

Powering the European Marine Data Ecosystem

For a digital and green future

EMODnet OPEN CONFERENCE 2023



国家海洋信息中心
NATIONAL MARINE DATA AND INFORMATION SERVICE



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European Marine
Observation and
Data Network

China-EU Marine Data Network
Partnership(CEMDnet)
EMODnet PARTnership for China and
Europe(EMOD-PACE)
Cross-regional Collaboration

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MNR, China

★1 Collaboration Background

★2 Main Achievements

★3 Future Envision

About NMDIS



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- National Marine Data and Information Service (NMDIS) is a government funded public institution subordinates to the Ministry of Natural Resources (MNR) of China.
- Established in 1958, NMDIS is responsible for manage national marine information resources, support marine resource management, marine spatial planning and use control, marine ecological protection and restoration, high-quality development of marine economy, marine public welfare services, and fulfill national marine information international obligations.



Office in December 1966

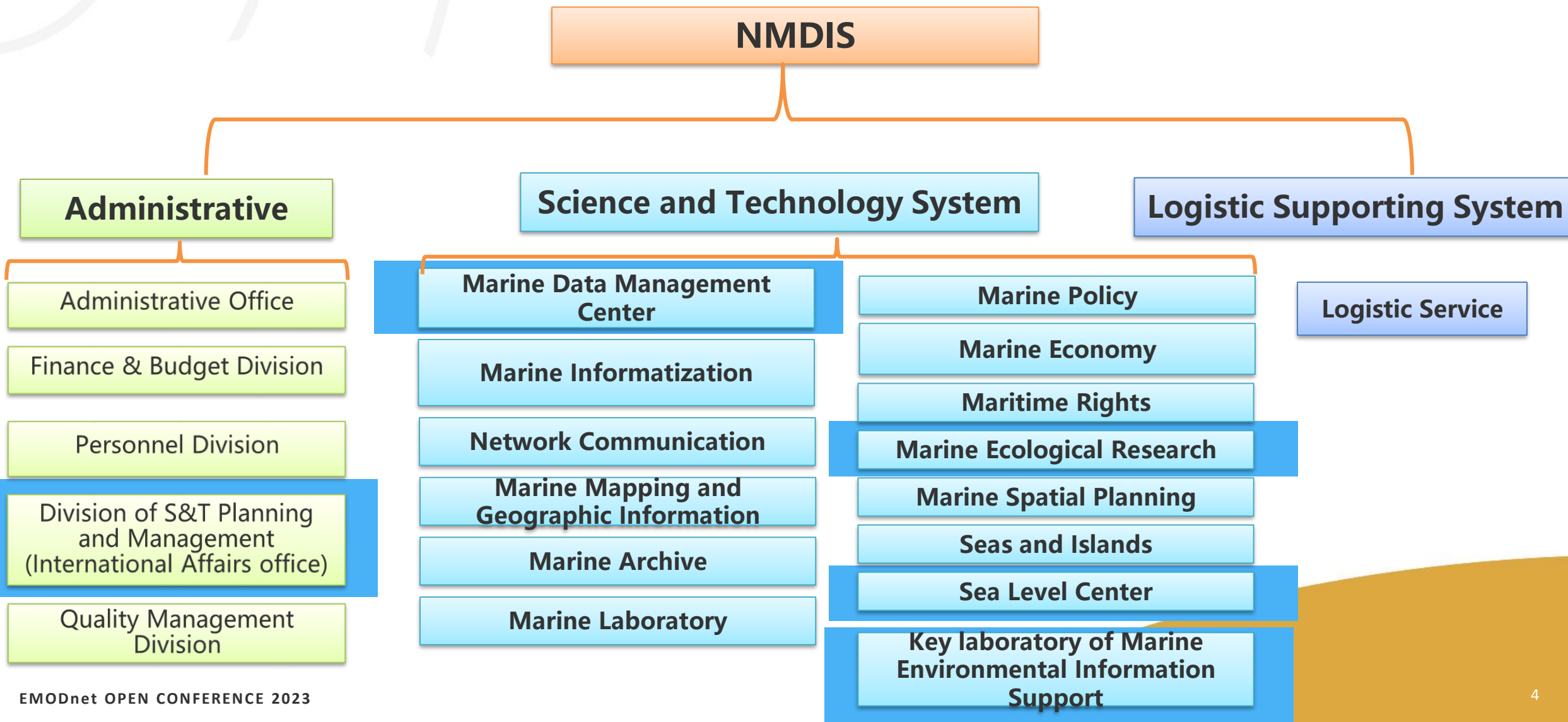


Office Building in April 1989



New Look after Energy-saving Reconstruction since September 2016

Organization Structure



1 Collaboration Background

Background



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- Under the China-EU signed a Blue Partnership for the Ocean
- A promising collaboration on ocean data and information sharing between China and EU
- To realize marine data interoperation between the two sides
- Common publication of data and products
- Joint efforts in ocean data products R&D:
 - comparison of European and Chinese models for regional ocean reanalysis adaption
 - seabed habitat and ecosystem vulnerability assessment
 - sea level change, coastal erosion and wetland degradation
- Collective contribution to UN Decade of Ocean Science and global ocean governance



1 Collaboration Background

Goals and Objectives



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01



Expanding Ocean Data
Interoperability between
Europe and China and
reach out

03



Co-creating marine
knowledge products to
address global challenges

02



Showcasing the benefits
of making ocean data
interoperable

04



Contributing to UN
Decade of Ocean
Science and global
ocean governance

EMODPACE-CEMDnet

1 Collaboration Background

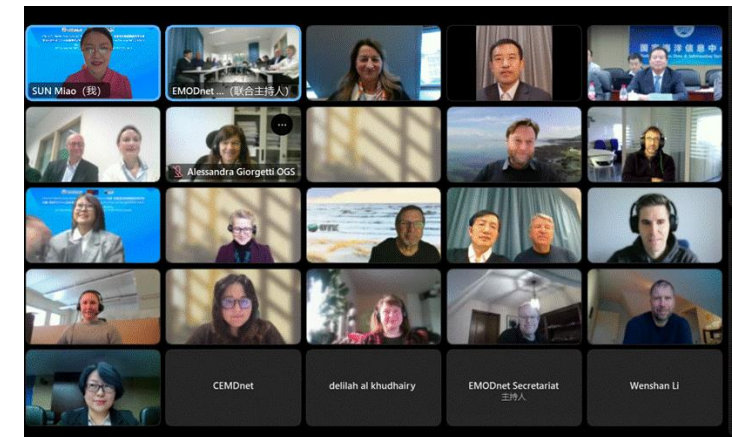
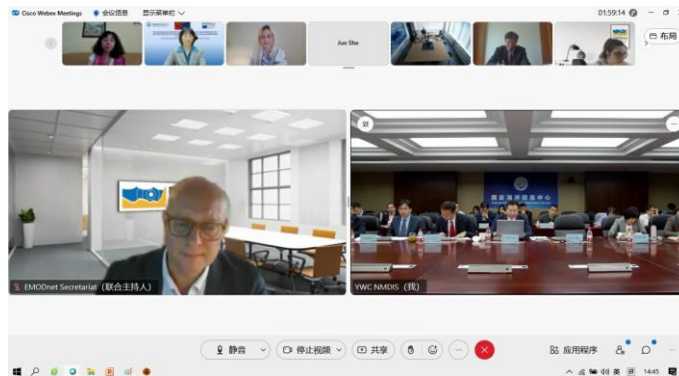
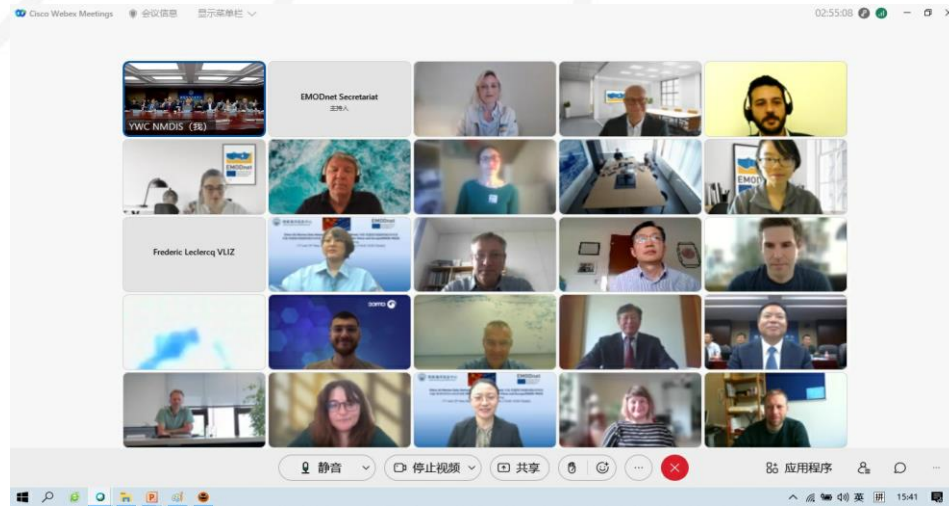
Milestones



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EMOD-PACE & CEMDnet High Level Partnership
Plenary Meeting
11 -12 May 2022

EMOD-PACE and CEMDnet
Final Project Partnership Meeting
23 November 2022

1 Collaboration Background

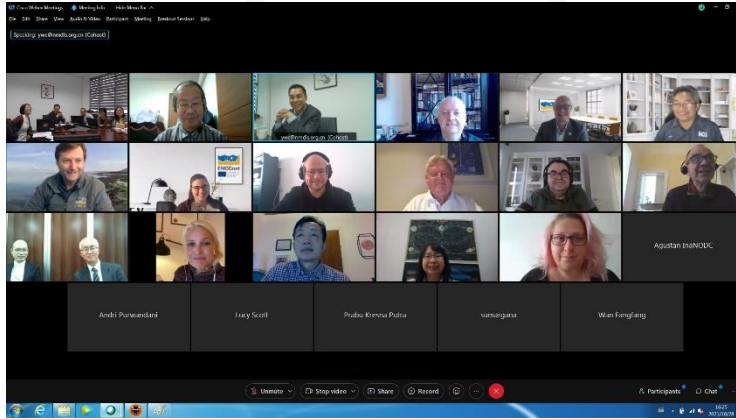
Milestones



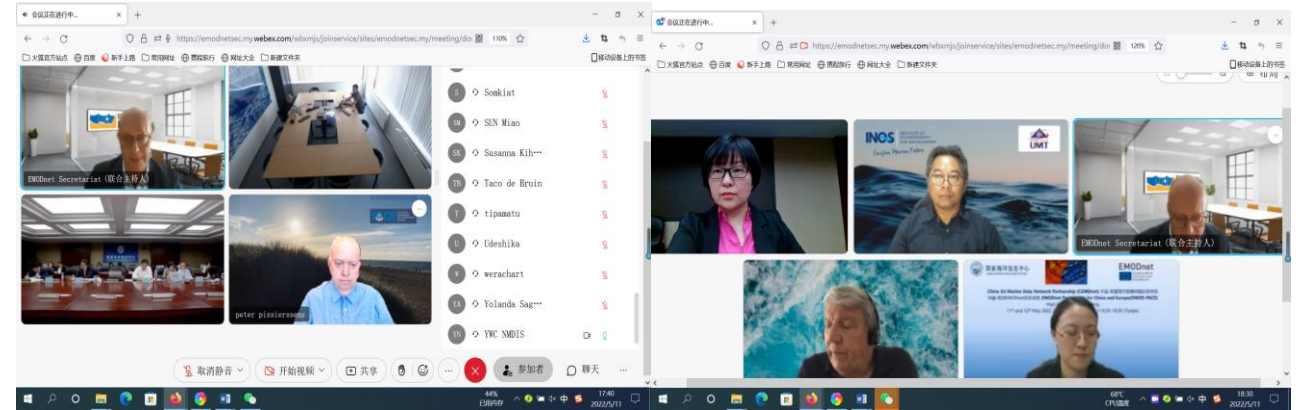
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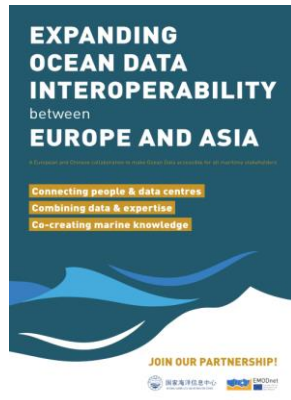
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The 2021 Ad hoc meeting of the Ocean Data and Information Network (ODIN) for the WESTPAC region took place online on October 28th 2021



EMOD-PACE CEMDnet Public Webinar - Ocean Decade Satellite Activity, Expanding Ocean data interoperability between Europe and Asia on 11 May 2022



Open workshop- Improving FAIRness of European and Asian marine data and data products for regional and global on 22 November 2022

1 Collaboration Background

Milestones



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The 2nd EU-CHINA Blue Partnership Forum for the Oceans



The first offline meeting between EMODPACE and CEMDnet colleagues.



EMODnet & NMDIS participate in the Blue Economy Session and Panel Discussion

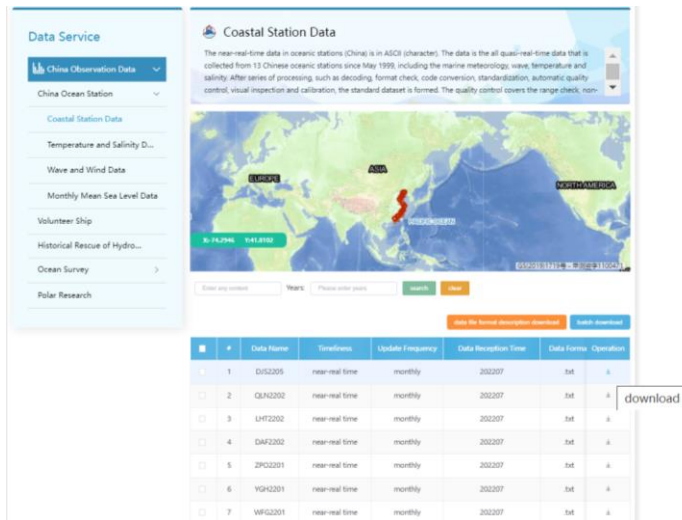
2 Main Achievements

WP1-2: China-EU Marine Data Interoperation

- 5520 Interoperability datasets use ERDDAP and SWAGGER services

Past

- manual retrieval
- manual download



Now

- Easier to find
- interoperable
- machine to machine

ERDDAP > List of All Datasets

37 matching datasets, listed in alphabetical order:

Grid DAP Data	Sub-set	Table Data	Make Data	W A	M S	Source Files	Title	Summary	FGDC, ISO, Metadata	Background Info	RSS	E mail	Institution	Dataset ID
							* The List of All Active Datasets in this ERDDAP *						chinese ocean	allDatasets
data		graph	M			files	BATM_NMDis_2020_Jinli_Seamount		F I M	background			NMDis	BATM_NMDis_2020_Jinli_Seamount
data		graph	M			files	BATM_NMDis_2020_Mingliao_Ridge		F I M	background			NMDis	BATM_NMDis_2020_Mingliao_Ridge
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WP3: Comparison of European and Chinese models for regional sea reanalysis

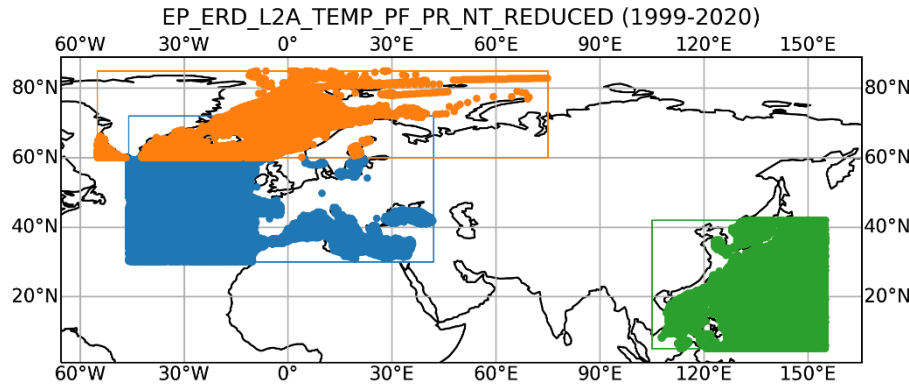
1 sets of Data review and observation dataset for validation

5 sets of standard reanalysis grid data products in 3 sea areas

4 review reports

2 inter-comparison reports on regional ocean models and reanalysis

1 observation dataset for validation



5 gridded reanalysis datasets

Northeast Atlantic & European Seas

20190101_m-NMDS--ASLV-CORAv2.0-NEA_re-sv01.00.nc

20190101_m-NMDS--PSAL-CORAv2.0-NEA_re-sv01.00.nc

20190101_m-NMDS--RFVL-CORAv2.0-NEA_re-sv01.00.nc

GIN Seas and Barents Sea

20190101_m-NMDS--TEMP-CORAv2.0-NEA_re-sv01.00.nc

20190201_m-NMDS--ASLV-CORAv2.0-NEA_re-sv01.00.nc

Northeast Pacific

20190201_m-NMDS--PSAL-CORAv2.0-NEA_re-sv01.00.nc

20190201_m-NMDS--RFVL-CORAv2.0-NEA_re-sv01.00.nc

20190201_m-NMDS--TEMP-CORAv2.0-NEA_re-sv01.00.nc

2 reviews and 4 inter-comparison reports

D3.3 – Final draft report on inter-comparison and analysis on European and China coastal model product and reanalysis

Work Package: WP3 – Comparison of European and Chinese reanalysis products

Lead Partners: DMI, CMCC and NMDIS

Lead Author (Org): J. She (DMI), R. Lecci (CMCC), X. Wu (NMDIS)

Contributing Author(s): N. Pinardi, S. Masina, S. Causio, A. Cipollone (CMCC), M. Verlaan, J. Veenstra (Deltares), J. Murawski and J. Su (DMI), T. Zhang, S. Wu, G. Chao, H. Fu, Z. Yang, J. Zhang (NMDIS)

Reviewers: [List of names]

Due Date: 26.08.2022, Month 30

D3.2 analysis

Work Package: [Details]

Lead Partners: [Details]

Lead Author: [Details]

Contributing: [Details]

Reviewer: [Details]

Date: [Details]

Version: [Details]

Review

Work Package: [Details]

Lead Partners: [Details]

Lead Author: [Details]

Contributing: [Details]

Reviewer: [Details]

Date: [Details]

Version: [Details]

Reviewer	Jun She, Antonio Novellino, Rita Lecci
Date	19.02.2021, Month 12
Version	V1

WP4: Comparison of European and Chinese models for seabed habitat and ecosystem vulnerability



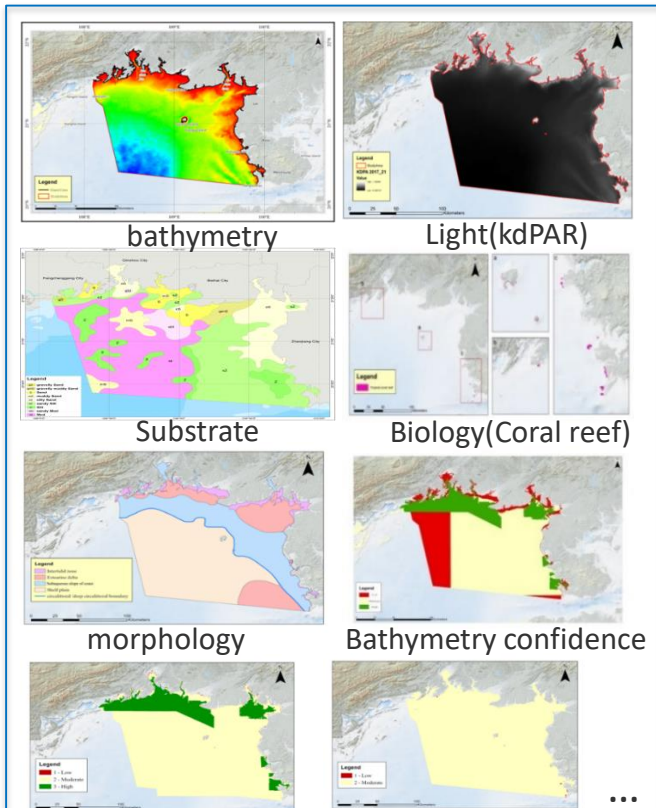
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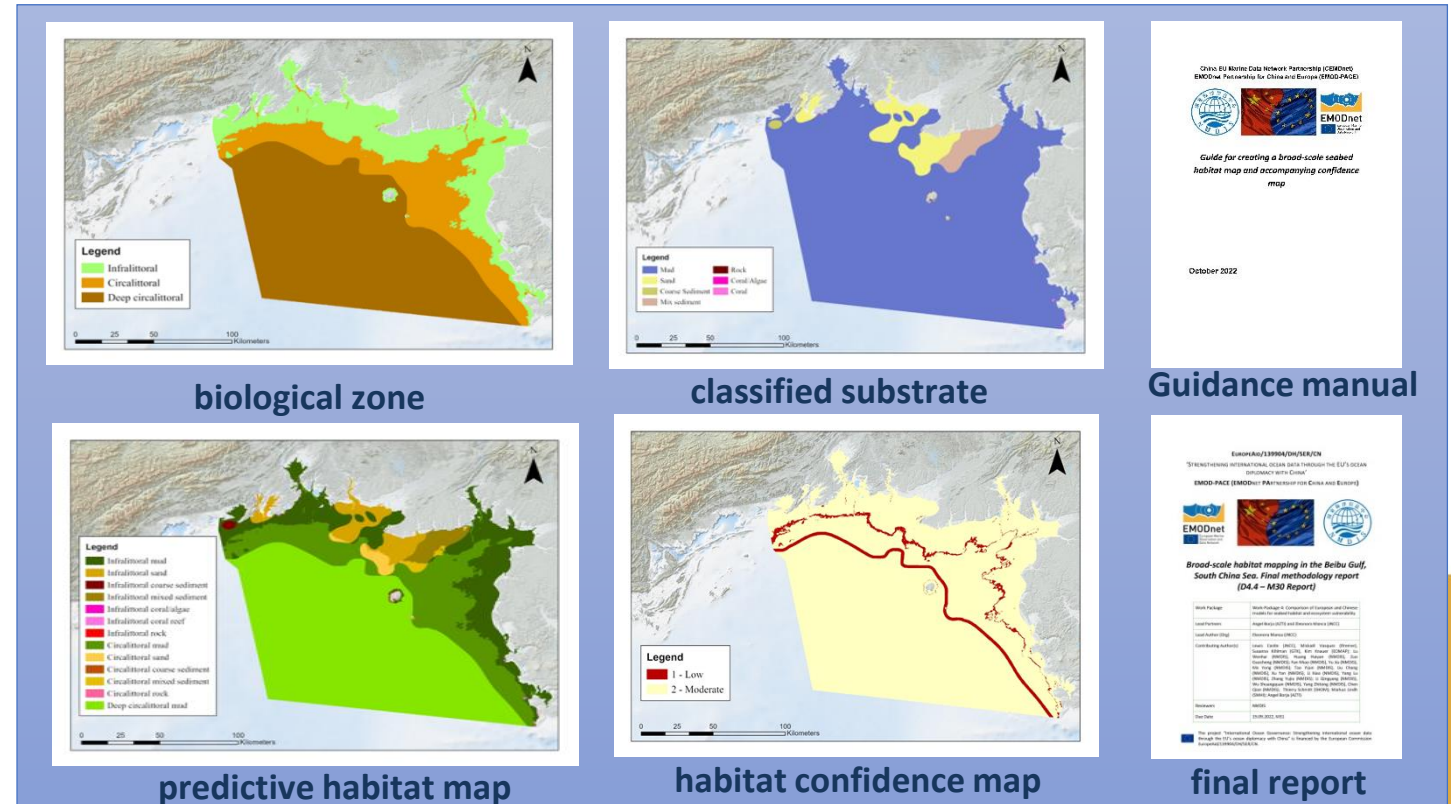
WP4.1 achievements on habitat mapping

- **Guidelines** : Guide for creating a broad-scale seabed habitat map and accompanying confidence map (NMDIS lead)
- **Maps**: the first broad-scale habitat map and 14 individual layers (NMDIS lead)
- **Final joint report**: Broad-scale habitat map in the Beibu Gulf, South China Sea (EU partners lead)



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Data collation and processing



Guidance manual

The final deliverable

WP4: Comparison of European and Chinese models for seabed habitat and ecosystem vulnerability



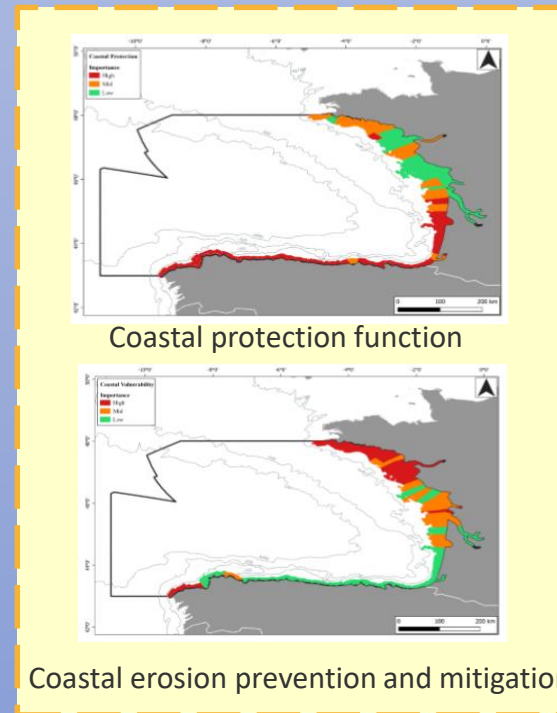
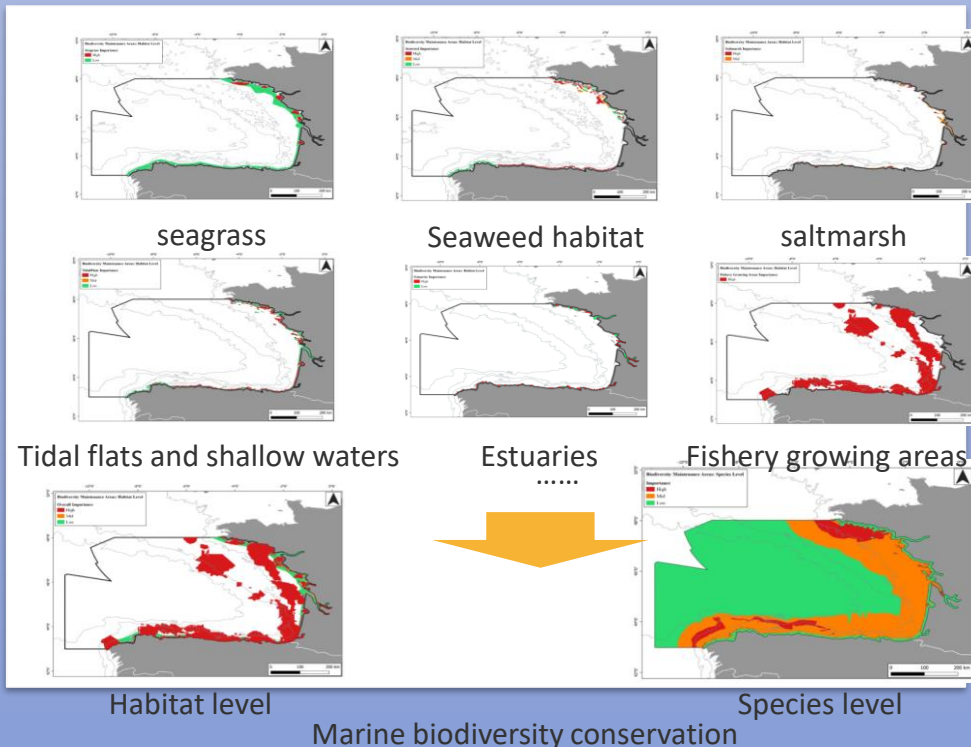
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WP4.2 achievements on ECC

- **Guidelines:** Guidelines on the evaluation of marine ecological protection importance (NMDIS lead)
- **Open Access publication:** Applying the China's marine resource-environment carrying capacity and spatial development suitability approach to the Bay of Biscay (North-East Atlantic)(EU partners lead)
- **Final joint report:** Marine Resource Environment Carrying Capacity and Spatial Development Suitability approach application to Europe, showing the Bay of Biscay as an example



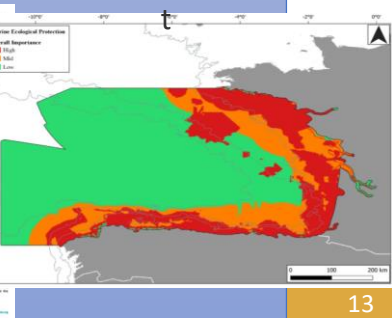
Guideline



Report



Publication



evaluation result

WP5 Coastal Adaptation



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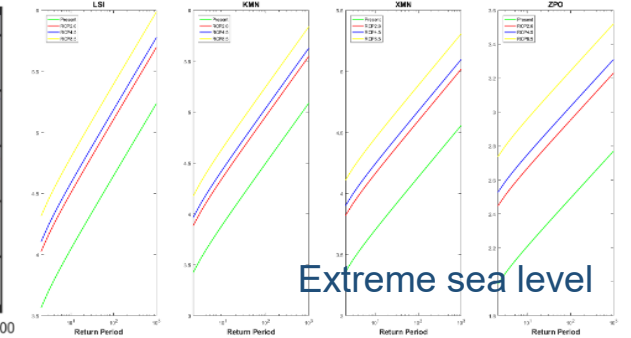
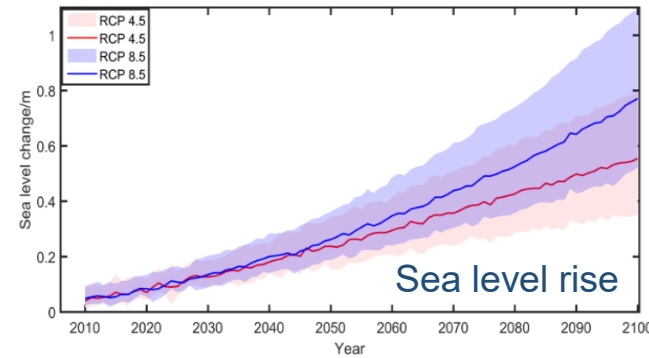
5.1 Relative/absolute sea level change

5.2 Coastal erosion

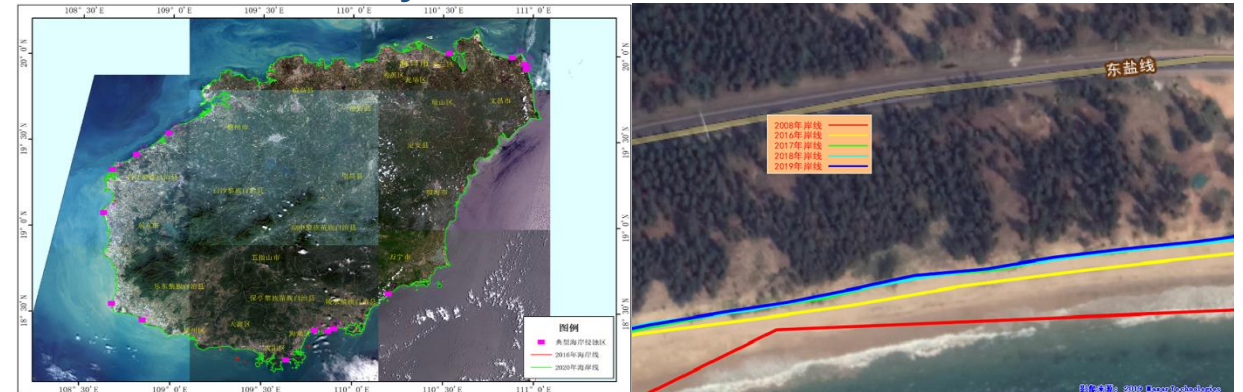
5.3 Wetland degradation



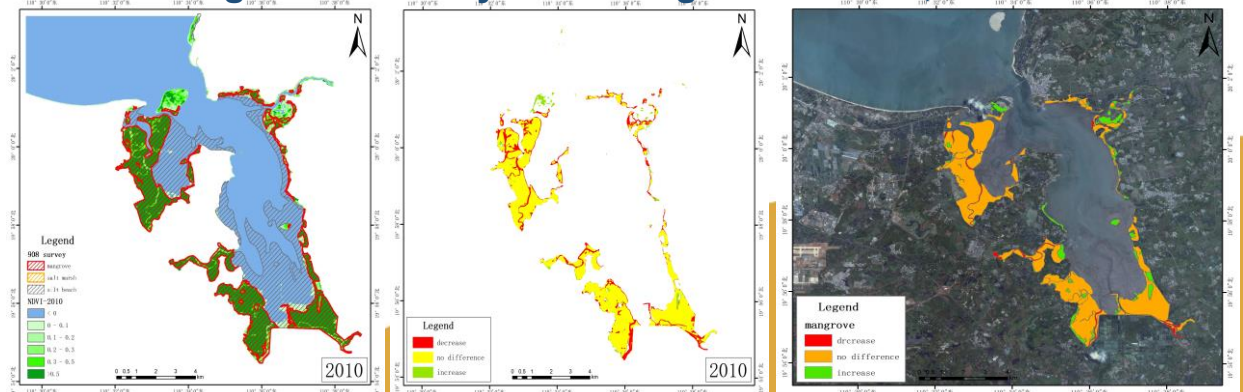
Area of interest [lat 7° S~45° N, lon 30° E~130° E]



Coastal erosion analysis on Hainan Island



Wetland degradation analysis at Dongzhai Harbour, Hainan Island



Regional assessment of coastal hazards connected to sea level rise
The China – Europe sea route

ASSESSMENT OF COASTAL HAZARDS CONNECTED TO SEA LEVEL RISE

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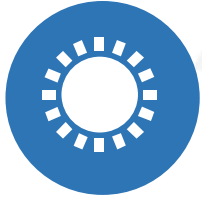
3 Future Envision



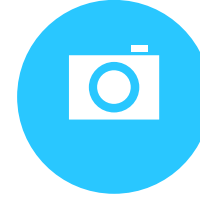
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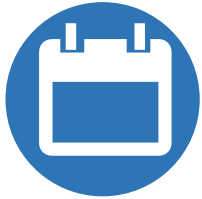
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**Implement the Roadmap,
Renew the MoU, continue to be
best practice of China-EU Blue
Partnership for the ocean**



**Jointly develop international
standards on marine data
interoperation, habitat
mapping...**



**Join hands with other projects
and activities to promote data
management and sharing for
the UN Decade**



**Maintain and improve data
interoperation mechanism
between China and the EU**



**Develop new datasets and
refresh marine knowledge**



**Expand data cooperation to
wider areas in Asia and EU**

Powering the European Marine Data Ecosystem

For a digital and green future



Thank you for your attention

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