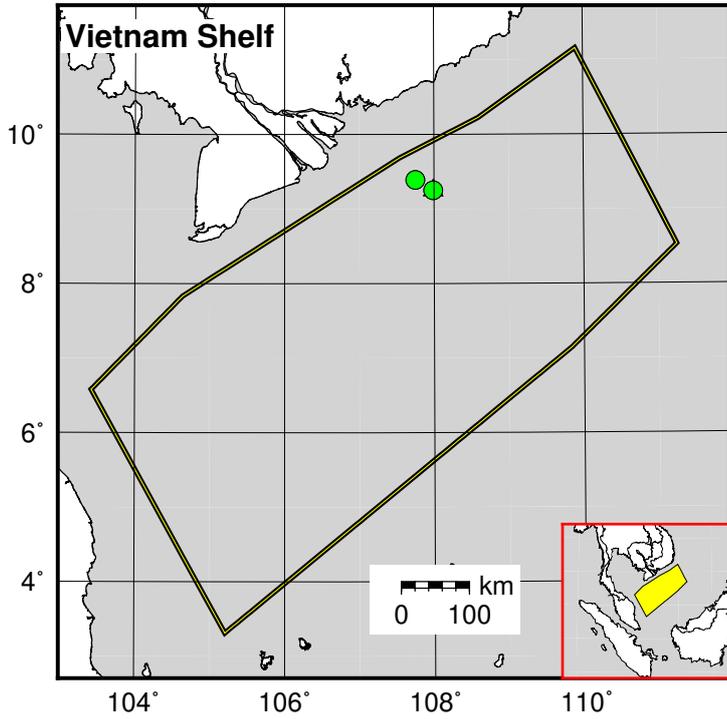


Figure 152: Paleo-sea level and comparison of six models for subregion Sundaland, location Sunda Shelf.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

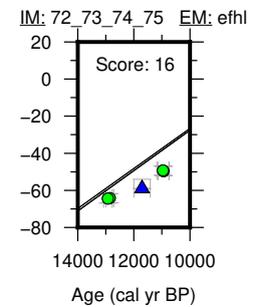
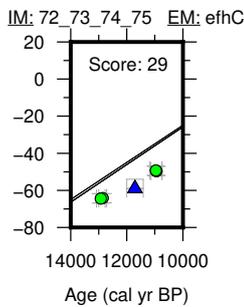
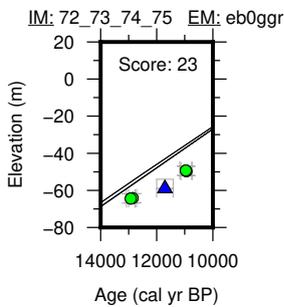
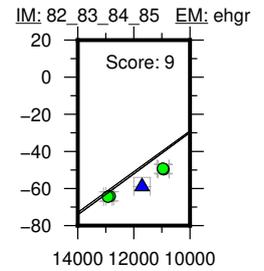
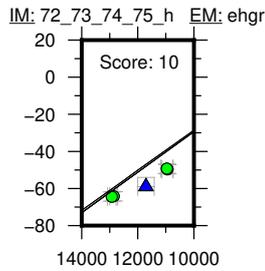
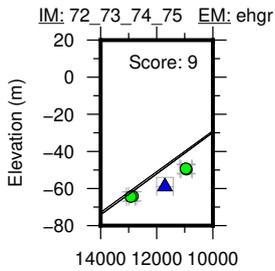


Figure 153: Paleo-sea level and comparison of six models for subregion Sundaland, location Vietnam Shelf.

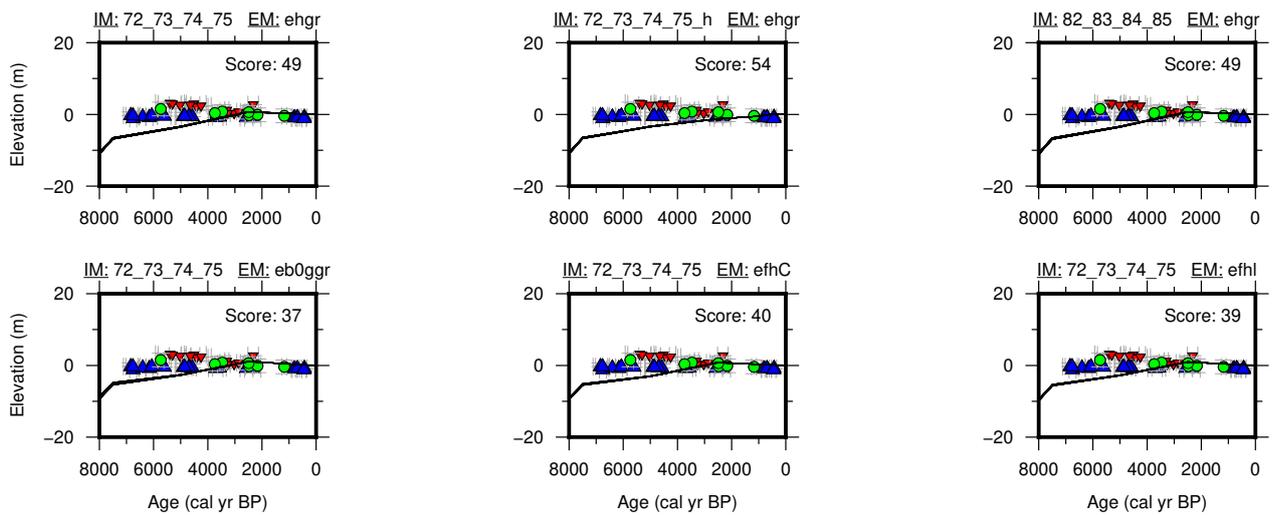
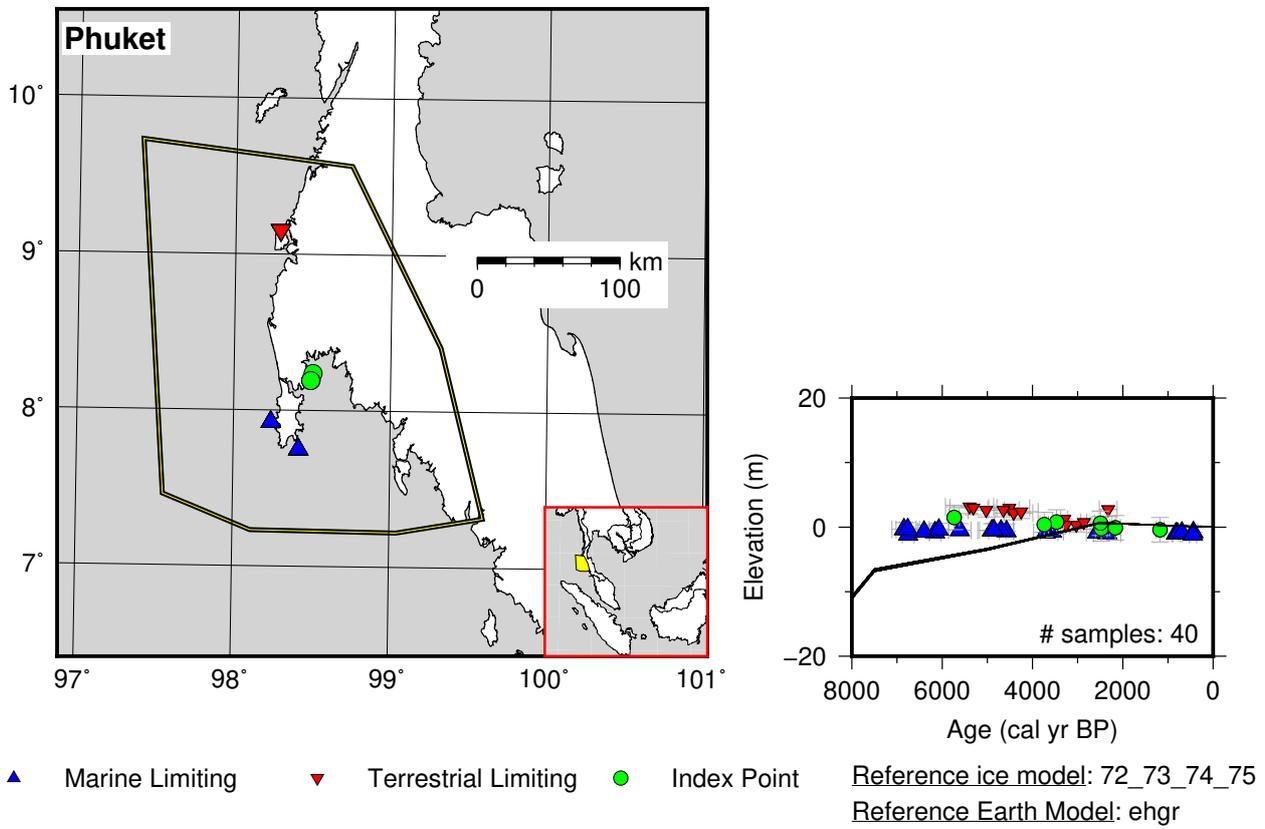


Figure 154: Paleo-sea level and comparison of six models for subregion Sundaland, location Phuket.

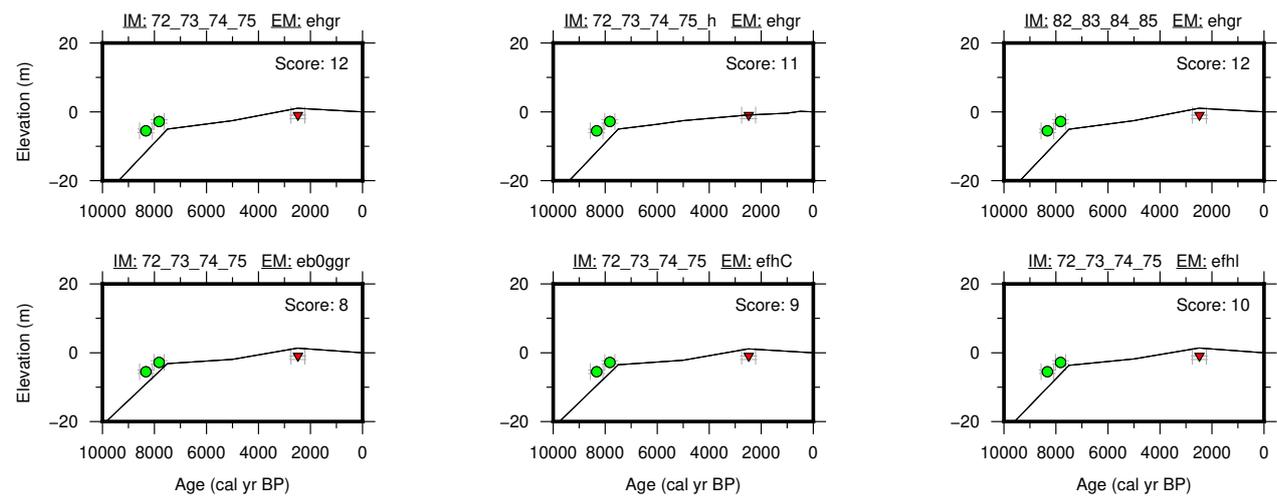
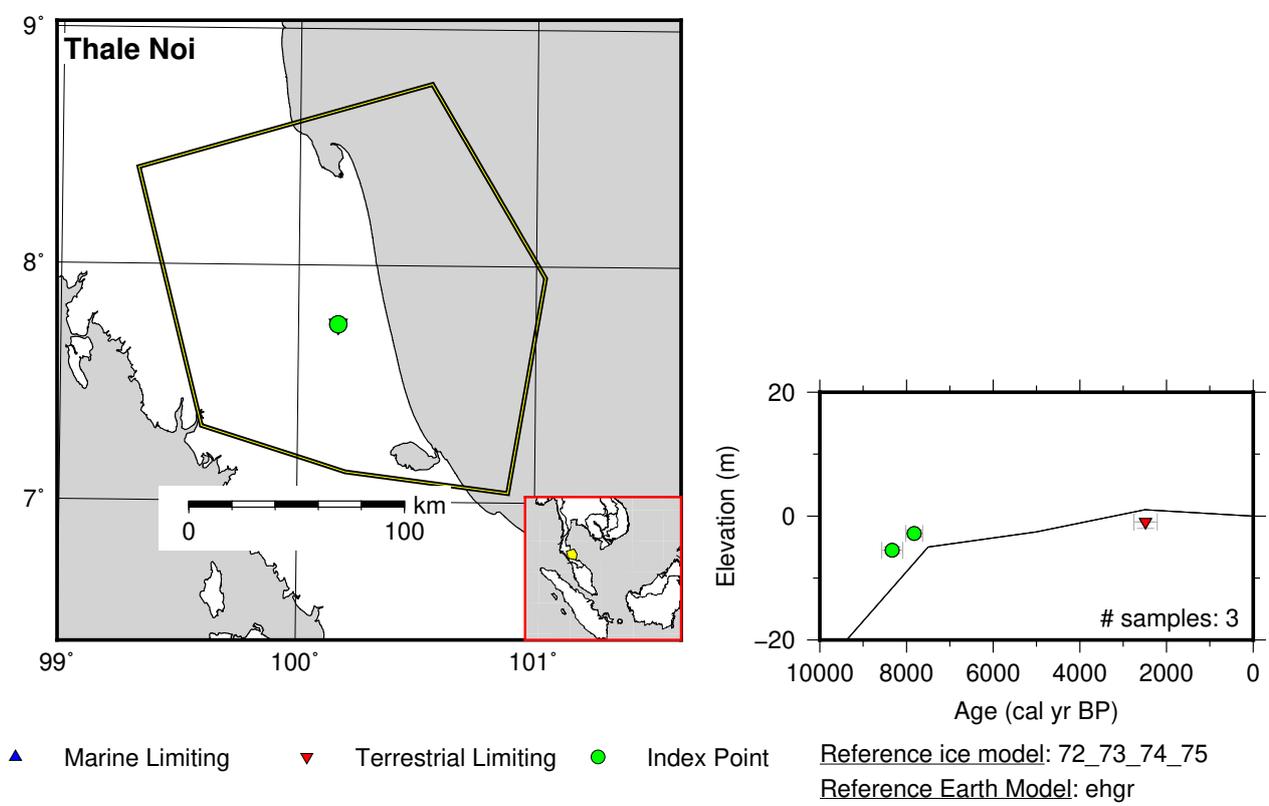


Figure 155: Paleo-sea level and comparison of six models for subregion Sundaland, location Thale Noi.

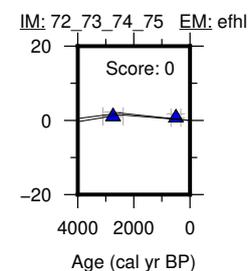
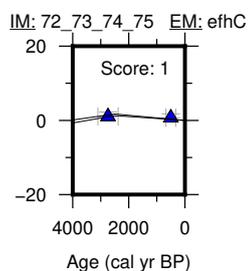
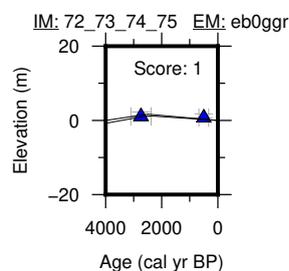
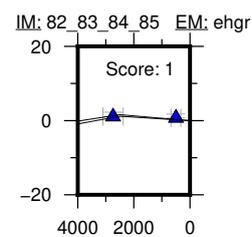
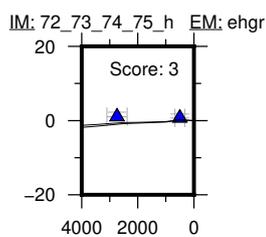
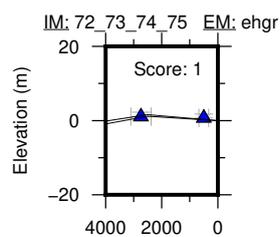
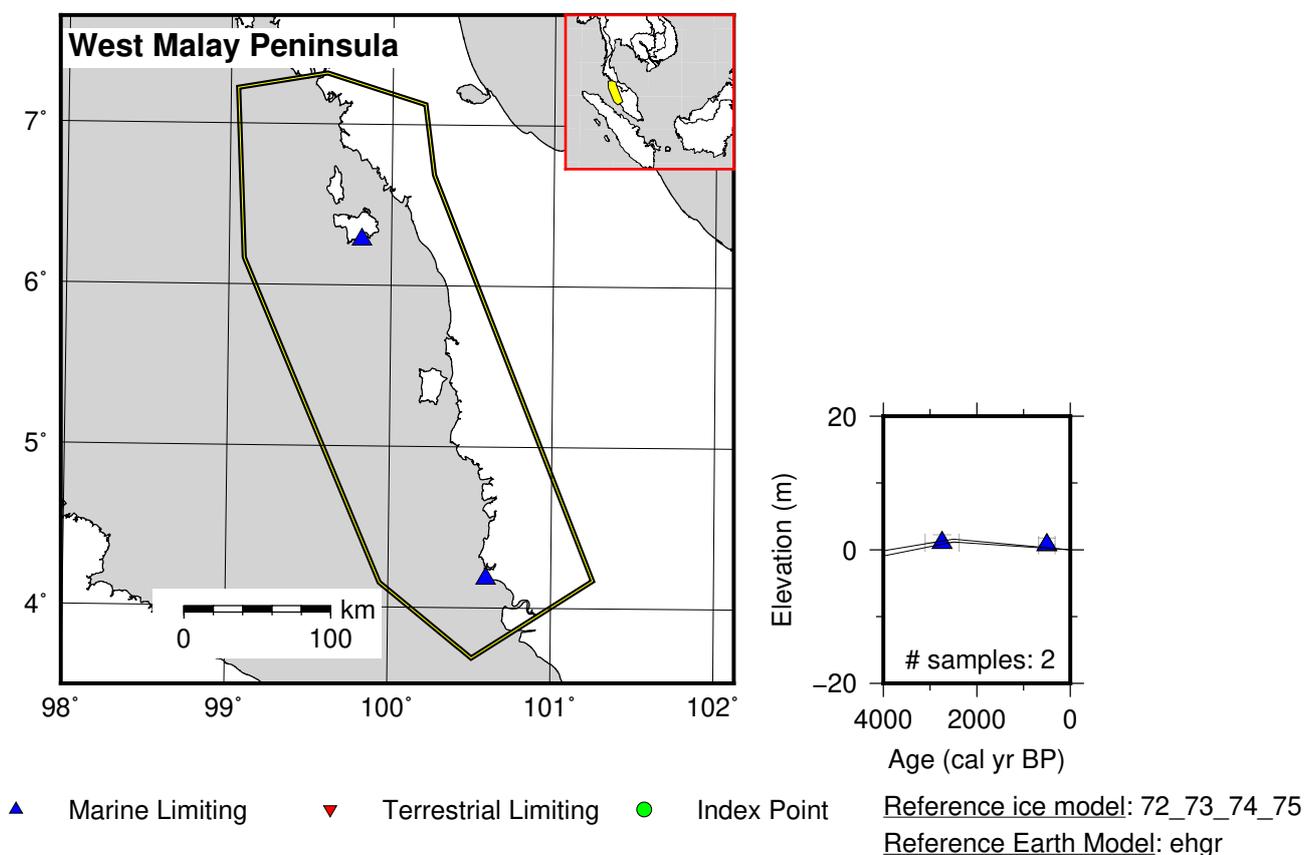


Figure 156: Paleo-sea level and comparison of six models for subregion Sundaland, location West Malay Peninsula.

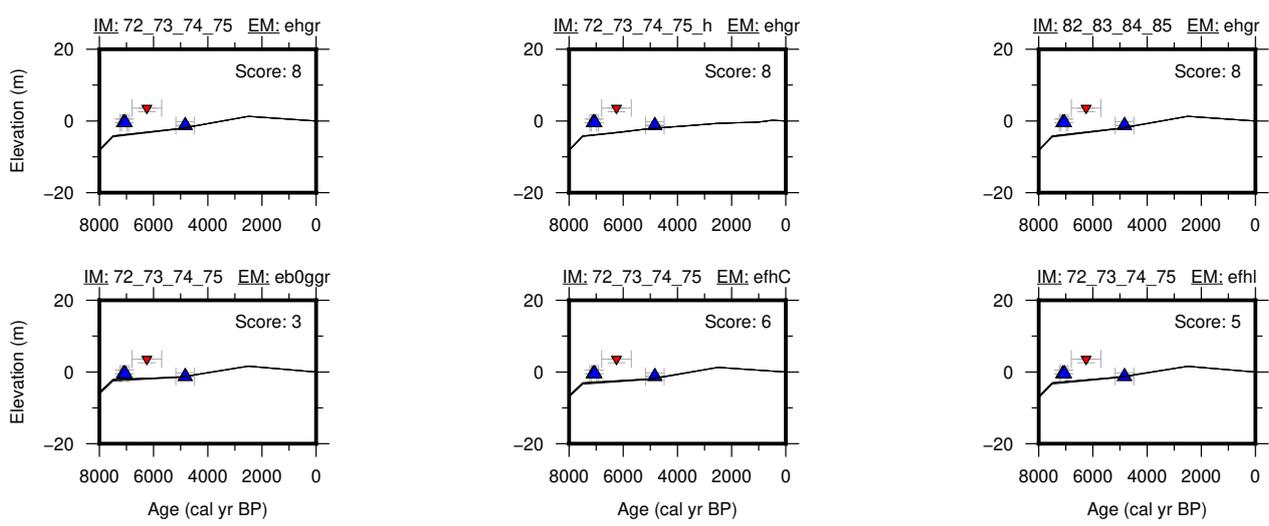
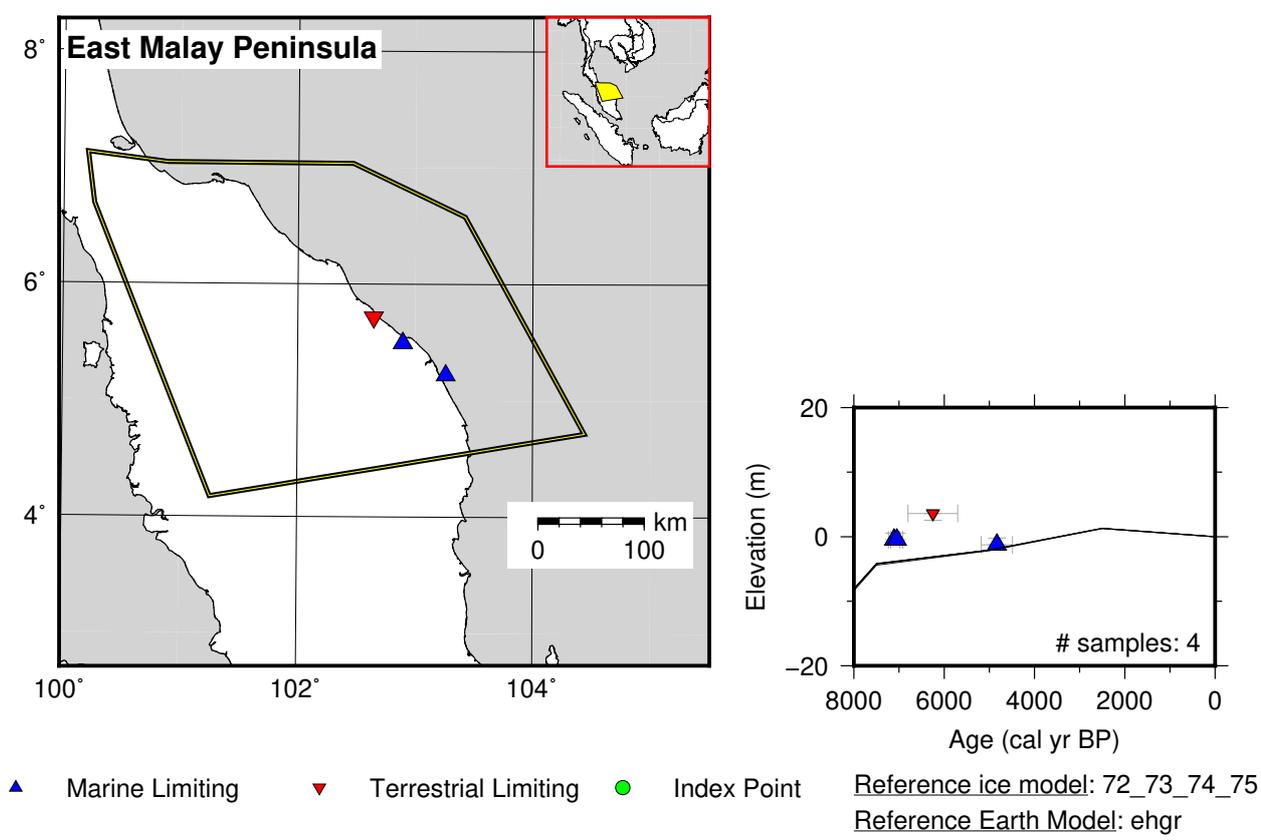


Figure 157: Paleo-sea level and comparison of six models for subregion Sundaland, location East Malay Peninsula.

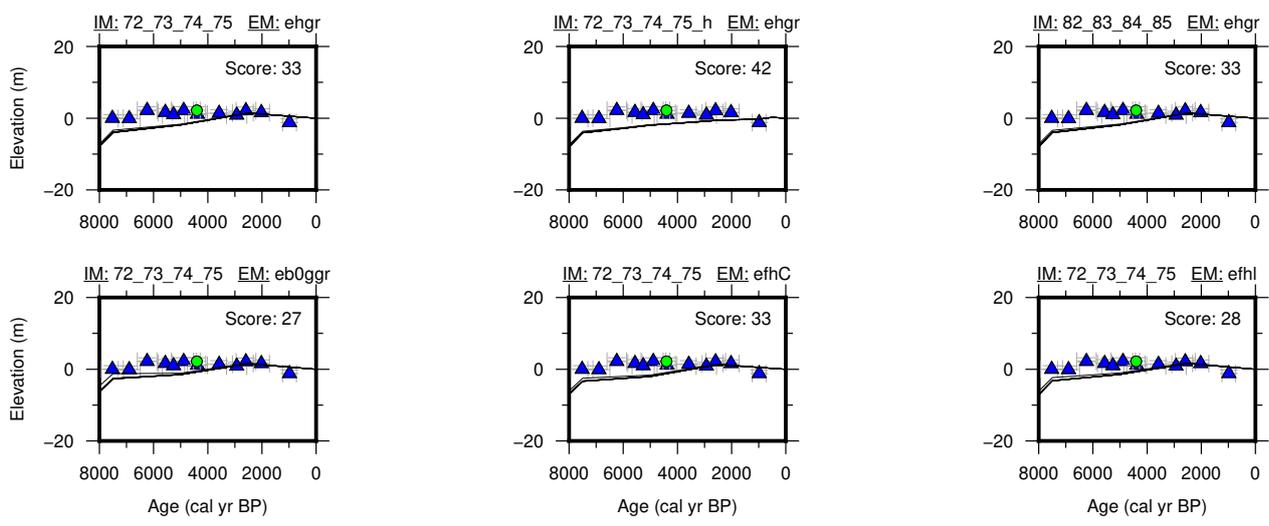
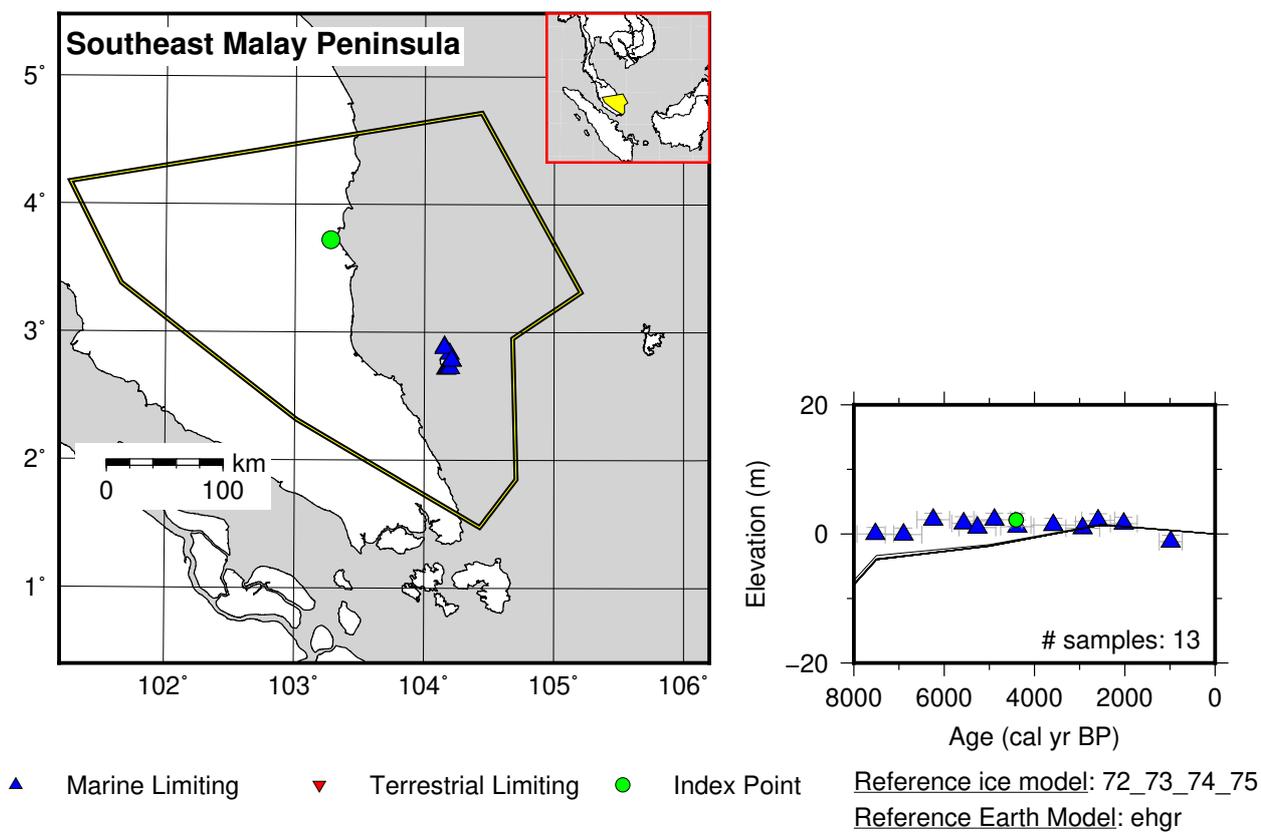
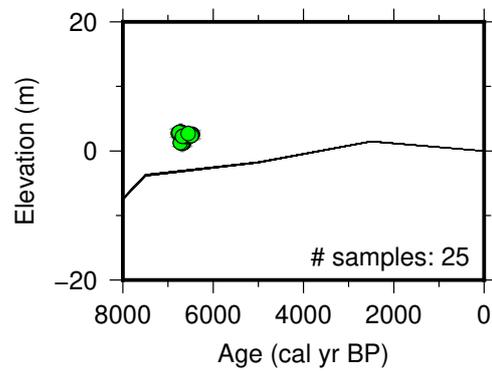
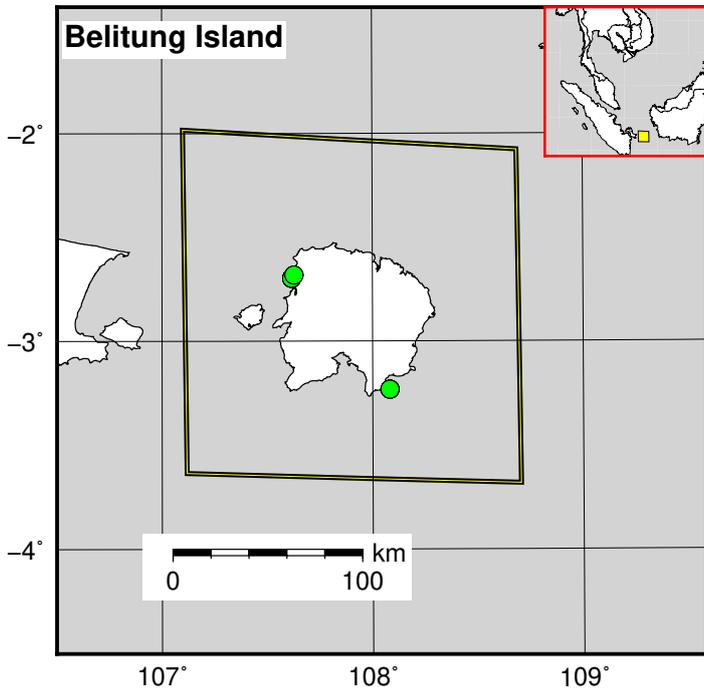


Figure 158: Paleo-sea level and comparison of six models for subregion Sundaland, location Southeast Malay Peninsula.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point    Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

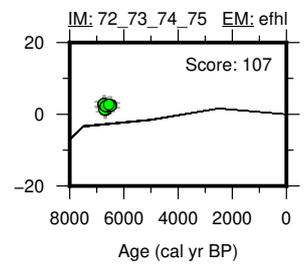
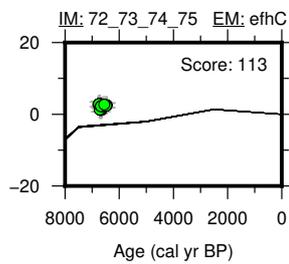
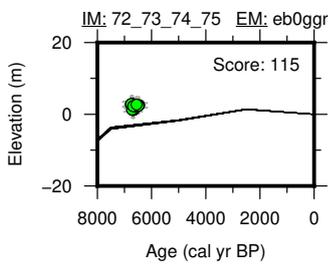
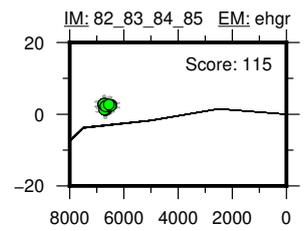
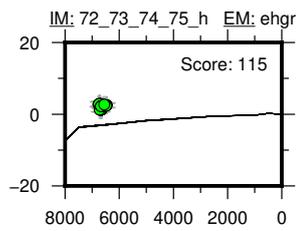
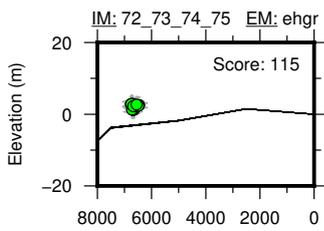
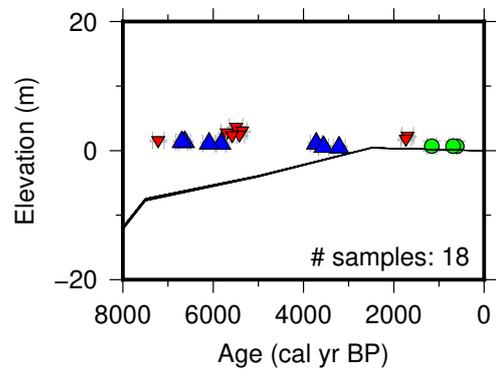
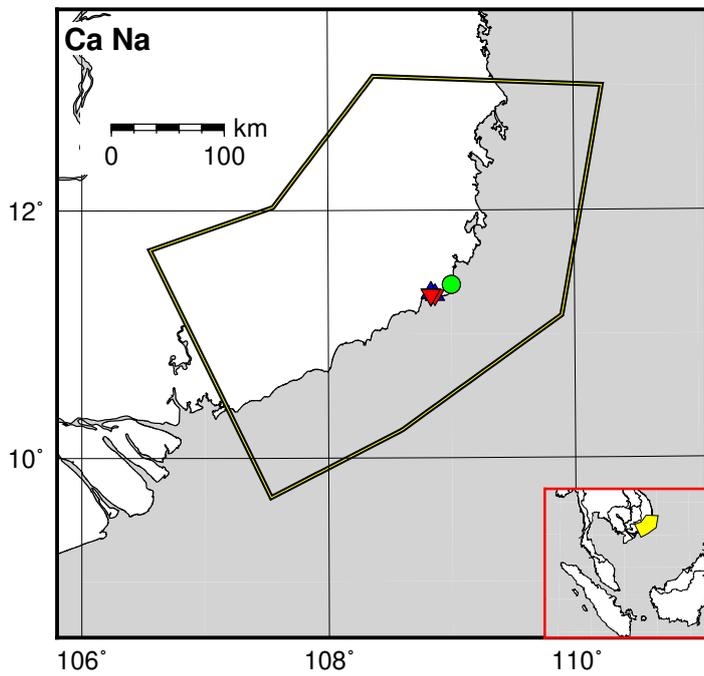


Figure 159: Paleo-sea level and comparison of six models for subregion Sundaland, location Belitung Island.



▲ Marine Limiting    ▼ Terrestrial Limiting    ● Index Point

Reference ice model: 72\_73\_74\_75  
Reference Earth Model: ehgr

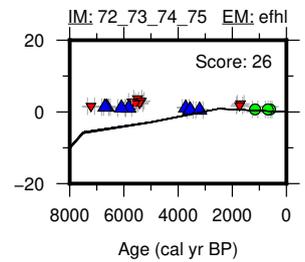
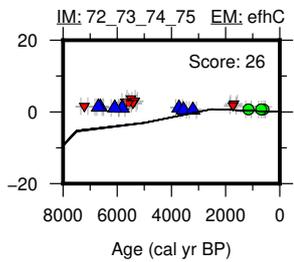
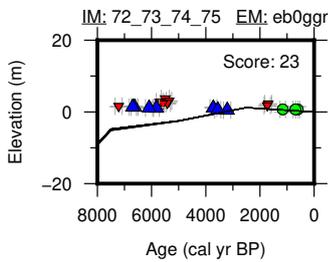
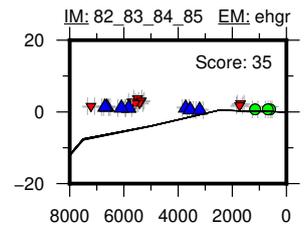
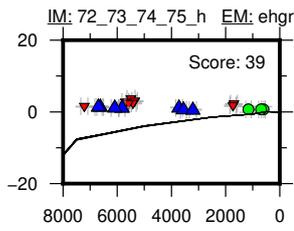
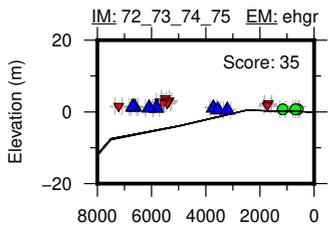


Figure 160: Paleo-sea level and comparison of six models for subregion Sundaland, location Ca Na.

## Bibliography

- Allard, M. and Seguin, M.: La déglaciation d'une partie du versant Hudsonien Québécois: bassins des rivières Nastapoca, Sheldrake et à l'Eau Claire, *Géographie physique et Quaternaire*, 39, 13–24, <https://doi.org/10.7202/032581ar>, 1985.
- Allard, M. and Tremblay, G.: La dynamique littorale des îles Manitounuk durant l'Holocène in coastal and inland periglacial processes. *Canadian Arctic, Zeitschrift für Geomorphologie. Supplementband*, 47, 61–95, 1983a.
- Allard, M. and Tremblay, G.: Les processus d'érosion littorale périglaciaire de la région de Port-de-la-Baleine et des îles Manitounuk sur la côte est de la mer d'Hudson, Canada, *Zeitschrift für Geomorphologie. Supplementband*, 47, 27–60, 1983b.
- Amos, C. L. and Miller, A. A.: The Quaternary stratigraphy of southwest Sable Island Bank, eastern Canada, *Geological Society of America Bulletin*, 102, 915–934, [https://doi.org/10.1130/0016-7606\(1990\)102\%3C0915:TQSOS\%3E2.3.CO;2](https://doi.org/10.1130/0016-7606(1990)102\%3C0915:TQSOS\%3E2.3.CO;2), 1990.
- Anderson, J. M. and Hodgetts, L. M.: Pre-Dorset Technological Organization and Land Use in Southwestern Hudson Bay, *Canadian Journal of Archaeology/Journal Canadien d'Archéologie*, 31, 224–249, 2007.
- Andreev, A., Tarasov, P., Schwamborn, G., Ilyashuk, B., Ilyashuk, E., Bobrov, A., Klimanov, V., Rachold, V., and Hubberten, H.-W.: Holocene paleoenvironmental records from Nikolay Lake, Lena River Delta, Arctic Russia, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 209, 197–217, <https://doi.org/10.1016/j.palaeo.2004.02.010>, 2004.
- Andrews, J. T. and Falconer, G.: Late glacial and post-glacial history and emergence of the Ottawa Islands, Hudson Bay, Northwest Territories: Evidence on the deglaciation of Hudson Bay, *Canadian Journal of Earth Sciences*, 6, 1263–1276, <https://doi.org/10.1139/e69-126>, 1969.
- Andrews, J. T. and Short, S. K.: Radiocarbon Date List V: Baffin Island N.W.T., Canada, and Radiocarbon Date List II: Labrador and Northern Quebec, Canada, *Occasional Paper 40*, Institute of Arctic and Alpine Research, University of Colorado, Boulder, Colorado, USA, 1983.
- Anisimov, M. A., Ivanova, V. V., Pushina, Z. V., and Pitulko, V. V.: Lagoon deposits of the Zhokhov Island, their age, formation conditions and significance for the paleogeographic reconstructions of the New Siberian Islands region (East Siberian sector of Eurasian Arctic shelf), *Proceedings of the Russian Academy of Sciences (Geography Series)*, 5, 107–119, (in Russian), 2009a.
- Anisimov, M. A., Pavlova, E. Y., and Pitulko, V. V.: Holocene of the New Siberian Islands. Fundamental problems of the Quaternary: results of investigations and future perspectives, in: *Proceedings of the VI All-Russian Quaternary Workshop*, pp. 38–40, Novosibirsk, Russia, (In Russian), 2009b.
- Arslanov, X. A., Koshechkin, B. I., and Chernov, B. S.: Абсолютная хронология осадков поздне-и послеледниковых морских бассейнов на Кольском п-ове (Absolute chronology of sediments of late- and postglacial marine basins, Kola Peninsula), in: *Вестник Ленинградского ун-та (Bulletin of the Leningrad University)*, vol. 12, pp. 132–138, Leningrad University, 1974.
- Astakhov, V. I. and Nazarov, D. V.: The stratigraphy of the upper Neopleistocene of western Siberia and its geochronometric justification, *Regional'naja geologija i metallogenija*, 43, 36–47, (in Russian), 2010.

- Astakhov, V. I., Mangerud, J., and Svensen, J. I.: Трансуральская корреляция верхнего плейстоцена Севера (Transural Upper Pleistocene correlation of the North), Региональная геология и металлогения (Regional geology and metallogeny), 30-31, 190–206, 2007.
- Awadallah, S. A. and Batterson, M. J.: Comment on “Late Deglaciation of the Central Labrador Coast and Its Implications for the Age of Glacial Lakes Naskaupi and McLean and for Prehistory,” by PU Clark and WW Fitzhugh, Quaternary Research, 34, 372–373, [https://doi.org/10.1016/0033-5894\(90\)90048-P](https://doi.org/10.1016/0033-5894(90)90048-P), 1990.
- Aylsworth, J. M., Boydell, A. N., Cunningham, C. M., and Shilts, W. W.: Surficial Geology, Macquoid Lake, District of Keewatin, Preliminary Map 11-1980, Geological Survey of Canada, <https://doi.org/10.4095/109694>, scale 1:125 000, 1981.
- Azmy, K., Edinger, E., Lundberg, J., and Diegor, W.: Sea level and paleotemperature records from a mid-Holocene reef on the North coast of Java, Indonesia, International Journal of Earth Sciences, 99, 231–244, <https://doi.org/10.1007/s00531-008-0383-3>, 2010.
- Baranskaya, A. and Romanenko, F.: Дифференцированные вертикальные движения и блоковая тектоника побережий Кандалакшского залива Белого моря (Differential vertical crustal movements and block tectonics of the coasts of Kandalaksha Gulf, White Sea), in: Материалы IV Международной научно-практической конференции молодых ученых и специалистов памяти академика А.П. Карпинского (Proceedings of the IV International Scientific and Practical Conference of Young Scientists and Specialists in Memory of Academician A.P. Karpinsky), pp. 3–6, VSEGEI. - VSEGEI St. Petersburg, St. Petersburg, Russia, 2015.
- Baranskaya, A. V.: The Role of the Latest Tectonic Movements in the Formation of the Relief of the Coasts of the Russian Arctic, Ph.D. thesis, Saint Petersburg State University, Saint-Petersburg, Russia, summary of the Thesis for a Degree of Doctor of Philosophy (Geographical Science), Speciality 25.00.25 - Geomorphology and Evolutional Geography, 2015.
- Baranskaya, A. V., Khan, N. S., Romanenko, F. A., Roy, K., Peltier, W. R., and Horton, B. P.: A postglacial relative sea-level database for the Russian Arctic coast, Quaternary Science Reviews, 199, 188–205, <https://doi.org/10.1016/j.quascirev.2018.07.033>, 2018a.
- Baranskaya, A. V., Romanenko, F. A., Arslanov, H. A., Petrov, A. Y., Maksimov, F. E., Tikhonov, A. N., and Demidov, N. E.: Верхнечетвертичные отложения Гыдана и арктических островов: реконструкция относительного уровня Карского моря в связи с вертикальными движениями земной коры за последние 50 тысяч лет (Upper Quaternary sediments of Gydan Peninsula and Arctic islands: reconstruction of the relative Kara Sea level and vertical movements of the Earth's crust in the last 50 ka), Вестник Московского Университета. Серия 5. География (Vestnik of the Moscow University, series Geography), 6, 56–71, 2018b.
- Bard, E., Hamelin, B., Arnold, M., Montaggioni, L., Cabioch, G., Faure, G., and Rougerie, F.: Deglacial sea-level record from Tahiti corals and the timing of global meltwater discharge, Nature, 382, 241–244, <https://doi.org/10.1038/382241a0>, 1996.
- Bard, E., Hamelin, B., and Delanghe-Sabatier, D.: Deglacial Meltwater Pulse 1B and Younger Dryas Sea Levels Revisited with Boreholes at Tahiti, Science, 327, 1235–1237, <https://doi.org/10.1126/science.1180557>, 2010.
- Barnett, R. L., Bernatchez, P., Garneau, M., and Juneau, M.-N.: Reconstructing late Holocene relative sea-level changes at the Magdalen Islands (Gulf of St. Lawrence, Canada) using multi-proxy analyses, Journal of Quaternary Science, 32, 380–395, <https://doi.org/10.1002/jqs.2931>, 2017.

- Barnhardt, W. A., Roland Gehrels, W., and Kelley, J. T.: Late Quaternary relative sea-level change in the western Gulf of Maine: Evidence for a migrating glacial forebulge, *Geology*, 23, 317–320, [https://doi.org/10.1130/0091-7613\(1995\)023<0317:LQRSLC>2.3.CO;2](https://doi.org/10.1130/0091-7613(1995)023<0317:LQRSLC>2.3.CO;2), 1995.
- Bartley, D. D. and Matthews, B.: A palaeobotanical investigation of postglacial deposits in the Sugluk area of northern Ungava (Quebec, Canada), *Review of Palaeobotany and Palynology*, 9, 45–61, [https://doi.org/10.1016/0034-6667\(69\)90012-8](https://doi.org/10.1016/0034-6667(69)90012-8), 1969.
- Batterson, M.: Quaternary geology of parts of the central and southern Hopedale Block, Labrador, Current Research Report 96-1, Newfoundland Department of Mines and Energy, Geological Survey, 1996.
- Bauch, H. A., Kassens, H., Erlenkeuser, H., Grootes, P. M., and Thiede, J.: Depositional environment of the Laptev Sea (Arctic Siberia) during the Holocene, *Boreas*, 28, 194–204, <https://doi.org/10.1111/j.1502-3885.1999.tb00214.x>, 1999.
- Beaulieu-Audy, V., Garneau, M., Richard, P. J., and Asnong, H.: Holocene palaeoecological reconstruction of three boreal peatlands in the La Grande Rivière region, Québec, Canada, *The Holocene*, 19, 459–476, <https://doi.org/10.1177/0959683608101395>, 2009.
- Belknap, D. F.: Dating of late Pleistocene and Holocene relative sea levels in coastal Delaware, Ph.D. thesis, University of Delaware, Newark, Delaware, United States, 1975.
- Belknap, D. F., Shipp, R. C., Stuckenrath, R., Kelley, J. T., and Borns Jr, H. W.: Holocene sea-level change in coastal Maine, Bulletin 40, Maine Geological Survey, neotectonics of Maine: studies in seismicity, crustal warping, and sea level change, 1989.
- Bell, T., Batterson, M. J., Liverman, D. G. E., and Shaw, J.: A new late-glacial sea-level record for St. George's Bay, Newfoundland, *Canadian Journal of Earth Sciences*, 40, 1053–1070, <https://doi.org/10.1139/e03-024>, 2003.
- Bell, T., Daly, J., Batterson, M., Liverman, D., Shaw, J., and Smith, I.: Late Quaternary relative sea-level change on the west coast of Newfoundland, *Geographie physique et Quaternaire*, 59, 129–140, <https://doi.org/10.7202/014751ar>, 2005.
- Belova, N. G.: Пластовые льды юго-западного побережья Карского моря (Massive ice beds of the southwestern Kara Sea coast), Summary of thesis for the degree of phd in geography, specialty 25.00.31 - glaciology and cryology of the earth, Moscow, Moscow, Russia, 2012.
- Berendsen, H. J. A., Makaske, B., van de Plassche, O., Van Ree, M. H. M., Das, S., van Dongen, M., Ploumen, S., and Schoenmakers, W.: New groundwater-level rise data from the Rhine-Meuse delta—implications for the reconstruction of Holocene relative mean sea-level rise and differential land-level movements, *Netherlands Journal of Geosciences/Geologie en Mijnbouw*, 86, 333–354, 2007.
- Best, K. M.: Quaternary geologic evolution of the Croatan beach ridge complex, Bogue Sound, and Bogue Banks, Carteret County, NC, Master's thesis, Department of Geological Sciences, East Carolina University, Greenville, NC, United States, 2010.
- Bhiry, N., Garneau, M., and Filion, L.: Macrofossil record of a middle Holocene drop in relative sea level at the St. Lawrence estuary, Québec, *Quaternary Research*, 54, 228–237, <https://doi.org/10.1006/qres.2000.2160>, 2000.
- Bird, M. I., Fifield, L. K., Teh, T. S., Chang, C. H., Shirlaw, N., and Lambeck, K.: An inflection in the rate of early mid-Holocene eustatic sea-level rise: A new sea-level curve from Singapore, *Estuarine, Coastal and Shelf Science*, 71, 523–536, <https://doi.org/10.1016/j.ecss.2006.07.004>, 2007.

- Bird, M. I., Austin, W. E., Wurster, C. M., Fifield, L. K., Mojtahid, M., and Sargeant, C.: Punctuated eustatic sea-level rise in the early mid-Holocene, *Geology*, 38, 803–806, <https://doi.org/10.1130/G31066.1>, 2010.
- Blake, W.: Geological Survey of Canada radiocarbon dates XXII, Paper 82-7, Geological Survey of Canada, <https://doi.org/10.4095/109271>, 1982.
- Blake, W.: Geological Survey of Canada radiocarbon dates XXIII, Paper 83-7, Geological Survey of Canada, <https://doi.org/10.4095/119723>, 1983.
- Blake, W.: Geological Survey of Canada radiocarbon dates XXIV, Paper 84-7, Geological Survey of Canada, <https://doi.org/10.4095/120004>, 1984.
- Blake, W.: Geological Survey of Canada radiocarbon dates XXV, Paper 85-7, Geological Survey of Canada, <https://doi.org/10.4095/120615>, 1986.
- Blake, W.: Geological Survey of Canada radiocarbon dates XXVII, Paper 87-7, Geological Survey of Canada, <https://doi.org/10.4095/126099>, 1988.
- Blake, W. and Lowdon, J. A.: Geological Survey of Canada radiocarbon dates XVI, Paper 76-7, Geological Survey of Canada, <https://doi.org/10.4095/102617>, 1976.
- Bloom, A. L.: Late-Pleistocene fluctuations of sealevel and postglacial crustal rebound in coastal Maine, *American Journal of Science*, 261, 862–879, <https://doi.org/10.2475/ajs.261.9.862>, 1963.
- Bolshiyarov, D. Y. and Makeev, V. M.: Severnaya Zemlya Archipelago, in: *Glaciations and Environmental History*, p. 21, *Gidrometeoizdat*, Saint-Petersburg, Russia, (In Russian), 1995.
- Bolshiyarov, D. Y., Anokhin, V. M., and Gusev, E. A.: New data on topography and Quaternary sediments of Novaya Zemlya archipelago, in: *Geologic-geophysical characteristics of the Arctic lithosphere*, vol. 210 of *Mater. VNII Okeangeologiya*, pp. 149–161, The name of the publisher, Saint-Petersburg, Russia, (In Russian), 2006.
- Bolshiyarov, D. Y., Pogodina, I. A., Gusev, E. A., Sharin, V. V., Alekseev, V. V., Dymov, V. A., Anokhin, V. M., Anikina, N. Y., and Derevianko, L. G.: New data on coastlines of Franz-Josef land, Novaya Zemlya and Svalbard archipelagos, *Probl. Arktiki Antarkt.* (Probl. Arctic Antarct), 82, 68–77, (In Russian), 2009.
- Bolshiyarov, D. Y., Makarov, A. S., Schneider, V., and Stof, G.: *Origin and Evolution of the Lena Delta*, the Arctic and Antarctic Research Institute Publishing House, Saint-Petersburg, Russia, (In Russian), 2013.
- Bondevik, S., Mangerud, J., Ronnert, L., and Salvigsen, O.: Postglacial sea-level history of Edgeøya and Barentsøya, eastern Svalbard, *Polar Research*, 14, 153–180, 1995.
- Bondevik, S., Svendsen, J. I., Johnsen, G., Mangerud, J., and Kaland, P. E.: The Storegga tsunami along the Norwegian coast, its age and run up, *Boreas*, 26, 29–53, <https://doi.org/10.1111/j.1502-3885.1997.tb00649.x>, 1997a.
- Bondevik, S., Svendsen, J. I., and Mangerud, J.: Tsunami sedimentary facies deposited by the Storegga tsunami in shallow marine basins and coastal lakes, western Norway, *Sedimentology*, 44, 1115–1131, <https://doi.org/10.1046/j.1365-3091.1997.d01-63.x>, 1997b.
- Bondevik, S., Mangerud, J., Birks, H. H., Gulliksen, S., and Reimer, P.: Changes in North Atlantic radiocarbon reservoir ages during the Allerød and Younger Dryas, *Science*, 312, 1514–1517, <https://doi.org/10.1126/science.1123300>, 2006.

- Boyaranskaya, T. D., Polyakova, E. I., and Svitoch, A. A.: Новые данные о голоценовой трансгрессии Белого моря (New data on the White Sea Holocene transgression), *Doklady of the USSR Academy of Sciences*, 290, 964–968, 1986.
- Brodeur, D. and Allard, M.: Stratigraphie et Quaternaire de l'île aux Coudres, estuaire moyen du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 39, 183–197, <https://doi.org/10.7202/032601ar>, 1985.
- Brookes, I., Scott, D. B., and McAndrews, J.: Postglacial relative sea-level change, Port au Port area, west Newfoundland, *Canadian Journal of Earth Sciences*, 22, 1039–1047, <https://doi.org/10.1139/e85-107>, 1985.
- Brookes, I. A. and Stevens, R. K.: Radiocarbon age of rock-boring *Hiattella arctica* (Linné) and post-glacial sea-level change at Cow Head, Newfoundland, *Canadian Journal of Earth Sciences*, 22, 136–140, <https://doi.org/10.1139/e85-012>, 1985.
- Buckley, J. D. and Willis, E. H.: Isotopes' radiocarbon measurements VIII, *Radiocarbon*, 12, 87–129, <https://doi.org/10.1017/S0033822200036225>, 1970.
- Bunbury, J., Finkelstein, S. A., and Bollmann, J.: Holocene hydro-climatic change and effects on carbon accumulation inferred from a peat bog in the Attawapiskat River watershed, Hudson Bay Lowlands, Canada, *Quaternary Research*, 78, 275–284, <https://doi.org/10.1016/j.yqres.2012.05.013>, 2012.
- Camoin, G. F., Ebreu, P., Eisenhauer, A., Bard, E., and Faure, G.: A 300 000-yr coral reef record of sea level changes, Mururoa atoll (Tuamotu archipelago, French Polynesia), *Palaeogeography, Palaeoclimatology, Palaeoecology*, 175, 325–341, [https://doi.org/10.1016/S0031-0182\(01\)00378-9](https://doi.org/10.1016/S0031-0182(01)00378-9), 2001.
- Catto, N. R., Griffiths, H., Jones, S., and Porter, H.: Late Holocene sea level changes, eastern Newfoundland, Current Research Report 2000-1, Newfoundland Department of Mines and Energy, Geological Survey, 1997.
- Cayer, D.: Histoire post-marine et Holocène d'un lac subarctique, sédimentologie, minéralogie et géochimie isotopique, Master's thesis, Université Laval, Québec, Canada, 2003.
- Chappell, J. and Polach, H.: Post-glacial sea-level rise from a coral record at Huon Peninsula, Papua New Guinea, *Nature*, 349, 147–149, <https://doi.org/10.1038/349147a0>, 1991.
- Chappell, J., Omura, A., Esat, T., McCulloch, M., Pandolfi, J., Ota, Y., and Pillans, B.: Reconciliation of late Quaternary sea levels derived from coral terraces at Huon Peninsula with deep sea oxygen isotope records, *Earth and Planetary Science Letters*, 141, 227–236, [https://doi.org/10.1016/0012-821X\(96\)00062-3](https://doi.org/10.1016/0012-821X(96)00062-3), 1996.
- Cinquemani, L. J., Newman, W. S., Sperling, J. A., Marcus, L. F., and Pardi, R. R.: Holocene sea level fluctuations, magnitudes and causes, in: *IGCP Annual Meeting*, Columbia, South Carolina, 1982.
- Clark, P. U. and Fitzhugh, W. W.: Late deglaciation of the central Labrador coast and its implications for the age of glacial lakes Naskaupi and McLean and for prehistory, *Quaternary Research*, 34, 296–305, [https://doi.org/10.1016/0033-5894\(90\)90042-J](https://doi.org/10.1016/0033-5894(90)90042-J), 1990.
- Colman, S. M., Baucom, P. C., Bratton, J. F., Cronin, T. M., McGeehin, J. P., Willard, D., Zimmerman, A. R., and Vogt, P. R.: Radiocarbon dating, chronologic framework, and changes in accumulation rates of Holocene estuarine sediments from Chesapeake Bay, *Quaternary Research*, 57, 58–70, <https://doi.org/10.1006/qres.2001.2285>, 2002.

- Corner, G. D., Yevzerov, V. Y., Kolka, V. V., and Møller, J. J.: Isolation basin stratigraphy and Holocene relative sea-level change at the Norwegian—Russian border north of Nikel, northwest Russia, *Boreas*, 28, 146–166, <https://doi.org/10.1111/j.1502-3885.1999.tb00211.x>, 1999.
- Corner, G. D., Kolka, V. V., Yevzerov, V. Y., and Møller, J. J.: Postglacial relative sea-level change and stratigraphy of raised coastal basins on Kola Peninsula, northwest Russia, *Global and Planetary Change*, 31, 155–177, [https://doi.org/10.1016/S0921-8181\(01\)00118-7](https://doi.org/10.1016/S0921-8181(01)00118-7), 2001.
- Cronin, T. M., Szabo, B. J., Ager, T. A., Hazel, J. E., and Owens, J. P.: Quaternary climates and sea levels of the U.S. Atlantic Coastal Plain, *Science*, 211, 233–240, <https://doi.org/10.1126/science.211.4479.233>, 1981.
- Culver, S. J., Pre, C. G., Mallinson, D. J., Riggs, S. R., Corbett, D. R., Foley, J., Hale, M., Metger, L., Ricardo, J., Rosenberger, J., Smith, C. G., Smith, C. W., Snyder, S. W., and Twamley, D.: Late Holocene barrier island collapse: Outer Banks, North Carolina, USA, *The Sedimentary Record*, 5, 4–8, 2007.
- Culver, S. J., Farrell, K. M., Mallinson, D. J., Willard, D. A., Horton, B. P., Riggs, S. R., Thieler, E. R., Wehmiller, J. F., Parham, P., Snyder, S. W., and Hillier, C.: Micropaleontologic record of Quaternary paleoenvironments in the Central Albemarle Embayment, North Carolina, U.S.A., *Palaeogeography, Palaeoclimatology, Palaeoecology*, 305, 227–249, <https://doi.org/10.1016/j.palaeo.2011.03.004>, 2011.
- Cutler, K. B., Edwards, R. L., Taylor, F. W., Cheng, H., Adkins, J., Gallup, C. D., Cutler, P. M., Burr, G. S., and Bloom, A. L.: Rapid sea-level fall and deep-ocean temperature change since the last interglacial period, *Earth and Planetary Science Letters*, 206, 253–271, [https://doi.org/10.1016/S0012-821X\(02\)01107-X](https://doi.org/10.1016/S0012-821X(02)01107-X), 2003.
- Cutler, K. B., Gray, S. C., Burr, G. S., Edwards, R. L., Taylor, F. W., Cabioch, G., Beck, J. W., Cheng, H., and Moore, J.: Radiocarbon calibration and comparison to 50 kyr BP with paired <sup>14</sup>C and <sup>230</sup>Th dating of corals from Vanuatu and Papua New Guinea, *Radiocarbon*, 46, 1127–1160, <https://doi.org/10.1017/S0033822200033063>, 2004.
- Daigneault, R. A.: Géologie du Quaternaire du nord de la péninsule d'Ungava, Québec, Bulletin 533, Geological Survey of Canada, <https://doi.org/10.4095/224807>, 2008.
- Dalrymple, R. W. and Zaitlin, B. A.: High-resolution sequence stratigraphy of a complex, incised valley succession, Cobequid Bay—Salmon River estuary, Bay of Fundy, Canada, *Sedimentology*, 41, 1069–1091, <https://doi.org/10.1111/j.1365-3091.1994.tb01442.x>, 1994.
- Daly, J. F., Belknap, D. F., Kelley, J. T., and Bell, T.: Late Holocene sea-level change around Newfoundland, *Canadian Journal of Earth Sciences*, 44, 1453–1465, <https://doi.org/10.1139/e07-036>, 2007.
- de Klerk, L. G.: Zeespiegels, riffen en kustvlakten in zuidwest Sulawesi, Indonesië; een morfogenetisch–bodemkundige studie (Sea levels, reefs and coastal plains of the Southeast Sulawesi, Indonesië; a morphogenetic–pedological study), Ph.D. thesis, Department of Geography, University of Utrecht, Utrecht, Netherlands, 1982.
- Deschamps, P., Durand, N., Bard, E., Hamelin, B., Camoin, G., Thomas, A. L., Henderson, G. M., Okuno, J., and Yokoyama, Y.: Ice-sheet collapse and sea-level rise at the Bølling warming 14,600 years ago, *Nature*, 483, 559–564, <https://doi.org/10.1038/nature10902>, 2012.

- Devyatova, E. I. and Liyva, A. A.: К поздне- и послеледниковой истории Белого моря (To the late and postglacial history of the White Sea), in: Природа, береговые образования и история развития внутренних водоемов и морей Восточной Прибалтики и Карелии. Петрозаводск (Nature, coastal formations and development history of inland waters and seas of the Eastern Baltic and Karelia), pp. 15–16, Petrozavodsk, 1971.
- Dibner, V. D.: The history of late Pleistocene and Holocene sedimentation in Franz Josef Land, Transactions of the Scientific Research Institute of the Geology of the Arctic, 143, 300–318, 1965.
- Dietrich, P., Ghienne, J.-F., Schuster, M., Lajeunesse, P., Nutz, A., Deschamps, R., Roquin, C., and Düringer, P.: From outwash to coastal systems in the Portneuf–Forestville deltaic complex (Québec North Shore): Anatomy of a forced regressive deglacial sequence, *Sedimentology*, 64, 1044–1078, <https://doi.org/10.1111/sed.12340>, 2017.
- Dionne, J.-C.: Holocene relative sea-level fluctuations in the St. Lawrence estuary, Québec, Canada, *Quaternary Research*, 29, 233–244, [https://doi.org/10.1016/0033-5894\(88\)90032-4](https://doi.org/10.1016/0033-5894(88)90032-4), 1988.
- Dionne, J.-C.: Observations sur le niveau marin relatif à l’Holocène, à Rivière-du-Loup, estuaire du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 44, 43–53, <https://doi.org/10.7202/032797ar>, 1990.
- Dionne, J.-C.: La terrasse Mitis à la pointe aux Alouettes, côte nord du moyen estuaire du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 50, 57–72, <https://doi.org/10.7202/033075ar>, 1996.
- Dionne, J.-C.: Nouvelles données sur la transgression Laurentienne, côte sud du moyen estuaire du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 51, 201–210, <https://doi.org/10.7202/033118ar>, 1997.
- Dionne, J.-C.: Découverte d’un glissement de terrain fossilisé d’âge mi-holocène, à Montmagny, moyen estuaire du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 52, 123–130, <https://doi.org/10.7202/004796ar>, 1998.
- Dionne, J.-C.: Indices de fluctuations mineures du niveau marin relatif à l’Holocène supérieur, à L’Isle-Verte, côte sud de l’estuaire du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 53, 277–285, <https://doi.org/10.7202/004860ar>, 1999.
- Dionne, J.-C.: Troncs d’arbres fossiles sur la batture de l’anse de Bellechasse (Québec): indice d’une fluctuation mineure du niveau marin relatif à l’Holocène supérieur, *Géographie physique et Quaternaire*, 55, 301–306, <https://doi.org/10.7202/032902ar>, 2001a.
- Dionne, J.-C.: Erratiques de dolomie au cap Colombier, sur la haute cote-nord du Saint-Laurent estuarien, *Géographie physique et Quaternaire*, 55, 101–107, <https://doi.org/10.7202/005656ar>, 2001b.
- Dionne, J.-C.: Aspects géomorphologiques de la baie du Haha, parc national du Bic, Bas-Saint-Laurent (Québec), *Bulletin de recherche 177*, Université de Sherbrooke, Dép. de géographie et télédétection, 2005.
- Dionne, J.-C. and Coll, D.: Le niveau marin relatif dans la région de Matane (Québec), de la déglaciation à nos jours, *Géographie physique et Quaternaire*, 49, 363–380, <https://doi.org/10.7202/033060ar>, 1995.
- Dionne, J.-C. and Occhietti, S.: Aperçu du Quaternaire à l’embouchure du Saguenay, Québec, *Géographie physique et Quaternaire*, 50, 5–34, <https://doi.org/10.7202/033072ar>, 1996.

- Dionne, J.-C., Dubois, J.-M., and Bernatchez, P.: La terrasse Mitis à la pointe de Mille-Vaches (Péninsule de Portneuf), rive nord de l'estuaire maritime du Saint-Laurent: nature des dépôts et évolution du niveau marin relatif à l'Holocène, *Géographie physique et Quaternaire*, 58, 281–295, <https://doi.org/10.7202/013143ar>, 2004.
- Donnelly, J. P.: A revised late Holocene sea-level record for northern Massachusetts, USA, *Journal of Coastal Research*, 22, 1051–1061, <https://doi.org/10.2112/04-0207.1>, 2006.
- Donnelly, J. P., Roll, S., Wengren, M., Butler, J., Lederer, R., and Webb, Thompson, I.: Sedimentary evidence of intense hurricane strikes from New Jersey, *Geology*, 29, 615–618, [https://doi.org/10.1130/0091-7613\(2001\)029<0615:SEOIHS>2.0.CO;2](https://doi.org/10.1130/0091-7613(2001)029<0615:SEOIHS>2.0.CO;2), 2001.
- Donnelly, J. P., Cleary, P., Newby, P., and Ettinger, R.: Coupling instrumental and geological records of sea-level change: evidence from southern New England of an increase in the rate of sea-level rise in the late 19th century, *Geophysical Research Letters*, 31, –, <https://doi.org/10.1029/2003GL018933>, 2004.
- Dredge, L. A., Mott, R. J., and Grant, D. R.: Quaternary stratigraphy, paleoecology, and glacial geology, Îles de la Madeleine, Quebec, *Canadian Journal of Earth Sciences*, 29, 1981–1996, <https://doi.org/10.1139/e92-154>, 1992.
- Dubois, J. M. M., Occhietti, S., Pichet, P., Page, P., Jacob, C., and Bigras, P.: Université du Québec a Montréal GEOTOP Radiocarbon Dates I, *Radiocarbon*, 30, 355–365, <https://doi.org/10.1017/S0033822200044404>, 1988.
- Dyck, W. and Fyles, J. G.: Geological Survey of Canada radiocarbon dates I, *Radiocarbon*, 4, 13–26, <https://doi.org/10.1017/S0033822200036468>, 1962.
- Dyck, W. and Fyles, J. G.: Geological Survey of Canada radiocarbon dates II, *Radiocarbon*, 5, 39–55, <https://doi.org/10.1017/S0033822200036778>, 1963.
- Dyck, W. and Fyles, J. G.: Geological Survey of Canada radiocarbon dates III, *Radiocarbon*, 6, 167–181, <https://doi.org/10.1017/S0033822200010638>, 1964.
- Dyck, W., Fyles, J. G., and Blake, W.: Geological Survey of Canada radiocarbon dates IV, *Radiocarbon*, 7, 24–46, <https://doi.org/10.1017/S0033822200037061>, 1965.
- Dyck, W., Lowdon, J., Fyles, J. G., and Blake, W.: Geological Survey of Canada radiocarbon dates V, *Radiocarbon*, 8, 96–127, <https://doi.org/10.1017/S0033822200000072>, 1966.
- Dyke, A. S. and Peltier, W. R.: Forms, response times and variability of relative sea-level curves, glaciated North America, *Geomorphology*, 32, 315–333, [https://doi.org/10.1016/S0169-555X\(99\)00102-6](https://doi.org/10.1016/S0169-555X(99)00102-6), 2000.
- Dyke, A. S., Moore, A., and Robertson, L.: Deglaciation of North America, Open File 1574, Geological Survey of Canada, <https://doi.org/10.4095/214399>, 2003.
- Edgecombe, R. B., Scott, D. B., and Fader, G. B.: New data from Halifax Harbour: paleoenvironment and a new Holocene sea-level curve for the inner Scotian Shelf, *Canadian Journal of Earth Sciences*, 36, 805–817, <https://doi.org/10.1139/e99-083>, 1999.
- Edwards, R. L., Beck, J. W., Burr, G., Donahue, D. J., Chappell, J. M. A., Bloom, A. L., Druffel, E. R. M., and Taylor, F. W.: A large drop in atmospheric  $^{14}\text{C}/^{12}\text{C}$  and reduced melting in the Younger Dryas, documented with  $^{230}\text{Th}$  ages of corals, *Science*, 260, 962–968, <https://doi.org/10.1126/science.260.5110.962>, 1993.

- Emery, K. O., Wigley, R. L., Bartlett, A. S., Rubin, M., and Barghoorn, E. S.: Freshwater peat on the continental shelf, *Science*, 158, 1301–1307, <https://doi.org/10.1126/science.158.3806.1301>, 1967.
- Engelhart, S. E. and Horton, B. P.: Holocene sea level database for the Atlantic coast of the United States, *Quaternary Science Reviews*, 54, 12–25, <https://doi.org/10.1016/j.quascirev.2011.09.013>, 2012.
- Engelhart, S. E., Horton, B. P., Douglas, B. C., Peltier, W. R., and Törnqvist, T. E.: Spatial variability of late Holocene and 20th century sea-level rise along the Atlantic coast of the United States, *Geology*, 37, 1115–1118, <https://doi.org/10.1130/G30360A.1>, 2009.
- Evans, D. J. and Rogerson, R. J.: A radiocarbon-dated gelifluction lobe in the Nachvak Fiord area, northern Labrador, Canada, *Earth surface processes and landforms*, 13, 657–662, <https://doi.org/10.1002/esp.3290130708>, 1988.
- Farrand, W. R.: Postglacial uplift in North America, *American Journal of Science*, 260, 181–199, <https://doi.org/10.2475/ajs.260.3.181>, 1962.
- Field, M. E., Meisburger, E. P., Stanley, E. A., and Williams, S. J.: Upper Quaternary peat deposits on the Atlantic inner shelf of the United States, *GSA Bulletin*, 90, 618–628, [https://doi.org/10.1130/0016-7606\(1979\)90<618:UQPDOT>2.0.CO;2](https://doi.org/10.1130/0016-7606(1979)90<618:UQPDOT>2.0.CO;2), 1979.
- Filion, L.: Holocene development of parabolic dunes in the central St. Lawrence Lowland, Québec, *Quaternary Research*, 28, 196–209, [https://doi.org/10.1016/0033-5894\(87\)90059-7](https://doi.org/10.1016/0033-5894(87)90059-7), 1987.
- Filion, L., Saint-Laurent, D., Despons, M., and Payette, S.: The late Holocene record of aeolian and fire activity in northern Québec, Canada, *The Holocene*, 1, 201–208, <https://doi.org/10.1177/095968369100100302>, 1991.
- Finkelstein, K. and Ferland, M. A.: Back-barrier response to sea-level rise, eastern shore of Virginia, in: *Special Publications of SEPM*, edited by Nummedal, D., Pilkey, O. H., and Howard, J. D., vol. 41, pp. 145–155, The Society of Economic Paleontologists and Mineralogists, 1987.
- Fitzhugh, W. W.: Environmental archeology and cultural systems in Hamilton Inlet, Labrador: A survey of the central Labrador coast from 3000 BC to the present, *Smithsonian Contributions to Anthropology* 16, Smithsonian Institution, <https://doi.org/10.5479/si.00810223.16.1>, 1972.
- Fitzhugh, W. W.: A maritime archaic sequence from Hamilton Inlet, Labrador, *Arctic Anthropology*, 12, 117–138, 1975.
- Fletcher, C. H., Van Pelt, J. E., Brush, G. S., and Sherman, J.: Tidal wetland record of Holocene sea-level movements and climate history, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 102, 177–213, [https://doi.org/10.1016/0031-0182\(93\)90067-S](https://doi.org/10.1016/0031-0182(93)90067-S), 1993.
- Forbes, D. L., Shaw, J., and Eddy, B. G.: Late Quaternary sedimentation and the postglacial sea-level minimum in Port au Port Bay and vicinity, west Newfoundland, *Atlantic Geology*, 29, 1–26, <https://doi.org/10.4138/1986>, 1993.
- Forman, S. L. and Polyak, L.: Radiocarbon content of pre-bomb marine mollusks and variations in the <sup>14</sup>C Reservoir age for coastal areas of the Barents and Kara Seas, Russia, *Geophysical Research Letters*, 24, 885–888, <https://doi.org/10.1029/97GL00761>, 1997.
- Forman, S. L., Mann, D. H., and Miller, G. H.: Late Weichselian and Holocene relative sea-level history of Bröggerhalvöya, Spitsbergen, *Quaternary Research*, 27, 41–50, [https://doi.org/10.1016/0033-5894\(87\)90048-2](https://doi.org/10.1016/0033-5894(87)90048-2), 1987.

- Forman, S. L., Lubinski, D., Miller, G. H., Matishov, G. G., Korsun, S., Snyder, J., Herlihy, F., Weihe, R., and Myslivets, V.: Postglacial emergence of western Franz Josef Land, Russian, and retreat of the Barents Sea Ice Sheet, *Quaternary Science Reviews*, 15, 77–90, [https://doi.org/10.1016/0277-3791\(95\)00090-9](https://doi.org/10.1016/0277-3791(95)00090-9), 1996.
- Forman, S. L., Lubinski, D. J., Zeeberg, J. J., Polyak, L., Miller, G. H., Matishov, G., and Tarasov, G.: Postglacial emergence and late Quaternary glaciation on northern Novaya Zemlya, Arctic Russia, *Boreas*, 28, 133–145, <https://doi.org/10.1111/j.1502-3885.1999.tb00210.x>, 1999.
- Forman, S. L., Lubinski, D. J., Ingólfsson, Ó., Zeeberg, J. J., Snyder, J. A., Siegert, M. J., and Matishov, G. G.: A review of postglacial emergence on Svalbard, Franz Josef Land and Novaya Zemlya, northern Eurasia, *Quaternary Science Reviews*, 23, 1391–1434, <https://doi.org/10.1016/j.quascirev.2003.12.007>, 2004.
- Gajewski, K. and Garralla, S.: Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada, *Arctic and Alpine Research*, 24, 329–336, <https://doi.org/10.1080/00040851.1992.12002965>, 1992.
- Gawronski, J. H. and Zeeberg, J. J.: The wrecking of Barents' ship, in: *Northbound with Barents*, edited by Boyarsky, P. V. and Gawronski, J. H. G., pp. 89–92, Jan Mets, Amsterdam, 1997.
- Gayes, P. T., Scott, D. B., Collins, E. S., and Nelson, D. D.: A late Holocene sea-level fluctuation in South Carolina, *Special Publications of SEPM*, 48, 155–160, 1992.
- Gehrels, W. R.: Middle and late Holocene sea-level changes in eastern Maine reconstructed from foraminiferal saltmarsh stratigraphy and AMS 14C dates on basal peat, *Quaternary Research*, 52, 350–359, <https://doi.org/10.1006/qres.1999.2076>, 1999.
- Gehrels, W. R. and Belknap, D. F.: Neotectonic history of eastern Maine evaluated from historic sea-level data and 14C dates on salt-marsh peats, *Geology*, 21, 615–618, [https://doi.org/10.1130/0091-7613\(1993\)021<0615:NHOEME>2.3.CO;2](https://doi.org/10.1130/0091-7613(1993)021<0615:NHOEME>2.3.CO;2), 1993.
- Gehrels, W. R., Belknap, D. F., and Kelley, J. T.: Integrated high-precision analyses of Holocene relative sea-level changes: lessons from the coast of Maine, *Geological Society of America Bulletin*, 108, 1073–1088, [https://doi.org/10.1130/0016-7606\(1996\)108<1073:IHPAOH>2.3.CO;2](https://doi.org/10.1130/0016-7606(1996)108<1073:IHPAOH>2.3.CO;2), 1996.
- Gehrels, W. R., Belknap, D. F., Black, S., and Newnham, R. M.: Rapid sea-level rise in the Gulf of Maine, USA, since AD 1800, *The Holocene*, 12, 383–389, <https://doi.org/10.1191/0959683602hl555ft>, 2002.
- Gehrels, W. R., Milne, G. A., Kirby, J. R., Patterson, R. T., and Belknap, D. F.: Late Holocene sea-level changes and isostatic crustal movements in Atlantic Canada, *Quaternary International*, 120, 79–89, <https://doi.org/10.1016/j.quaint.2004.01.008>, 2004.
- Gehrels, W. R., Kirby, J. R., Prokoph, A., Newnham, R. M., Achterberg, E. P., Evans, H., Black, S., and Scott, D. B.: Onset of recent rapid sea-level rise in the western Atlantic Ocean, *Quaternary Science Reviews*, 24, 2083–2100, <https://doi.org/10.1016/j.quascirev.2004.11.016>, 2005.
- Geyh, M., Streif, H., and Kudrass, H.-R.: Sea-level changes during the late Pleistocene and Holocene in the Strait of Malacca, *Nature*, 278, 441–443, <https://doi.org/10.1038/278441a0>, 1979.
- Glaser, P. H., Hansen, B. C., Siegel, D. I., Reeve, A. S., and Morin, P. J.: Rates, pathways and drivers for peatland development in the Hudson Bay Lowlands, northern Ontario, Canada, *Journal of Ecology*, 92, 1036–1053, <https://doi.org/10.1111/j.0022-0477.2004.00931.x>, 2004.

- Glazovskiy, A., Näslund, J.-O., and Zale, R.: Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land, *Geografiska Annaler: Series A, Physical Geography*, 74, 283–293, <https://doi.org/10.1080/04353676.1992.11880371>, 1992.
- Govare, É. and Gangloff, P.: Paléoenvironnement d'une plage tardiglaciaire de 10 580 ans BP dans la région de Charlevoix, Québec, *Géographie physique et Quaternaire*, 43, 147–160, <https://doi.org/10.7202/032766ar>, 1989.
- Gowan, E. J., Tregoning, P., Purcell, A., Montillet, J.-P., and McClusky, S.: A model of the western Laurentide Ice Sheet, using observations of glacial isostatic adjustment, *Quaternary Science Reviews*, 139, 1–16, <https://doi.org/10.1016/j.quascirev.2016.03.003>, 2016.
- Grant, D. R.: Quaternary geology of St. Anthony - Blanc-Sablon area, Newfoundland and Quebec, Memoir 427, Geological Survey of Canada, <https://doi.org/10.4095/183880>, 1992.
- Grant, D. R.: Quaternary geology of Port Saunders map area, Newfoundland, Paper 91-20, Geological Survey of Canada, <https://doi.org/10.4095/194038>, 1994.
- Gray, J., de Boutray, B., Hillaire-Marcel, C., and Lauriol, B.: Postglacial emergence of the west coast of Ungava Bay, Quebec, *Arctic and Alpine Research*, 12, 19–30, <https://doi.org/10.1080/00040851.1980.12004160>, 1980.
- Gray, J., Lauriol, B., Bruneau, D., and Ricard, J.: Postglacial emergence of Ungava Peninsula, and its relationship to glacial history, *Canadian Journal of Earth Sciences*, 30, 1676–1696, <https://doi.org/10.1139/e93-147>, 1993.
- Gray, J. T.: Patterns of ice flow and deglaciation chronology for southern coastal margins of Hudson Strait and Ungava Bay, in: *Marine geology of Hudson Strait and Ungava Bay, Eastern Arctic Canada: Late Quaternary sediments, depositional environments, and late glacial–deglacial history derived from marine and terrestrial studies*, edited by MacLean, B., vol. 566 of *Bulletin*, pp. 201–213, Geological Survey of Canada, Ottawa, Ontario, <https://doi.org/10.4095/212207>, 2001.
- Gray, J. T. and Lauriol, B.: Dynamics of the late Wisconsin ice sheet in the Ungava Peninsula interpreted from geomorphological evidence, *Arctic and Alpine Research*, 17, 289–310, <https://doi.org/10.1080/00040851.1985.12004037>, 1985.
- Grigorieva, A. K.: Palynological Characteristics of the Late Pleistocene Sediments of West-siberian Polar Regions, Ph.D. thesis, Lomonosov Moscow State University, Moscow, Soviet Union, summary of the Thesis for a Degree of Doctor of Philosophy (Geographical Science), Speciality 25.00.25 - Geomorphology and Evolutional Geography (In Russian), 1987.
- Grosswald, M. E.: Raised beaches in Franz Josef Land and the Late-Quaternary history of its ice sheets, *Glaciologischeskiye Issl*, 9, 283–293, (in Russian), 1963.
- Grosswald, M. G.: *Glaciers of Franz Josef Land*, Nauka, Moscow, Soviet Union, 1973.
- Gulliksen, S., Nydal, R., and Loevseth, K.: Trondheim natural radiocarbon measurements VII, *Radiocarbon*, 17, 364–395, <https://doi.org/10.1017/S0033822200059865>, 1975.
- Gurevich, V. I. and Liyva, A. A.: Возраст оз. Могильного // Реликтовое озеро Могильное (The age of Lake Mogilnoye // Relic lake Mogilnoye), *Реликтовое озеро Могильное. Л.: Наука (L.: Science. S.)*, -, 102–104, 1975.
- Gurina, N. N.: Новые исследования в северо-западной части Кольского полуострова (New studies in the northwestern part of Kola Peninsula), *Крат. сообщения Ин-та археологии (Short Communications of the Institute of Archeology)*, 126, 94–99, 1971.

- Gusev, E. A., Anikina, N. J., Arslanov, K. A., Bondarenko, S. A., Derevjanko, L. G., Molod'kov, A. N., Pushina, Z. V., Rekant, P. V., and Stepanova, G. V.: Quaternary sediments and palaeogeography of Sibiriakov Island in the last 50 ka, *Proceedings of the Russian Geographical Society*, 145, 65–79, (in Russian), 2013a.
- Gusev, E. A., Bolshiyarov, D. Y., Dymov, V. A., Sharin, V. V., and Arslanov, K. A.: Голоценовые морские террасы южных островов Земли Франца-Иосифа (Holocene marine terraces of the southern Franz-Josef Land Islands), *Проблемы Арктики и Антарктики*, 97, 103, 2013b.
- Gutierrez, B. T., Uchupi, E., Driscoll, N. W., and Aubrey, D. G.: Relative sea-level rise and the development of valley-fill and shallow-water sequences in Nantucket Sound, Massachusetts, *Marine Geology*, 193, 295–314, [https://doi.org/10.1016/S0025-3227\(02\)00665-5](https://doi.org/10.1016/S0025-3227(02)00665-5), 2003.
- Hafsten, U.: Late and Post-Weichselian shore level changes in south Norway, in: *The Quaternary History of the North Sea*, vol. 2 of *Acta Universitatis Upsaliensis Symposia Universitatis Upsaliensis Annum Quingentesimum Celebrantis*, pp. 45–59, -, Uppsala, Sweden, 1979.
- Håkansson, S.: University of Lund radiocarbon dates XIII, *Radiocarbon*, 22, 1045–1063, <https://doi.org/10.1017/S0033822200011553>, 1980.
- Hanebuth, T., Stattegger, K., and Grootes, P. M.: Rapid flooding of the Sunda Shelf: A late-glacial sea-level record, *Science*, 288, 1033–1035, <https://doi.org/10.1126/science.288.5468.1033>, 2000.
- Hanebuth, T. J. J., Stattegger, K., Schimanski, A., Lüdmann, T., and Wong, H. K.: Late Pleistocene forced-regressive deposits on the Sunda Shelf (Southeast Asia), *Marine Geology*, 199, 139–157, [https://doi.org/10.1016/S0025-3227\(03\)00129-4](https://doi.org/10.1016/S0025-3227(03)00129-4), 2003.
- Hanebuth, T. J. J., Stattegger, K., and Bojanowski, A.: Termination of the Last Glacial Maximum sea-level lowstand: The Sunda-Shelf data revisited, *Global and Planetary Change*, 66, 76–84, <https://doi.org/10.1016/j.gloplacha.2008.03.011>, quaternary sea-level changes : Records and Processes, 2009.
- Hanebuth, T. J. J., Proske, U., Saito, Y., Nguyen, V. L., and Ta, T. K. O.: Early growth stage of a large delta – Transformation from estuarine-platform to deltaic-progradational conditions (the northeastern Mekong River Delta, Vietnam), *Sedimentary Geology*, 261–262, 108–119, <https://doi.org/10.1016/j.sedgeo.2012.03.014>, 2012.
- Hardy, L.: Contribution à l'étude géomorphologique de la portion Québécoise des basses terres de la Baie de James, Ph.D. thesis, McGill University, Montreal, Quebec, Canada, 1976.
- Harrington, C.: Quaternary vertebrates of Québec: a summary, *Géographie physique et Quaternaire*, 57, 85–94, <https://doi.org/10.7202/010332ar>, 2003.
- Hassan, K. b.: Holocene sea level changes in Kelang and Kuantan, Peninsular Malaysia, Ph.D. thesis, Durham University, Durham, United Kingdom, URL <http://etheses.dur.ac.uk/3786/>, 2001.
- Helle, S. K.: Early post-deglaciation shorelines and sea-level changes along Hardangerfjorden and adjacent fjord areas, W. Norway, Ph.D. thesis, The University of Bergen, Bergen, Norway, 2008.
- Henningsmoen, K. E.: En karbon-datert strandforskyvningskurve fra søndre Vestfold, in: *Fortiden i søkelyset. 14C datering gjennom 25 år: Laboratoriet for Radiologisk Datering*, edited by Nydal, R., Westin, S., Hafsten, U., and Gulliksen, S., pp. 239–247, Universitet Forlag, Trondheim, 1979.

- Hesp, P. A., Hung, C. C., Hilton, M., Ming, C. L., and Turner, I. M.: A first tentative Holocene sea-level curve for Singapore, *Journal of Coastal Research*, 14, 308–314, URL <http://www.jstor.org/stable/4298779>, 1998.
- Héту, B.: Déglaciation, émergence des terres et pergélisol tardiglaciaire dans la région de Rimouski, Québec, in: *Il y a 8000 ans à Rimouski... Paléoécologie et archéologie d'un site de la culture plano*, vol. 22 of *Paléo-Québec*, pp. 5–48, Recherches amérindiennes au Québec, Montréal, QC, Canada, 1994.
- Héту, B.: La déglaciation de la région de Rimouski, Bas-Saint-Laurent (Québec): indices d'une récurrence glaciaire dans la mer de Goldthwait entre 12 400 et 12 000 BP, *Géographie physique et Quaternaire*, 52, 325–347, 1998.
- Héту, B. and Bail, P.: Évolution postglaciaire du régime hydrosédimentaire et vitesse de l'ablation dans un petit bassin-versant des Appalaches près de Rimouski (Bas-Saint-Laurent, Québec), *Géographie physique et Quaternaire*, 50, 351–363, <https://doi.org/10.7202/033105ar>, 1996.
- Hibbert, F. D., Rohling, E. J., Dutton, A., Williams, F. H., Chutcharavan, P. M., Zhao, C., and Tamisiea, M. E.: Coral indicators of past sea-level change: A global repository of U-series dated benchmarks, *Quaternary Science Reviews*, 145, 1–56, <https://doi.org/10.1016/j.quascirev.2016.04.019>, 2016.
- Hijma, M. P. and Cohen, K. M.: Timing and magnitude of the sea-level jump precluding the 8200 yr event, *Geology*, 38, 275–278, <https://doi.org/10.1130/G30439.1>, 2010.
- Hijma, M. P. and Cohen, K. M.: Holocene sea-level database for the Rhine-Meuse Delta, The Netherlands: implications for the pre-8.2 ka sea-level jump, *Quaternary Science Reviews*, 214, 68–86, <https://doi.org/10.1016/j.quascirev.2019.05.001>, 2019.
- Hijma, M. P., Cohen, K. M., Hoffmann, G., Van der Spek, A. J. F., and Stouthamer, E.: From river valley to estuary: the evolution of the Rhine mouth in the early to middle Holocene (western Netherlands, Rhine-Meuse delta), *Netherlands Journal of Geosciences*, 88, 13–53, <https://doi.org/10.1017/S0016774600000986>, 2009.
- Hillaire-Marcel, C.: La déglaciation et le relèvement isostatique sur la côte est de la baie d'Hudson, *Cahiers de géographie du Québec*, 20, 185–220, <https://doi.org/10.7202/021319ar>, 1976.
- Hodgetts, L. M.: The changing Pre-Dorset landscape of SW Hudson Bay, Canada, *Journal of Field Archaeology*, 32, 353–367, <https://doi.org/10.1179/009346907791071467>, 2007.
- Horton, B. P., Gibbard, P. L., Mine, G. M., Morley, R. J., Purintavaragul, C., and Stargardt, J. M.: Holocene sea levels and palaeoenvironments, Malay-Thai Peninsula, southeast Asia, *The Holocene*, 15, 1199–1213, <https://doi.org/10.1191/0959683605hl891rp>, 2005.
- Horton, B. P., Peltier, W. R., Culver, S. J., Drummond, R., Engelhart, S. E., Kemp, A. C., Mallinson, D., Thieler, E. R., Riggs, S. R., Ames, D. V., and Thomson, K. H.: Holocene sea-level changes along the North Carolina Coastline and their implications for glacial isostatic adjustment models, *Quaternary Science Reviews*, 28, 1725–1736, <https://doi.org/10.1016/j.quascirev.2009.02.002>, *quaternary Ice Sheet-Ocean Interactions and Landscape Responses*, 2009.
- Ishiwa, T., Yokoyama, Y., Okuno, J., Obrochta, S., Uehara, K., Ikehara, M., and Miyairi, Y.: A sea-level plateau preceding the Marine Isotope Stage 2 minima revealed by Australian sediments, *Scientific reports*, 9, 6449, <https://doi.org/10.1038/s41598-019-42573-4>, 2019.

- James, T. S., Gowan, E. J., Wada, I., and Wang, K.: Viscosity of the asthenosphere from glacial isostatic adjustment and subduction dynamics at the northern Cascadia subduction zone, British Columbia, Canada, *Journal of Geophysical Research: Solid Earth*, 114, B04405, <https://doi.org/10.1029/2008JB006077>, 2009.
- Jelgersma, S.: Holocene sea level changes in the Netherlands, *Meded. Geol. Stichting, Ser. C*, 7, 1–101, 1961.
- Jordan, R.: Pollen diagrams from Hamilton Inlet, central Labrador, and their environmental implications for the northern Maritime Archaic, *Arctic Anthropology*, 12, 92–116, 1975.
- Kaland, P. E., Krzywinski, K., and Stabell, B.: Radiocarbon-dating of transitions between marine and lacustrine sediments and their relation to the development of lakes, *Boreas*, 13, 243–258, <https://doi.org/10.1111/j.1502-3885.1984.tb00071.x>, 1984.
- Kasper, J. N. and Allard, M.: Late-Holocene climatic changes as detected by the growth and decay of ice wedges on the southern shore of Hudson Strait, northern Québec, Canada, *The Holocene*, 11, 563–577, <https://doi.org/10.1191/095968301680223512>, 2001.
- Kaye, C. A. and Barghoorn, E. S.: Late Quaternary sea-level change and crustal rise at Boston, Massachusetts, with notes on the autocompaction of peat, *Geological Society of America Bulletin*, 75, 63–80, [https://doi.org/10.1130/0016-7606\(1964\)75\[63:LQSCAC\]2.0.CO;2](https://doi.org/10.1130/0016-7606(1964)75[63:LQSCAC]2.0.CO;2), 1964.
- Kelley, J. T., Dickson, S. M., Belknap, D. F., and Stuckenrath Jr, R.: Sea-level change and late Quaternary sediment accumulation on the southern Maine inner continental shelf, in: *Quaternary Coasts of the United States*, edited by Wehmiller, J. and Fletcher, C., vol. 48 of *Special Publications of SEPM*, pp. 23–34, -, 1992.
- Kelley, J. T., Gehrels, W. R., and Belknap, D. F.: Late Holocene relative sea-level rise and the geological development of tidal marshes at Wells, Maine, USA, *Journal of Coastal Research*, 11, 136–153, 1995.
- Kemp, A. C.: High resolution studies of late Holocene relative sea-level change (North Carolina, USA), Ph.D. thesis, University of Pennsylvania, Philadelphia, Pennsylvania, United States, 2009.
- Kemp, A. C., Wright, A. J., Barnett, R. L., Hawkes, A. D., Charman, D. J., Sameshima, C., King, A. N., Mooney, H. C., Edwards, R. J., Horton, B. P., et al.: Utility of salt-marsh foraminifera, testate amoebae and bulk-sediment  $\delta^{13}\text{C}$  values as sea-level indicators in Newfoundland, Canada, *Marine Micropaleontology*, 130, 43–59, <https://doi.org/10.1016/j.marmicro.2016.12.003>, 2017.
- Kiden, P.: Holocene relative sea-level change and crustal movement in the southwestern Netherlands, *Marine Geology*, 124, 21–41, [https://doi.org/10.1016/0025-3227\(95\)00030-3](https://doi.org/10.1016/0025-3227(95)00030-3), 1995.
- King, G.: A standard method for evaluating radiocarbon dates of local deglaciation: application to the deglaciation history of southern Labrador and adjacent Québec, *Géographie physique et Quaternaire*, 39, 163–182, <https://doi.org/10.7202/032600ar>, 1985.
- Kirwan, M. L., Murray, A. B., Donnelly, J. P., and Corbett, D. R.: Rapid wetland expansion during European settlement and its implication for marsh survival under modern sediment delivery rates, *Geology*, 39, 507–510, <https://doi.org/10.1130/G31789.1>, 2011.
- Kjemperud, A.: Diatom changes in sediments of basins possessing marine/lacustrine transitions in Frosta, Nord-Trøndelag, Norway, *Boreas*, 10, 27–38, <https://doi.org/10.1111/j.1502-3885.1981.tb00466.x>, 1981a.

- Kjemperud, A.: A shoreline displacement investigation from Frosta in Trondheimsfjorden, Nord-Trøndelag, Norway, *Norsk Geologisk Tidsskrift*, 61, 1–15, 1981b.
- Kjemperud, A.: Late Weichselian and Holocene shoreline displacement in parts of Trøndelag, Central Norway, Ph.D. thesis, University of Oslo, Oslo, Norway, 1982.
- Kjemperud, A.: Late Weichselian and Holocene shoreline displacement in the Trondheimsfjord area, central Norway, *Boreas*, 15, 61–82, <https://doi.org/10.1111/j.1502-3885.1986.tb00744.x>, 1986.
- Kolka, V. V. and Korsakova, O. P.: Возраст археологических объектов-каменных лабиринтов и относительное перемещение береговой линии Белого моря в позднеледниковье и голоцене (Age of archaeological stone labyrinths and relative movement of White Sea's strand line in late-glacial and Holocene epochs), *Известия Русского географического общества*, 142, 52–63, 2010.
- Kolka, V. V., Evzerov, V. Y., Møller, J. J., and Corner, G. D.: Postglacial Glacioisostatic Movements in the north-east of the Baltic Shield, in: *New Data on Geology and mineral Resources of Kola Peninsula (Collected Essays)*, edited by Mitrofanov, F. P., pp. 15–25, Kola Research Center of the Russian Academy of Sciences Publishing House, Apatity, Russia, (In Russian), 2005.
- Kolka, V. V., Evzerov, V. Y., Møller, J. J., and Corner, G. D.: Late Pleistocene-Holocene sea level changes and bottom sediment stratigraphy of isolated lakes in the southern Kola Peninsula, area of Umba settlement, *Izv.RAS Ser.Geogr.*, 1, 73–88, (In Russian), 2013a.
- Kolka, V. V., Korsakova, O. P., Shelekhova, T. S., Lavrova, N. B., and Arslanov, K. A.: Reconstruction of the relative level of the White Sea during the Holocene on the Karelian coast near Engozero settlement, Northern Karelia, *Doklady Earth Sciences*, 449, 434–438, 2013b.
- Kolka, V. V., Korsakova, O. P., Shelekhova, T. S., and Tolstobrova, A. N.: Восстановление относительного положения уровня Белого моря в позднеледниковье и голоцене по данным литологического, диатомового анализов и радиоуглеродного датирования донных отложений малых озер в районе пос. Чупа (северная Карелия) (Reconstruction of the relative level of the White Sea during the Late Glacial–Holocene according to lithological, diatom analyses and radiocarbon dating of small lakes bottom sediments in the area of the Chupa settlement (North Karelia, Russia)), *Vestnik of MGTU*, 18, 255–268, 2015.
- Koshechkin, B. I.: *Holocene Tectonics of the Eastern Baltic Shield*, Nauka, Leningrad, Soviet Union, 1979.
- Koshechkin, B. I., Kagan, L. Y., Kudlaeva, A. L., Malyasova, E. S., and Pervuninskaya, N. A.: Береговые образования поздне- и послеледниковых морских бассейнов на юге Кольского полуострова (Coastal formations of late - and postglacial marine basins in the south of Kola Peninsula), *Палеогеография и морфоструктуры Кольского п-ова*. Л.: Наука. Ленингр. отд-ние (Nauka), -, 87–133, 1973.
- Kovaleva, G.: Современные движения полуострова Адмиралтейства (Северный остров Новой Земли) (Modern crustal movements of the Admiralty Peninsula (North Island of Novaya Zemlya)), in: *Геотектонические предпосылки к поискам полезных ископаемых на шельфах Северного Ледовитого океана (Geotectonic prerequisites for the search for minerals on the shelves of the Arctic Ocean)*, pp. 87–93, NI.IGA, Leningrad, Soviet Union, 1974.
- Kraft, J. C.: Radiocarbon dates in the Delaware coastal zone (eastern Atlantic Coast of North America), University of Delaware Sea Grant Publication DEL-SG-19-76, College of Marine Studies, University of Delaware, 1976.

- Kranck, K.: Geomorphological development and post-Pleistocene sea level changes, Northumberland Strait, Maritime Provinces, Canadian Journal of Earth Sciences, 9, 835–844, <https://doi.org/10.1139/e72-067>, 1972.
- Krapivner, R. B.: Rapid Sagging of the Barents Shelf over the Last 15–16 ka, Geotectonics, 40, 197–207, <https://doi.org/10.1134/S0016852106030046>, 2006.
- Krzywinski, K. and Stabell, B.: Late Weichselian sea level changes at Sotra, Hordaland, western Norway, Boreas, 13, 159–202, <https://doi.org/10.1111/j.1502-3885.1984.tb00069.x>, 1984.
- Kuhry, P.: Palsa and peat plateau development in the Hudson Bay Lowlands, Canada: timing, pathways and causes, Boreas, 37, 316–327, <https://doi.org/10.1111/j.1502-3885.2007.00022.x>, 2008.
- Lajeunesse, P. and Allard, M.: Late quaternary deglaciation, glaciomarine sedimentation and glacioisostatic recovery in the Rivière Nastapoka area, eastern Hudson Bay, Northern Québec, Géographie physique et Quaternaire, 57, 65–83, <https://doi.org/10.7202/010331ar>, 2003.
- Lamarre, A., Garneau, M., and Asnong, H.: Holocene paleohydrological reconstruction and carbon accumulation of a permafrost peatland using testate amoeba and macrofossil analyses, Kuujjuarapik, subarctic Québec, Canada, Review of Palaeobotany and Palynology, 186, 131–141, <https://doi.org/10.1016/j.revpalbo.2012.04.009>, 2012.
- Lambeck, K., Purcell, A., and Zhao, S.: The North American Late Wisconsin ice sheet and mantle viscosity from glacial rebound analyses, Quaternary Science Reviews, 158, 172–210, <https://doi.org/https://doi.org/10.1016/j.quascirev.2016.11.033>, 2017.
- Landvik, J. Y., Landvik, J. Y., and Salvigsen, O.: The Late Weichselian and Holocene shoreline displacement on the west-central coast of Svalbard, Polar Research, 5, 29–44, <https://doi.org/10.1111/j.1751-8369.1987.tb00353.x>, 1987.
- Larsen, E., Kjær, K. H., Demidov, I. N., Funder, S., Grøsfjeld, K., Houmark-Nielsen, M., Jensen, M., Linge, H., and Lysa, A.: Late Pleistocene glacial and lake history of northwestern Russia, Boreas, 35, 394–424, <https://doi.org/10.1080/03009480600781958>, 2006.
- Lauriol, B. and Gray, J.: La composition isotopique des mollusques marins et sa relation à la déglaciation de la péninsule d'Ungava, Géographie physique et Quaternaire, 51, 185–199, <https://doi.org/10.7202/033117ar>, 1997.
- Lauriol, B. and Gray, J. T.: The decay and disappearance of the late Wisconsin ice sheet in the Ungava Peninsula, northern Québec, Canada, Arctic and Alpine Research, 19, 109–126, <https://doi.org/10.1080/00040851.1987.12002586>, 1987.
- Lauriol, B., Gray, J., Héту, B., and Cyr, A.: Le cadre chronologique et paléogéographique de l'évolution marine depuis la déglaciation dans la région d'Aupaluk Nouveau-Québec, Géographie physique et Quaternaire, 33, 189–203, <https://doi.org/10.7202/1000068ar>, 1979.
- Lavoie, C., Allard, M., and Duhamel, D.: Deglaciation landforms and C-14 chronology of the Lac Guillaume-Delisle area, eastern Hudson Bay: a report on field evidence, Geomorphology, 159, 142–155, <https://doi.org/10.1016/j.geomorph.2012.03.015>, 2012.
- Lavoie, M. and Fillion, L.: Holocene vegetation dynamics of Anticosti Island, Québec, and consequences of remoteness on ecological succession, Quaternary Research, 56, 112–127, <https://doi.org/10.1006/qres.2001.2239>, 2001.

- Lemieux, A.-M., Bhiry, N., and Desrosiers, P. M.: The geoarchaeology and traditional knowledge of winter sod houses in eastern Hudson Bay, Canadian Low Arctic, *Geoarchaeology*, 26, 479–500, <https://doi.org/10.1002/gea.20365>, 2011.
- Leorri, E., Martin, R., and McLaughlin, P.: Holocene environmental and parasequence development of the St. Jones Estuary, Delaware (USA): Foraminiferal proxies of natural climatic and anthropogenic change, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 241, 590–607, <https://doi.org/10.1016/j.palaeo.2006.04.011>, 2006.
- Levitan, M. A., Lavrushin, Y. A., and Stein, R.: Essays on the history of sedimentation in the Arctic Ocean and sub-arctic seas during the last 130 ka, GEOS, Moscow, Russia, (In Russian), 2007.
- Lie, S. E., Stabell, B., and Mangerud, J.: Diatom stratigraphy related to Late Weichselian sea-level changes in Sunnmøre, western Norway, *Norges geologiske undersøkelse*, 380, 203–219, 1983.
- Liu, J., Saito, Y., Wang, H., Zhou, L., and Yang, Z.: Stratigraphic development during the Late Pleistocene and Holocene offshore of the Yellow River Delta, Bohai Sea, *Journal of Asian Earth Sciences*, 36, 318–331, <https://doi.org/10.1016/j.jseaes.2009.06.007>, 2009.
- Liu, J., Saito, Y., Kong, X., Wang, H., Wen, C., Yang, Z., and Nakashima, R.: Delta development and channel incision during Marine Isotope Stages 3 and 2 in the western South Yellow Sea, *Marine Geology*, 278, 54–76, <https://doi.org/10.1016/j.margeo.2010.09.003>, 2010.
- Liverman, D. G. E.: Quaternary geology of the Goose Bay area, Current Research Report 97-1, Newfoundland Department of Mines and Energy, Geological Survey, 1997.
- Locat, J.: L'émersion des terres dans la région de Baie-des-Sables/Trois-Pistoles, Québec, *Géographie physique et Quaternaire*, 31, 297–306, <https://doi.org/10.7202/1000279ar>, 1977.
- Lohne, Ø. S., Bondevik, S., Mangerud, J., and Svendsen, J. I.: Sea-level fluctuations imply that the Younger Dryas ice-sheet expansion in western Norway commenced during the Allerød, *Quaternary Science Reviews*, 26, 2128–2151, <https://doi.org/10.1016/j.quascirev.2007.04.008>, 2007.
- Løken, O. H.: Postglacial tilting of Akpatok Island, Northwest Territories, *Canadian Journal of Earth Sciences*, 15, 1547–1553, <https://doi.org/10.1139/e78-160>, 1978.
- Lorscheid, T. and Rovere, A.: The indicative meaning calculator—quantification of paleo sea-level relationships by using global wave and tide datasets, *Open Geospatial Data, Software and Standards*, 4, 10, <https://doi.org/10.1186/s4096>, 2019.
- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates VII, *Radiocarbon*, 10, 207–245, <https://doi.org/10.1017/S0033822200010894>, 1968.
- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates IX, *Radiocarbon*, 12, 46–86, <https://doi.org/10.1017/S0033822200036213>, 1970.
- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates XIII, Paper 73-7, Geological Survey of Canada, <https://doi.org/10.4095/103332>, 1973.
- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates XV, Paper 75-7, Geological Survey of Canada, <https://doi.org/10.4095/102887>, 1975.
- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates XIX, Paper 79-7, Geological Survey of Canada, <https://doi.org/10.4095/102159>, 1979.

- Lowdon, J. A. and Blake, W.: Geological Survey of Canada radiocarbon dates XX, Paper 80-7, Geological Survey of Canada, <https://doi.org/10.4095/119073>, 1980.
- Lowdon, J. A., Fyles, J. G., and Blake, W.: Geological Survey of Canada radiocarbon dates VI, Radiocarbon, 9, 156–197, <https://doi.org/10.1017/S0033822200000503>, 1967.
- Lowdon, J. A., Robertson, I. M., and Blake, W.: Geological Survey of Canada radiocarbon dates XI, Radiocarbon, 13, 255–324, <https://doi.org/10.1017/S00338222000008456>, 1971.
- Lubinski, D. J.: Latest Pleistocene and Holocene paleoenvironments of the Franz Josef Land Region, Northern Barents Sea, Arctic Russia, Ph.D. thesis, Department of Geological Sciences, University of Colorado-Boulder, Boulder, USA, 1998.
- Lunkka, J.-P., Putkinen, N., and Miettinen, A.: Shoreline displacement in the Belomorsk area, NW Russia during the Younger Dryas Stadial, Quaternary Science Reviews, 37, 26–37, <https://doi.org/10.1016/j.quascirev.2012.01.023>, 2012.
- MacPherson, J. B.: Delayed deglaciation by downwasting of the northeast Avalon Peninsula, Newfoundland: an application of the early postglacial pollen record, Géographie physique et Quaternaire, 50, 201–220, <https://doi.org/10.7202/033089ar>, 1996.
- Makarov, A. S.: Laptev Sea level fluctuations as a factor of the Lena River Delta formation in Holocene, Ph.D. thesis, Saint-Petersburg State University, Faculty of Geography, St. Petersburg, Russia, 2009.
- Makeev, V. M.: Fluctuations of the Gulf of Ob Level in the Holocene, in: Geographical and Glaciological Investigations in Polar Regions, pp. 137–146, Gidrometeoizdat, Leningrad, Soviet Union, (In Russian), 1988.
- Makeev, V. M., Bolshiyarov, D. Y., and N., M. O.: Особенности морфологии долины устьевое участка реки Оби и история формирования современной дельты (Morphology of the estuarine part of the Ob River valley and the history of the modern delta formation), in: Географические и гляциологические исследования в полярных странах (Geographic and glaciological studies in polar countries), pp. 125–137, Гидрометеоздат (Hydrometeoizdat), Leningrad, Soviet Union, 1988.
- Mallinson, D., Riggs, S., Thieler, E. R., Culver, S., Farrell, K., Foster, D. S., Corbett, D. R., Horton, B., and Wehmiller, J. F.: Late Neogene and Quaternary evolution of the northern Albemarle Embayment (mid-Atlantic continental margin, USA), Marine Geology, 217, 97–117, <https://doi.org/10.1016/j.margeo.2005.02.030>, 2005.
- Mallinson, D., Burdette, K., Mahan, S., and Brook, G.: Optically stimulated luminescence age controls on late Pleistocene and Holocene coastal lithosomes, North Carolina, USA, Quaternary Research, 69, 97–109, <https://doi.org/10.1016/j.yqres.2007.10.002>, 2008.
- Mangerud, J., Kaufman, D., Hansen, J., and Inge Svendsen, J.: Ice-free conditions in Novaya Zemlya 35 000–30 000 cal years BP, as indicated by radiocarbon ages and amino acid racemization evidence from marine molluscs, Polar Research, 27, 187–208, <https://doi.org/10.1111/j.1751-8369.2008.00064.x>, 2008.
- Mann, T., Rovere, A., Schöne, T., Klicpera, A., Stocchi, P., Lukman, M., and Westphal, H.: The magnitude of a mid-Holocene sea-level highstand in the Strait of Makassar, Geomorphology, 257, 155–163, <https://doi.org/10.1016/j.geomorph.2015.12.023>, 2016.
- Mann, T., Bender, M., Lorscheid, T., Stocchi, P., Vacchi, M., Switzer, A. D., and Rovere, A.: Holocene sea levels in Southeast Asia, Maldives, India and Sri Lanka: The SEAMIS database, Quaternary Science Reviews, 219, 112–125, <https://doi.org/10.1016/j.quascirev.2019.07.007>, 2019.

- Martindale, A., Morlan, R., Betts, M., Blake, M., Gajewski, K., Chaput, M., Mason, A., and Vermeersch, P.: Canadian archaeological radiocarbon database (CARD 2.1), URL <https://www.canadianarchaeology.ca/>, accessed June 10, 2020, 2020.
- Marx, P. R.: A dynamic model for an estuarine transgression based on facies variants in the nearshore of western Delaware Bay, Master's thesis, University of Delaware, Newark, Delaware, United States, 1981.
- Matthews, B.: Radiocarbon dated postglacial land uplift in Northern Ungava, Canada, *Nature*, 211, 1164–1166, <https://doi.org/10.1038/2111164b0>, 1966.
- Matthews, B.: Late Quaternary land emergence in northern Ungava, Québec, *Arctic*, 20, 176–202, 1967.
- McAndrews, J. H., Riley, J. L., and Davis, A. M.: Vegetation history of the Hudson Bay Lowland: a postglacial pollen diagram from the Sutton Ridge, *Le Naturaliste Canadien*, 109, 597–608, 1982.
- McCallum, K. J. and Wittenberg, J.: University of Saskatchewan radiocarbon dates IV, *Radiocarbon*, 7, 229–235, <https://doi.org/10.1017/S0033822200037231>, 1965.
- McNeely, R.: Geological Survey of Canada radiocarbon dates XXXIII, *Current Research 2001*, Geological Survey of Canada, <https://doi.org/10.4095/213319>, 2002.
- McNeely, R.: Geological Survey of Canada radiocarbon dates XXXIV, *Current Research 2005*, Geological Survey of Canada, <https://doi.org/10.4095/221464>, 2005.
- McNeely, R.: Geological Survey of Canada radiocarbon dates XXXV, *Current Research 2006-G*, Geological Survey of Canada, <https://doi.org/10.4095/223025>, 2006.
- McNeely, R. and Atkinson, D. E.: Geological Survey of Canada radiocarbon dates XXXII, *Current Research 1995-G*, Geological Survey of Canada, <https://doi.org/10.4095/207598>, 1995.
- McNeely, R. and Brennan, J.: Geological Survey of Canada radiocarbon dates XXXV, *Open File 5019*, Geological Survey of Canada, <https://doi.org/10.4095/221215>, 2005.
- McNeely, R. and Jorgensen, P. K.: Geological Survey of Canada radiocarbon dates XXX, *Paper 90-7*, Geological Survey of Canada, <https://doi.org/10.4095/183915>, 1992.
- McNeely, R. and Jorgensen, P. K.: Geological Survey of Canada radiocarbon dates XXXI, *Paper 91-7*, Geological Survey of Canada, <https://doi.org/10.4095/193326>, 1993.
- McNeely, R. and McCuaig, S.: Geological Survey of Canada radiocarbon dates XXIX, *Paper 89-7*, Geological Survey of Canada, <https://doi.org/10.4095/132453>, 1991.
- Meltzner, A. J., Switzer, A. D., Horton, B. P., Ashe, E., Qiu, Q., Hill, D. F., Bradley, S. L., Kopp, R. E., Hill, E. M., Majewski, J. M., et al.: Half-metre sea-level fluctuations on centennial timescales from mid-Holocene corals of Southeast Asia, *Nature Communications*, 8, 1–16, <https://doi.org/10.1038/ncomms14387>, 2017.
- Meyer, D. A.: Pre-Dorset settlements at the Seahorse Gully site, Master's thesis, University of Manitoba, 1970.
- Miller, A. A. L., Mudie, P. J., and Scott, D. B.: Holocene history of Bedford Basin, Nova Scotia: foraminifera, dinoflagellate, and pollen records, *Canadian Journal of Earth Sciences*, 19, 2342–2367, <https://doi.org/10.1139/e82-205>, 1982.

- Miller, K. G., Sugarman, P. J., Browning, J. V., Horton, B. P., Stanley, A., Kahn, A., Uptegrove, J., and Aucott, M.: Sea-level rise in New Jersey over the past 5000 years: Implications to anthropogenic changes, *Global and Planetary Change*, 66, 10–18, <https://doi.org/10.1016/j.gloplacha.2008.03.008>, quaternary sea-level changes : Records and Processes, 2009.
- Miller, K. R. and Livingstone, D. A.: Late-Holocene changes in sea level and environment on eastern Cape Breton Island, Nova Scotia, Canada, *The Holocene*, 3, 211–219, <https://doi.org/10.1177/095968369300300303>, 1993.
- Miller, R. F.: New records of postglacial walrus and a review of Quaternary marine mammals in New Brunswick, *Atlantic Geology*, 26, 97–107, <https://doi.org/10.4138/1695>, 1990.
- Mityaev M. V., Korsun S. A., S. P. P. M. G. G.: Древние береговые линии Восточного Кильдина (Ancient coastlines of East Kildin), *Доклады Академии наук (Doklady of the Russian Academy of Sciences)*, 423, 546–550, 2008.
- Mixon, R. B., Szabo, B. J., and Owens, J. P.: Uranium-series dating of mollusks and corals, and age of Pleistocene deposits, Chesapeake Bay area, Virginia and Maryland, Professional Paper 1067- E, United States Geological Survey, <https://doi.org/10.3133/pp1067E>, 1982.
- Moore, C.: Geoarchaeological investigations of stratified Holocene aeolian deposits along the Tar River in North Carolina, Ph.D. thesis, Coastal Resources Management, East Carolina University, Greenville, NC, United States, 2009.
- Morlan, R., McNeely, R., and Nielsen, E.: Manitoba radiocarbon dates, Open File Report OF2000-1, Manitoba Industry, Trade and Mines, Geological Survey, 2000.
- Morrison, D.: Radiocarbon dating Thule culture, *Arctic Anthropology*, 26, 48–77, 1989.
- Nash, R. J.: Dorset culture in northeastern Manitoba, Canada, *Arctic Anthropology*, 9, 10–16, 1972.
- Newman, W. S. and Rusnak, G. A.: Holocene Submergence of the Eastern Shore of Virginia, *Science*, 148, 1464–1466, <https://doi.org/10.1126/science.148.3676.1464>, 1965.
- Newman, W. S., Cinquemani, L. J., Pardi, R., and Marcus, L. F.: Holocene deleveling of the United States' East Coast, in: *Earth Rheology, Isostasy and Eustasy*, edited by Morner, N., pp. 449–463, Wiley, New York, United States, 1980.
- Nicks, L. P.: The study of the glacial stratigraphy and sedimentation of the Sheldon Point moraine, Saint John, New Brunswick, Open File Report 91-12, New Brunswick Department of Natural Resources and Energy, Mineral Resources, 1991.
- Nikitina, D. L., Pizzuto, J. E., Schwimmer, R. A., and Ramsey, K. W.: An updated Holocene sea-level curve for the Delaware coast, *Marine Geology*, 171, 7–20, [https://doi.org/10.1016/S0025-3227\(00\)00104-3](https://doi.org/10.1016/S0025-3227(00)00104-3), 2000.
- Nydal, R.: A critical review of radiocarbon dating of a Norse settlement at L'Anse Aux Meadows, Newfoundland Canada, *Radiocarbon*, 31, 976–985, <https://doi.org/10.1017/S0033822200012613>, 1989.
- Nydick, K. R., Bidwell, A. B., Thomas, E., and Varekamp, J. C.: A sea-level rise curve from Guilford, Connecticut, USA, *Marine Geology*, 124, 137–159, [https://doi.org/10.1016/0025-3227\(95\)00037-Y](https://doi.org/10.1016/0025-3227(95)00037-Y), coastal Evolution in the Quarternary: IGCP Project 274, 1995.

- Occhietti, S., Chartier, H. M., Hillaire-Marcel, C., Cournoyer, M., Cumbaa, S., and Harington, R.: Paléoenvironnements de la Mer de Champlain dans la région de Québec, entre 11 300 et 9750 BP: le site de Saint-Nicolas, *Géographie physique et Quaternaire*, 55, 23–46, <https://doi.org/10.7202/005660ar>, 2001.
- Ogden, J. G. and Hart, W. C.: Dalhousie University natural radiocarbon measurements I, *Radiocarbon*, 18, 43–49, <https://doi.org/10.1017/S0033822200002356>, 1976.
- Oldale, R. N. and O'Hara, C. J.: New radiocarbon dates from the inner Continental Shelf off southeastern Massachusetts and a local sea-level-rise curve for the past 12,000 yr, *Geology*, 8, 102–106, [https://doi.org/10.1130/0091-7613\(1980\)8<102:NRDFTI>2.0.CO;2](https://doi.org/10.1130/0091-7613(1980)8<102:NRDFTI>2.0.CO;2), 1980.
- Oldale, R. N., Colman, S. M., and Jones, G. A.: Radiocarbon ages from two submerged strandline features in the western Gulf of Maine and a sea-level curve for the northeastern Massachusetts coastal region, *Quaternary Research*, 40, 38–45, <https://doi.org/10.1006/qres.1993.1054>, 1993.
- Olson, E. A. and Broecker, W. S.: Lamont natural radiocarbon measurements VII, *Radiocarbon*, 3, 141–175, <https://doi.org/10.1017/S0033822200020919>, 1961.
- Painchaud, A., Dubois, J., and Gwyn, Q.: Déglaciation et émergence des terres de l'ouest de l'île d'Anticosti, golfe du Saint-Laurent, Québec, *Géographie physique et Quaternaire*, 38, 93–111, <https://doi.org/10.7202/032545ar>, 1984.
- Pardi, R. and Newman, E. R.: Queens College radiocarbon measurements III, *Radiocarbon*, 22, 1073–1083, <https://doi.org/10.1017/S0033822200011577>, 1980.
- Pardi, R. R., Tomecek, L., and Newman, W. S.: Queens College radiocarbon measurements IV, *Radiocarbon*, 26, 412–430, <https://doi.org/10.1017/S0033822200006779>, 1984.
- Parent, M. and Occhietti, S.: Late Wisconsinan deglaciation and Champlain sea invasion in the St. Lawrence valley, Québec, *Géographie physique et Quaternaire*, 42, 215–246, <https://doi.org/10.7202/032734ar>, 1988.
- Parham, P. R., Riggs, S. R., Culver, S. J., Mallinson, D. J., Rink, W. J., and Burdette, K.: Quaternary coastal lithofacies, sequence development and stratigraphy in a passive margin setting, North Carolina and Virginia, USA, *Sedimentology*, 60, 503–547, <https://doi.org/10.1111/j.1365-3091.2012.01349.x>, 2013.
- Parham, P. R., Saito, Y., Sapon, N., Suriadi, R., and Mohtar, N. A.: Evidence for ca. 7-ka maximum Holocene transgression on the Peninsular Malaysia east coast, *Journal of Quaternary Science*, 29, 414–422, <https://doi.org/10.1002/jqs.2714>, 2014.
- Peltier, W. and Fairbanks, R. G.: Global glacial ice volume and Last Glacial Maximum duration from an extended Barbados sea level record, *Quaternary Science Reviews*, 25, 3322–3337, <https://doi.org/10.1016/j.quascirev.2006.04.010>, 2006.
- Peltier, W. R., Argus, D. F., and Drummond, R.: Space geodesy constrains ice age terminal deglaciation: The global ICE-6G\_C (VM5a) model, *Journal of Geophysical Research: Solid Earth*, 120, 450–487, <https://doi.org/10.1002/2014JB011176>, 2015.
- Pendea, I. F., Costopoulos, A., Nielsen, C., and Chmura, G. L.: A new shoreline displacement model for the last 7 ka from eastern James Bay, Canada, *Quaternary Research*, 73, 474–484, <https://doi.org/10.1016/j.yqres.2010.02.001>, 2010.

- Pico, T., Mitrovica, J., Ferrier, K., and Braun, J.: Global ice volume during MIS 3 inferred from a sea-level analysis of sedimentary core records in the Yellow River Delta, *Quaternary Science Reviews*, 152, 72–79, <https://doi.org/10.1016/j.quascirev.2016.09.012>, 2016.
- Pico, T., Creveling, J. R., and Mitrovica, J. X.: Sea-level records from the US mid-Atlantic constrain Laurentide Ice Sheet extent during Marine Isotope Stage 3, *Nature Communications*, 8, 1–6, <https://doi.org/10.1038/ncomms15612>, 2017.
- Pienitz, R., Lortie, G., and Allard, M.: Isolation of lacustrine basins and marine regression in the Kuu-jjuaq area, northern Québec, as inferred from diatom analysis, *Géographie physique et Quaternaire*, 45, 155–174, <https://doi.org/10.7202/032858ar>, 1991.
- Plumet, P.: L'archéologie et le relèvement glacio-isostatique de la région de Poste-de-la-Baleine, Nouveau-Québec, *La Revue de Géographie de Montréal*, 28, 443–447, 1974.
- Polyak, L., Gataullin, V., Okuneva, O., and Stelle, V.: New constraints on the limits of the Barents-Kara ice sheet during the Last Glacial Maximum based on borehole stratigraphy from the Pechora Sea, *Geology*, 28, 611–614, [https://doi.org/10.1130/0091-7613\(2000\)28<611:NCOTLO>2.0.CO;2](https://doi.org/10.1130/0091-7613(2000)28<611:NCOTLO>2.0.CO;2), 2000.
- Polyakova, Y. I. and Stein, R.: Holocene paleoenvironmental implications of diatom and organic carbon records from the southeastern Kara Sea (Siberian Margin), *Quaternary Research*, 62, 256–266, <https://doi.org/10.1016/j.yqres.2004.08.002>, 2004.
- Polyakova, Y. I., Bauch, H. A., and Klyuvitkina, T. S.: Early to middle Holocene changes in Laptev Sea water masses deduced from diatom and aquatic palynomorph assemblages, *Global and Planetary Change*, 48, 208–222, <https://doi.org/10.1016/j.gloplacha.2004.12.014>, 2005.
- Prøsch-Danielsen, L.: Sea level studies along the coast of southwestern Norway. With emphasis on three short-lived Holocene marine events, vol. 20 of *AmS-Skrifter*, Arkeologisk museum i Stavanger, 2006.
- Psuty, N. P.: Holocene sea level in New Jersey, *Physical Geography*, 7, 156–167, <https://doi.org/10.1080/02723646.1986.10642288>, 1986.
- Raab, A., Melles, M., Berger, G. W., Hagedorn, B., and Hubberten, H.-W.: Non-glacial paleoenvironments and the extent of Weichselian ice sheets on Severnaya Zemlya, Russian High Arctic, *Quaternary Science Reviews*, 22, 2267–2283, [https://doi.org/10.1016/S0277-3791\(03\)00139-2](https://doi.org/10.1016/S0277-3791(03)00139-2), 2003.
- Rampton, V. N., Gauthier, R. C., Thibault, J., and Seaman, A. A.: Quaternary geology of New Brunswick, Memoir 416, Geological Survey of Canada, <https://doi.org/10.4095/119730>, 1984.
- Ramsey, K. W. and Baxter, S. J.: Radiocarbon dates from Delaware: a compilation, Report of Investigations 54, Delaware Geological Survey, University of Delaware, Newark, Delaware, United States, 1996.
- Ray, R. D.: On measurements of the tide at Churchill, Hudson Bay, *Atmosphere-Ocean*, 54, 108–116, <https://doi.org/10.1080/07055900.2016.1139540>, 2016.
- Redfield, A. C.: Postglacial change in sea level in the western North Atlantic Ocean, *Science*, 157, 687–692, <https://doi.org/10.1126/science.157.3789.687>, 1967.
- Redfield, A. C. and Rubin, M.: The age of salt marsh peat and its relation to recent changes in sea level at Barnstable, Massachusetts, *Proceedings of the National Academy of Sciences of the United States of America*, 48, 1728, <https://doi.org/10.1073/pnas.48.10.1728>, 1962.

- Rémillard, A. M., St-Onge, G., Bernatchez, P., Héту, B., Buylaert, J.-P., Murray, A. S., and Vigneault, B.: Chronology and stratigraphy of the Magdalen Islands archipelago from the last glaciation to the early Holocene: new insights into the glacial and sea-level history of eastern Canada, *Boreas*, 45, 604–628, <https://doi.org/10.1111/bor.12179>, 2016.
- Rémillard, A. M., St-Onge, G., Bernatchez, P., Héту, B., Buylaert, J.-P., Murray, A. S., and Lajeunesse, P.: Relative sea-level changes and glacio-isostatic adjustment on the Magdalen Islands archipelago (Atlantic Canada) from MIS 5 to the late Holocene, *Quaternary Science Reviews*, 171, 216–233, <https://doi.org/10.1016/j.quascirev.2017.07.015>, 2017.
- Repkina, T., Romanenko, F., Baranskaya, A., and Samsonova, S. Y.: (Dynamics of the eastern coast of Unskaya Bay, White Sea, in the Holocene), *Вестник МГУ. Сер. географическая* (Bulletin of Moscow State University. Ser. geographic), -, -, in review.
- Repkina, T. Y. and Romanenko, F. A.: Рельеф побережий Баьего моря и о. Великого: история развития и современные изменения // Комплексные исследования Баьего моря, полу-изолированной беломорской лагуны: геология, гидрология, биота — изменения на фоне трансгрессии берегов (Topography of the coasts of Babye More Gulf and Velikiy Island: past evolution and modern changes // Comprehensive studies of Babye More Gulf, a semi-isolated White Sea lagoon: geology, hydrology, biota - changes against the background of transgression), *Труды Беломорской биостанции МГУ* (Proceedings of the White Sea Biological Station of Moscow State University) 19, White Sea Biological Station of Moscow State University, 2016.
- Ricard, J.: Reconstitution paléogéographique dans la région de la rivière Déception, péninsule d'Ungava, Québec, Master's thesis, Université de Montréal, Montréal, Canada, 1989.
- Ridler, R H; Shilts, W. W.: Exploration for Archean polymetallic sulphide deposits in permafrost terrains: an integrated geological/geochemical technique, Kaminak Lake area, District of Keewatin, Paper 73-34, Geological Survey of Canada, <https://doi.org/10.4095/103314>, 1974.
- Rogers, E. E. and Pizzuto, J. E.: The Holocene stratigraphy of three freshwater to brackish wetlands, Kent County, Delaware, in: *Paleoenvironmental studies of the State Route 1 corridor: contexts for prehistoric settlement, New Castle and Kent counties, Delaware*, edited by Kellogg, D. C. and Custer, J. F., vol. 114 of *Archaeology Series*, pp. 48–81, Delaware Department of Transportation, 1994.
- Romanenko, F. A. and Shilova, O. S.: The postglacial uplift of the Karelian Coast of the White Sea according to radiocarbon and diatom analyses of lacustrine-boggy deposits of Kindo Peninsula, *Doklady Earth Sciences*, 442, 544–548, <https://doi.org/10.1134/S1028334X12020079>, 2012.
- Romanenko, F. A., Belova, N. G., Nikolaev, V. I., and Olyunina, O. S.: Особенности строения рыхлых отложений Югорского побережья Байдарацкой губы Карского моря (Structural Features of Loose Deposits of the Yugorskiy Coast of Baydaratskaya Bay, Kara Sea), in: *Матер. V Всеросс. совещания по изучению четвертичного периода* (Proceedings of the V All-Russian. Quaternary meeting), pp. 348—351, GEOS, Moscow, Russia, 2007.
- Romundset, A., LOHNE, Ø. S., Mangerud, J., and Svendsen, J. I.: The first Holocene relative sea-level curve from the middle part of Hardangerfjorden, western Norway, *Boreas*, 39, 87–104, <https://doi.org/10.1111/j.1502-3885.2009.00108.x>, 2010.
- Romundset, A., Bondevik, S., and Bennike, O.: Postglacial uplift and relative sea level changes in Finnmark, northern Norway, *Quaternary Science Reviews*, 30, 2398–2421, <https://doi.org/10.1016/j.quascirev.2011.06.007>, 2011.

- Romundset, A., Fredin, O., and Høgaas, F.: A Holocene sea-level curve and revised isobase map based on isolation basins from near the southern tip of Norway, *Boreas*, 44, 383–400, <https://doi.org/10.1111/bor.12105>.ISSN0300-9483, 2015.
- Romundset, A., Lakeman, T. R., and Høgaas, F.: Quantifying variable rates of postglacial relative sea level fall from a cluster of 24 isolation basins in southern Norway, *Quaternary Science Reviews*, 197, 175–192, <https://doi.org/10.1016/j.quascirev.2018.07.041>, 2018.
- Rutherford, A. A., Wittenberg, J., and McCallum, K. J.: University of Saskatchewan radiocarbon dates VI, *Radiocarbon*, 15, 193–211, <https://doi.org/10.1017/S0033822200058707>, 1973.
- Rutherford, A. A., Wittenberg, J., and Wilmeth, R.: University of Saskatchewan radiocarbon dates VIII, *Radiocarbon*, 21, 48–94, <https://doi.org/10.1017/S0033822200004215>, 1979.
- Saint-Laurent, D. and Filion, L.: Interprétation paléoécologique des dunes à la limite des arbres, secteur nord-est de la mer d'Hudson, Québec, *Géographie physique et Quaternaire*, 46, 209–220, <https://doi.org/10.7202/032905ar>, 1992.
- Salvigsen, O.: Holocene emergence and finds of pumice, whalebones and driftwood at Svartknausflya, Nordaustlandet, *Norsk Polarinstitutt Årbok*, 1977, 217–228, 1978.
- Salvigsen, O.: Radiocarbon dated raised beaches in Kong Karls Land, Svalbard, and their consequences for the glacial history of the Barents Sea area, *Geografiska Annaler: Series A, Physical Geography*, 63, 283–291, <https://doi.org/10.1080/04353676.1981.11880043>, 1981.
- Salvigsen, O. and Elgersma, A.: Radiocarbon dating of deglaciation and raised beaches in north-western Sørkapp Land, Spitsbergen, Svalbard, *Prace Geograficzne*, 94, 39–48, 1993.
- Salvigsen, O. and Høgvard, K.: Glacial history, Holocene shoreline displacement and palaeoclimate based on radiocarbon ages in the area of Bockfjorden, north-western Spitsbergen, Svalbard, *Polar Research*, 25, 15–24, <https://doi.org/10.1111/j.1751-8369.2006.tb00147.x>, 2006.
- Salvigsen, O. and Mangerud, J.: Holocene shoreline displacement at Agardhbukta, eastern Spitsbergen, Svalbard, *Polar Research*, 9, 1–7, <https://doi.org/10.3402/polar.v9i1.6775>, 1991.
- Samson, C., Barrette, L., LaSalle, P., and Fortier, J.: Quebec radiocarbon measurements I, *Radiocarbon*, 19, 96–100, <https://doi.org/10.1017/S0033822200003362>, 1977.
- Saulnier-Talbot, É. and Pienitz, R.: Isolation au postglaciaire d'un bassin côtier près de Kuujjuaraapik-Whapmagoostui, en Hudsonie (Québec): une analyse biostratigraphique diatomifère, *Géographie physique et Quaternaire*, 55, 63–74, <https://doi.org/10.7202/005662ar>, 2001.
- Savoie, L. and Gangloff, P.: Analyse pollinique d'une palse au site archéologique de Vieux-Port-Burwell (Killiniq), Territoires du Nord-Ouest, *Géographie physique et Quaternaire*, 34, 301–320, <https://doi.org/10.7202/1000414ar>, 1980.
- Scheffers, A., Brill, D., Kelletat, D., Brückner, H., Scheffers, S., and Fox, K.: Holocene sea levels along the Andaman Sea coast of Thailand, *The Holocene*, 22, 1169–1180, <https://doi.org/10.1177/0959683612441803>, 2012.
- Schimanski, A. and Stattegger, K.: Deglacial and Holocene evolution of the Vietnam shelf: stratigraphy, sediments and sea-level change, *Marine Geology*, 214, 365–387, <https://doi.org/10.1016/j.margeo.2004.11.001>, 2005.
- Scoffin, T. P. and Le Tissier, M. D. A.: Late Holocene sea level and reef-flat progradation, Phuket, South Thailand, *Coral Reefs*, 17, 273–276, <https://doi.org/10.1007/s003380050128>, 1998.

- Scott, D. B. and Greenberg, D. A.: Relative sea-level rise and tidal development in the Fundy tidal system, *Canadian Journal of Earth Sciences*, 20, 1554–1564, <https://doi.org/10.1139/e83-145>, 1983.
- Scott, D. B. and Medioli, F. S.: Micropaleontological documentation for early Holocene fall of relative sea level on the Atlantic coast of Nova Scotia, *Geology*, 10, 278–281, [https://doi.org/10.1130/0091-7613\(1982\)10<278:MDFEHF>2.0.CO;2](https://doi.org/10.1130/0091-7613(1982)10<278:MDFEHF>2.0.CO;2), 1982.
- Scott, D. B., Williamson, M. A., and Duffett, T. E.: Marsh foraminifera of Prince Edward Island: their recent distribution and application for former sea level studies, *Maritime Sediments and Atlantic Geology*, 17, 98–129, <https://doi.org/10.4138/1380>, 1981.
- Scott, D. B., Medioli, F. S., and Duffett, T. E.: Holocene rise of relative sea level at Sable Island, Nova Scotia, Canada, *Geology*, 12, 173–176, [https://doi.org/10.1130/0091-7613\(1984\)12\%3C173:HRORSL\%3E2.0.CO;2](https://doi.org/10.1130/0091-7613(1984)12\%3C173:HRORSL\%3E2.0.CO;2), 1984.
- Scott, D. B., Boyd, R., and Medioli, F. S.: Relative sea-level changes In Atlantic Canada: observed level and sedimentological changes vs. theoretical models, in: *Sea-level fluctuation and coastal evolution*, SEPM Society for Sedimentary Geology, <https://doi.org/10.2110/pec.87.41.0087>, 1987.
- Scott, D. B., Boyd, R., Douma, M., Medioli, F. S., Yuill, S., Leavitt, E., and Lewis, C.: Holocene relative sea-level changes and Quaternary glacial events on a continental shelf edge: Sable Island Bank, in: *Late Quaternary sea-level correlation and applications*, pp. 105–119, Springer, [https://doi.org/10.1007/978-94-009-0873-4\\\_6](https://doi.org/10.1007/978-94-009-0873-4\_6), 1989.
- Scott, D. B., Brown, K., Collins, E. S., and Medioli, F. S.: A new sea-level curve from Nova Scotia: evidence for a rapid acceleration of sea-level rise in the late mid-Holocene, *Canadian Journal of Earth Sciences*, 32, 2071–2080, <https://doi.org/10.1139/e95-160>, 1995.
- Scott, S., Catto, N., and Liverman, D.: Quaternary marine deposits of the Springdale-Hall's Bay area, Newfoundland, *Atlantic Geology*, 27, 181–191, <https://doi.org/10.4138/1733>, 1991.
- Scott, T. W.: Correlating late Pleistocene deposits on the coastal plain of Virginia with the glacial-eustatic sea-level curve, Master's thesis, Old Dominion University, Norfolk, VA, United States, 2006.
- Seaman, A. A.: Late Pleistocene history of New Brunswick, Canada, in: *Quaternary Glaciations—Extent and Chronology - Part II: North America*, edited by Ehlers, J., Gibbard, P. L., and Hughes, P. D., *Developments in Quaternary Science*, pp. 151–167, Elsevier, [https://doi.org/10.1016/S1571-0866\(04\)80195-7](https://doi.org/10.1016/S1571-0866(04)80195-7), 2004.
- Sears, P. C.: Evolution of Platt Shoals, northern North Carolina shelf, Master's thesis, Old Dominion University, Norfolk, VA, United States, 1973.
- Shaw, J. and Edwardson, K. A.: Surficial sediments and post-glacial relative sea-level history, Hamilton Sound, Newfoundland, *Atlantic Geology*, 30, 97–112, <https://doi.org/10.4138/2123>, 1994.
- Shaw, J. and Forbes, D. L.: Coastal barrier and beach-ridge sedimentation in Newfoundland, in: *Proceedings, Canadian Coastal Conference*, pp. 437–454, Natural Resources Council Canada Ottawa, 1987.
- Shaw, J. and Forbes, D. L.: The postglacial relative sea-level lowstand in Newfoundland, *Canadian Journal of Earth Sciences*, 32, 1308–1330, <https://doi.org/10.1139/e95-107>, 1995.
- Shaw, J. and Potter, D. P.: Surficial geology, coastal waters, Island of Newfoundland, Newfoundland and Labrador, Bulletin 605, Geological Survey of Canada, <https://doi.org/10.4095/293728>, 2015.

- Shaw, J., Taylor, R., and Forbes, D.: Impact of the Holocene transgression on the Atlantic coastline of Nova Scotia, *Géographie physique et Quaternaire*, 47, 221–238, <https://doi.org/10.7202/032950ar>, 1993.
- Shaw, J., Fader, G. B., and Taylor, R. B.: Submerged early Holocene coastal and terrestrial landforms on the inner shelves of Atlantic Canada, *Quaternary International*, 206, 24–34, <https://doi.org/10.1016/j.quaint.2008.07.017>, 2009.
- Shaw, J., Amos, C. L., Greenberg, D. A., O'Reilly, C. T., Parrott, D. R., and Patton, E.: Catastrophic tidal expansion in the Bay of Fundy, Canada, *Canadian Journal of Earth Sciences*, 47, 1079–1091, <https://doi.org/10.1139/E10-046>, 2010.
- Simon, K. M., James, T. S., Forbes, D. L., Telka, A. M., Dyke, A. S., and Henton, J. A.: A relative sea-level history for Arviat, Nunavut, and implications for Laurentide Ice Sheet thickness west of Hudson Bay, *Quaternary research*, 82, 185–197, <https://doi.org/10.1016/j.yqres.2014.04.002>, 2014.
- Simon, K. M., James, T. S., Henton, J. A., and Dyke, A. S.: A glacial isostatic adjustment model for the central and northern Laurentide Ice Sheet based on relative sea level and GPS measurements, *Geophysical Journal International*, 205, 1618–1636, <https://doi.org/10.1093/gji/ggw103>, 2016.
- Sinsakul, S.: Evidence of Quaternary sea level changes in the coastal areas of Thailand: a review, *Journal of Southeast Asian Earth Sciences*, 7, 23–37, [https://doi.org/10.1016/0743-9547\(92\)90012-Z](https://doi.org/10.1016/0743-9547(92)90012-Z), global Environmental Change the Role of the Geoscientist Past, Present and Future Sea-level changes, 1992.
- Slagle, A. L., Ryan, W. B. F., Carbotte, S. M., Bell, R., Nitsche, F. O., and Kenna, T.: Late-stage estuary infilling controlled by limited accommodation space in the Hudson River, *Marine Geology*, 232, 181–202, <https://doi.org/10.1016/j.margeo.2006.07.009>, 2006.
- Slupik, A. A., Wesselingh, F. P., Mayhew, D. F., Janse, A. C., Dieleman, F. E., Van Strydonck, M., Kiden, P., Burger, A. W., and Reumer, J. W. F.: The role of a proto-Schelde River in the genesis of the southwestern Netherlands, inferred from the Quaternary successions and fossils in Moriaanshoofd Borehole (Zeeland, the Netherlands), *Netherlands Journal of Geosciences*, 92, 69–86, <https://doi.org/10.1017/S0016774600000299>, 2013.
- Snyder, J. A., Forman, S. L., Mode, W. N., and Tarasov, G. A.: Postglacial relative sea-level history: sediment and diatom records of emerged coastal lakes, north-central Kola Peninsula, Russia, *Boreas*, 26, 329–346, <https://doi.org/10.1111/j.1502-3885.1997.tb00859.x>, 1997.
- Somboon, J. R. P.: Paleontological study of the recent marine sediments in the lower central plain, Thailand, *Journal of Southeast Asian Earth Sciences*, 2, 201–210, [https://doi.org/10.1016/0743-9547\(88\)90031-1](https://doi.org/10.1016/0743-9547(88)90031-1), 1988.
- Somboon, J. R. P. and Thiramongkol, N.: Holocene highstand shoreline of the Chao Phraya delta, Thailand, *Journal of Southeast Asian Earth Sciences*, 7, 53–60, [https://doi.org/10.1016/0743-9547\(92\)90014-3](https://doi.org/10.1016/0743-9547(92)90014-3), global Environmental Change the Role of the Geoscientist Past, Present and Future Sea-level changes, 1992.
- Sørensen, R.: Late Weichselian deglaciation in the Oslofjord area, south Norway, *Boreas*, 8, 241–246, <https://doi.org/10.1111/j.1502-3885.1979.tb00806.x>, 1979.
- Sørensen, R.: En 14C datert og dendrokronologisk kalibrert strandforskyvningskurve for søndre Østfold, Sørøst-Norge, Rapport 12A, AmS, 1999.

- Spaur, C. C. and Snyder, S. W.: Coastal wetlands evolution at the leading edge of the marine transgression: Jarrett Bay, North Carolina, *Journal of the Elisha Mitchell Scientific Society*, 115, 20–46, URL <https://www.jstor.org/stable/24335554>, 1999.
- Stabell, B.: Holocene shorelevel displacement in Telemark, southern Norway, *Norsk Geologisk Tidsskrift*, 60, 71–81, 1980.
- Stabell, B. and Krzywinski, K.: Strandforskyvningsundersøkelsen, in: Statfjord transportation system project. Ilandføring av olje på Sotra. De arkeologiske undersøkelser 1978, edited by Myhre, B., pp. 93–132, Historisk museum, Universitetet i Bergen, 1978.
- Stabell, B. and Krzywinski, K.: Havnivåendringer på Sotra, Hordaland, *Arkeo*, 1, 12–15, 1979.
- Stanton, C. L. T.: Holocene inner continental shelf stratigraphy, micropaleontology and paleoenvironmental change off the Outer Banks, North Carolina, Master's thesis, East Carolina University, Greenville, North Carolina. United States, 2008.
- Stattegger, K., Tjallingii, R., Saito, Y., Michelli, M., Trung Thanh, N., and Wetzel, A.: Mid to late Holocene sea-level reconstruction of Southeast Vietnam using beachrock and beach-ridge deposits, *Global and Planetary Change*, 110, 214–222, <https://doi.org/10.1016/j.gloplacha.2013.08.014>, land-Ocean-Atmosphere interaction in the coastal zone of South Vietnam, 2013.
- Stea, R. and Mott, R.: Deglaciation of Nova Scotia: stratigraphy and chronology of lake sediment cores and buried organic sections, *Géographie physique et Quaternaire*, 52, 3–21, <https://doi.org/10.7202/004871ar>, 1998.
- Stea, R. R. and Mott, R. J.: Deglaciation environments and evidence for glaciers of Younger Dryas age in Nova Scotia, Canada, *Boreas*, 18, 169–187, <https://doi.org/10.1111/j.1502-3885.1989.tb00388.x>, 1989.
- Stea, R. R. and Wightman, D. M.: Age of the Five Islands Formation, Nova Scotia, and the deglaciation of the Bay of Fundy, *Quaternary Research*, 27, 211–219, [https://doi.org/10.1016/0033-5894\(87\)90078-0](https://doi.org/10.1016/0033-5894(87)90078-0), 1987.
- Steinke, S., Kienast, M., and Hanebuth, T.: On the significance of sea-level variations and shelf paleomorphology in governing sedimentation in the southern South China Sea during the last deglaciation, *Marine Geology*, 201, 179–206, [https://doi.org/10.1016/S0025-3227\(03\)00216-0](https://doi.org/10.1016/S0025-3227(03)00216-0), asian Monsoons and Global Linkages on Milankovitch and Sub-Milankovitch Time Scales, 2003.
- Stuckenrath, R., Coe, W. R., and Ralph, E. K.: University of Pennsylvania radiocarbon dates IX, *Radiocarbon*, 8, 348–385, <https://doi.org/10.1017/S0033822200000217>, 1966.
- Stuiver, M. and Daddario, J. J.: Submergence of the New Jersey coast, *Science*, 142, 951–951, <https://doi.org/10.1126/science.142.3594.951>, 1963.
- Stuiver, M., Deevey, E. S., and Rouse, I.: Yale Natural Radiocarbon Measurements VIII, *Radiocarbon*, 5, 312–341, <https://doi.org/10.1017/S0033822200036936>, 1963.
- Svendsen, J. I. and Mangerud, J.: Late Weichselian and Holocene sea-level history for a cross-section of western Norway, *Journal of Quaternary Science*, 2, 113–132, <https://doi.org/10.1002/jqs.3390020205>, 1987.
- Ta, T. K. O., Nguyen, V. L., Tateishi, M., Kobayashi, I., Tanabe, S., and Saito, Y.: Holocene delta evolution and sediment discharge of the Mekong River, southern Vietnam, *Quaternary Science Reviews*, 21, 1807–1819, [https://doi.org/10.1016/S0277-3791\(02\)00007-0](https://doi.org/10.1016/S0277-3791(02)00007-0), 2002.

- Tamura, T., Saito, Y., Sieng, S., Ben, B., Kong, M., Choup, S., and Tsukawaki, S.: Depositional facies and radiocarbon ages of a drill core from the Mekong River lowland near Phnom Penh, Cambodia: Evidence for tidal sedimentation at the time of Holocene maximum flooding, *Journal of Asian Earth Sciences*, 29, 585–592, <https://doi.org/10.1016/j.jseaes.2006.03.009>, 2007.
- Tamura, T., Saito, Y., Sieng, S., Ben, B., Kong, M., Sim, I., Choup, S., and Akiba, F.: Initiation of the Mekong River delta at 8 ka: evidence from the sedimentary succession in the Cambodian lowland, *Quaternary Science Reviews*, 28, 327–344, <https://doi.org/10.1016/j.quascirev.2008.10.010>, special Theme: Modern Analogues in Quaternary Palaeoglaciological Reconstruction, 2009.
- Tanabe, S., Saito, Y., Sato, Y., Suzuki, Y., Sinsakul, S., Tiyaipairach, S., and Chaimanee, N.: Stratigraphy and Holocene evolution of the mud-dominated Chao Phraya delta, Thailand, *Quaternary Science Reviews*, 22, 789–807, [https://doi.org/10.1016/S0277-3791\(02\)00242-1](https://doi.org/10.1016/S0277-3791(02)00242-1), 2003.
- Tanner, V.: Kvartärsystemet i Fennoskandias nordliga delar, *Bulletin de la Commission géologique de Finlande* 21, Geologian tutkimuskeskus, Helsingfors, Finland, 1907.
- Thomas, A. L., Henderson, G. M., Deschamps, P., Yokoyama, Y., Mason, A. J., Bard, E., Hamelin, B., Durand, N., and Camoin, G.: Penultimate Deglacial sea-level timing from Uranium/Thorium dating of Tahitian corals, *Science*, 324, 1186–1189, <https://doi.org/10.1126/science.1168754>, 2009.
- Thomsen, H.: Late Weichselian shore-level displacement on Nord-Jæren, south-west Norway, *Geologiska Föreningen i Stockholm Förhandlingar*, 103, 447–468, <https://doi.org/10.1080/11035898209453724>, 1982.
- Tjia, H. D. and Fujii, S.: Late Quaternary shorelines in peninsular Malaysia, in: *The Coastal Zone of Peninsular Malaysia*, edited by Tjia, H. D. and Sharifah, M., 274, IGCP, Ipoh, Malaysia, 1992.
- Tjia, H. D., Fujii, S., Kigoshi, K., Sugimura, A., and Zakaria, T.: Radiocarbon dates of elevated shorelines, Indonesia and Malaysia. Part 1, *Quaternary Research*, 2, 487–495, [https://doi.org/10.1016/0033-5894\(72\)90087-7](https://doi.org/10.1016/0033-5894(72)90087-7), 1972.
- Tjia, H. D., Fujii, S., and Kigoshi, K.: Holocene shorelines of Tioman island in the South China Sea, in: *Developments in physical geography - a tribute to J. I. S. Zonneveld*, edited by Terwindt, J. H. J. and Van Steijn, H., vol. 62 of *Geologie en Mijnbouw*, pp. 599–604, Netherlands Koninklijk Nederlands Geologisch, 1983.
- Tuck, J. A.: An archaic cemetery at Port au Choix, Newfoundland, *American Antiquity*, 36, 343–358, <https://doi.org/10.2307/277719>, 1971.
- Vacchi, M., Engelhart, S. E., Nikitina, D., Ashe, E. L., Peltier, W. R., Roy, K., Kopp, R. E., and Horton, B. P.: Postglacial relative sea-level histories along the eastern Canadian coastline, *Quaternary Science Reviews*, 201, 124–146, <https://doi.org/10.1016/j.quascirev.2018.09.043>, 2018.
- van de Plassche, O.: Sea-level change and water-level movements in the Netherlands during the Holocene, Ph.D. thesis, Vrije Universiteit, Amsterdam, Netherlands, 1982.
- van de Plassche, O.: Mid-Holocene sea-level change on the Eastern Shore of Virginia, *Marine Geology*, 91, 149–154, [https://doi.org/10.1016/0025-3227\(90\)90138-A](https://doi.org/10.1016/0025-3227(90)90138-A), 1990.
- van de Plassche, O.: Late Holocene sea-level fluctuations on the shore of Connecticut inferred from transgressive and regressive overlap boundaries in salt-marsh deposits, *Journal of Coastal Research Special Issue*, 11, 159–179, URL <http://www.jstor.org/stable/25735578>, *quaternary Geology of Long Island Sound and Adjacent Coastal Areas: Walter S. Newman Memorial Volume*, 1991.

- van de Plassche, O.: Evolution of the intra-coastal tidal range in the Rhine-Meuse delta and Flevo Lagoon, 5700-3000 yrs cal BC, *Marine Geology*, 124, 113–128, [https://doi.org/10.1016/0025-3227\(95\)00035-W](https://doi.org/10.1016/0025-3227(95)00035-W), 1995.
- van de Plassche, O., Mook, W. G., and Bloom, A. L.: Submergence of coastal Connecticut 6000–3000 (14C) years B.P., *Marine Geology*, 86, 349–354, [https://doi.org/10.1016/0025-3227\(89\)90093-5](https://doi.org/10.1016/0025-3227(89)90093-5), 1989.
- van de Plassche, O., van der Borg, K., and de Jong, A. F. M.: Sea level–climate correlation during the past 1400 yr, *Geology*, 26, 319–322, [https://doi.org/10.1130/0091-7613\(1998\)026<0319:SLCCDT>2.3.CO;2](https://doi.org/10.1130/0091-7613(1998)026<0319:SLCCDT>2.3.CO;2), 1998.
- van de Plassche, O., van der Borg, K., and de Jong, A. F. M.: Relative sea-level rise across the Eastern Border fault (Branford, Connecticut): evidence against seismotectonic movements, *Marine Geology*, 184, 61–68, [https://doi.org/10.1016/S0025-3227\(01\)00277-8](https://doi.org/10.1016/S0025-3227(01)00277-8), 2002.
- van Heteren, S., Van der Spek, A. J. F., and De Groot, T.: Architecture of a preserved Holocene tidal complex offshore the Rhine-Meuse mouth, the Netherlands, Tech. Rep. NITG 01-27-A, Netherlands Institute of Applied Geoscience TNO-National Geological Survey, 2002.
- Vasskog, K., Svendsen, J.-I., Mangerud, J., Agasøster Haaga, K., Svean, A., and Lunnan, E. M.: Evidence of early deglaciation (18 000 cal a BP) and a postglacial relative sea-level curve from southern Karmøy, south-west Norway, *Journal of Quaternary Science*, 34, 410–423, <https://doi.org/10.1002/jqs.3109>, 2019.
- Vogel, J. C. and Waterbolk, H. T.: Groningen radiocarbon dates X., *Radiocarbon*, 14, 6–110, <https://doi.org/10.1017/S0033822200001016>, 1972.
- Vos, P. C.: Toelichting kaartblad 43/49 West en 49 Oost: concept toelichting 43/49 West, Holocene deel, Rijks Geologische Dienst, Dienstrapport 1454, Haarlem, Netherlands, 1992.
- Vos, P. C.: Geologisch en paleolandschappelijk onderzoek Yangtzehaven (Maasvlakte, Rotterdam), Tech. Rep. Rapport 1206788-000-BGS-0001, Deltares, Utrecht, Netherlands, 2013.
- Vos, P. C. and Cohen, K. M.: Landschape genesis and palaeogeography, in: Interdisciplinary archaeological research programme Maasvlakte 2, Rotterdam, edited by Moree, J. M. and Sier, M. M., vol. 566 of *BOORrapporten*, chap. 3, pp. 63–146, Bureau Oudheidkundig Onderzoek Rotterdam, Rotterdam, Netherlands, 2014.
- Vos, P. C., Bunnik, F. P. M., Cremer, H., and Hennekman, F. M.: Paleolandschappelijk onderzoek Papegaaienkolk en Kop van Beer, Tech. Rep. Rapport 1201910-000-BGS-000187, Deltares, Utrecht, Netherlands, 2010.
- Vos, P. C., Bazelmans, J., Weerts, H. J. T., and van der Meulen, M. J.: Atlas Van Nederland in het Holoceen, Prometheus, Amsterdam, Netherlands, 2011.
- Vos, P. C., Bunnik, F. P. M., Cohen, K. M., and Cremer, H.: A staged geogenetic approach to underwater archaeological prospection in the Port of Rotterdam (Yangtzehaven, Maasvlakte, The Netherlands): A geological and palaeoenvironmental case study for local mapping of Mesolithic lowland landscapes, *Quaternary International*, 367, 4–31, <https://doi.org/10.1016/j.quaint.2014.11.056>, 2015.
- Wagner, F. J.: Additional radiocarbon dates, Tyrrell Sea area, *Maritime Sediments*, 3, 100–104, 1967.
- Walcott, R. I. and Craig, B. G.: Uplift Studies, southeastern Hudson Bay, in: Report of activities part A, April to October 1974, vol. 75-1A of *Paper*, pp. 455–456, Geological Survey of Canada, <https://doi.org/10.4095/104621>, 1975.

- Walton, A., Trautman, M. A., and Friend, J. P.: Isotopes, Inc. radiocarbon measurements I, *Radiocarbon*, 3, 47–59, <https://doi.org/10.1017/S003382220002083X>, 1961.
- Wang, Y., Li, G., Zhang, W., and Dong, P.: Sedimentary environment and formation mechanism of the mud deposit in the central South Yellow Sea during the past 40kyr, *Marine Geology*, 347, 123–135, <https://doi.org/10.1016/j.margeo.2013.11.008>, 2014.
- Webber, P., Richardson, J., and Andrews, J. T.: Post-glacial uplift and substrate age at Cape Henrietta Maria, southeastern Hudson Bay, Canada, *Canadian Journal of Earth Sciences*, 7, 317–325, <https://doi.org/10.1139/e70-029>, 1970.
- Weihe, R.: Late Quaternary glacial geology and relative sea level history of Franz Josef Land, Russia, Master's thesis, Department of Geological Sciences, The Ohio State University, Ohio, USA, 1996.
- Winterfeld, M., Schirrmeister, L., Grigoriev, M. N., Kunitsky, V. V., Andreev, A., Murray, A., and Overduin, P. P.: Coastal permafrost landscape development since the Late Pleistocene in the western Laptev Sea, Siberia, *Boreas*, 40, 697–713, <https://doi.org/10.1111/j.1502-3885.2011.00203.x>, 2011.
- Yokoyama, Y., Esat, T. M., and Lambeck, K.: Coupled climate and sea-level changes deduced from Huon Peninsula coral terraces of the last ice age, *Earth and Planetary Science Letters*, 193, 579–587, [https://doi.org/10.1016/S0012-821X\(01\)00515-5](https://doi.org/10.1016/S0012-821X(01)00515-5), 2001.
- Yokoyama, Y., Esat, T. M., Thompson, W. G., Thomas, A. L., Webster, J. M., Miyairi, Y., Sawada, C., Aze, T., Matsuzaki, H., Okuno, J., et al.: Rapid glaciation and a two-step sea level plunge into the Last Glacial Maximum, *Nature*, 559, 603, <https://doi.org/10.1038/s41586-018-0335-4>, 2018.
- Zaretskaya, N., Shevchenko, N., Simakova, A., and Sulerzhitsky, L.: The North Dvina river delta development over the Holocene: geochronology and palaeoenvironment, *Geochronometria*, 38, 116–127, <https://doi.org/10.2478/s13386-011-0012-y>, 2011.
- Zaretskaya, N. E., Shevchenko, N. V., and Khaitov, V. M.: Результаты комплексных исследований местонахождений голоценовых моллюсков в районе Беломорской Биологической Станции МГУ (Results of comprehensive studies of Holocene mollusk findings in the area of the White Sea Biological Station of Moscow State University), in: Мат-лы науч. конф., посвященной 75-летию ББС им Н.А.Перцова. М. (Proceedings of the Scientific conference dedicated to the 75th anniversary of the White Sea Biological Station named after N.A. Pertsov. M.), pp. 96–100, Moscow State University Publishing House, 2013.
- Zeeberg, J., Lubinski, D. J., and Forman, S. L.: Holocene relative sea-level history of Novaya Zemlya, Russia, and implications for Late Weichselian ice-sheet loading, *Quaternary Research*, 56, 218–230, <https://doi.org/10.1006/qres.2001.2256>, 2001.
- Zhuravlev, V., Korago, E., Kostin, D., and Zuykova, O.: State geologic map of the Russian Federation, Explanatory report, VSEGEI (All-Russian Geologic Institute Named after A.P. Karpinskiy. Cartographic Fabric of VSEGEI, Saint-Petersburg, Russia, scale 1:1000000 (Third Generation). Series Barents-North Kara. List R-39, 40 - Kolguev Island - Karskie Vorota Strait, 2013.