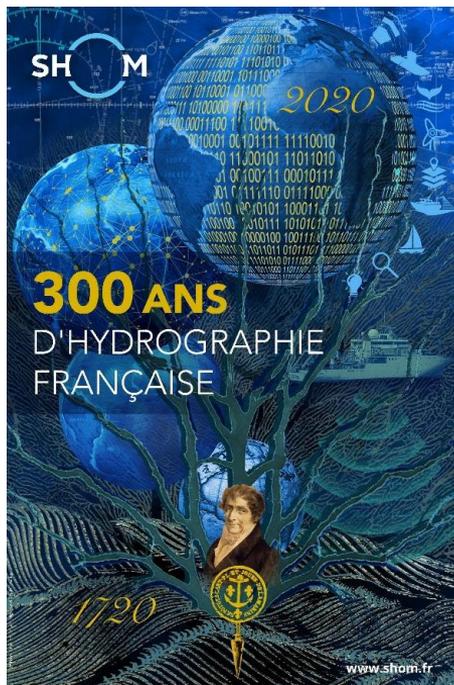


Knowledge of the Ocean: **Why(s) and How(s)?**

An early start



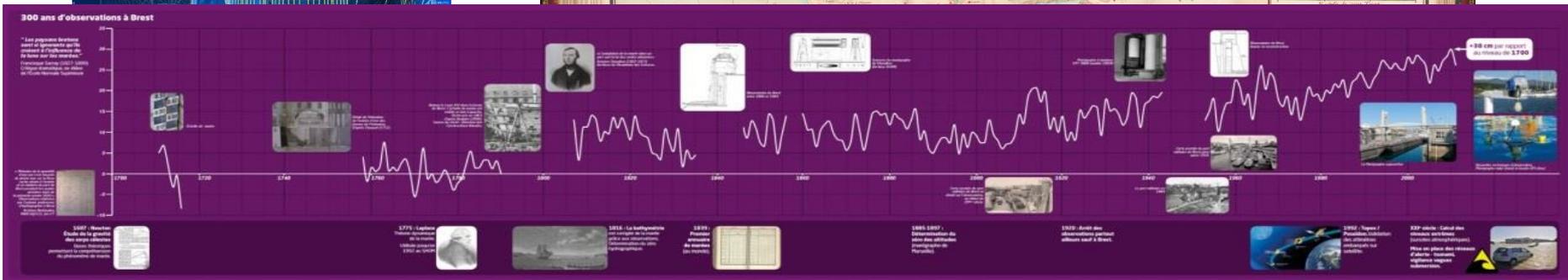
1720 creation of a repository of Navy charts and plans in France



An early start

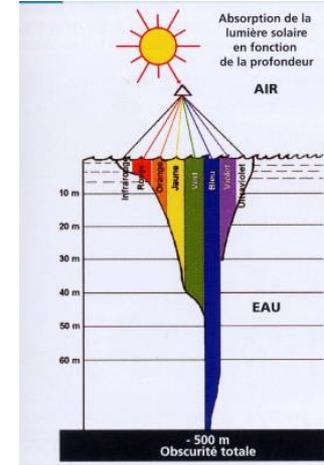
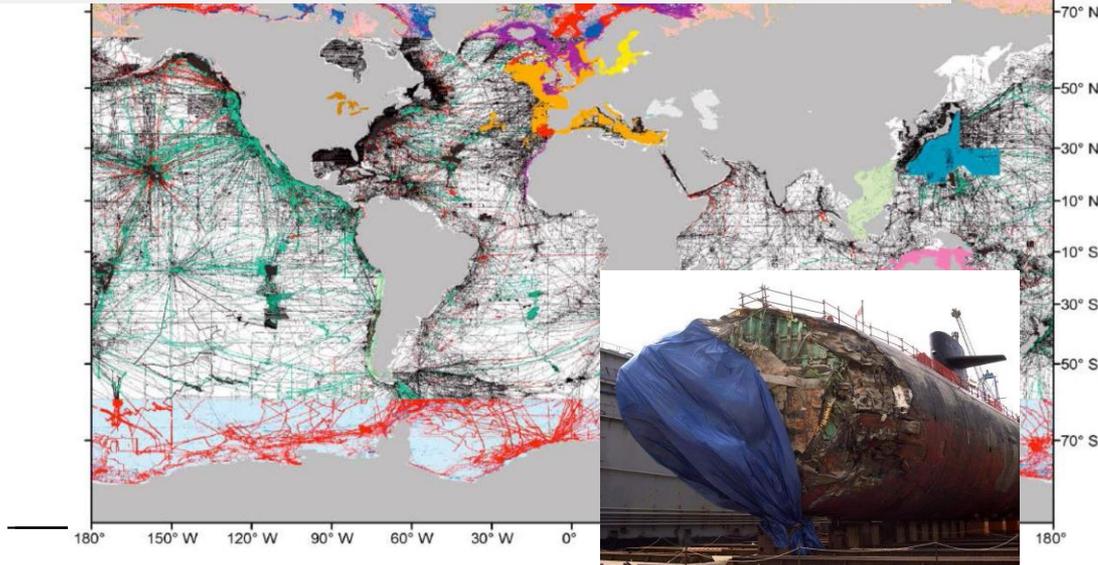


1720 creation of a repository of Navy charts and plans in France

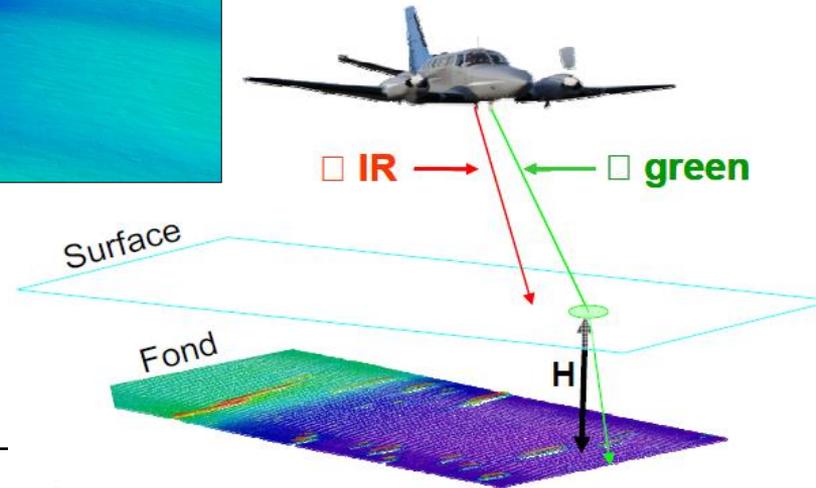
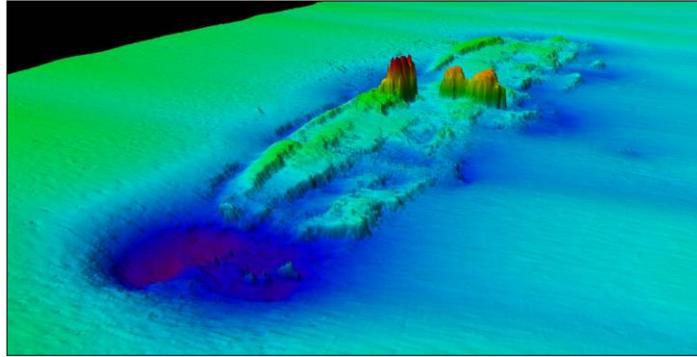


A scientific and technical challenge

Less than 20% of ocean
measured



Techniques has progressed over time



How can we accelerate? Autonomous vehicles a new breakthrough



Autonomous underwater vehicle



Autonomous
Airborne Vehicle



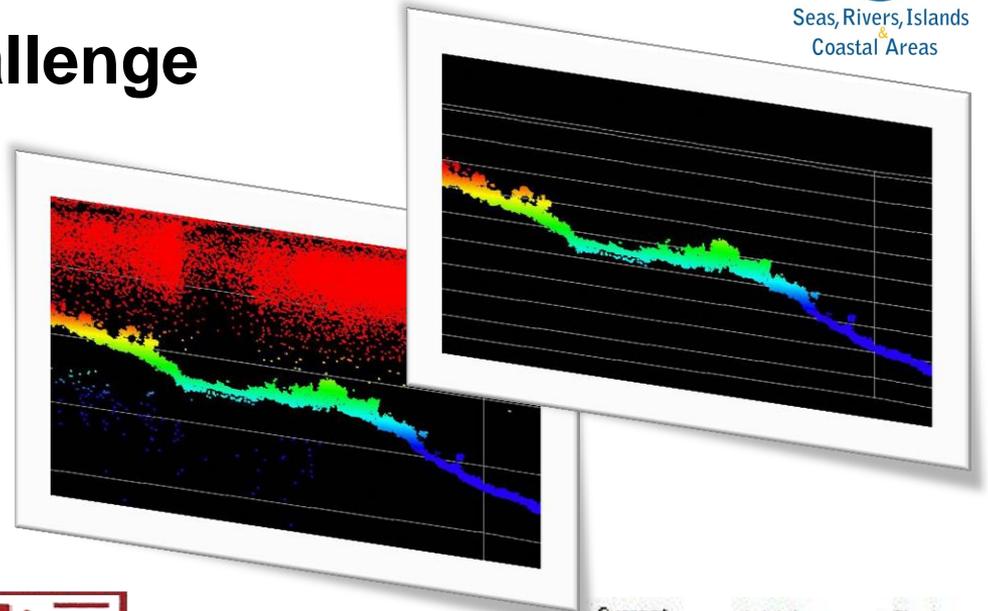
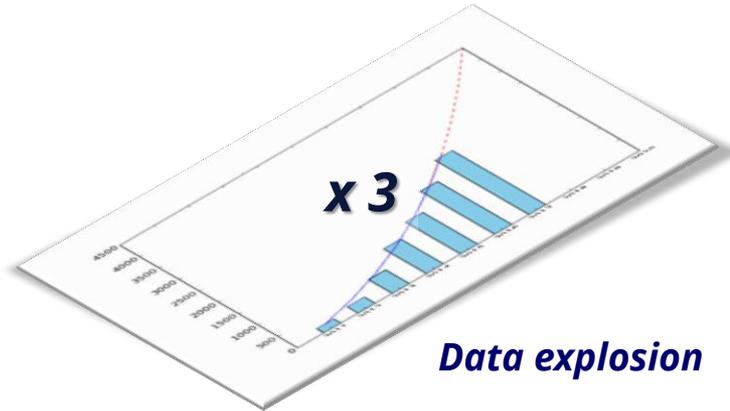
Unmanned surface vehicle



Gliders



The post-processing challenge



Repetitive
processes
(ex: soundings)



Current
situation

2020
1:3

Initial
objective

2025
1:1

Final
objective

2030
1:0,3

Complex
processes
(ex: wrecks)



2020
1:1

2025
1:0,8

2030
1:0,5



IHO-DG MARE Memorandum of Understanding (MoU) – 23 April 2012



*Framework for interaction
between the EC and the IHO,
chaired by France*



Hydrographic Offices



Research Institutes



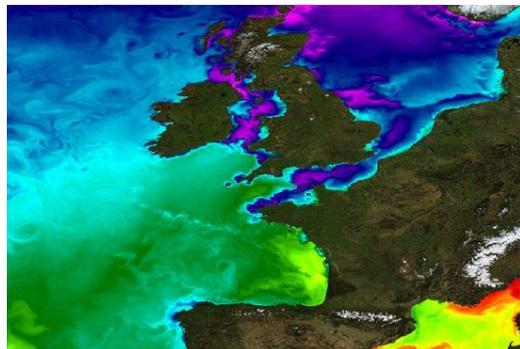
SMEs





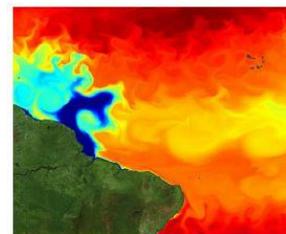
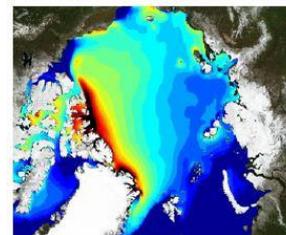
Organisations

 CMCC Centro Euro-Mediterraneo sui Cambiamenti Climatici	 CNRS Centre National de Recherche Scientifique	 Ifremer Institut Français de Recherche pour l'Exploitation de la Mer	 IRD Institut de Recherche pour le Développement	 Météo France Service météorologique et climatologique national
 Met Office Service National Météorologique du Royaume-Uni	 NERSC National Environmental and Remote Sensing Center	 Puertos del Estado	 SHOM Service hydrographique et océographique de la Marine	 CNR Consiglio Nazionale delle Ricerche



Partners

 SMHI Svenska Meteorologiska Institutet	 Met Office
 INGV Istituto Nazionale di Geofisica e Vulcanologia	 DHI Danish Hydraulic Institute
 UNIVERSITÉ DE TOULOUSE	 LEGOS Laboratoire d'océanographie et de géosciences
 ENSTA École Nationale Supérieure de Techniques Avancées	 CEOS Committee on Earth Observation Satellites
 cnes Centre National d'études Spatiales	 cea Commissariat à l'énergie atomique et aux énergies alternatives
 esa European Space Agency	 EMSA European Marine Safety Agency
 EEA European Environment Agency	
 Pole Mer Méditerranée	 aerospace valley
 VILLA MEDITERRANEE	 Océanopolis
 MUSEUM	
 cité Centre International de la Terre	 BEPOLMER Bassin d'Expérimentation en Polaire
 Novela Novelty	 Polaris



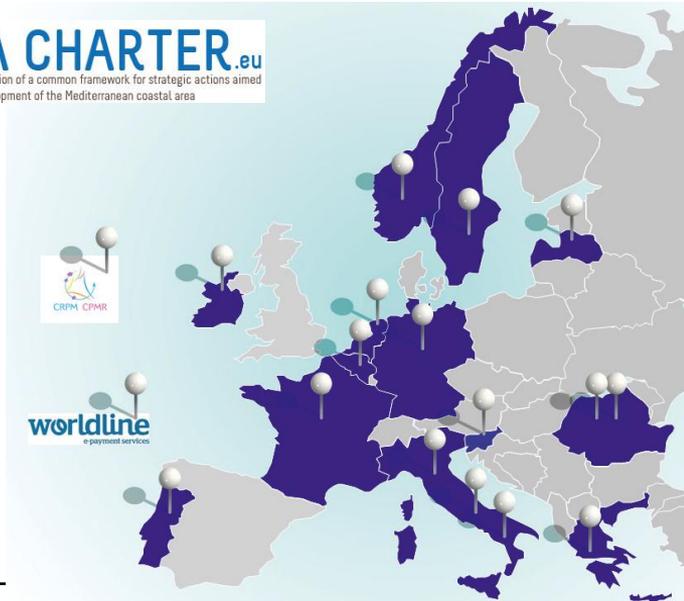
Images © Mercator, CMEMS



EMODnet Coastal Mapping project launch – May 2015

Evaluation of the interest of a EU level synergy for acquisition of hydrographic data

- 13 countries and all the EU maritime basins involved



- Conclusions shared with the SEArca IG (SEArca Conference – February 2017)

Recommendations from the European Hydrographic Offices

Three axes

1

Set up coordinated programmes

2

Seize opportunities with EU funds

3

Promote good practices

Three pillar actions to support the strategy

Establish a European steering committee on Strategy

Establish standards and hydrographic practices for all potential contributors acquiring these data

Establish a partnership with coastal stakeholders using high resolution bathymetric data in Europe

Digital Twin of the Ocean - DTO

A Paradigm Shift...



...if nourished by validated data.



The next step: planification and securisation of the acquisition and sharing of standardized and interoperable marine data in Europe.

We believe in a European Ocean Observing System - EOOS

SHOM

1720 - 2020

300 ans d'hydrographie française