

Marine Collaborative Ground Segment Segment Sol Collaboratif Maritime de GMES

Sentinelles de l'Océan

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Summary data

- ❖ Development of satellite-based services through dedicated processing centres
- ❖ Coordinator: ACRI-ST
- ❖ Partners: Ifremer, CLS (Brest & Toulouse) GIS COOC, GIS BreTel, LEGOS, SHOM, AS+
- ❖ MCGS is supported by 3 French regional economic competitiveness clusters
- ❖ Liaison with CNES to interface with ESA and EUMETSAT



MCGS goals

- ❖ To be a centre of satellite data reception, processing, and distribution of value-added products in the field of
 - ✓ **Ocean colour**
 - ✓ **Ocean Topography**
 - ✓ **Winds/waves & Currents (SAR)**
- ❖ To develop **3 dedicated platforms** under the responsibility ACRI-ST and CLS
- ❖ To take advantage of **improved processing algorithms** to transform a technological measurement (echo radar, radiance,...) into a geophysical information (swell, chlorophyll rate, topography, current,...)
- ❖ To propose a **portfolio of services** to
 - ✓ End-users
 - ✓ Agencies, public stakeholders,...

Market

- ❖ Optimisation of sea usages and management of common marine resources: aquaculture, fisheries, renewable energies, transport, leisure, etc
- ❖ Maritime security and safety
- ❖ Legal aspects and environmental protection (marine protected areas, ...)

5 services proposed by MCGS

- ❖ Aquaculture
- ❖ Wind offshore
- ❖ Gas and petrol offshore
- ❖ Maritime security
- ❖ Rapid Environmental Assessment
- ❖ WFD Operational Monitoring support

Data and products

- ❖ Delivery of data in Ocean Physics (sea topography, current, wind, wave, swell...) and Marine Biology (derived products of ocean color) – derived from Sentinel 1 and 3 data to ensure a sound valorisation of the whole specificities of sentinels missions

Services

- ❖ Provision of national services with European extension and export commercial services in
 - ✓ Ocean, coastal zone & littoral management (combined coastal and environmental protection, etc.)
 - ✓ Marine resources management (aquaculture, sea farms, fishing, etc.)
 - ✓ Maritime security (sea state, wind/current fields)

Innovation

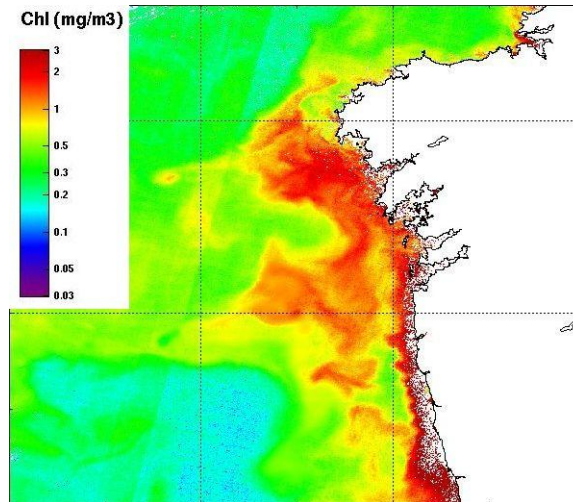
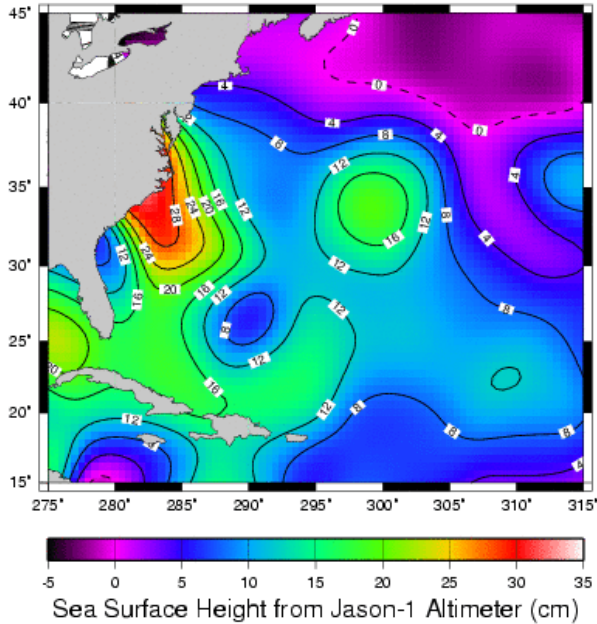
- ❖ Innovative data processing (new algorithms, data fusion, tracking of changes, synergetic products from S-1 and S-3 sensors, ...),
- ❖ Cal/Val using multi-missions
- ❖ Deliveries according to specific needs

Complementary approach

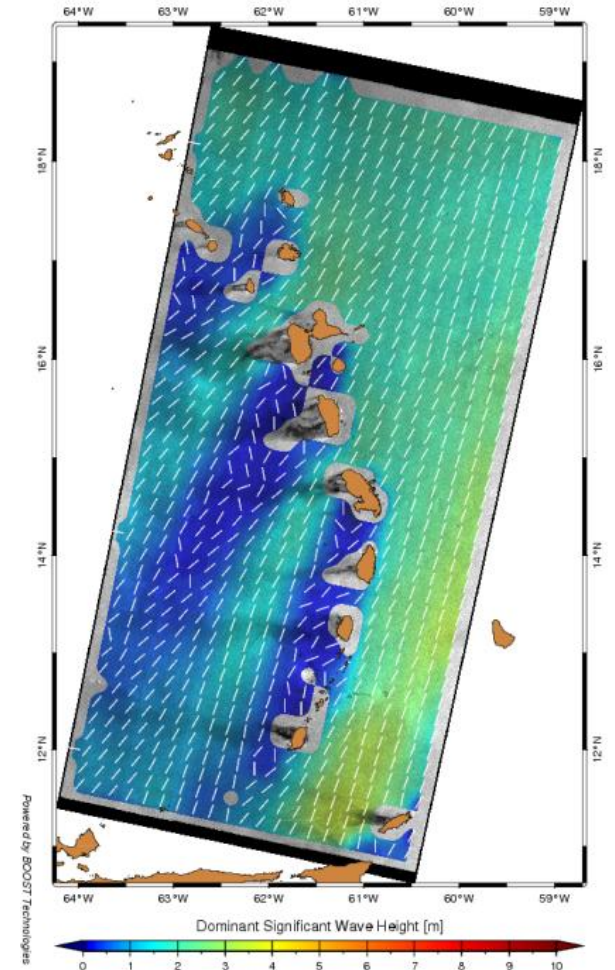
- ❖ Deliveries are complementary to GMES core products & services:
 - ✓ non-European regional services
 - ✓ specificities of European national policy needs

Surface topography map

Measurements from 15-Sep-2003 08:10 EDT
to 18-Sep-2003 08:09 EDT



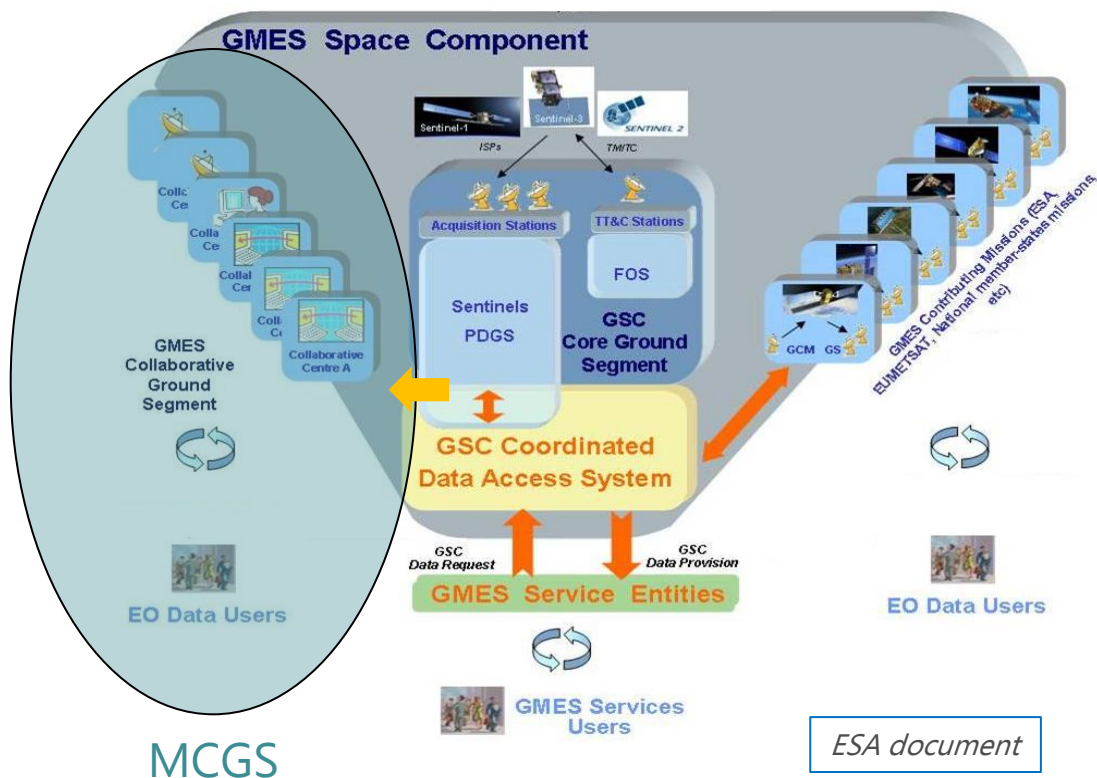
Chlorophyll map



Sea wind map

ESA programmatic context

- ❖ ESA will propose the set-up of Collaborative Centers to supply additional products not in the scope of its core ground segment
- ❖ ESA will grant access to the signal for a regional capture in real time
- ❖ ESA will grant access to intermediate level data in order to develop specific additional products



French national and regional support

- ❖ 2 levels
 - ✓ FUI funds aims at fostering services and commercial development
 - ✓ Regional support
- ❖ Partial funding to support R&D activities and prototype development

MCGS project

- ❖ Gathers key operational actors in oceanography
- ❖ Will fully exploit the new generation of satellite data
- ❖ Will propose a complementary approach in terms of
 - ✓ Processing of data, turning raw measurements into value-added products
 - ✓ Products not delivered by other centres
 - ✓ New Services covering specific users' needs

Budget

- ❖ Global budget: 5 103 k€
- ❖ Ministry and regional subsidies: 1866 k€

Planning of activities

- ❖ Selected by the FUI in august 2011
- ❖ Kick-off of activities in November / December 2011
- ❖ 30 months of activities to be phased with Sentinel missions planning