Initiative "AI & Ocean" 2024-2027
PPR Océan & Climat

https://www.ocean-climat.fr/Le-PPR/Actualites/Intelligence-artificielle-Appel-a-postdoc-et-data-challenges

Contact: Prof. Ronan Fablet, IMT Atlantique/ODYSSEY
Email: ppr_oc_pilotes_ia@cnrs.ifremer.fr

PPR Océan & Climat

(French Research Program on Ocean & Climate)

Coordination CNRS/Ifremer :
W. Sanchez, B. Blanke

President of the Scientific Board: Y. Shin

Actions and projects supported by the program:
- Projets de recherche (CLIMARCTIC, FUTURE-OBS, MEDIATION, RIOMAR, FUTURISKS, LIFEDEEPER)
- PhD scholarships
- Systematic Literature Reviews
- Postdoc fellowships: AI-Ocean, Ocean-based solutions

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Initiative "AI & Ocean"

Scope: https://www.ocean-climat.fr/Le-PPR/Actualites/Intelligence-artificielle-Appel-a-postdoc-et-data-challenges

Scientific and technological challenges targeted:
- "AI-native" approaches in the Digital twins of the Oceans
- Better exploitation of the potential of observation and simulation data
- Acceleration and portability of numerical codes

Scientific Approach:
- Structuring through "open" and "at-scale" ML-ready data challenges (benchmarks)
- Benchmarking of AI-native schemes vs. Operational systems
- Exploration of multiple solutions for each data challenge (postdocs)

Integration in the framework of the European Digital Twin of the Ocean platform (EDITO)

Coordination: R. Fablet (IMT Atl.), Y. Drillet (MOi), D. Durand (Covartec), Y. Shin (IRD), B. Blankę (CNRS)

Supporting resources:
- Scientific and technological expertise of Ifremer, IMT Atlantique and Mercator Ocean International
- 2 research engineers to support the design and implementation of data challenges
- Up to 9 two-year postdoctoral fellowships (starting during fall 2025)

Open call for postdocs: *https://github.com/ppr-ocean-ia/data-challenges-info/blob/main/AAP_PostDoc_IAOcean_VF.pdf*

Kick-Off workshop: Brest, Octobre 8-10, 2025
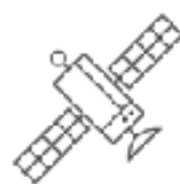
Initiative "AI & Ocean": Ocean Data Challenges

https://github.com/ppr-ocean-ia/data-challenges-info

Scientific coordination: R. Fablet, IMT Atlantique

Technological coordination: Q. Febvre, J.F. Pill (Ifremer), K. Ait Mohand, G. Cossio (IMT Atlantique), Q. Gaudel (Mercator Ocean Intl)

Selected Data Challenges
- *DC1. Emulation of Global Ocean Reanalyses*
    - Scientific lead: J. Le Sommer (IGE), A El Aouni (Moi), S. Ouala (Odyssey), A. Storto (CNR)
- *DC2. Probabilistic short-term forecasting of global ocean dynamics*
    - Scientific lead: L. Drumetz, F. Sévellec (Odyssey), J. Le Sommer (IGE), S. Metref (Dallas)
- *DC3. Arctic Sea Ice Forecasting*
    - Scientific lead: S. Metref (Datlas), P. Rampal (IGE), J. Brajard (NERSC)
- *DC4. High-resolution monitoring and forecasting of tropical cyclones*
    - Scientific lead: Q. Febvre, A. Mouche, B. Chapron (Odyssey)
- *DC5. Marine Biodiversity Prediction*
    - Scientific lead: J.O. Irisson (LOV), L. Guidi (LOV). D. Mouillot (Marbec), A. Joly (LIRMM)

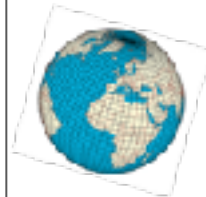*Distribution Date:* September 2025 (before Kick-Off workshop)

Git organisation for the development phase: *https://github.com/ppr-ocean-ia*
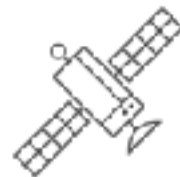
Call for Postdoctoral Fellowships

https://github.com/ppr-ocean-ia/data-challenges-info

Deadline for application: March 14, 2025

Publication of the selected proposals: March 31, 2025

Who can apply? (Co-)Supervisors of the postdoc (at least one being a permanent staff in a French university or research institue

Which scientific scope? The only requirement is to address at least one of the five data challenges (cf. previous slide)

Which evaluation criteria?
- The relevance of AI-native solutions proposed for the ocean data challenge(s) considered
- The relevance of the scientific questions addressed
- The novelty and the transformative potential of the project
- The expertise of the (co-)PIs to develop the proposed research project
- The integration into national and international collaboration networks
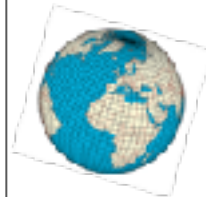- The coherence of the resources with the objectives and scope of the project

Template for applications available: link
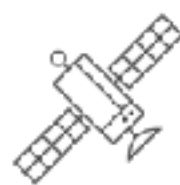
How to folllow? How to contact?

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Mailing list: ppr_ocean_climat_ia@cnrs.ifremer.fr

Slack workspace "ppr-ocean-climat-ia"

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Annex.

Timeline of the initiative

Ocean Data Challenge Timeline
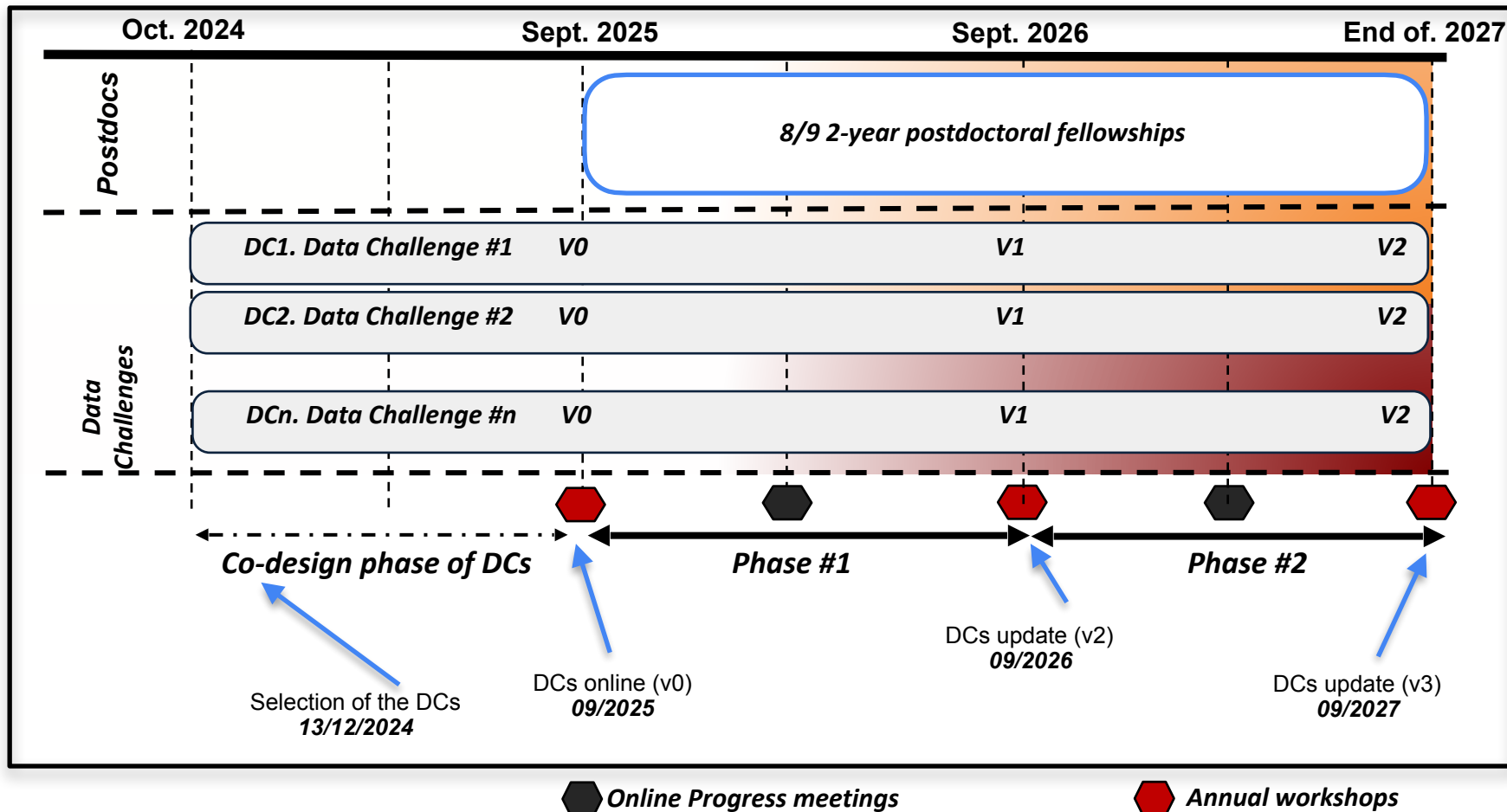
Postdoc Fellowship Timeline