



## Report Mid-Term Meeting

19/09/2022

### JPI Climate & JPI Oceans Projects on Next Generation Climate Science in Europe for Oceans

#### **Welcome and introduction**

The meeting started with introductions from Anne-Hélène Prieur-Richard (ANR Head of Department), Thorsten Kiefer (Executive Director JPI Oceans) and Petra Manderscheid (Executive Director JPI Climate)

#### **Achievements, impact and next steps**

All project presentations can be consulted at the following link:

<https://partage.agencerecherche.fr/anrupload/www/?a=d&i=SjR09PjVjt>

#### **Thematic roundtables**

##### Panel 1: Overarching scientific outcomes

##### Scaling issues

1. How small-scale observations could be used to improve climate models?
2. How does your project help providing coastal or ecosystem services?
3. What are the research gaps to overcome next in climate science?

Small-scale observations are useful for comparison with the high-resolution models, for upscaling the effects of the small-scale processes and to improve the model parametrization (machine learning). Small-scale observations are used to detect the variability of the ocean. They help demonstrate that the performance of the model improves when resolution increases. Thus, improving resolution is key for representing the exo-physical processes. The needed resolution depends on the context but for some processes that scale is not reachable. Small-scale observations are useful for statistics and comparison of parametrisations. They are expensive but important to have a holistic view of the ocean-atmosphere interactions. Both horizontal and vertical resolutions are needed. High-resolution observations are important to understand processes and then try to model them. Building statistical and empirical laws and parameters is the easiest way to implement larger models. Then the results of the models must be compared with satellite observations. The question of the predictability of the model was also raised. Even if the model actually represents well the observed processes, it doesn't mean that its predictability is guaranteed in the future.

The central objective of CE2COAST project is to determine the pressure on ecosystem services. It is difficult to integrate in the same model the different pressures (climate, human pressure...) which act on the system. The project will help maintain ecosystem services and promote their development in a sustainable way. Interactions with stakeholders were organized to understand the priority coastal applications with the objective of finding the best way to couple the different models.

High-resolution data is needed for the ecological aspects (ie algae, mussels). At the moment, models are giving projections or tendencies but not predictions

More information is needed on integration, statistic processes, integration between different models.

Funding is missing to improve knowledge and capacity of ocean-atmosphere interactions. At the moment only research is funded but there is no funding to maintain observations (physics, biogeochemistry, atmosphere/oceans...)

## Panel 2: Enabling impact

### Exchange of best practice along the communication-outreach-impact value chain

1. Who are the possible users of the knowledge created by your project?
2. What are the areas/enablers of the knowledge uptake
3. What is your communication strategy? Challenges? Successes?

Impact is what we do that matters to society. There are two kinds of impact: scientific and social.

#### Scientific impact:

Scientific impact is the creation of new knowledge and its publication for uptake by the science community. Using this knowledge in assessments such as IPCC makes the link with societal impact because by providing evidence, trust in science by society is created.

One of the best ways of creating impact is to share the datasets so that they can be used by anyone. Another way is the promotion of scientific conferences which contributes also to the legacy of the projects.

#### Societal impact:

Research aims at contributing to assessments, like IPCC, and creating trust among the general population. Societal impact is achieved by communication and transfer of knowledge to new generations (ie summer schools). The goal of communication should be to raise interest and curiosity of population towards science.

It is very important to invest into communication with different stakeholders: policy makers, industries, NGO... One of the means to do it is case studies with stakeholders; although it is a heavy procedure, it is productive. Stakeholders have very concrete needs and questions.

One of the barriers to impact is the political agenda. One must be aware of the political agenda to contribute to specific assessments with the adequate outputs. The message to stakeholders must be more concrete and simple compared to scientific presentations.

Another way to make impact is to influence the future policies. One of the tools for influence is issuing policy briefs. They have to use non-scientific language and explain the tailored research with take-home messages on topics relevant to society. JPIs were asked to organise meetings between projects and policy officers (EC, UNFCCC...)

In France, ocean and climate are part of middle and high school programs. More education on how to react in case of extreme events and how to use weather forecasts is needed.

It was suggested to discuss with Copernicus on the interaction between ocean and atmosphere for the services that they provide.

### Panel 3: Discussion on 2nd phase of project lifetime and clustering and collaboration between the projects

1. From what you heard in this meeting, can you see new synergies between your projects? What cross-project synthesis products could add value to your work and field?
2. How can the JPIs support the projects with their communication and outreach plans and/or help you reach relevant audiences?
3. Do you have any other query for the funders and JPIs?

#### Themes of collaboration:

- Extreme event detection/ heatwaves (CE2COAST and ROADMAP)
- Mixed-layer variability (EURECA and MEDLEY)
- Mixed layer depth (MEDLEY and CE2COAST)

#### Means of collaboration:

- Invite stakeholders of CE2COAST project to meetings with all 4 projects.
- Include a section on lessons learned/recommendations on ocean/atmosphere interactions in the final report of the projects.
- Prepare some recommendations on ideal observation design necessary to benefit from the global scale.
- Draft a white paper on research gaps to overcome next in climate science for oceans. Present the project results to the EU officers, European Parliament...

### **Administrative requirements & upcoming events**

Claire Thuillez and Inès Alterio concluded the meeting with information on administrative requirements and upcoming events (see presentation).

It was reminded to always let the JPIs/call secretariat if there is an issue in the project as they can help or take note that there might be a delay.

On the subject of Climate and Ocean, there is the knowledge hub Sea Level Rise, which will hold a conference on 17-18 October: [www.knowledgehubsealevelrise.org](http://www.knowledgehubsealevelrise.org)

It was reminded that the publications listed in the project reports must only include results from the funded project, not publications of each of the labs involved in the project.

The [CE2COAST Winter School](#) is officially accepting applications and is suitable for PhD and postgraduate students, as well as and early career researchers studying any aspects of climate change related to marine systems and with an interest in involving stakeholders in developing outputs from scientific research in marine waters.

If possible, please advertise this Winter School to early career scientists within your networks. Thank you.

CE2COAST Winter School in Lisbon, Portugal 13-17 February 2023 | News and media

The CE2COAST Winter School is now accepting applications from PhD students, postdoctoral and early-stage researchers. It will take place in Lisbon, Portugal 13-17 February 2023. Global change will...

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Annex: List of participants

<b>Name</b>	<b>Surname</b>	<b>Organisation</b>
Juris	Aigars	Latvian Institute of Aquatic Ecology
Sofia	Allende	UCLouvain
Inès	Alterio	ANR
Juergen	Bader	Max-Planck Institute for Meteorology
Alessio	Bellucci	CNR, Italy
Momme	Butenschön	Centro Euro-Mediterraneo sui Cambiamenti Climatici
Michael	Depuydt	JPI Climate
David	Docquier	Royal Meteorological Institute of Belgium
Reik	Donner	Magdeburg-Stendal University of Applied Sciences & PIK Potsdam
Thierry	Fichefet	UCLouvain, Louvain-la-Neuve
Marilaure	Grégoire	Liège University
Riviere	Gwendal	LMD, CNRS
Gabrielle	Hairabedian	Norwegian Institute for Water Research (NIVA)
Maurice	Héral	ANR
Doroteaciro	Iovino	Fondazione centro euro mediterraneo sui cambiamenti climatici
Johannes	Karstensen	GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany
Thorsten	Kiefer	JPI Oceans
Shunya	Koseki	University of Bergen
Koen	Lefever	BELSPO
Tânia	Li Chen	AIR Centre
Katja	Lohmann	Max Planck Institute for Meteorology
Maija	Malnaca	JPI Climate
Petra	Manderscheid	JPI Climate
François	Massonnet	UCLouvain
Daniela	Matei	Max Planck Institute for Meteorology
Marcos	Mateus	Instituto Superior Técnico - Universidade de Lisboa
Catherine	Meulders	Liège University
Jose Luiz	Moutinho	Atlantic International Research Centre (AIR Centre)
Jean	Negrel	NORCE
Solveig	Olafsdottir	Marine and Freshwater Research Institute
Einar	Ólason	Nansen Environmental and Remote Sensing Center
Claudia	Pasquero	University of Milano Bicocca
Lavinia Giulia	Pomarico	JPI Oceans
Anne-Hélène	Prieur-Richard	ANR
Ana	Russo	Instituto Dom Luiz, University of Lisbon
Florian	Schuette	Max Planck Institut für Meteorologie
Sabrina	Speich	ENS-PSL, LMD-IPSL
Claire	Thuillez	ANR
Jerry	Tjiputra	NORCE

Anne Marie	Treguier	CNRS
Luc	Vandenbulcke	ULiege / MAST
Stéphane	Vannitsem	Royal Meteorological Institute of Belgium
Phil	Wallhead	NIVA