

FACE-IT

The Future of Arctic Coastal Ecosystems - Identifying transitions in fjord systems and adjacent coastal areas



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www.face-it-project.eu



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The Future of Arctic Coastal Ecosystems

Identifying Transitions in Fjord Systems and Adjacent Coastal Areas

Consortium

8 Countries, 14 Institutions

Coordination

Marine Botany, University of Bremen

Budget

6.4 Mio €

Duration

November 2020 - October 2024

Contract No.

869154

Homepage

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AALBORG UNIVERSITY



NORDLANDSFORSKNING
NORDLAND RESEARCH INSTITUTE



UNIS



VESTLANDSFORSKNING



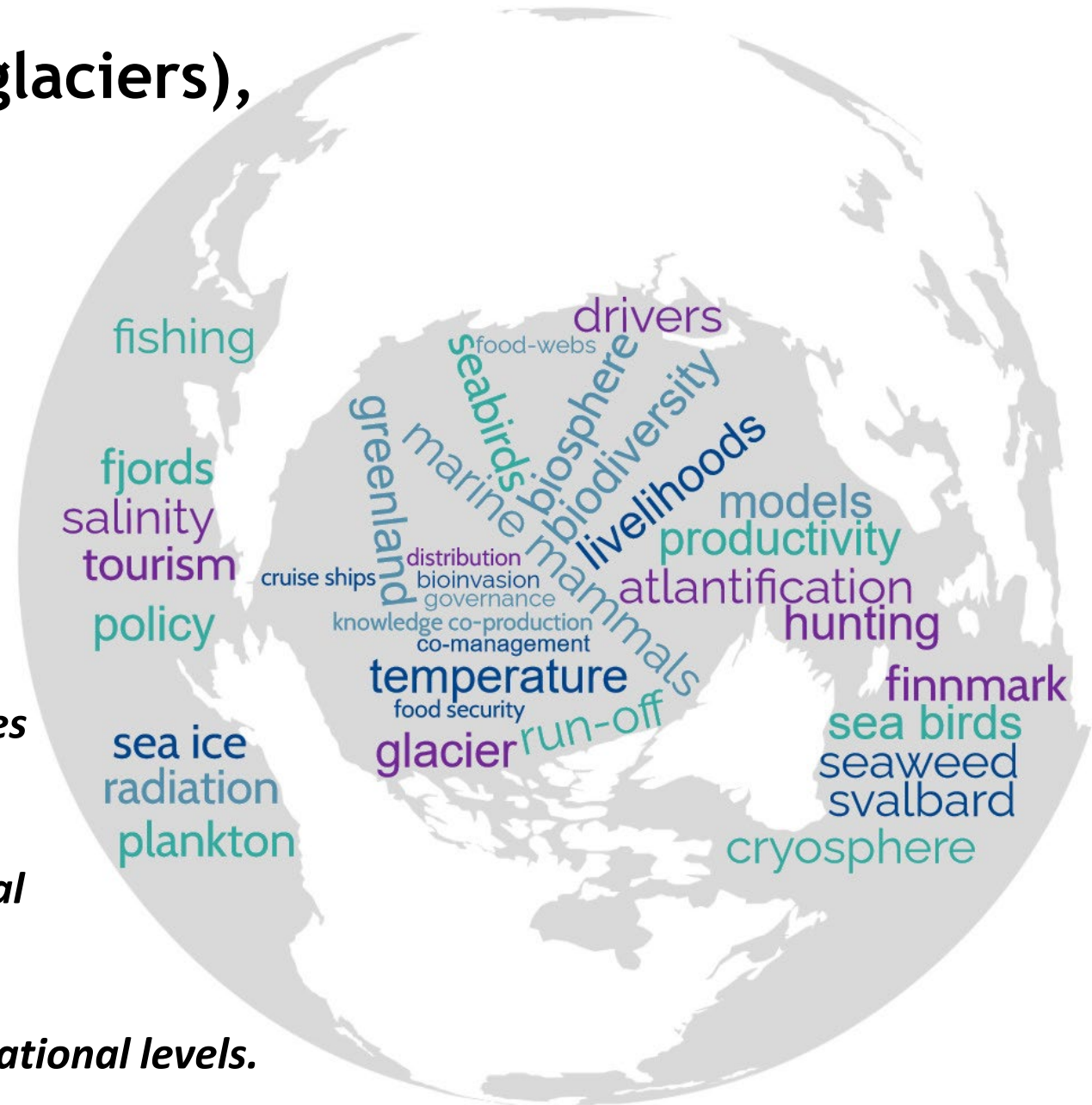
廈門大學
XIAMEN UNIVERSITY



Cryosphere reduction (sea ice & glaciers), biodiversity & livelihoods

Objectives:

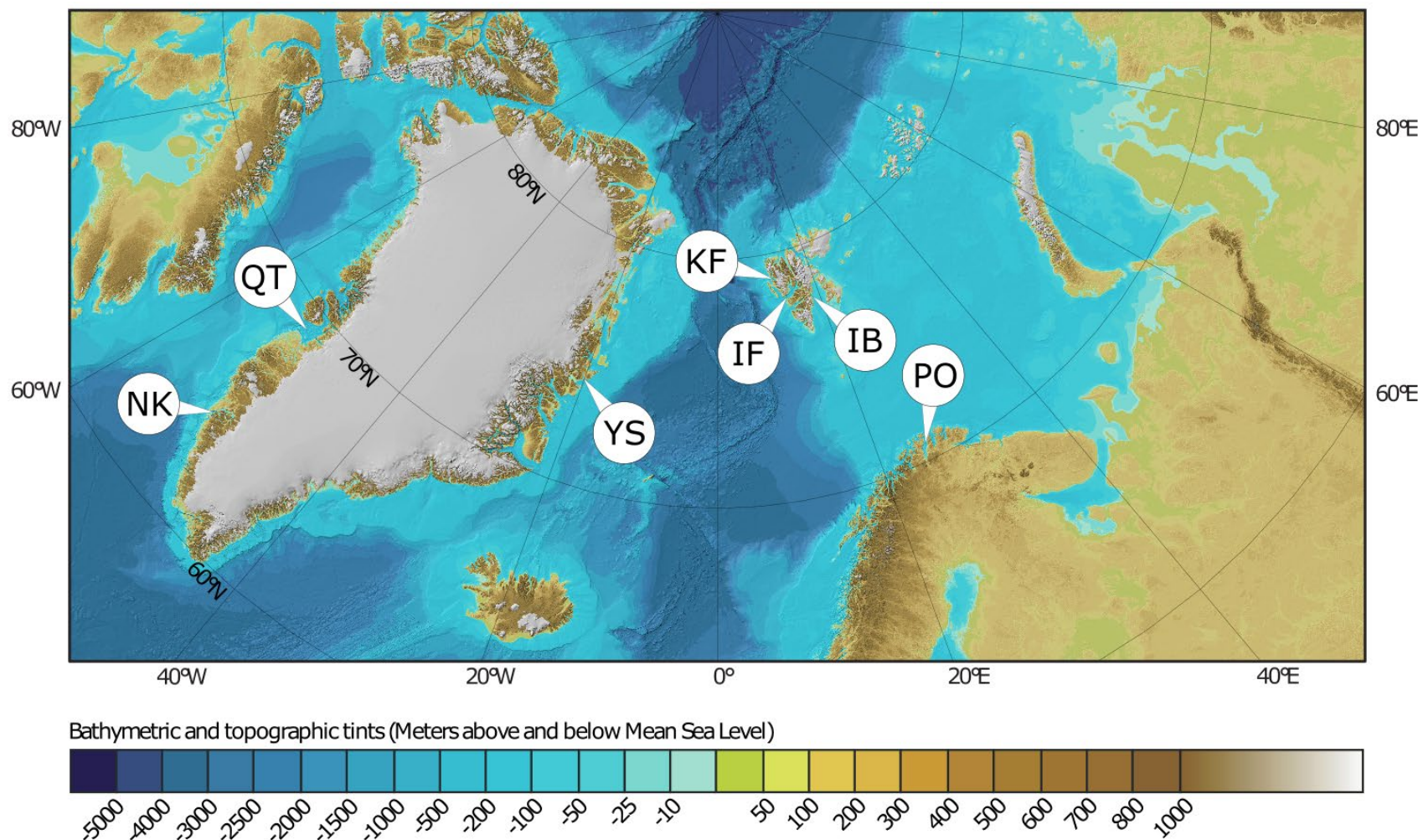
- 1. Identify and quantify key drivers of biodiversity changes and their past and future trends.**
- 2. Identify cascading effects of a changing biodiversity associated with ongoing and projected changes in Arctic coastal food webs.**
- 3. Assess the interdependencies between environmental changes and Arctic coastal livelihoods.**
- 4. Support adaptive co-management at the local and national levels.**



The Future of Arctic Coastal Ecosystems

Identifying Transitions in Fjord Systems and Adjacent Coastal Areas

The high Arctic
VS
The changing Arctic
VS
The future Arctic



Based upon: The International Bathymetric Chart of the Arctic Ocean IBCAO; Jakobsson et al. 2012

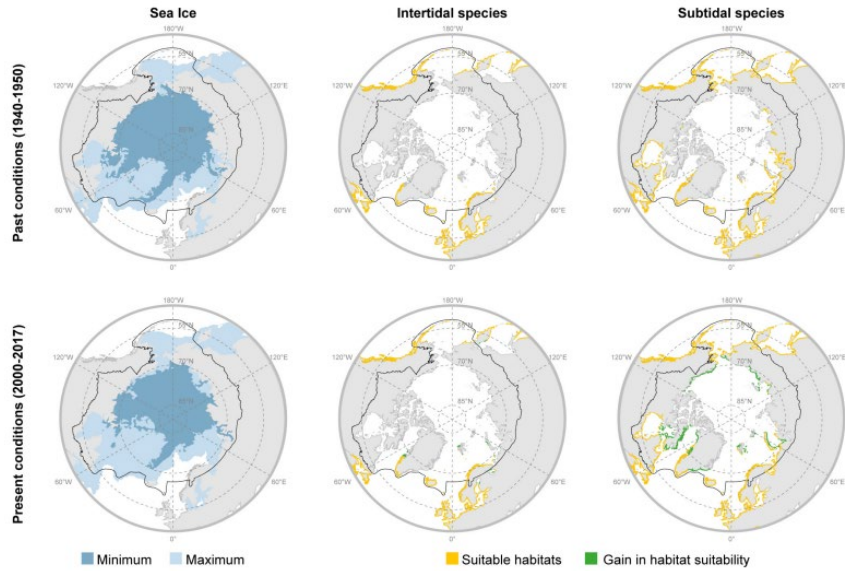
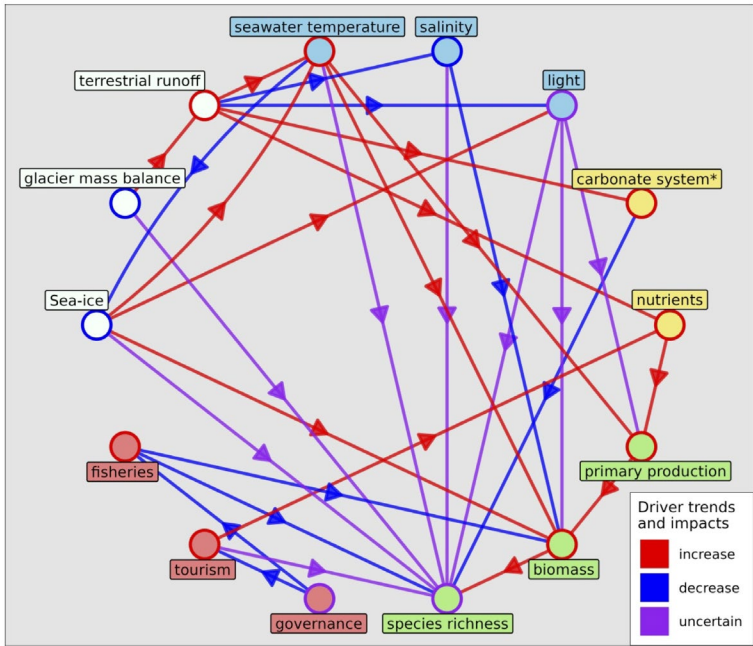


FIGURE 6 | Sea ice conditions and suitable habitat areas for intertidal and subtidal macroalgae predicted for the past (period 1940–1950) and the present (period 2000–2017) in terms of temperature, ice conditions nutrients and salinity, not substrate conditions. Black line depicts the geographic boundaries defined by the Arctic Council.

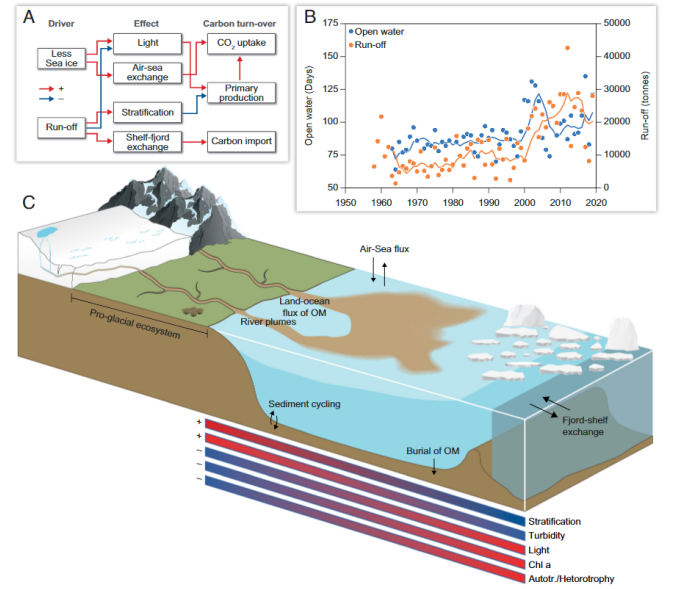
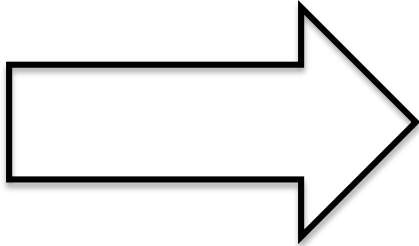
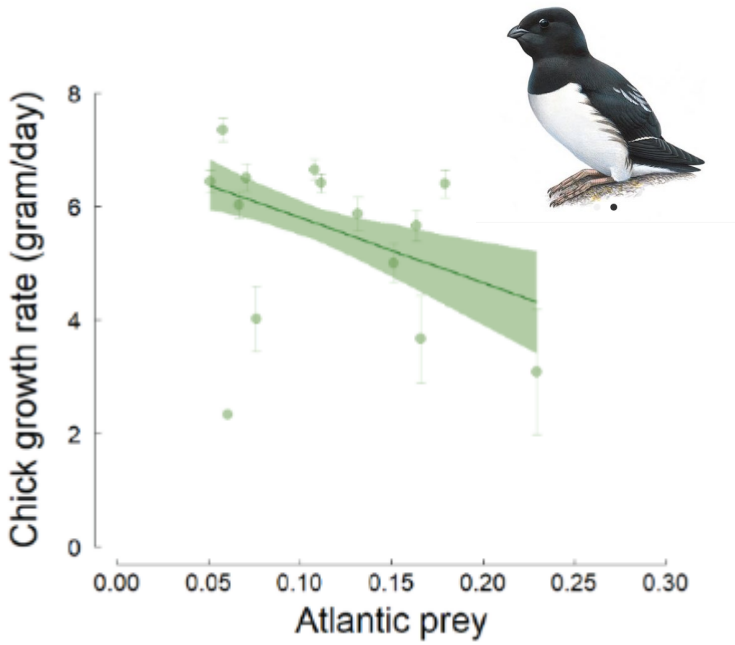


Fig. 7. (A) Conceptual diagram of the main effects of changes in runoff and sea ice cover on carbon cycling in Young Sound during summer. (B) Changes in days with open water (no sea ice) and runoff from land since 1960 including the 5-y running mean for each. (C) A schematic figure showing spatial gradients observed in Young Sound in summer.



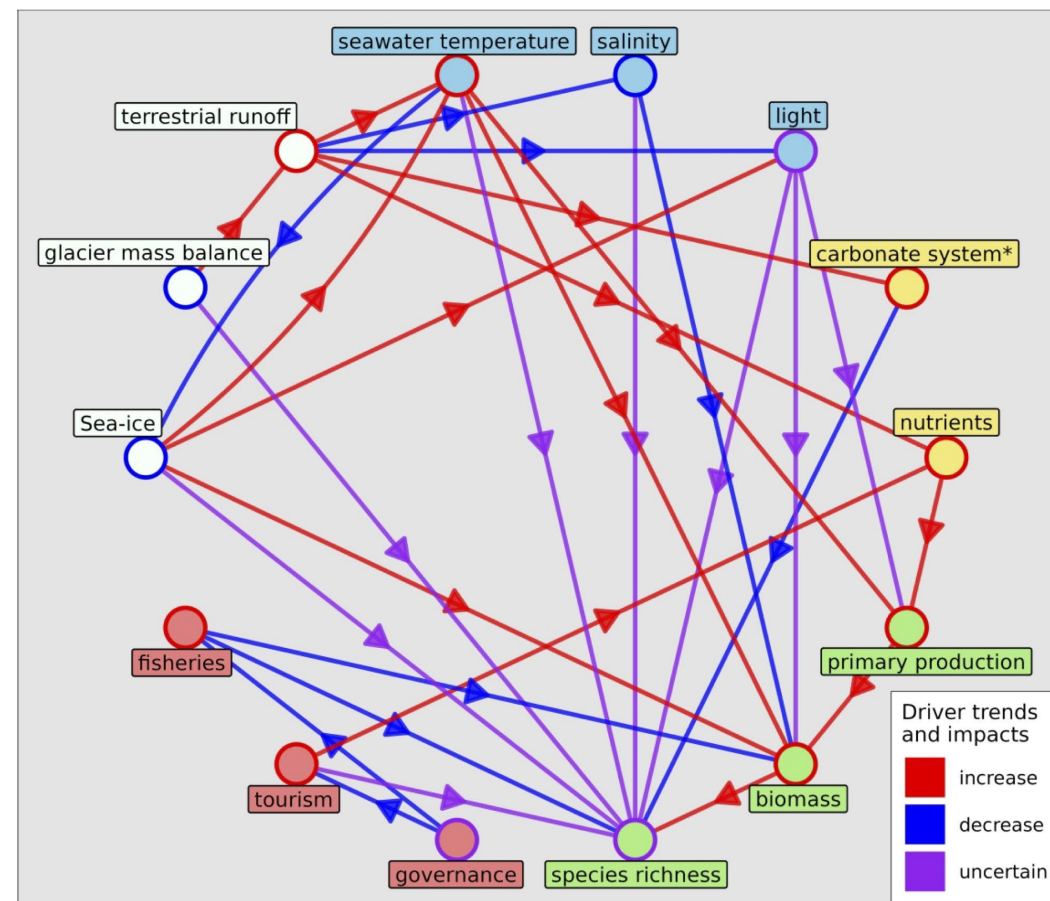
Synthesis

Impact on
 Tourism, Livelihoods
 Governance, Policy

Fjord Management

What's next - 20 Months left to go

- Synthesis
- Modelling (trophic models) integrating social component
- Foster transdisciplinarity
- Strengthen links beyond the European Arctic
- Strengthen links to Arctic organizations
- Strengthen links into EU policy
- Empower Early Career Scientists



Three complementary projects under the same call



Terrestrial **CHARTER**

Drivers and Feedbacks of
Changes in Arctic Terrestrial
Biodiversity

Bruce Forbes
University of Lapland

charter-arctic.org



Coastal/Fjords



The Future of Arctic Coastal
Ecosystems – Identifying
Transitions in Fjord Systems and
Adjacent Coastal Areas

Kai Bischof
University of Bremen

face-it-project.eu



Open Sea



Investigating Ecological Tipping
Cascades in the Arctic Seas

Marja Koski
Technical University of Denmark

ecotip-arctic.eu



Upcoming events

Policy event in Brussels together with CHARTER & ECOTIP

Arctic biodiversity, climate and food security

POLICY BRIEFING

Wednesday **March 15th 2023** from 2pm CET in Brussels

- Learn about “Life on land, in the ocean and in the fjords” through key insights and research findings;
- Discuss with an expert panel of Arctic and EU policymakers on the policy implications of such research findings for the EU;
- Be the first to explore three photographic/multimedia exhibits from the projects. The launch will include mingling, drinks and canapés.



★ ID:27 **Shifting trophic networks along the Arctic land-coast-ocean continuum**
Wed 22 10:30 - 12:30 Hörsaal 3 (Hörsaal 3) Open Session - HYBRID

with CHARTER & ECOTIP

★ ID:17 **The coastal Arctic and the shrinking cryosphere - consequences from biodiversity to livelihoods**
Thu 23 08:30 - 10:00 Hörsaal 3 (Hörsaal 3) Open Session - HYBRID

Svalbard Science Conference
Greenland Science Week

(Oslo, 31 October & 01 November 2023)
(Nuuk, 6-12 November 2023)