



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

European Marine Observation and Data Network Partnership for China and Europe (EMOD-PACE)

China-European Union Marine Data Network Partnership (CEMDnet)

中国-欧盟海洋数据网络伙伴关系 - 中国-欧盟海洋数据网络伙伴关系

Strengthening International Ocean Data through the European Union's Ocean Diplomacy with China

EMODnet Steering Committee Meeting 8-9 September 2021

Contact details: eu-chinapco@emodnet.eu



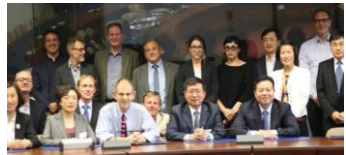
The project "International Ocean Governance: Strengthening international ocean data through the EU's ocean diplomacy with China" is financed by the European Commission EuropeAid/139904/DH/SER/CN.



- 1** | **How we met?**
- 2** | **What we want to achieve?**
- 3** | **Where are we now?**
- 4** | **What's on the horizon?**



EU China Blue Year Event - forecasting, data, monitoring, planning, indicators



June 2017



July 2018



China and EU signed a Blue Partnership for the Ocean

EU delegation visited NMDIS



September 2018



February 2020

EMOD-PACE, (EMODnet Partnership for China and Europe) A European project funded by the Partnership Funding Instrument (PI) and managed by the Unit FPI.4 called Industrialized Countries & Foreign Policy Support (€3.5million, 30 months)

EMOD-PACE, CEMDnet Mid-term meeting and MoU between EMODnet and NMDIS

January 2021



October 2021

1. EMOD-PACE CEMDnet WP1 and WP2 meeting
2. EMOD-PACE CEMDnet IODE and ODIN WESTPAC meeting
3. Project Management Board meeting

Meetings for the preparation of EMOD-PACE next milestones and deliverables in all work-packages

Nov/Dec 2021



Feb/March 2022
Proposed online Consortium meeting to summarise Progress towards completion of all contractual outputs and outcomes as well as agreed joint activity items.

Proposed consortium in-situ final meeting in Brussels

August 2022





EMODPACE-CEMDNET Objectives

Facilitate European and Chinese engineers and scientists to build up a picture of the marine environment using data from both sources.

Promote international ocean governance and support the implementation of global commitments by making ocean marine data and data products more easily accessible and by providing better data and data products.



EMOD-PACE Work Packages

Work Package 0 - Project Coordination, Management and Communication

Work Package 1 - EU-China Web Portal, creation of interoperable information system linking EMODnet & NMDIS

Work Package 2 - Establishing data interoperability between EMODnet and NMDIS

Work Package 3 - Comparison of European and Chinese models for regional sea reanalysis

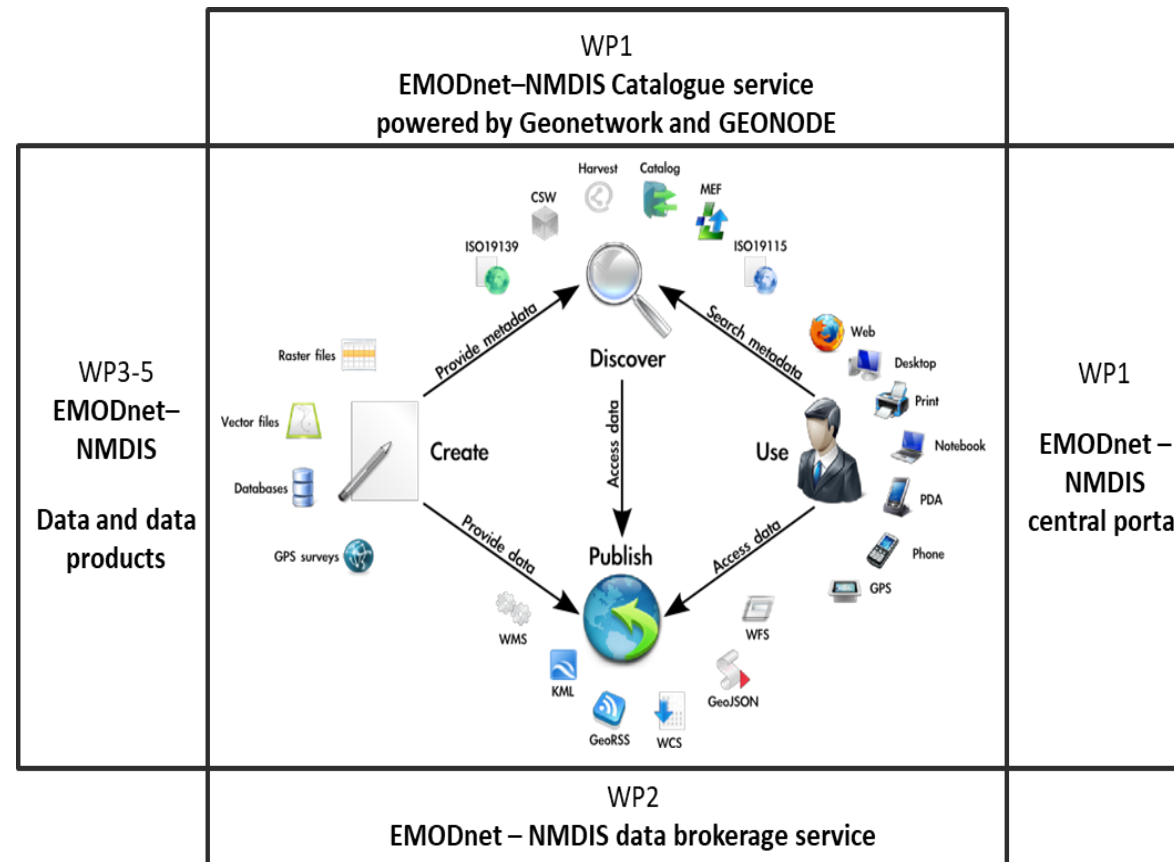
Work Package 4 - Comparison of European and Chinese models for seabed habitat and ecosystem vulnerability

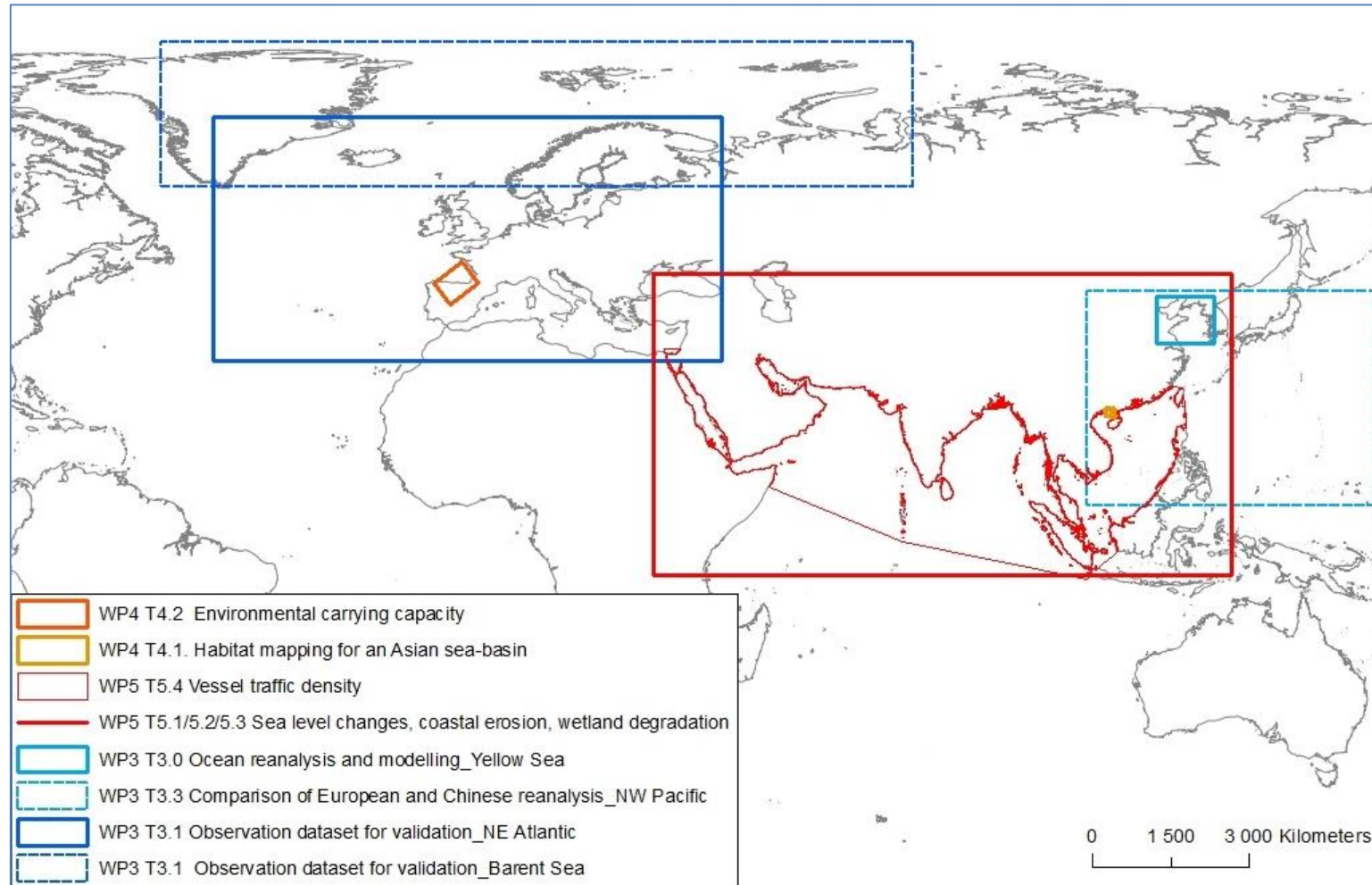
Work Package 5 - Coastal Adaptation

- Relative sea level changes & Absolute sea level changes
- Coastal erosion
- Wetland degradation
- Vessel traffic density



How we have been achieving EMOD-PACE CEMDnet common objectives





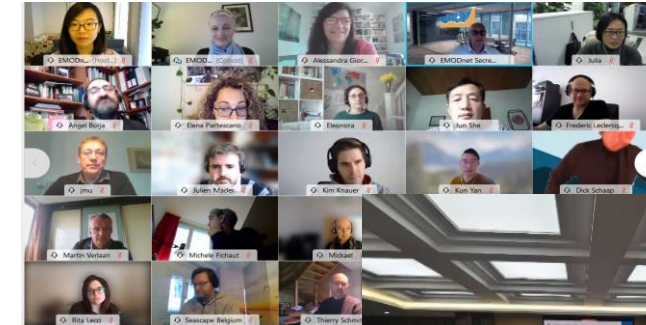
Areas of Interest for the EMOD-PACE CEMDnet Collaboration for Work-Packages 3,4, & 5



Summary Current Status

The consortium has achieved all milestones in the first year on time, and are advancing with progress towards the next milestones, which include:

- Enhancing communication bilaterally (M6);
- Delivery of a [web-portal](#) for the project (M6);
- Release of the **EMOD-PACE online map-viewer, including the creation of initial draft layers** (M12);
- **Delivery of the initial summary reports on the choice of sea-basins** in each region (M12).
- In addition, through the good will established, EMODnet Secretariat and NMDIS have signed a **Memorandum of Understanding** which has provided a working basis to develop joint activity items which support the main contractual deliverables of EMOD-PACE and in so doing, reinforce the cooperation for making available data accessible in the European and Asia Region.
- **Common Work Plans** agreed with NMDIS & Implementation of **Joint Activities** well underway for substantive Work Packages 3, 4, 5
- Maintaining the **Geographic Information System (GIS)**, to act as a visual reference and data cataloguing tool.
- Establishing an **appropriate approach to include Asia wide stakeholders.**



Signing of the Memorandum of Understanding between EMODnet & NMDIS



Mr. XIANG Wenxi, Deputy DG of NMDIS signing the MoU.



Mr. Jan-Bart CALEWAERT, Head of the EMODnet Secretariat signing the MoU.

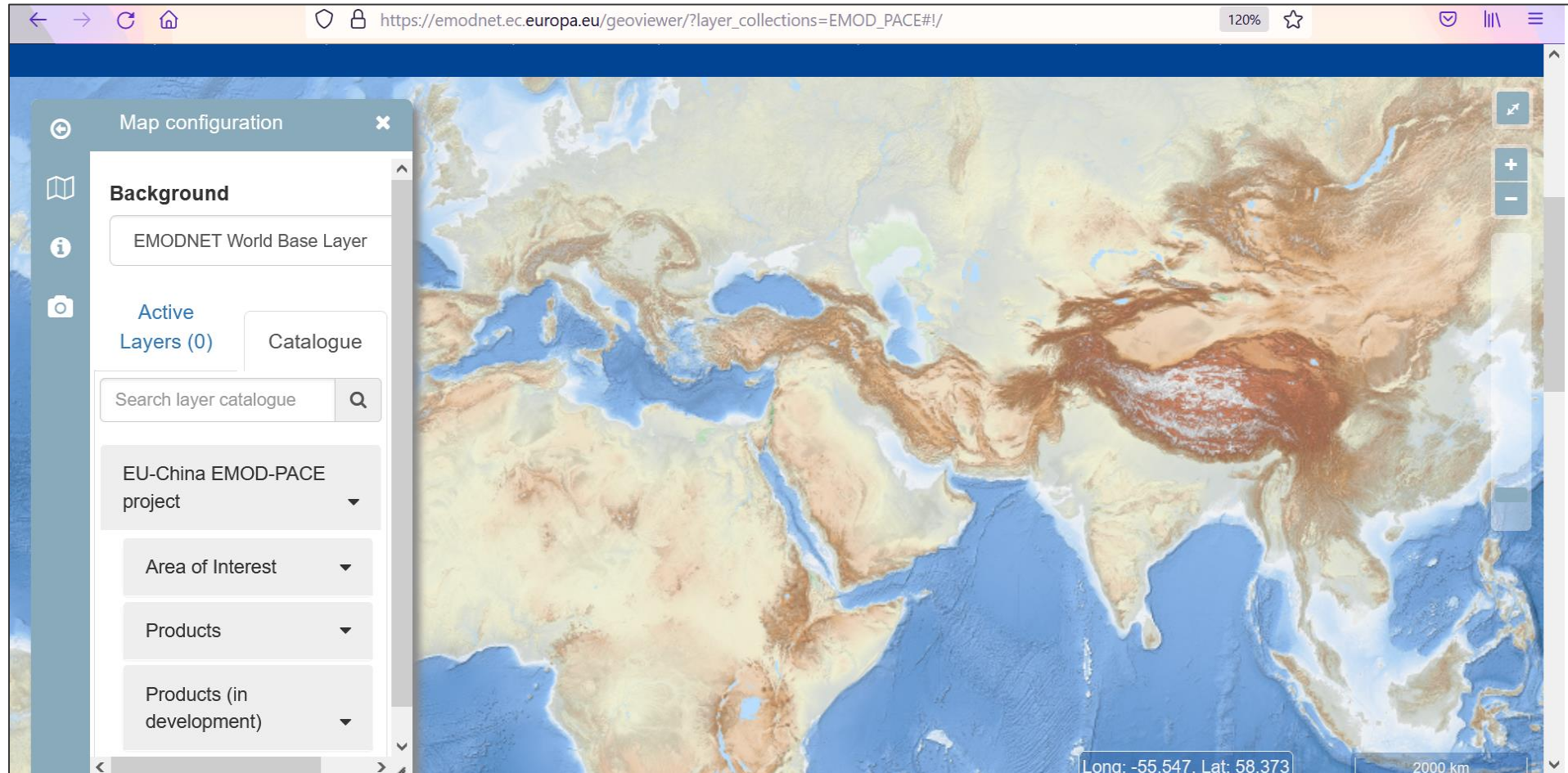


Deliverable	Deliverable description	Due date (Month/M)
D0.1	Inception meeting minutes: Short minutes and actions from the inception meeting	M2
D0.2	Interim report 1: project status after 1 year	M12
D0.3	Interim report 2: project status after 2 years	M24
D0.4	Draft Final report	M29
D0.5	Final report	M30
D0.6a/0.6b/0.6c	Minutes of inception, mid-term, final meeting	M2, M11, M30
D0.7a/0.7b/0.7c	Minutes of Steering Committee meetings (3 meetings foreseen, provisional timings included, for Steering Committee validation)	M1, M12, M24
D0.8	Report on the Performance Monitoring System Methodology and Approach	M2
D0.9a-i	Three-monthly performance monitoring summary reports using performance indicators	M6, 9, 12, 15, 18, 21, 24, 27, 30
D0.10	Short (6 pages maximum) communication and dissemination plan	M3
D0.11	Leaflet (bilingual in English and Chinese) on project communicating key objectives, partnership	M14
D1.0	Minutes from the WP1 and WP2 meeting for European and Chinese counterparts held in M19	M20
D3.1	Short report on choice of sea-basins and models made, including a list of data made available	M12
D3.2	Draft report on comparison between reanalyses (i.e. draft report on interEU-China coastal model product inter-comparison and analysis and EU-China reanalysis product inter-comparison and analysis (DMI and CMCC)	M24
D3.3	Final report on comparison between reanalyses (i.e. final report on inter-comparison EU-China coastal model product (DMI and CMCC)	M30
D4.1	Short summary report summarizing choice of test areas, identification of data requirements and list of required data and data already gathered	M12
D4.2	Draft report describing the mapping method and the suitability of EUNIS approach to China, showing a single sea basin as an example	M24
D4.3	Draft report on the suitability of ECC approach to Europe, showing the Bay of Biscay as an example and eventually another European basin	M24
D4.4	Final report describing the mapping method and the suitability of EUNIS approach to China, showing a single sea basin as an example	M30
D4.5	Final report on the suitability of ECC approach to Europe, showing the Bay of Biscay as an example and eventually another European basin	M30
D5.1	Online discussion paper on the translation of mapped coastal behaviour into mapped coastal resilience, an applied data product with clear added value because it can be used in decision making	M30

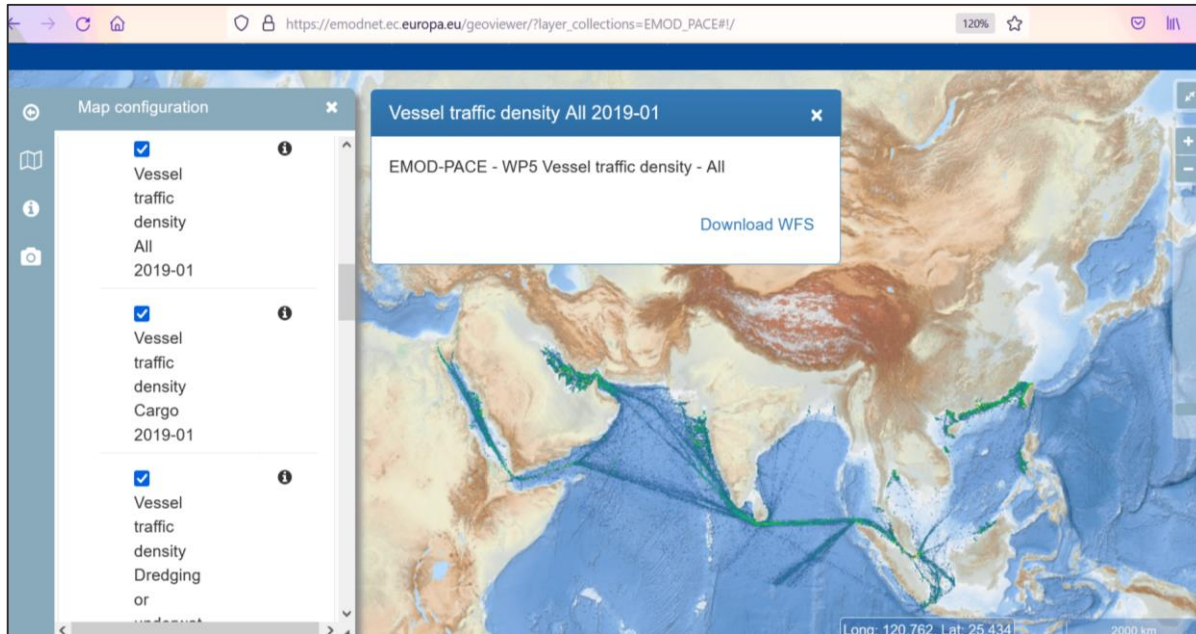
Joint activity	Activities	Internal deliverable (Deadline, tentative)
JA3 1.1	Data review: Availability of observations for validation of regional sea reanalysis	31 Oct. 2020, report (can be combined with JA3 8)
JA3 1.2	Review of reanalysis evaluation in regional seas	31 Oct. 2020, report
JA3 1.3	Review of data assimilation method	31 Oct. 2020, report
JA3 1.4	Review of Coast Ocean models	31 Oct. 2020, report
JA3 8	WP3.1 Common observation dataset for model validation	31 Dec. 2020, dataset & report
JA3 9	WP3.3 Common validation and intercomparison method for reanalysis in the regional sea	31 Dec. 2020, report
JA 4.1.1	Literature review	19th January 2021
JA 4.1.2	Data collation and preparation – depth to the seabed	19th January 2021, Datasets inventory; 19th June 2021, Data layer delivery
JA 4.1.3	Data collation and preparation – seabed substrate	19th January 2021, Datasets inventory; 19th June 2021, Substrate layer
JA 4.1.4	Data collation and preparation – optical properties	19th January 2021, PAR/Kdpar deliverable; 19th June 2021, PAR at seabed
JA 4.1.5	Data collation and preparation – biological observations and other explanatory variables	19th January 2021, Datasets inventory; 19th June 2021, data collation delivery
JA 4.1.6	M12 reporting	19th February 2021
JA 4.2.1	Literature review	January 2021
JA 4.2.2	ECC method selection	January 2021
JA5.2	Review of existing knowledge for relative and absolute sea level rise in the Aol	30th April 2021
JA5.3	Consolidated list of tide gauge stations and application of trend extraction with alternative methods	30th January 2021
JA5.4	Consolidated list of model/reanalysis/projection data sets	30th November 2020
JA5.6	Decision of the Aol on the basis of regions with different coastal types, in combination with data availability/literature	30th November 2020
JA5.8	Generation of mapping products and indicators derived from Earth Observation data in order to analyse the coastal erosion and wetland degradation trends in the Aols	30th April 2021
JA5.9	Grid of the Area of Interest for the vessel density maps	30th October 2020
JA5.10	Vessel density maps	29th October 2021
JA5.11 (Deliverable 5.1 from proposal)	Online discussion paper on the translation of mapped coastal behaviour into mapped coastal resilience	31th July 2022

EMOD-PACE Main Deliverables *Deliverables received and submitted by PCO are in **GREEN BOLD**

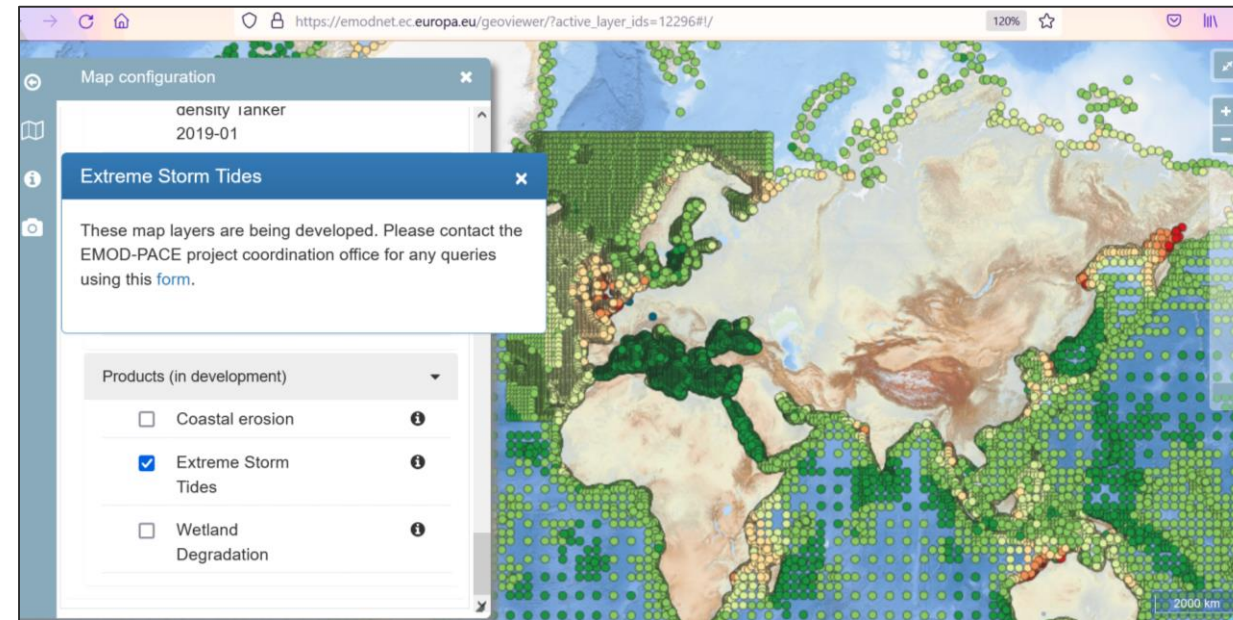
EMOD-PACE Joint Activities *Reports received by PCO are in **RED BOLD**



Screenshot example of the EMOD-PACE project [map viewer](#)



EU-China EMOD-PACE Vessel Traffic Density Map for January 2019 for the following: Cargo, dredging or underwater operations, fishing, high-speed craft, military and law enforcement, other



Products (under development include the coastal erosion, extreme storm tides (seen here) and wetland degradation) for the EU-China EMOD-PACE 'Maritime Silk Route Seas'



Coming soon – more new map layers, analyses reports and brokerage technology.

- 1. Making available via the portal updated & new map layers comprised of EMODnet and NMDIS datasets on**
 - absolute sea level changes,
 - satellite-based coastal erosion,
 - relative sea level change,
 - wetland degradation,
 - maritime traffic routes,
 - vessel density and low-carbon routes.
- 2. Brokerage Technology** to link EMODnet and NMDIS data repositories for access to catalogues and available data and data products will also be developed.
- 3. All supporting technical reports** describing mapping methodologies, comparison of the suitability and applicability of EU-China models as well as online **discussion papers**.



European Marine Observation and Data Network (EMODnet)

About ▾ Data Portals ▾ Data Services ▾ Solutions ▾ News & Events ▾ Atlas of the Seas ▾ EU-China ▾

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- English
- 简体中文

Contact EMOD-PACE

Email 邮件



Send EMOD-PACE user feedback 提交用户反馈

Project '[Contact Us](#)' link which will track any queries in JIRA

Project Leaflet



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EMOD-PACE
EMODnet Partnership for China and Europe
欧洲海洋观测与数据网络中欧伙伴关系

China-EU Marine Data Network Partnership
中国-欧盟海洋数据网络伙伴关系

CEMDnet

Europe and China working together to share marine knowledge, promote international ocean governance and support the implementation of global commitments through closer collaboration.
EMOD-PACE is supported by the European Commission's Partnership Instrument.
中欧合作分享海洋知识, 促进国际海洋治理, 并通过更紧密的合作来支持履行全球承诺。

<https://emodnet.ec.europa.eu/en/emod-pace>

EMOD-PACE: A collaborative ocean initiative

Following high-level meetings during the EU-China Blue Year 2017, the EU and China signed a 'Blue Partnership for the Ocean' on the 14th of July 2018, which marked the beginning of a new phase of strategic EU-China ocean relations.

A major outcome of this Partnership is EMOD-PACE (the EMODnet Partnership for China and Europe), a collaborative project focused on marine knowledge exchange and diplomacy, supported by the EC's financial Partnership Instrument.

Sharing ocean knowledge and expertise for better ocean governance

EMOD-PACE will promote international ocean governance and support the implementation of the EU and China's global commitments by sharing and facilitating access to marine observation data and expert knowledge, developing new information products and by establishing a close working relationship between the National Marine Data and Information Service of China (NMDIS) and the European Marine Observation and Data Network (EMODnet).

This collaborative partnership was consolidated by the signing of a memorandum of understanding between EMODnet and NMDIS in January 2021.




EMOD-PACE: 一个共同努力的海洋倡议

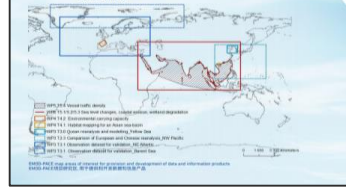
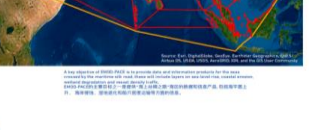
继2017年“中欧蓝色年”高级别会议之后, 中国和欧盟于2018年7月14日签署了“蓝色伙伴关系宣言”, 标志着中欧海洋伙伴关系进入新阶段。

该伙伴关系的主要成果是EMOD-PACE(即欧洲海洋观测与数据网络中欧伙伴关系), 这是一个由欧盟委员会资助并由伙伴关系支持工具支持的合作项目, 致力于海洋知识交流和能力建设。

EMOD-PACE: a shared vision to advance marine knowledge

The EU and China have both similar and different practices in ocean governance, data sharing and management. EMOD-PACE is working to exchange the use of internationally agreed standards for marine data, both by the public and private sectors, and to facilitate best practices for sharing of marine data and information. It will also promote the sharing of R&D know-how. Specifically, this unique collaboration to advance data sharing and access will:

- Facilitate bilateral access to data and products currently available in European and Chinese marine data portals (EMODnet and NMDIS) as well as those developed during the project.
- Create interoperable marine data information systems between the EU and China.
- Develop a Brokerage Service for Access to available data and data products between EMODnet and NMDIS.
- Examine similarities and differences between European and Chinese ocean circulation models and reanalysis products.
- Compare European and Chinese numerical models used for seabed habitats and ecological carrying capacity by analysing the applicability of the respective models in different areas.
- Deliver data and information products for the 'Maritime Silk Road' seas on sea level changes, coastal erosion, wetland degradation and vessel traffic density.



Find out more about EMOD-PACE and our Maritime Silk Road seas

EMOD-PACE highlights the EU and China's belief that by working together and learning from each other we will advance our knowledge of our seas and shared ocean, enabling more effective protection and sustainable management of our global ocean.

Coming soon: new map layers, analyses reports and brokerage technology!

EMOD-PACE outputs will be made available over the course of the project. These include:

- Updated map layers and existing new layers on absolute sea level changes, satellite-based coastal erosion, relative sea level change, wetland degradation, maritime traffic routes, vessel density and low-carbon routes.
- Brokerage Technology to link EMODnet and NMDIS data repositories for access to catalogues and available data and data products.
- Technical reports describing mapping methodologies, comparing the suitability of approaches used by the EU and China for seabed habitat mapping and ecological carrying capacity, as well as validation of modelling techniques and online discussion papers.

These can all be accessed via the EMOD-PACE portal and mapviewer at <https://emodnet.ec.europa.eu/en/emod-pace>

了解有关EMOD-PACE和“海上丝绸之路”的信息

EMOD-PACE强调了中国和欧盟的信念, 即通过共同努力, 相互学习, 得以继续对海洋的了解, 从而为全球海洋提供更好的保护和可持续管理。

即将推出: 新的地图图层, 分析报告和数据代理技术

EMOD-PACE项目的成果包括:

- 更新地图图层, 发布新数据, 涵盖海洋海平面变化, 基于卫星数据的海岸线侵蚀, 相对海平面变化, 湿地退化, 海上交通路线, 船只密度和低碳航线。
- 开发数据代理技术, 通过链接EMODnet和NMDIS数据仓库实现互操作性, 以便访问目录和可用数据和数据产品。
- 技术报告描述制图方法, 比较欧盟和中国用于海底栖息地制图和生态承载力评估的方法, 以及验证建模技术和在线讨论文件的发布。

上述成果可以通过EMOD-PACE门户网站和地图浏览器访问。
<https://emodnet.ec.europa.eu/en/emod-pace>



For related news, outputs and activities, please visit:

- EMOD-PACE information, news and map-viewer with new and updated layers
<https://emodnet.ec.europa.eu/en/emod-pace>
- EMODnet China web portal managed by NMDIS, JOC Centre for Marine Meteorological and Oceanographic Climate Data, Tianjin, China
<http://www.cimdc.cn/>
- European Marine Observation and Data Network (EMODnet) Central Web Portal
<https://emodnet.ec.europa.eu/>
- National Marine Data and Information Service, China (NMDIS)
<http://www.nmdis.org.cn/>



更多相关新闻、成果和活动信息, 请访问:

- EMOD-PACE信息、新闻和地图浏览器
<https://emodnet.ec.europa.eu/en/emod-pace>
- EMODnet中国门户网站由NMDIS、JOC中心海洋气象和海洋气候数据天津, 中国管理
<http://www.cimdc.cn/>
- 欧洲海洋观测与数据网络(EMODnet)中央门户网站
<https://emodnet.ec.europa.eu/>
- 中国国家海洋信息中心(NMDIS)门户网站
<http://www.nmdis.org.cn/>

The EMOD-PACE project has 18 partners and is coordinated by Seascope Belgium. It began on 19th February 2020 and will run until 19th August 2022.

EMOD-PACE项目共有18个合作伙伴, 由Seascope Belgium统筹协调。该项目自2020年2月19日启动, 将于2022年8月19日结束。



For more information contact us / 请联系我们获取更多信息
<https://emodnet.ec.europa.eu/en/emod-pace/contact-emod-pace>



EMOD-PACE项目由欧盟委员会资助, 并由欧盟委员会伙伴关系支持工具支持。该项目由欧洲联盟和中华人民共和国共同资助。该项目由欧洲联盟和中华人民共和国共同资助。该项目由欧洲联盟和中华人民共和国共同资助。



Next Steps

- Continue to undertake the agreed activities as outlined in the workplan, but
 - Extended with **Common Work Plans for the substantive Work Packages 3-5**, using the AGILE approach
 - Maintaining a **'flexible adaptive' schedule** of consecutive remote workshops and physical meetings to monitor and fine-tune the progress and address any difficulties that may arise until a physical meeting is possible.
- Maintaining and where needed increase interactions, connections and collaboration between NDMIS and EMODPACE colleagues, to
 - Increase the pace of **concrete steps for further development and implementation** of the extended work plan during the coming stage, working towards an online meeting in Dec 21/Jan 2022 with a potential in-situ final meeting in Brussels in August 2022.
 - Work-Packages 1 and 2 Meeting 11-13 October with EMOD-PACE and CEMDnet which will be critical to advance the **development of interoperability solutions for discovery and access of data and data product**; to ensure that the brokerage will meet the needs of both sides; and to ensure the transformation of full datasets was successful.
- Team up with interested stakeholders to extend the collaboration to the wider region through ODIN WESTPAC with the support of UNESCO IODE.

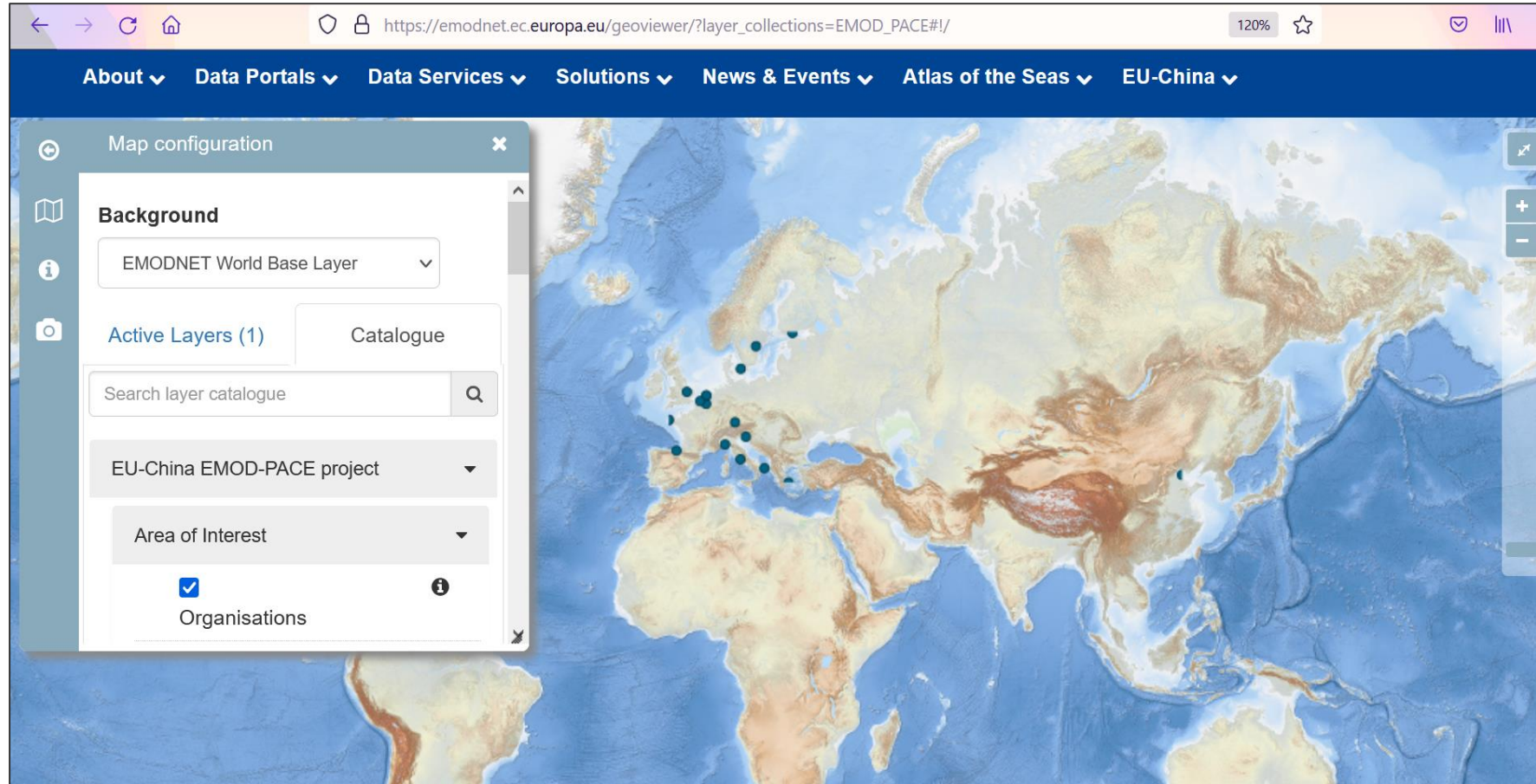


Illustration of EMOD-PACE CEMDnet Organisations September 2021



Technology Updates (WP2): Establishing data interoperability between EMODnet and NMDIS Final Year: Planned Progress

- A series of WP2 collaborative thematic data meetings took place to monitor, discuss and advance progress for the development and implementation of the EMODnet – NMDIS data brokerage service and physics NRT data exchange.
- The target number for parameters to be covered with interoperable data made available is 20, with sample data being already provided for 10 parameters so far. NMDIS is working on transformation of its datasets to increase the number of parameters. As a next step, it was agreed that NMDIS would share the following data sets as part of EMOD-PACE WP2:

Chemistry: Chemical data of China ocean surveys from 2008 to 2017:

- analysis and test data of marine chemical samples, including
- pH,
- nutrients,
- dissolved oxygen,
- alkanes,
- alcohols and other elements.

Biology: Biological data of China ocean surveys from 2001 to 2017:

biological sample analysis data from observation site, including

- chlorophyll,
- benthos,
- plankton and other elements.

Bathymetry: Submarine topographic data of China Ocean Survey by multi-beam bathymetry surveys for scientific interesting areas made on scientific ocean cruises from 1998 to 2017;

Physics: Operational NRT data from national monitoring activities, and archived oceanographic data sets from scientific ocean surveys.

Key Challenges & Opportunities Ahead



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- **Identification of data/product gaps and resolution if possible** in each work package.
- To **determine ‘work-around’ solutions where-ever data itself cannot be made openly accessible.**
- **Effective Communication** in English and Chinese.
- **Determining the ultimate added-value brokerage functionalities** and their implementation between EMOD-PACE and CEMDnet (delivery at M24 (mid February 2022 – MS1-2.3))
- **Establishing the connection to NMDIS web-services** will be accessible to EMOD-PACE in Q4 2021
- **Establishing whether the brokerage be a sustainable choice** for the project efforts, i.e., will it be open source or proprietary software?
- **Connect with more maritime industry groups** to ensure there is easy and effective uptake of the EMOD-PACE data products by the maritime sector.
- **Optimize the full potential of the MoU, by using it to broaden the collaboration in the Asia Region.** Task 1.3, i.e., to ‘Extend the web portal to allow users to discover and view data held by Asian data centres, not yet included in NMDIS, with common formats’.

Thank You – Xie Xie



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EMODnet
European Marine Observation and Data Network

EMOD-PACE

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- CMOC/China web portal executed by WMO_IOC Centre for Marine Meteorological and Oceanographic Climate Data, Tianjin, China
<http://www.cmoc-china.cn/>
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- CMOC/China门户网站(由WMO-IOC全球海洋和海洋气候资料中心中国中心运行)
<http://www.cmoc-china.cn/>
- 欧洲海洋观测与数据网络, (EMODnet)中央门户网站
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