



EU-funded fisheries research and innovation

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Who are we?

The **Healthy Seas and Oceans** Unit within the **Healthy Planet Directorate** (C)

Defines and implements research and innovation objectives and priorities to support the the Common Fisheries Policy and the whole Blue Growth Agenda.



EU Research and Innovation is funded through multiannual Framework Programmes.
Horizon 2020 (from 2014-2020)



Supporting the elimination of discards in European Fisheries

- Avoidance of unwanted catches
- Handling of unavoidable unwanted catches
- Study of effects on marine ecosystems



Relevant EU research and innovation funded projects



Strategies for the gradual elimination of discards in European fisheries

<http://www.discardless.eu/>

<http://www.discardless.eu/video/entry/discardless-introduction>

<https://vimeo.com/257888698> (1-3:40)



MINOUW

Creating a positive change in the sea

Science, Technology, and Society Initiative to minimize Unwanted Catches in European Fisheries

<http://minouw-project.eu/>

<https://vimeo.com/251163587?from=outrou-embed>

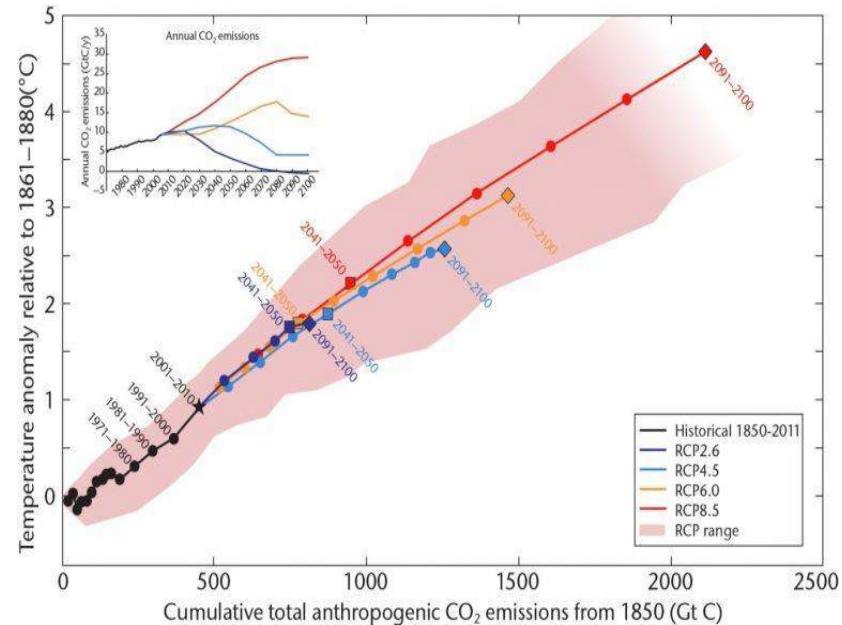
https://www.youtube.com/watch?v=lnew_d9b00I

Effects of climate change: threats and opportunities



Co-creating a decision support framework to ensure sustainable fish production in Europe under climate change

<http://climefish.eu/>
https://youtu.be/fkLYL6a_JRc (1-2:35)



Climate change and European aquatic RESources

<https://ceresproject.eu/>
<https://vimeo.com/231060663>
<https://vimeo.com/217654236>

Relevant EU research and innovation funded projects



Blue-Action works to develop and improve models that can predict climate from seasons to decades in advance, and produce the first generation of real fish-forecasts.



TRIATLAS works to develop the understanding and the capacity to best predict changes in the tropical Atlantic marine ecosystem and its societal impacts.



Mission Atlantic works to map and assess present and future status of Atlantic marine ecosystems under multiple stressors.



New technologies in fisheries

Machine vision

Camera technology

Data processing

Machine learning

Artificial intelligence

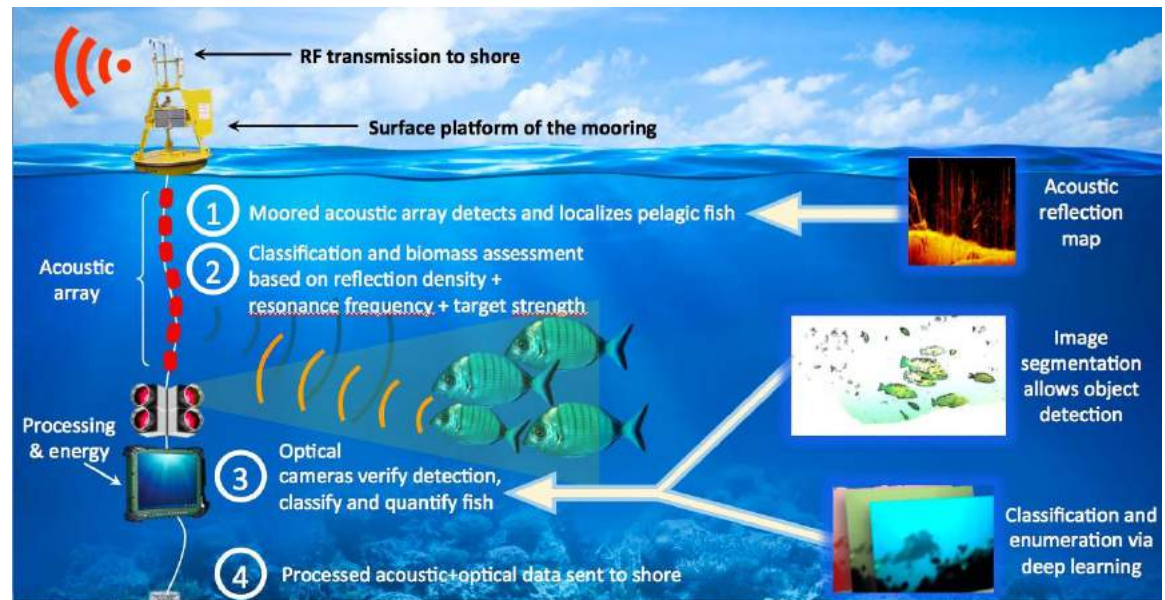
Big data analysis

Smartphones/Tablet

LED light technology

Acoustic technology

ROV technology



SYMBIOSIS A Holistic Opto-Acoustic System for Monitoring Marine Biodiversities

SmartFish: Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector



European Commission

Responsive Results-Based Management and capacity building for EU Sustainable Fisheries Partnership Agreement- and international waters

<https://www.farfish.eu/>



79%

of EU catches are taken in EU waters

8%

of EU catches are made in countries' waters outside the EU

13%

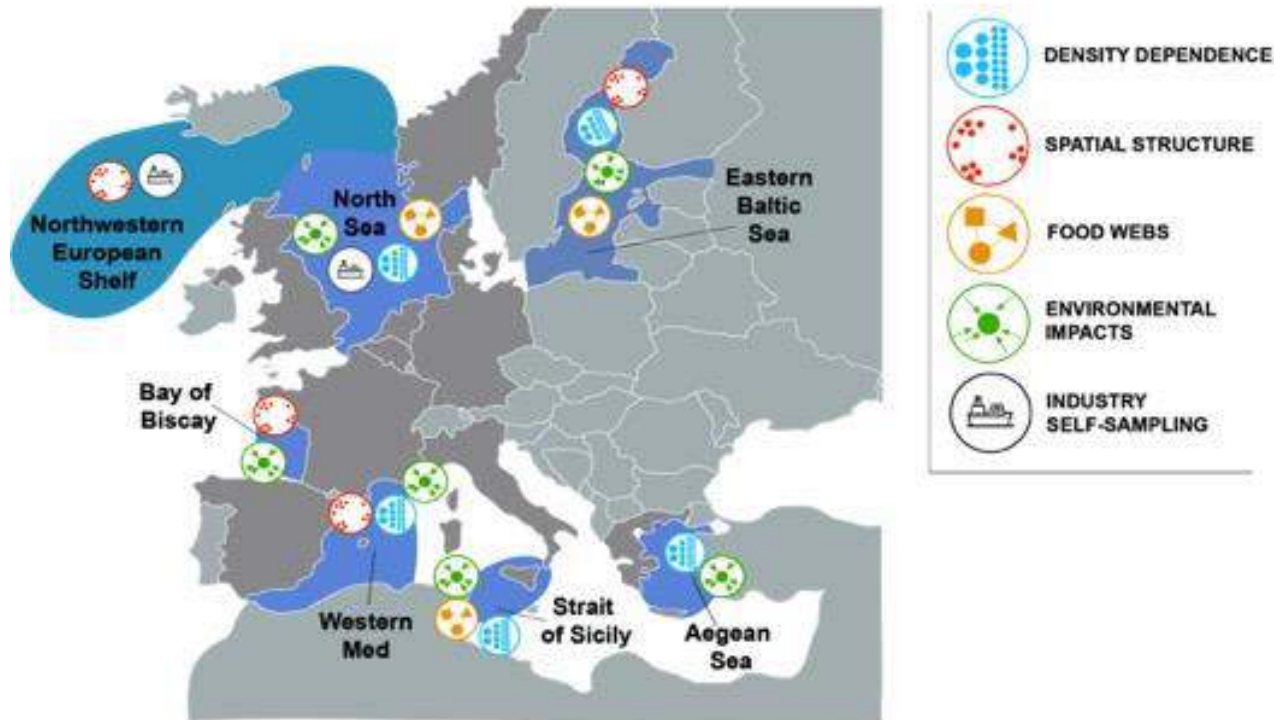
are taken on the high seas



European
Commission

Paradigm for Novel Dynamic Oceanic Resource Assessments

<https://www.pandora-fisheries-project.eu/>

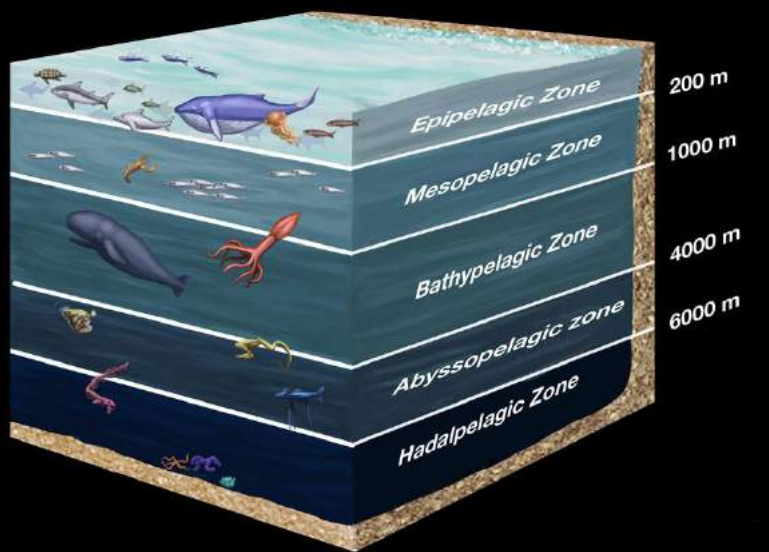


PANDORA case study areas and research topics

MEESO and SUMMER projects on mesopelagic ecosystems

- Provide **data, information** and **knowledge** on the potential **role** of **mesopelagic** micro- and macro-**organisms**
- Address **food safety, fisheries management, fishing techniques, processing** and **consumer acceptance** and **marketing**
- Assess **impacts** of **fishing** and **climate change**
- Assess the **potential** of mesopelagic resources for marine **biotechnological applications**.
- Develop an **ecosystem-based approach to exploitation**.

Zones of the Ocean



BG-10-2020: Fisheries in the full ecosystem context

RIA indicative contribution from the EU in the range of EUR 8 million



Ecosystem-based approach

Modelling

Other tools

Applicable by advisory bodies

Responsible research and innovation



Area 9: Strengthening our knowledge in support of the EGD

9.3 - Transparent & Accessible Seas and Oceans: Towards a Digital Twin of the Ocean

- Multivariable and multidimensional simulation environment of the ocean, including physics, biogeochemistry, ecosystems and human activities
- Development of models, model outputs, and what-if scenarios, with appropriate user interfaces.
- Demonstration of the usefulness wrt Green Deal priorities on a few concrete cases, in local, regional, or global sea basins

Budget and project size: ~ EUR 12 million

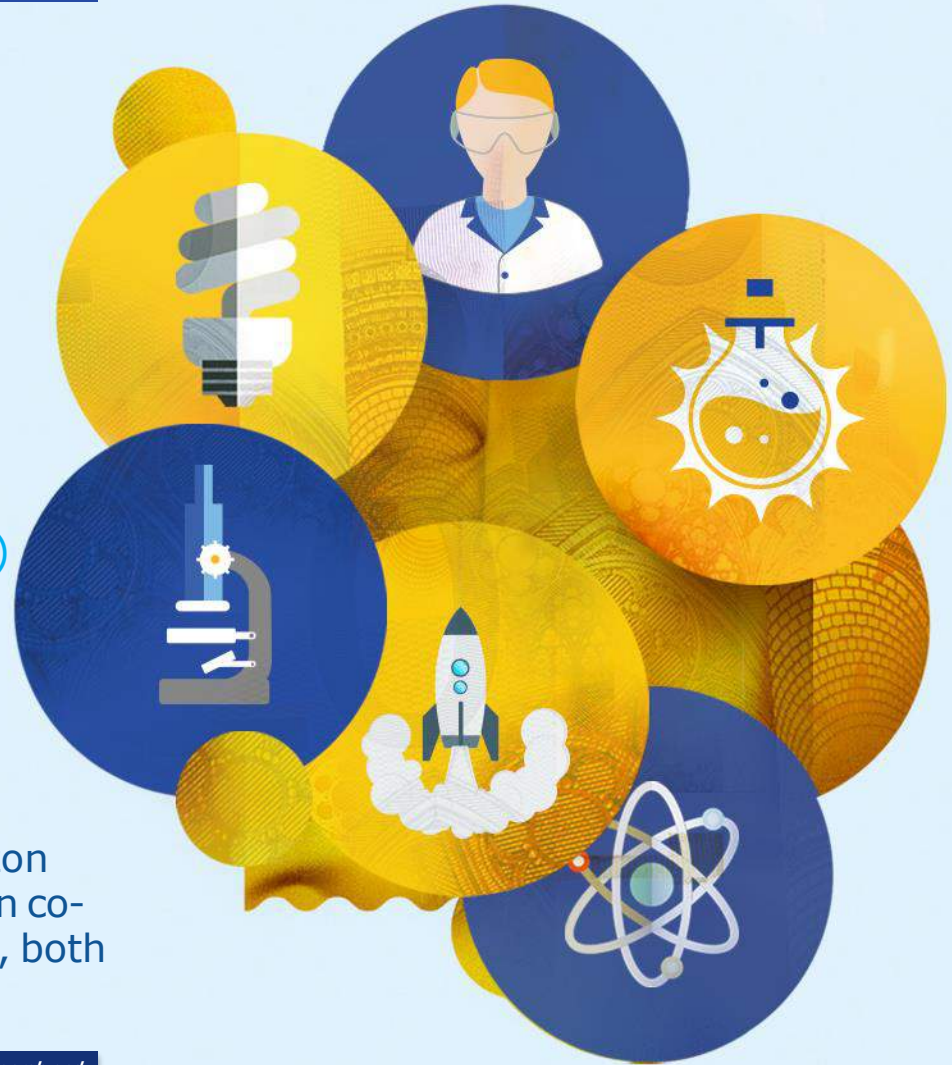


Horizon Europe

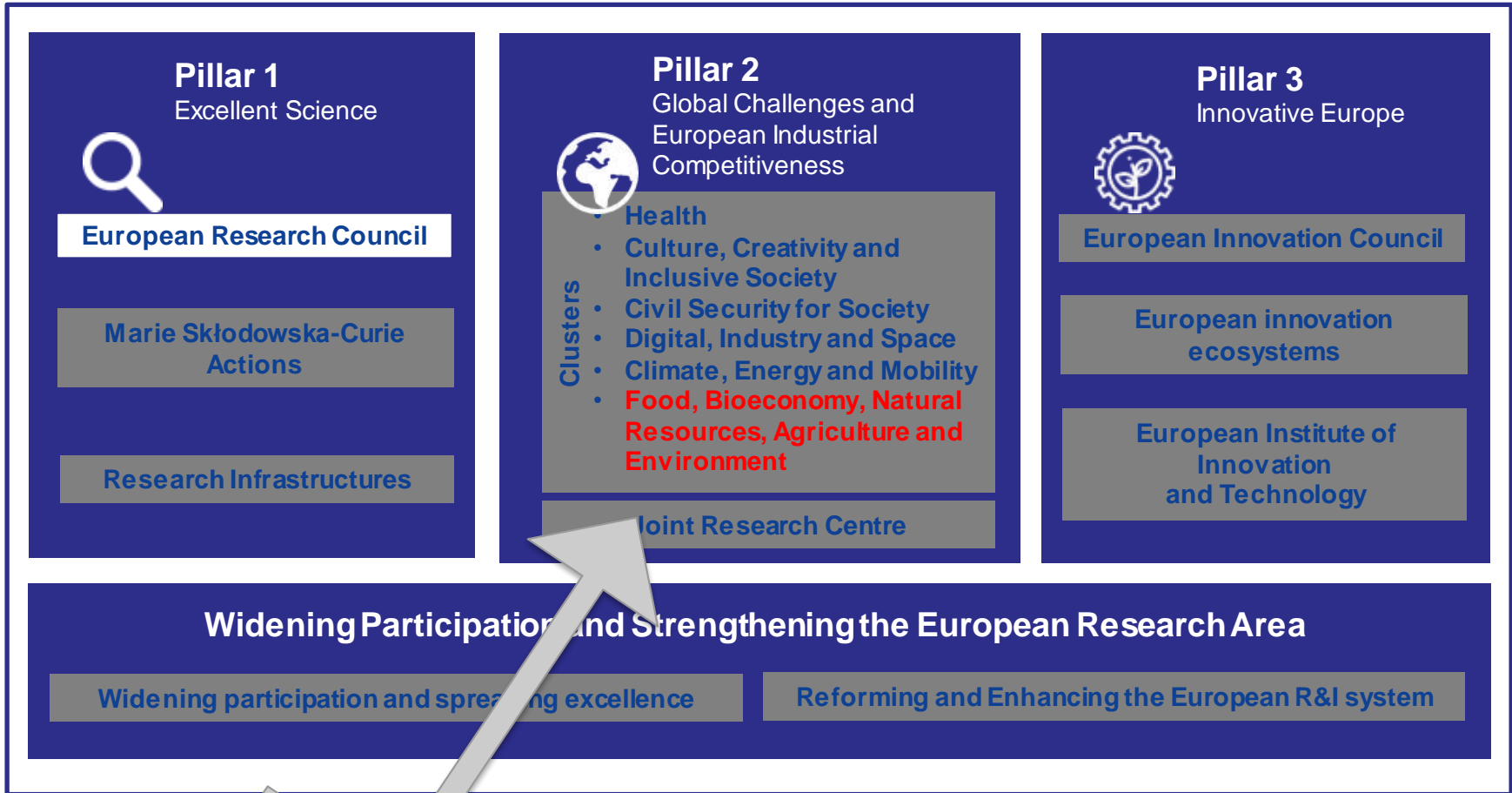
THE NEXT EU RESEARCH & INNOVATION
INVESTMENT PROGRAMME (2021 – 2027)

#HorizonEU

Based on the Commission Proposal for Horizon Europe, the common understanding between co-legislators and the Partial General Approach, both approved in April 2019



Horizon Europe: Preliminary structure



Missions

Healthy oceans, seas, coastal and inland waters



Area of Intervention

Seas, oceans and inland waters

Broad lines

- Sustainable sea and ocean farming for food
- Strengthened resilience of marine ecosystems
- Ocean governance (global and regional)
- **Technologies for the digital ocean, Blue cloud, Monitoring and predictive capacities**
- Blue value chains and nature –based solutions
- **Understanding the role of oceans for climate change mitigation and adaptation**



Thank you for your attention!

Find out more:

www.ec.europa.eu/research/horizon2020

Publication SC2 (including Blue Growth) at:

http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents