

Belgian Federal Marine Science Policy

The Royal Academy for Overseas Sciences (RAOS)
and the Chinese Academy of Sciences (CAS)

“Marine Data and SDGs”

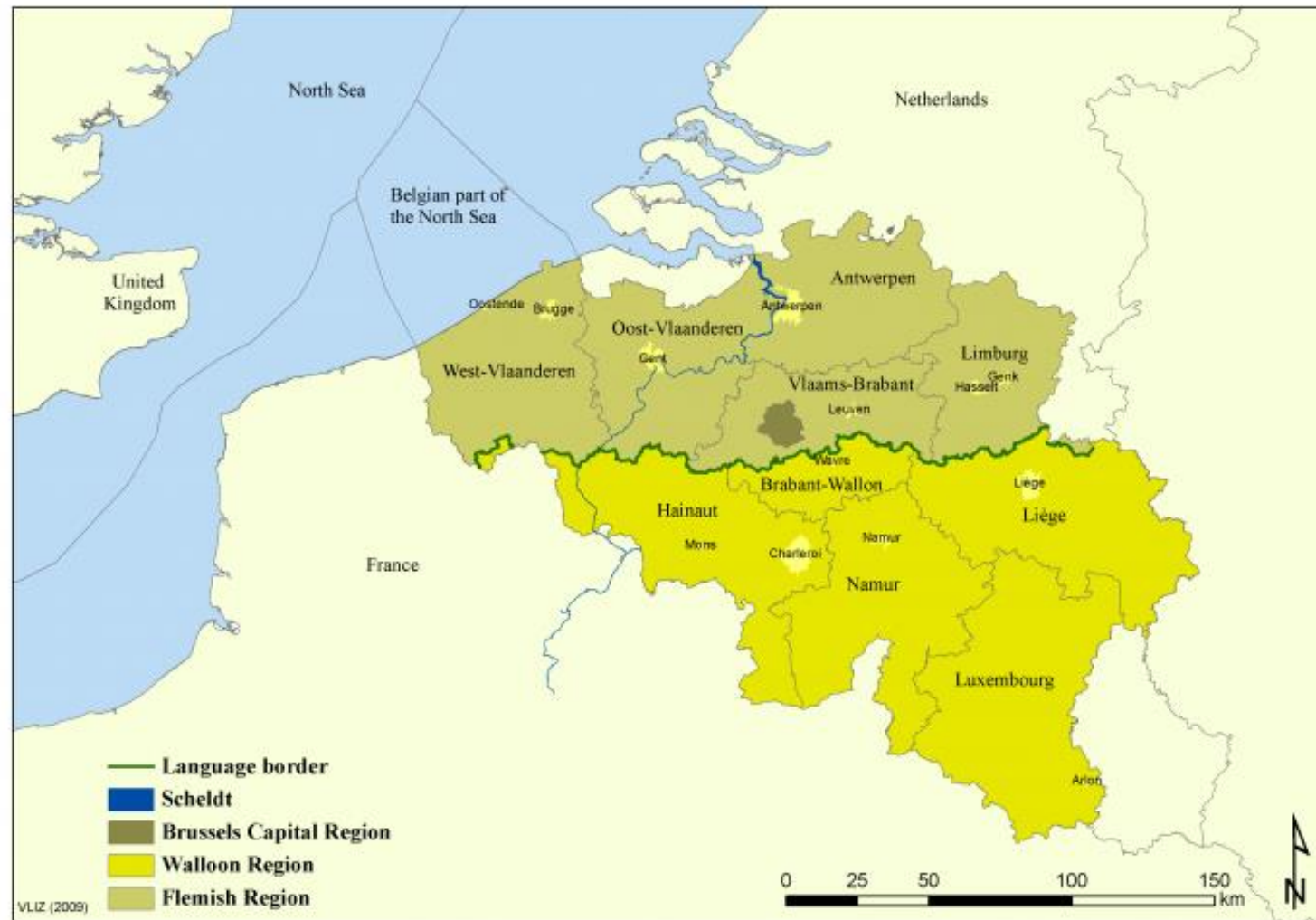
Brussels, 4 June 2024

Koen Lefever, PhD

Programme manager
Belgian Science Policy Office



Belgium and the Belgian part of the North Sea



Source: "[Een eeuw zeevisserij \(VLIZ 2009\)](#)", by Nathalie De Hauwere

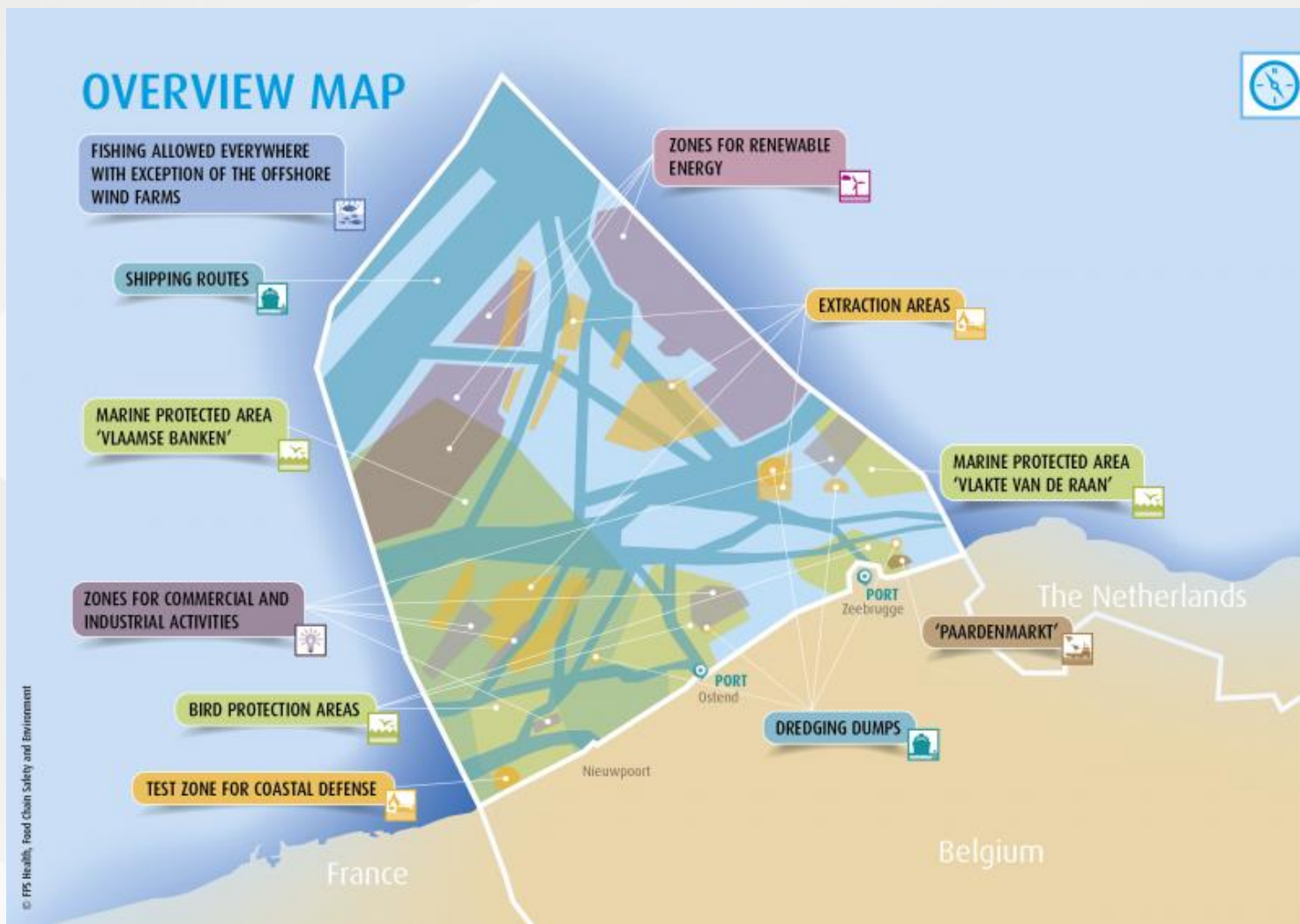
Marine Governance in Belgium

- The North Sea is a federal responsibility
 - Minister of the North Sea
 - FPS Public Health, Food Chain Safety and Environment
 - FPS Mobility and Transport
 - FPS Economy, SMEs, Self-Employed and Energy
 - FPS Finance: Customs
 - FPS Interior
 - FPS Foreign Affairs
 - Ministry of Defense
 - BELSPO
 - Etc...

Marine Governance (Cont.)

- The coast and inland waters are regional responsibilities
 - Flanders region & Flemish Community
 - Department of Economy, Science & Innovation (EWI)
 - Flemish Ministry of Mobility and Public Works: Agency for Maritime and Coastal Services, VLOOT
 - De Vlaamse Waterweg NV
 - Etc...
 - Wallonia region & French Community
 - Direction générale opérationnelle de la Mobilité et des Voies hydrauliques
 - PSW economy, employment and research
 - Etc...
- Province of West Flanders
- Coastal towns
- Cities with ports:
 - Ostend, Bruges, Nieuwpoort, Antwerp, Ghent

Marine Spatial Planning



Belgian Federal Science Policy since 1895

- **1895:** Frans Schollaert becomes the first Minister for Home Affairs and Sciences & Arts
- **1959:** Creation of the structures for the political and administrative coordination of science policy, including the Interministerial Commission for Science Policy and the National Council for Science Policy.
- **1968:** Creation of the post of Minister for Science Policy (Théo Lefèvre). The Belgian Science Policy Office is established as a State administration.

Federal Scientific Institutions

Fully funded by Belspo

- Royal Belgian Institute of Natural Sciences
- Royal Meteorological Institute
- Royal Belgian Institute for Space Aeronomy
- Royal Observatory of Belgium & Planetarium
- Royal Museum for Central Africa
- Royal Institute for Cultural Heritage
- Royal Museums for Art and History
- Royal Museums of Fine Arts of Belgium
- Royal Library of Belgium
- State Archive

Belgian Research Funders

- Federal:
 - Belspo
- Flanders:
 - Fonds voor Wetenschappelijk Onderzoek (FWO)
 - Vlaamse Agentschap Innoveren en Ondernemen (VLAIO)
 - Department of Economy, Science and Innovation (EWI)
- Wallonia:
 - Fonds de la Recherche Scientifique (FRS–FNRS)
 - Service Public de Wallonie - Department of Research Programmes
- Brussels:
 - Innoviris

innoviris.brussels 
empowering research



DEPARTEMENT
ECONOMIE
WETENSCHAP &
INNOVATIE

VLAIO



Research Foundation
Flanders
Opening new horizons



Other research institutions

- Federal
 - Sciensano (Ministry of Health)
 - War Heritage Institute (Ministry of Defense)
 - Nationaal Instituut voor Criminalistiek en Criminologie (Ministry of Justice)
 - Etc...
- Flanders
 - Universities
 - VLIZ: Flemish Marine Institute
 - ILVO: Institute for Farming, Fisheries and Food Research
 - INBO: Research Institute Nature & Forest
 - Etc...
- Wallonia
 - Universities
 - Etc...

Belgian Federal Marine Science Policy since 1970

- **1970-1976: Phase I: Project Sea**
 - "assemble a reliable scientific basis and develop modelling techniques to permit both qualitative and quantitative simulation of the impact of natural phenomena or anthropic effects"
 - Budget: 4,4M€
- **1976: Management Unit of the Mathematical Model of the North Sea (MUMM)**
 - Became part of Royal Belgian Institute of Natural Sciences (RBINS) in 1997
- **1977-2010: North Sea Programme Phase II to Phase VII** https://www.belspo.be/belspo/NorthSea/index_en.stm

Belgian Marine Science Policy since 1970 (cont.)

- **2012-2017: Phase VIII**
 - Embedded in the BRAIN-be programme: Belgian Research Action through Interdisciplinary Networks
- **2018-2023: BRAIN-be 2**
- **2024: new research programmes**
 - Policy for Science
 - Science for Policy



Policy
4Science

Science
4Policy

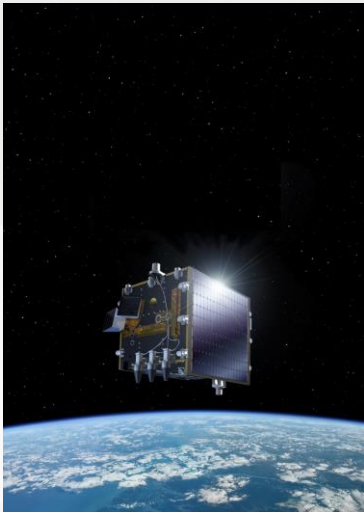
RV Belgica & Plane OO-MMM



Earth and Sea observation from space



SPOT 4 Satellite



PROBA V Satellite



Sentinel 1 Satellite

images by ESA



BELGIAN EARTH
OBSERVATION



TELSAT I	1985 - 1989
TELSAT II	1989 - 1993
TELSAT III	1993 - 1996
TELSAT IV	1996 - 2000
STEREO I	2001 - 2006
STEREO II	2007 - 2013
STEREO III	2014 - 2022
STEREO IV	2022 - 2029

International context of Belgian Marine Science Policy

Belgian-Chinese Bilateral Cooperation

- 1979: bilateral agreement for economic, industrial, scientific and technical cooperation between the Belgian-Luxembourg Economic Union (BLEU) and the People's Republic of China
- 2004: XVth meeting of the Mixed Committee for S&T cooperation was held with BELSPO and MOST (Chinese Ministry of Science and Technology) in Brussels on the 20th of October 2004.
 - 12 cooperation projects have been approved.

https://www.belspo.be/belspo/coordination/biCoop_china_en.stm

Belgian-Chinese Marine Research Cooperation

- 2015: call for research proposals in marine sciences in relation to climate systems and/or with attention for earth observation where relevant.
 - OCeANIC: Nitrous Oxide and nitrogen Cycling in Antarctic sea Ice Covered zone
 - HYPERMAQ - Hyperspectral and multi-mission high resolution optical remote sensing of aquatic environments
 - RBINS, Ghent University, VLIZ, SKLEC (State Key Laboratory of Estuarine and Coastal Research, East China Normal University), INSU Observatoire Océanologique (France), IAFE (Argentina)
 - Stereo 3 Programme

<https://www.belspo.be/belspo/fedra/proj.asp?l=en&COD=BL/12/C63>

<https://eo.belspo.be/en/stereo-in-action/projects/hyperspectral-and-multi-mission-high-resolution-optical-remote-sensing>



Belgian-Chinese Marine Research Cooperation

- 2023 Call on 'BIODIVERSITY' (Nature based solutions) and 'CLIMATE CHANGE'
 - WADER: Wetland Avian bioDiversity & climatE Resilience
 - KU Leuven
 - RBINS
 - INBO
 - Flanders Hydraulics
 - Hohai University
 - Tianjin University
 - Institute of Subtropical Agroecology, Chinese Academy of Sciences

International Research Funding

- JPI Oceans AISBL: Joint Programming Initiative “Healthy and Productive Seas and Oceans”
- JPI Climate: Joint Programming Initiative “Connecting Climate Knowledge for Europe”
- Sustainable Blue Economy Partnership



JPI Oceans – Member States

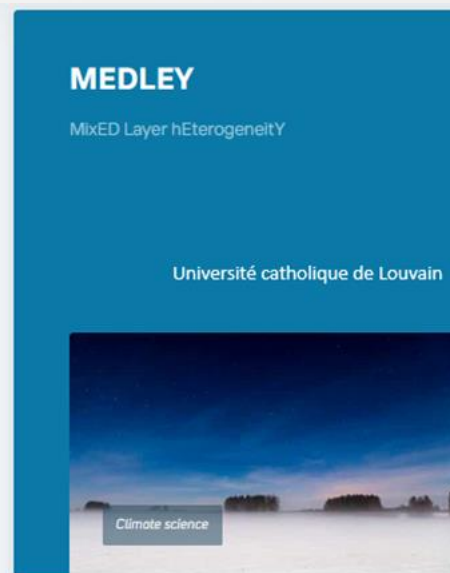
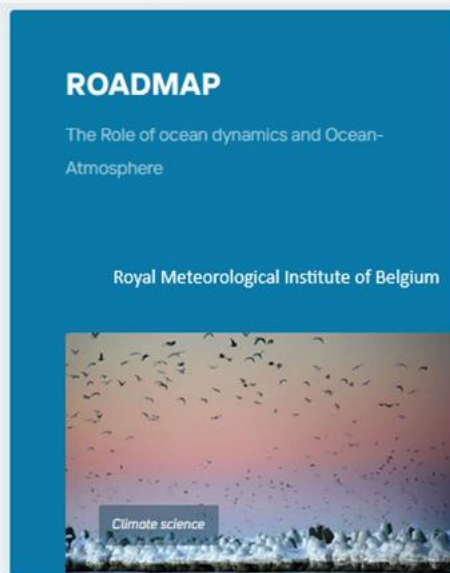
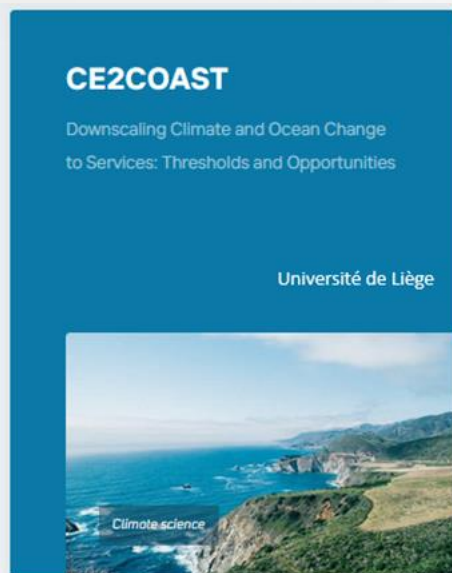
- Belgium
- Croatia
- Denmark
- Estonia
- France
- Germany
- Greece
- Iceland
- Ireland
- Italy
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Spain
- United Kingdom
- Sweden



Founded in 2010 by Belgium, Spain and Norway

Joint Actions by JPI Oceans and JPI Climate

- Climate Science for Oceans call 2019-2024



- Knowledge Hub Sea Level Rise

<https://knowledgehubsealevelrise.org/>



JPI
OCEANS



Joint Action of JPI Oceans, Water JPI & JPIAMR (Antimicrobial Resistance)

- Aquatic Pollutants call 2021-2024
 - Co-funded by the European Commission
 - PARRTAE: Probing Antibiotic Residues and Resistance Transfer in Aquatic Environments
 - ILVO: Flanders Research Institute for Agriculture, Fisheries and Food



Sampled locations in marine harbors of Oostende and Nieuwpoort

Ecological Impact of Deep-Sea Mining in the Clarion-Clipperton Fracture Zone



- MiningImpact 1: 2015-2017
 - RBINS & UGent
- MiningImpact 2: 2018-2022
 - RBINS & UGent
- Third call 2023 now in project selection phase, projects will start in 2025

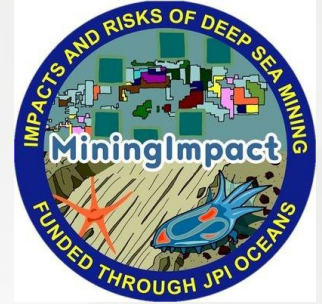


image by DEME/GSR

Global Sea Mineral Resources

JPI
OCEANS



Other recent JPI Oceans Joint Actions with Belspo participation

• Joint calls

- Underwater Noise in the Marine Environment



- PURE WIND: RBINS
- ORCHESTRA: UGent

- Ecological Aspects of Microplastics 1 & 2

- EPHEMARE: UAntwerpen
- WEATHER-MIC: KU Leuven
- ANDROMEDA: VLIZ & ILVO
- HOTMIC: UGent
- RESPONSE: UAntwerpen

• Knowledge Hubs

- Cumulative Effects of Human Activities
 - RBINS
- S4GES: Science for Good Environmental Status
 - MSFD: EU Marine Strategy Framework Directive
 - RV Belgica North Sea Research Cruise 2022
 - RBINS



SBEP: Sustainable Blue Economy Partnership

- European Commission Co-Fund
- Belgian Funders:
 - Belspo
 - FWO, VLAIO
 - FNR/FNRS
- First call 2023
 - Funded by Belspo:
 - DTO-Track (Digital Twin of the Ocean: Animal Tracking)
 - VLIZ
 - BlueBioBoost (Boosting seaweed farming through better utilization of genetic resources)
 - ILVO
- Second call 2024



Research Infrastructure

EMBRC: European Marine Biological Resource Centre

- More than 80 marine stations in Belgium, Finland, France, Greece, Israel, Italy, Norway, Portugal, Spain, and Sweden
- EMBRC-BE: RBINS, UGent, KULeuven, UHasselt, VLIZ



EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

Intergovernmental Oceanographic Commission (IOC/UNESCO)



**2021
2030** United Nations Decade
of Ocean Science
for Sustainable Development



The United Nations
Decade of Ocean Science
for Sustainable Development
(2021-2030)

