



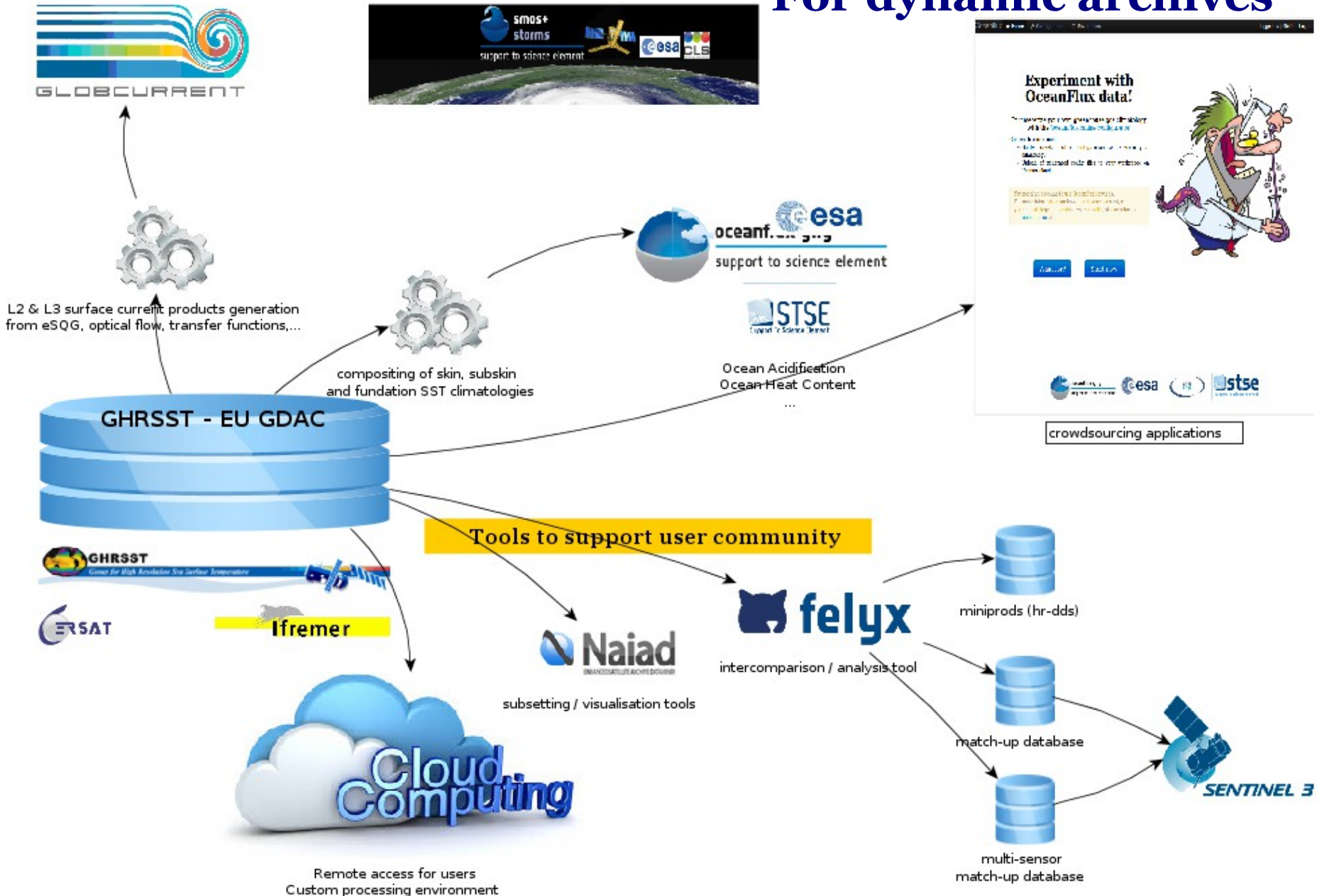
The EU-GDAC and related SST activities at Ifremer

Jean-François Piollé, Cédric Prevost,
Emmanuelle Autret

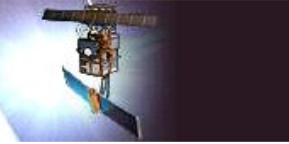


The EU-GDAC

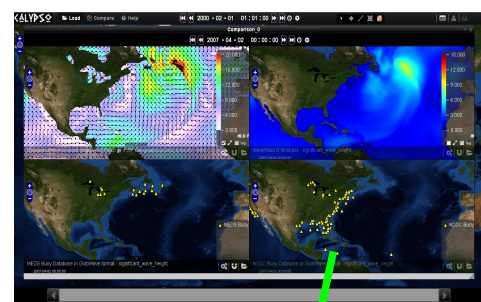
Motivation and concept For dynamic archives



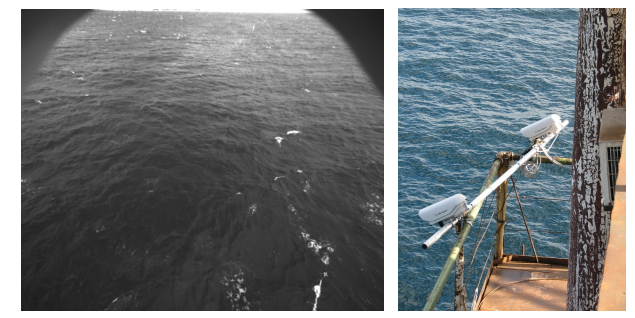
Nephelae cloud platform at CERSAT



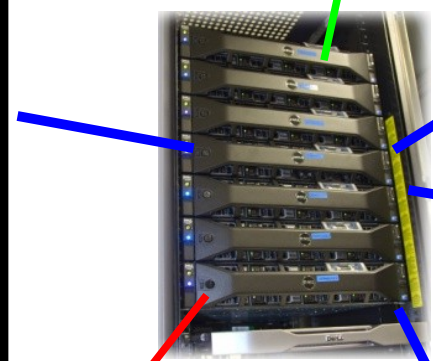
ERS
ENVISAT
LandSat
MSG
GOES series
series NOAA
series METOP
AQUA
SMOS
ADEOS
JASON
TOPEX
CryoSat
GFO
AltiKa
TRMM
QuikSCAT
OceanSat
HY2



Analysis, comparison and synergy tools



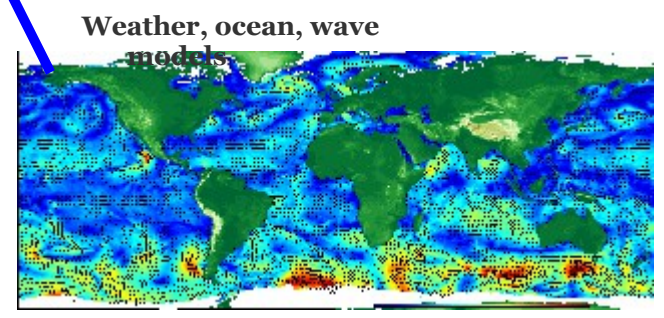
Stereo video camera



Nephelae



Buoys, floats



Weather, ocean, wave models

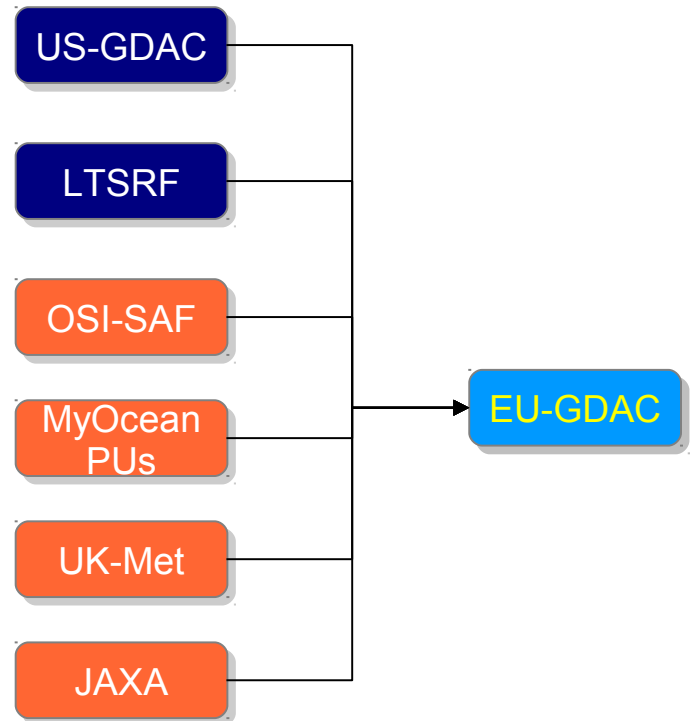
> 2 PB
 1600 processing cores
 2.5 TB memory

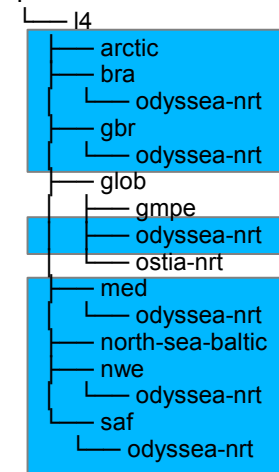
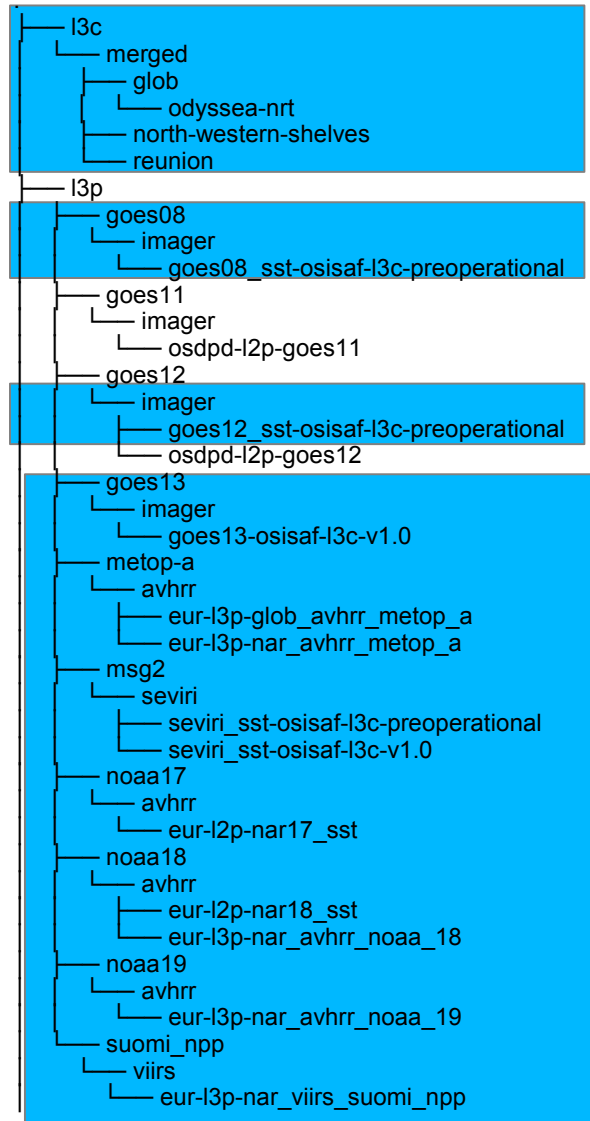
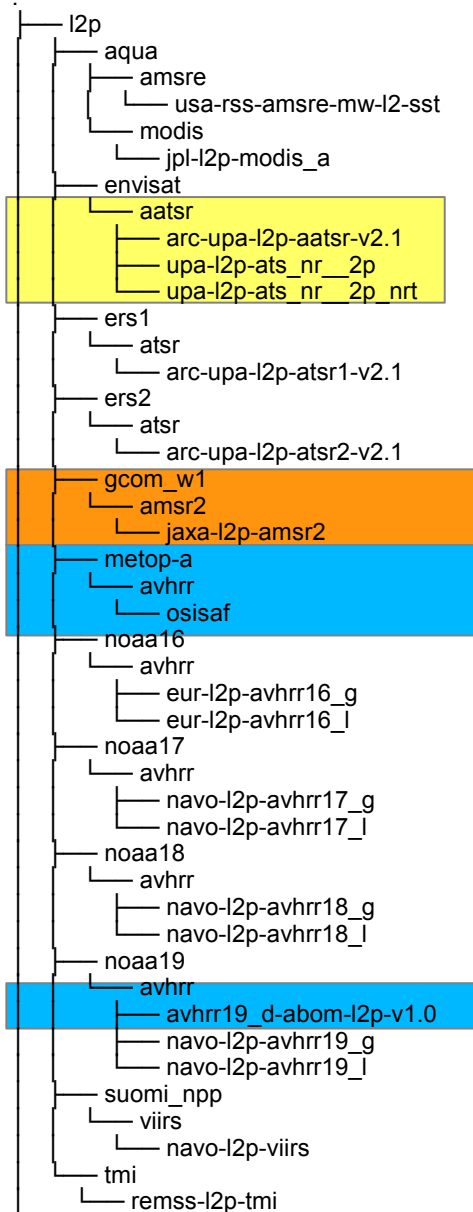
Liste des Jobs Gogolist:

ID	WorkSpace	Adresse	Statut	Start	Stop	Duration	Search	Tasks Status
33	workspace_20120209_000003	France	Final	2012-02-09 12:52:04	2012-02-09 13:30:47	00:38:00.0%	0	0 (0/0) 0.0%
34	workspace_20120209_000004	France	Final	2012-02-09 13:33:51		00:00.0%	3	3 (3/0) 100.0%
35	workspace_20120209_000005	France	Final	2012-02-09 13:34:34		00:00.0%	3	3 (3/0) 100.0%
36	workspace_20120209_000006	France	Final	2012-02-09 13:35:40	2012-02-09 13:35:40	00:00.0%	3	3 (3/0) 100.0%
37	workspace_20120209_000007	France	Final	2012-02-09 13:36:45	2012-02-09 13:36:45	00:00.0%	3	3 (3/0) 100.0%
38	workspace_20120209_000008	France	Final	2012-02-09 13:37:28	2012-02-09 13:37:28	00:00.0%	3	3 (3/0) 100.0%
39	workspace_20120209_000004	France	Final	2012-02-09 13:47:43	2012-02-09 13:11:06	00:23:00.0%	10	10 (10/0) 100.0%
40	workspace_20120209_000001	France	Final	2012-02-09 13:55:59	2012-02-09 13:14:00	00:41:59.0%	3	3 (3/0) 100.0%
41	workspace_20120209_000001	France	Final	2012-02-09 17:03:33	2012-02-09 18:03:07	00:59:34.0%	30	30 (30/0) 100.0%



- Combines both short-term and long-term data storage
 - Complete data archives
 - No tape back-up for data accessible at other distribution points (but replication)
 - Critical datasets are backed-up and alternative redundant storage and distribution is set-up (latest day of data)
- Restricted access to datasets not authorised for third party distribution (internal usage or for projects)
- Provides access to data not available in other DACs





Long time series

EU-GDAC only

Restricted access



- Some datasets exist at US-GDAC and not at EU-GDAC, and *vice versa*. Some are more complete (or stopped) at one of the GDACs.
- it seems that generally more attention and care is paid to close national partners (existing agreements and partnerships, proximity,...)
- Some datasets can only be distributed by RDACs, not third party (data policy)
- Too many L3 and L4 product exist and no selection can be made by the GDAC (this has to be done by the user community) but for its own usage or interest or partnership
- No funding is secured for long-term GDAC operation

This makes the current concept of GDAC somewhat obsolete or at least inefficient

- Should be replaced with a system seemingly centralized but physically distributed
- Datasets stored physically at different (and eventually multiple) data centres (tier storage, peer-to-peer, master repository of links, ...)
- Would make the system more robust, more sustainable, and more comprehensive
- Focus on crowd sourcing and analysis tools to build data assessment and selection knowledge

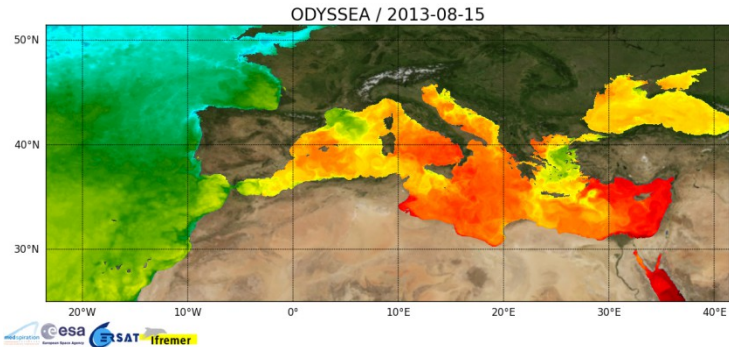


- <http://cersat.ifremer.fr/data/collections/ghrsst>
- Single login/password can be obtained on the main page
- Online catalogue
- Access through :
 - FTP & OpenDAP
 - Complete archive on Nephelae cloud
 - Duplicated FTP server for the latest data of critical datasets (O&SI SAF,)
 - Naiad on some specific datasets
 - Complete collection of datasets when accessing through a cloud virtual server

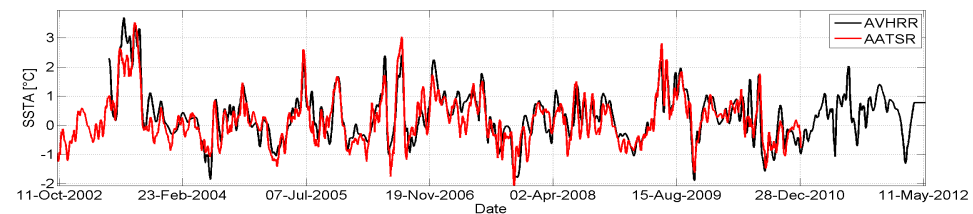
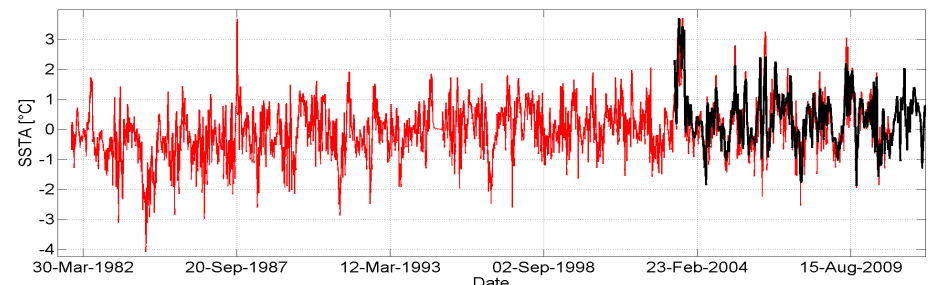
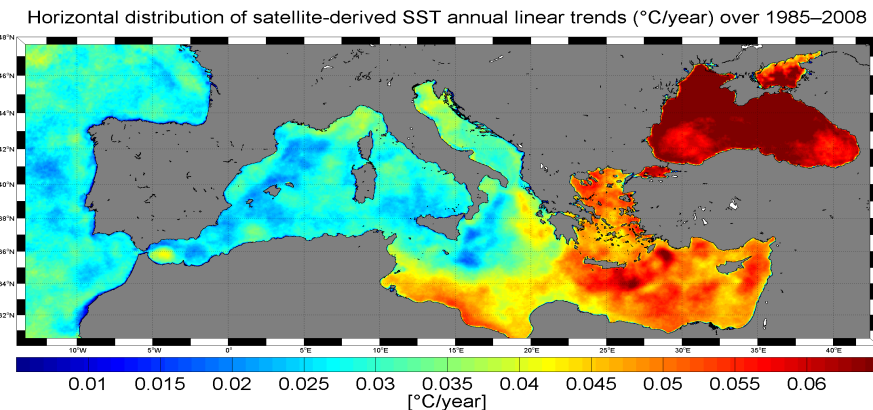


Medspiration “plus”

Monitoring of Sea Surface Temperature evolution over the last 30 years from Satellite data around the Small Mediterranean Islands (PIMs)



<http://www.initiative-pim.org/en>



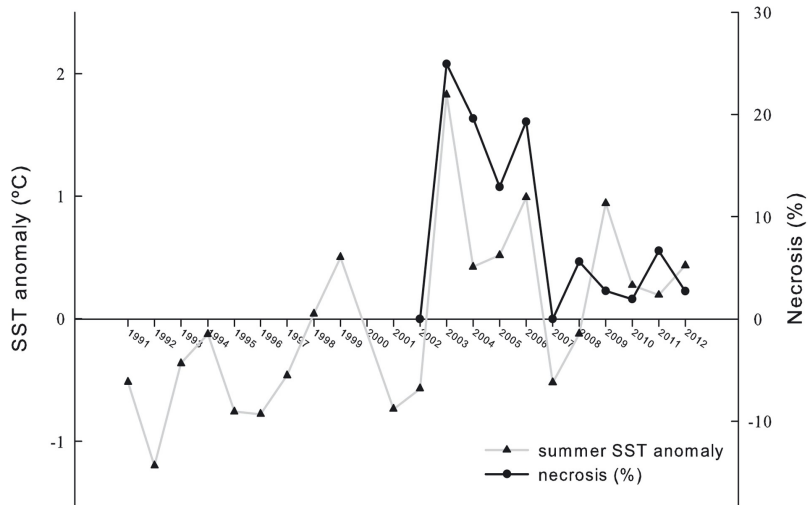
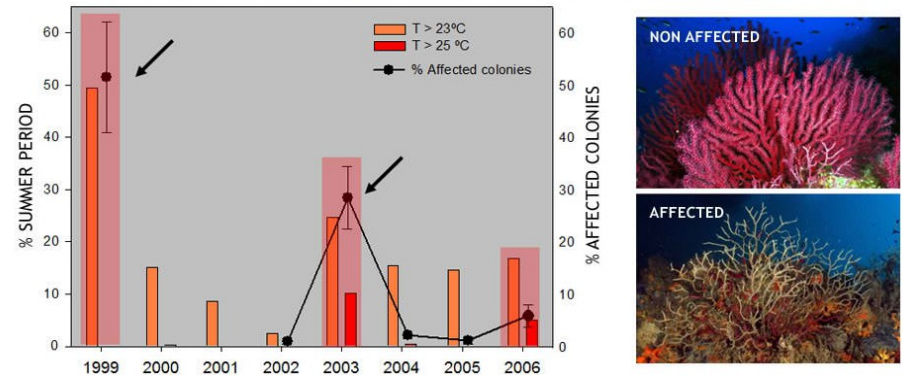


Sea Surface Warming from Satellite observations & links with Mass Mortality Events - gorgones in Columbretes

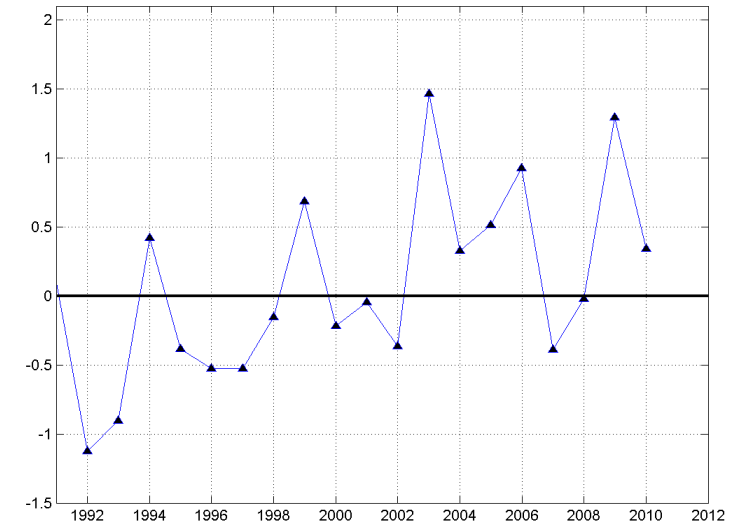
MORTALITY EVENTS



CHARACTERIZATION OF TEMPERATURE CONDITIONS DURING MASS MORTALITY EVENTS



In situ



ESA

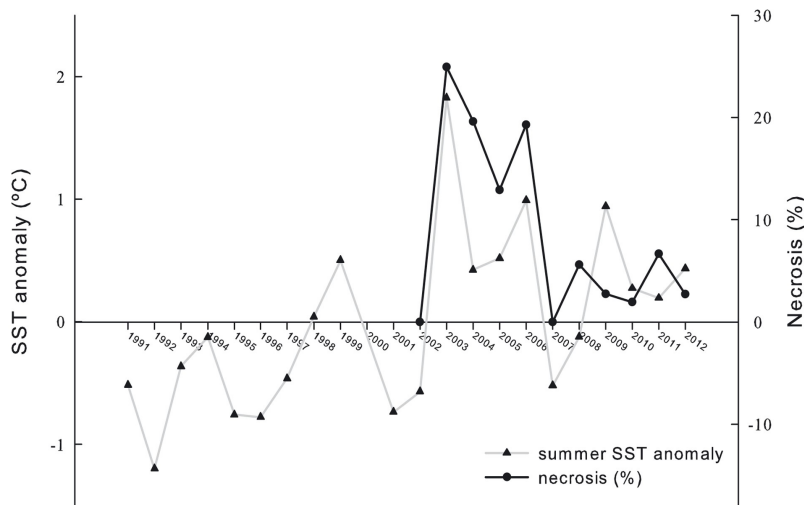
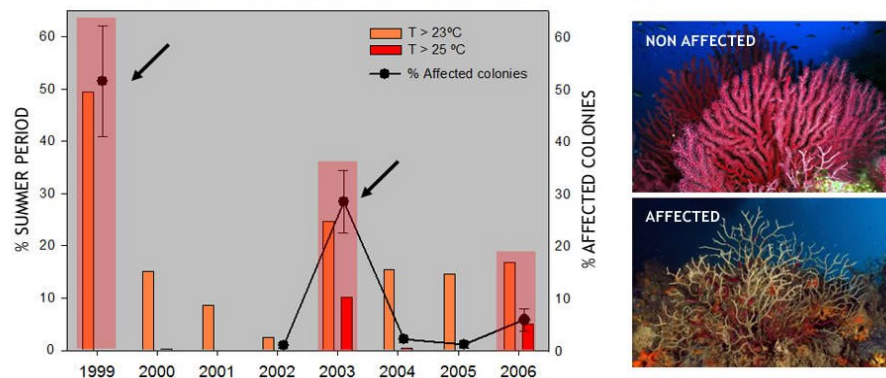


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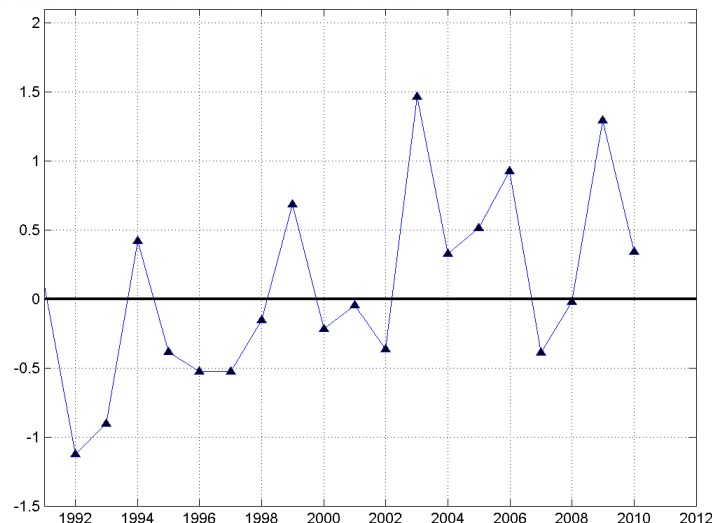
MORTALITY EVENTS



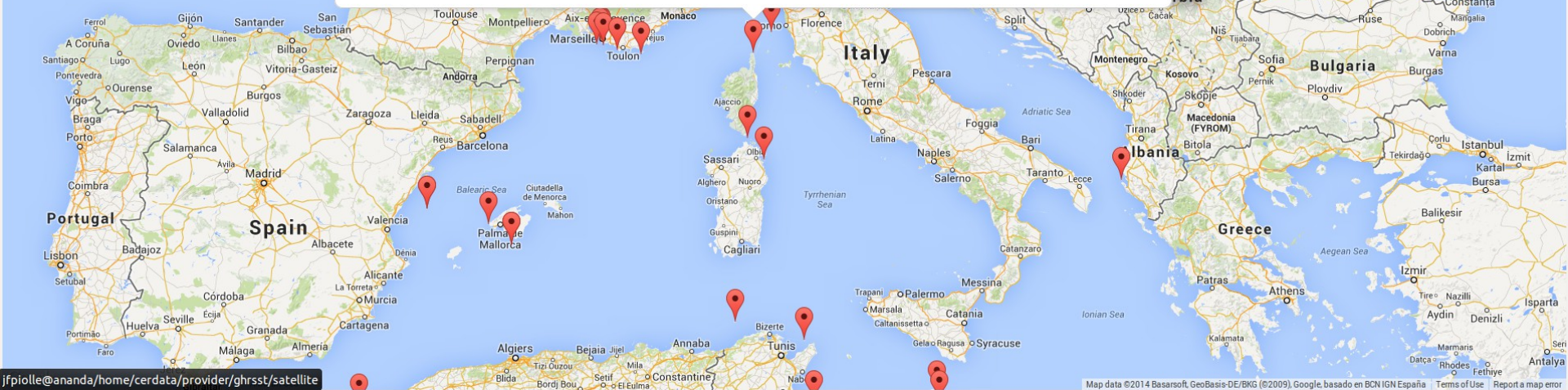
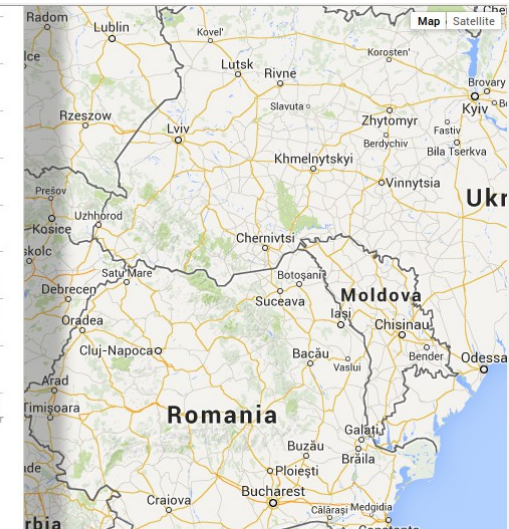
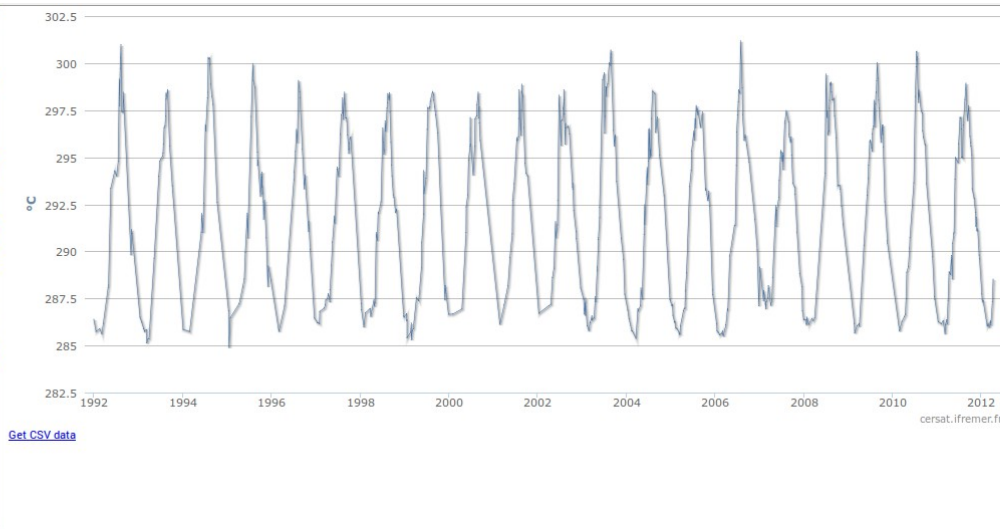
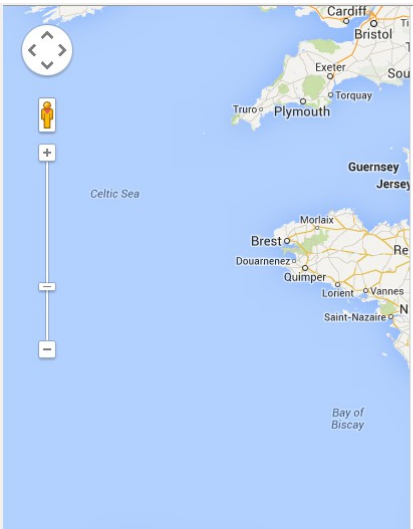
CHARACTERIZATION OF TEMPERATURE CONDITIONS DURING MASS MORTALITY EVENTS



In situ



ESA



ERSAT Ifremer

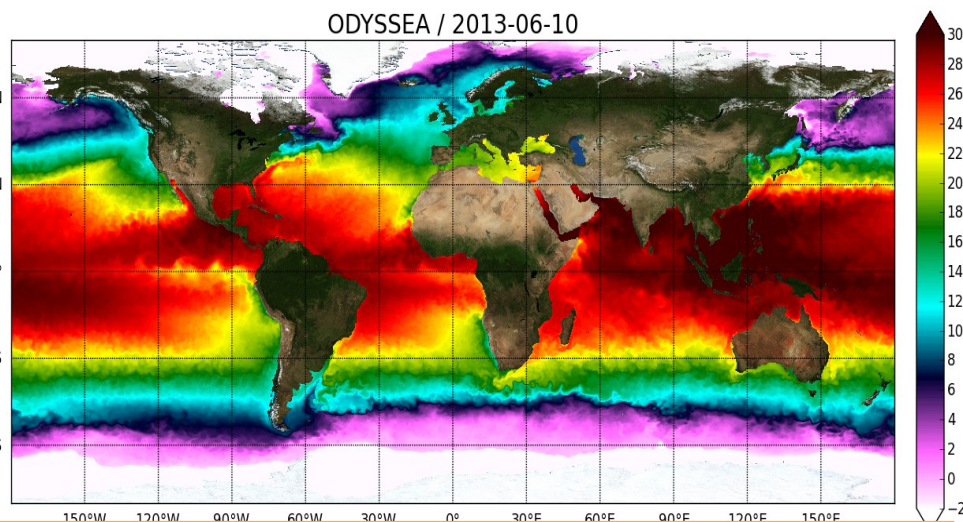
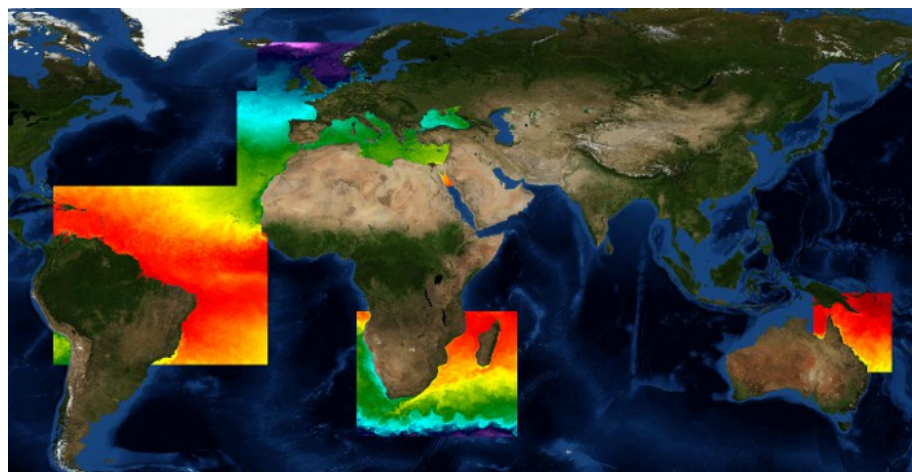
Medspiration Evolution Regional products

Ultra-high resolution (2km), daily, gap free, multi-sensor merged maps of SST in support to user requests, available the next day before 12:00 :

- ✓ Mediterranean Sea, reprocessed since 2006 (being extended to 2001, then 1991)
- ✓ South-Africa,
- ✓ N-E Australia,
- ✓ E Tropical Atlantic (Brazil)

New product : Ultra-high resolution 2km analysis

- ✓ Motivated by different user requests
- ✓ Improved multi-scale methodology for better structure & gradient preservation
- ✓ Will be processed in NRT + reprocessed up to 2006
- ✓ Replacing eventually regional products
- ✓ Available 3rd Quarter 2014
- ✓ Reprocessing will be investigated over 1991-2006



Access : Data are accessible through FTP, OpenDAP, WMS
Static and dynamic visualisation available
Details at : <http://www.medspiration.org>

