

Marine Institute Job Description

Position	Temporary Project Coordinator – Copernicus Marine Biogeochemistry
Contract	Temporary specified purpose contract on the HEO/Administrator grade for a maximum duration of 2 years (Funded via Copernicus (CMEMS) Programme)
Service Group	Ocean Science and Information Services (OSIS)
Location	Oranmore, Galway

Brief Description of the Marine Institute:

The Marine Institute is a non-commercial semi-state body, which was formally established by statute (Marine Institute Act, 1991) in October 1992.

Under the Act, the Marine Institute was given the responsibility:

“to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Institute will promote economic development and create employment and protect the marine environment.”

The Marine Institute is the national agency responsible for marine research, technology, development and innovation (RTDI). The Marine Institute seeks to assess and realise the economic potential of Ireland’s 990,000 km² marine resource; promote the sustainable development of marine industry through strategic funding programmes and scientific services; and safeguard the marine environment through research and environmental monitoring. The Institute works in conjunction with the Department of Agriculture, Food and Marine (DAFM) and a network of other Government Departments, semi-state agencies, national and international marine partners.

Our vision - The Marine Institute, as a global leader in ocean knowledge, empowering Ireland and its people to safeguard and harness ocean wealth.

Our Mission - The Marine Institute, provides government, public agencies and the maritime industry with a range of scientific, advisory and economic development services that inform policy-making, regulation and the sustainable management and growth of Ireland’s marine resources. The Institute undertakes, coordinate and promotes marine research and development, which is essential to achieving a sustainable ocean economy, protecting ecosystems and inspiring a shared understanding of the ocean.

In order to achieve this vision, the MI have six service areas; (1) Ocean Science and Information Services, (2) Marine Environment & Food Safety Services, (3) Fisheries Ecosystems Advisory Services, (4) Irish Maritime Development Office, (5) Policy, Innovation and Research Services and (6) Corporate Services.

The Marine Institute 5 Year Strategic Plan (2018 to 2022) is available [here](#)

Ocean Wealth (HOOW) is Ireland's Integrated Maritime Plan (see www.ouroceanwealth.ie). HOOW sets out a roadmap for the Government's vision, high level goals and integrated actions to enable Ireland's marine potential to be realised. As part of the implementation of HOOW, the Government published in 2017 the National Marine Research & Innovation Strategy 2017-2021.

Brief Description of Service Group:

The mission of OSIS is *"To provide scientific, operational and analytical support and services to strategic RTDI and statutory monitoring programmes (at national and international level) to promote and support the sustainable development of Ireland's marine resources"*

Ocean Science and Information Services incorporates:

- Information Services & Development
- Advanced Mapping Services
- Research Vessel Operations
- Oceanographic Services
- Research Infrastructures
- Operational elements of Discovery R&D Programmes including
 - Advanced Technology including SMARTBAY
 - Ocean Energy

Summary of the Role:

The successful candidate will work within the Oceanographic Services team as a programme Coordinator for the Copernicus Marine Biogeochemistry programme, with main responsibility for ensuring delivery of the validation of the Copernicus Marine Environment Monitoring Service (CMEMS) biogeochemical models of Iberia-Biscay-Ireland region.

The successful candidate will work closely with the international partner, Mercator Ocean International, who are the Delegated Authority by the European Commission for the delivery of CMEMS and are responsible for the coordination of Iberia-Biscay-Ireland Marine Forecasting Centre (IBI-MFC). Specifically, the candidate will contribute to the validation of the reanalysis and forecasting systems of marine bio-geochemistry used in IBI-MFC, will work on the development of the validation toolbox, Ocean Monitoring Indicators for the Ocean State Report and will prepare Quality Information Documents (QUID). Inter-comparison of IBI-MFC biogeochemical model with the CMEMS global biogeochemical model systems (GLO MFC) will also be part of this role. Furthermore, the candidate will carry out analysis of primary productivity in the IBI region and will provide scientific expertise for any CMEMS IBI-MFC biogeochemical products changes, e.g. when releasing a new biogeochemical product, such as pH. Preparation of the reports and relevant documentation following strict deadlines and formats will also be part of the role. The candidate will also be expected to carry out other duties within the modelling team as required.

Background to the Requirement

The purpose of CMEMS is to provide fully open access to a regular, coherent and consistent stream of information products on the state of the marine environment for both the global ocean and the European regional seas. To this end a Delegation Agreement is in place between the European Commission and Mercator Océan. This service is now in Phase 2, with Phase 1 concluding earlier in 2018 following 3 years of operations. The capacity of CMEMS encompasses a description of the current situation (analysis), prediction of the situation over a period of a few days (forecast) and the

provision of consistent retrospective data for the last two to three decades (reanalysis). CMEMS responds to the needs of various European stakeholders and is an intermediate service from which multiple downstream services can be developed. Regular User Uptake Calls are published to enable more widespread uptake of CMEMS products and service is also promoted through the Regional User and Training Workshops.

The architecture of CMEMS includes production centres with *Thematic Assembly Centres* (TAC) for observations, and *Monitoring and Forecasting Centres* (MFC) for modelling and assimilation, in addition to the central information system (CIS).

IBI-MFC provides real time ocean analyses and forecasts for physical systems, waves and biogeochemistry over a region of the North-East Atlantic extending from 20°W to the European coast and from 26°N to 64°N. In CMEMS phase 2, Mercator Océan are responsible for coordination of this MFC. The models, software and tools are therefore tightly constrained to ensure proper coordination and development transfer between various teams. The model is based on NEMO code in a configuration that encompasses the IBI domain defined above at a resolution 1/36°, making use of data from SLA, SST and the temperature and salinity profiles obtained with SAM2 data acquisition system developed by Mercator Océan and coupled with the PISCES bio-geochemical model. The reanalysis for IBI-MFC are based on models that are equivalent to real time systems with lower resolution for physical and bio-geochemical systems, which currently stands at 1/12°.

The Institute now requires a Project Coordinator with good understanding of biogeochemical modelling, operational modelling framework and oceanography of the North Atlantic to assist in the validation and evolution of CMEMS biogeochemical model service component of IBI-MFC.

Principal Tasks:

- Manage the delivery of all tasks, including administrative, to ensure the contractual obligations of the Institute are fulfilled
- Coordinate the project implementation, monitoring and integrated change control at the Institute
- Liaise closely with Mercator Ocean International to ensure alignment of the validation of IBI-MFC biogeochemistry with overall delivery of IBI-MFC biogeochemical service and with the strategy of CMEMS Product Quality Working Group
- Produce Quality Information Documents for IBI biogeochemical analysis and reanalysis models
- Contribute to the publication of Ocean State Report, e.g. develop Ocean Monitoring Indicators for same
- Produce and contribute to any further technical and administrative reports and documentation for IBI-MFC service
- Bring scientific expertise to aid the evolution of the biogeochemical modelling system for Ireland-Biscay-Iberia region as part of CMEMS IBI-MFC.
- Contribute to the development of new biogeochemical products for IBI-MFC, e.g. pH.
- Collate all available observational datasets on marine bio-geochemistry in the IBI region that is suitable for the model validation, this also includes data from the primary productivity models based on satellite observations.
- Collate outputs from the CMEMS IBI and CMEMS GLO (global) biogeochemical models.
- Validate CMEMS IBI-MFC biogeochemical analysis and re-analysis models.
- Carry out inter-comparison of IBI biogeochemical and GLO biogeochemical models in the IBI region.
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- Develop scripts for the validation of the IBI biogeochemical models and work closely with Mercator Ocean International on the development of the validation toolbox, NARVAL-BIO .
- Contribute to the inter-comparison of the IBI biogeochemical model with the neighbouring CMEMS models of the Mediterranean Sea and the North-West Shelf.
- Contribute to the activities of CMEMS Product Quality Working Group.
- Collate existing data and carry out bibliographic review on primary productivity in IBI region in order to validate the existing primary productivity estimates for the region based on satellite observations (i.e. VGPM model).
- As necessary, carry out other duties in the MI ocean modelling team related to this programme.
- Any other duties as relevant to the position, project and grade that may arise from time to time.

Reporting Structure:

The successful candidate will be based at the Marine Institute HQ in Oranmore and will report directly to the Ocean Modelling Team Leader.

Contacts:

Marine Institute: Ocean Modelling team members within OSIS. Section Manager Oceanographic Services. Director OSIS. Data services Team. Other Sections Managers, Team Leaders and STOs across MI Service Groups

Externally: Regular liaison with IBI-MFC service partners: Mercator Ocean International, MétéoFrance. CMEMS partners from other MFC centres, in particular MED-MFC and NWS-MFC. Ireland's state agencies and government departments. External research groups both in Ireland and overseas.

Education, Professional or Technical Qualifications, Knowledge, Skills, Aptitudes, Experience, and Training

Essential:

- Third level degree in a relevant technical management or scientific subject e.g. Physical or Biological Oceanography, Environmental Science or Engineering, Mathematics, Physics or related discipline with sound numerical background and knowledge of biogeochemical cycles in the ocean.
- At least two years of post-qualification work experience in a relevant technical / scientific project lead role.
- Proven track record in managing projects, people and budgets, ideally with some experience of public sector procurement.
- The ability to be well organised and work to deadlines identifying priorities and managing time effectively.
- Excellent interpersonal skills and the ability to communicate effectively at all levels both in writing and verbally with technical and scientific and non-technical groups.
- The ability to work unsupervised and to work well with others.
- Advanced levels in the use of the MS Office suite.
- Proven track record in programming in Python or Matlab.
- Proven experience in working with NetCDF file format.
- Competence in a Linux environment.

- Effective numerical and literacy skills including report writing skills.
- Experience with handling and statistical processing of large volumes of observational and model oceanographic data
- A high level of computer literacy (Word, Excel, PowerPoint, Internet/Email).

Desirable:

- PhD in oceanography or related discipline.
- Programming skills in both Python and Matlab.
- Programming skills in Fortran.
- Experience in running and developing ocean numerical models.
- Record of publishing in peer-reviewed scientific journals.
- Sea going experience or sufficiently fit to pass an ENG II Medical.

Special personal attributes required for the position:

- An analytical approach to problem solving.
- An ability to work in an organised manner and progress work independently.
- Dynamic and reliable and self-sufficient.
- Ability to effectively communicate results of teamwork in written and audiovisual formats.
- Strong leadership qualities with excellent communication skills.
- The ability to remain focused and deliver when multiple important deadlines coincide.
- Solutions orientated with excellent initiative and problem solving skills
- Excellent interpersonal skills.
- Proven experience in collaborating with scientists and members of a technical team.
- Possess a diplomatic manner, with the ability to resolve issues before conflict occurs with stakeholders.

Salary:

Remuneration is in accordance with the Public Sector, Department of Finance approved Salary Scale for Higher Executive Officer, with a starting salary of €48,027 per annum pro-rated with time worked. You will become a member of the Single Public Service Pension Scheme.

Annual Leave:

The annual leave entitlement for a Higher Executive Officer is 29 working days per annum pro-rated to reflect time worked. Annual leave entitlements are exclusive of Public Holidays. All leave must be approved by your manager or their authorised representative in advance of being taken and in line with Marine Institute leave policies.

Duration of Contract:

The contract will be issued on a specified purpose basis for up to a maximum duration of two years, subject to funding with a 6-month probationary period.

How to Apply:

A C.V. and letter of application, summarising experience and skill set applicable to the position should be emailed to recruitment@marine.ie or posted to Human Resources at the Marine Institute, Rinville, Oranmore, Galway. All correspondence for this post should quote reference **OSIS/CMEMS/Feb 2019**

Closing date for applications. All applications for this post should be received by the Marine Institute in advance of **12:00 Noon on Friday 8th March 2019**. Please note that late applications will not be accepted.

Use of Data - all personal data and the information submitted for this application will be used solely for the purpose of this campaign, after which it will be deleted in line with our data and documents policy. All information will be treated with the strictest confidence and accessed only by those involved directly in the campaign.

The Marine Institute is an equal opportunities employer