

National coordination of monitoring and observations

To further contribute to the <u>EOOS Call to Action</u>, which was launched at the EOOS conference in November 2018, the **European Marine Board and EMODnet** are collecting information on how marine monitoring programmes and ocean observing efforts are coordinated and planned at national level. The European Marine Board will be collecting information on the national coordination actions based on this survey, while EMODnet will do a general mapping of the data flows. These tasks will contribute to the implementation of the EOOS Call to Action, which called on nations to take stock of their existing capability in marine monitoring and ocean observing and to develop roadmaps for their ocean observing and monitoring capabilities.

This survey is being send to several stakeholder groups within your country ranging from national governments to research performing organisations and marine stations. The main focus of this survey is to collect data on the existing coordination structures between the different monitoring and observation programmes at <u>national level</u>. The focus is on <u>long-term sustained observation efforts</u> in this instance, rather than on ad hoc activities. Please fill out any information that you are aware of regarding:

- Ocean OBSERVATION the sustained non-mandatory data collection from the ocean and seas
- Ocean MONITORING the <u>sustained</u> <u>mandatory monitoring</u> of the seas under a reporting obligation for EU or national regulations

We will also be consulting with IOC on the information that was collected via the Global Ocean Science report II survey, specifically under points 28 and 29 regarding the ocean observing programmes.

Please note that we are collecting this data for the purpose of the EOOS Call to Action and that this data will be stored in our database, and shared with EMODnet and DG MARE. Your personal data (name and email address) can be shared as well with these organisations as well on a 'need to know' basis, or to contact you with any follow-up questions in the future. Here is a link to our <u>privacy policy</u>. In this policy, you will find information about our compliance with GDPR (data protection law). You can find how to send us a request to let you access your data that we have collected, request us to delete your data, correct any inaccuracies or restrict our processing of your data. You have the right to lodge a complaint about the way we handle your data with <u>Belgian Data Protection Authority</u> or you can contact us at <u>info@marineboard.eu</u> for more information or concerns.

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Function:	 Chairperson: UK-Integrated Marine Observing Network Coordinator: Marine Environmental Data & Information Network 		

Describe here what coordination mechanisms for ocean observing and monitoring your country has in place for the levels indicated below. Per level, indicate what coordinating mechanisms already exist, which key organizations have an overall mandate for the coordination and what works or could be done better?

PLEASE USE the table below to indicate the institute/organisation that is responsible for coordinating monitoring and/or observations and/or collecting data for the indicated directives, and what the links are (if any currently exist) between the different monitoring programmes, and if there is an overarching coordinating body that has a mandate to oversee observation activities between the different organizations.

The themes highlighted are intended for guidance, but if this structure is not applicable for your case, please feel free to edit and add as necessary.

Theme	Provide the name(s) of the organisation(s) and their web link(s) that is/are directly responsible for monitoring and observation.	Is there coordination of this activity at national and/or regional level (indicate by yes/no + note which coordinating body is supervising the monitoring & observation programmes)	Comments (where applicable, please indicate links in coordination with other themes and policy regulation such as MSFD and CFP	Any other info (e.g. a reference to a key report, contact details of a person, website or infographic that provides an overview of relevant info observation)
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Mandatory monitoring under European Regulation

Note: this form has been completed in the first instance using information contained in the UK Directory of Marine Observing Systems (UKDMOS). If your organisation has not been identified as contributing to monitoring for specific legislation, it means your organisations has not updated UKDMOS recently. Please get in touch with ukdmos@bodc.ac.uk to update any information in UKDMOS (http://www.ukdmos.org/search-directory).

Marine Strategy Framework Directive (MSFD) Depending on the descriptor and the environmental target, the sustained monitoring efforts are carried out by:

Centre for Environment, Fisheries and Aquaculture Science (www.cefas.co.uk/);

Joint Nature Conservation Committee (http://jncc.defra.gov.uk/);

Marine Scotland Science (http://marine.gov.scot/);

Environment Agency (England)
https://www.gov.uk/government/o
rganisations/environment-agency;

Agri-Food and Biosciences Institute (Northern Ireland) https://www.afbini.gov.uk/;

Scottish Environment Protection Agency https://www.sepa.org.uk/

Responsibility of the Department for Environment, food and rural affairs (DEFRA) and devolved agencies. Coordination managed by the UK Marine Monitoring and Assessment Strategy Evidence Groups that are themselves coordinated under the Marine Science Coordination Committee (MSCC, see comments)

The Marine Science Co-ordination Committee (MSCC) was formed in 2009 at the request of the UK Government and its devolved administrations of Scotland, Wlaes and Northern Ireland to improve collaboration and co-ordination of scientific knowledge, resources and communication; identify high level science priorities for the UK; align and develop UK marine science capacity and support UK evidence needs for policy decisions. The Committee has responsibility for effective and efficient delivery of UK marine science through understanding of the essential role that evidence, gathered from the monitoring and assessment, research, development, economic and statistical analysis and social research has to play. The four UK Evidence Groups report to the MSCC via the Marine Assessment and Reporting Group, whilst the Marine Climate Change Impacts Partnership, the UK Integrated Marine Observing Network (IMON), the Marine **Environmental Data and Information** Network (MEDIN) and the Underwater Sound Forum report directly to the MSCC's

The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS).

http://www.ukdmos.org/sear ch-directory

	Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/ ; Continuous Plankton Recorder (CPR) Survey www.cprsurvey.org ; Marine Conservation Society https://www.mcsuk.org/ ; Sea Mammal Research Unit www.smru.st-andrews.ac.uk/		Co-Chairs via the Committee's Plenary meetings. Depending on the monitoring programme, efforts towards the MSFD are aligned with: EC Bathing Waters Directive EC Birds Directive EC Habitats Directive EC Strategic Environment Assessment Directive OSPAR Convention African-Eurasian Waterbirds Agreement Conservation of Seals Act (GB) inapplicable Marine Act (Scotland) EC Maritime Spatial Planning Directive EC INSPIRE Directive	
Water Framework Directive (WFD)	Depending on the descriptor and the environmental target, the sustained monitoring efforts are carried out by: Environment Agency (England) https://www.gov.uk/government/organisations/environment-agency ; Scottish Environment Protection Agency https://www.sepa.org.uk/ ; Centre for Environment, Fisheries and Aquaculture Science (www.cefas.co.uk/);	Coordinated by national agencies, Environment Agency (England); Scottish Environment Protection Agency; Department of Agriculture, Environment and Rural Affairs (Northern Ireland) on behalf of the Department for Environment, food and rural affairs (DEFRA) and devolved agencies.	Depending on the monitoring programme, these efforts are aligned with: OSPAR Convention EC Nitrate Directive, EC Marine Strategy Framework Directive EC Urban Waste Water Treatment Directive EC Dangerous Substances Directive EC Environmental Quality Standards Directive EC Habitats Directive EC Shellfish Waters Directive Wildlife and Countryside Act (GB) Water Order (NI)	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	Agri-Food and Biosciences Institute (Northern Ireland) https://www.afbini.gov.uk/; Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/; Continuous Plankton Recorder (CPR) Survey www.cprsurvey.org; Natural Resources Wales https://naturalresources.wales; Marine Scotland Science (http://marine.gov.scot/);			
Birds Directive	Depending on the descriptor and the environmental target, the monitoring efforts are carried out by: Joint Nature Conservation Committee (http://jncc.defra.gov.uk/); Wildfowl and Wetlands Trust https://www.wwt.org.uk/; Natural England https://www.gov.uk/government/organisations/natural-england;	National Coordination by Joint Nature Conservation Committee (JNCC) on behalf of the Department for Environment, food and rural affairs (DEFRA) and devolved agencies.	Depending on the monitoring programme, these efforts are aligned with: EC Habitats Directive EC Strategic Environment Assessment Directive OSPAR Convention African-Eurasian Waterbirds Agreement Ramsar Convention EC Marine Strategy Framework Directive	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	British Trust for Ornithology https://www.bto.org ;			
	Natural Resources Wales https://naturalresources.wales ;			
	Game and Wildlife Conservation Trust https://www.gwct.org.uk ;			
	Northern Ireland Environment Agency https://www.daera-ni.gov.uk ;			
	Rare Breeding Birds Panel http://rbbp.org.uk ;			
	Scottish Ornithologists Club https://www.the-soc.org.uk;			
	BirdWatch Ireland https://birdwatchireland.ie			
Habitats Directive	Depending on the descriptor and the environmental target, the monitoring efforts are carried out by:	Conservation Committee (JNCC) on	Depending on the monitoring programme, these efforts are aligned with:	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems
	Joint Nature Conservation Committee (http://jncc.defra.gov.uk/);	behalf of the Department for Environment, food and rural affairs (<u>DEFRA</u>) and devolved agencies.	EC Shellfish Waters Directive EC Water Framework Directive EC Birds Directive EC Strategic Environment Assessment Directive	(UKDMOS). Information provided from UKDMOS

	Natural England https://www.gov.uk/government/o rganisations/natural-england; Non-native Species Secretariat http://www.nonnativespecies.org/ ; Natural Resources Wales https://naturalresources.wales ; Scottish Natural Heritage www.nature.scot ; Marine Scotland Science (http://marine.gov.scot/); Sea Mammal Research Unit https://marine.gov.scot/); Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/ ;		OSPAR Convention UN International Convention for the Regulation of Whaling African-Eurasian Waterbirds Agreement Small Cetaceans of the Baltic and North Seas Conservation Agreement Wildlife and Countryside Act (GB) Wildlife Order (NI) Conservation of Seals Act (GB) Marine Act (Scotland) EC Marine Strategy Framework Directive	(http://www.ukdmos.org/search-directory)
Common Fisheries Policy (CFP)	Depending on the descriptor and the environmental target, the monitoring efforts are carried out by:	National Coordination by the UK Government Data Collection Framework (DCF) coordination Group:	Monitoring under the CFP (Data Collection Framework) is used for biodiversity and pressure monitoring under the MSFD. Surveys are also used as platforms for other MSFD monitoring.	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS).

	Centre for Environment, Fisheries and Aquaculture Science (www.cefas.co.uk/); Marine Scotland Science (http://marine.gov.scot/); Agri-Food and Biosciences Institute (Northern Ireland) https://www.afbini.gov.uk/; Scottish Association for Marine Science https://www.sams.ac.uk; Marine Management Organisation https://www.gov.uk/government/organisations/marine-management-organisation;	Marine Scotland, Agri- Food and Biosciences Institute (Northern Ireland), Centre for Environment, Fisheries and Aquaculture Science (England), Marine Management Organisation		Information provided from UKDMOS (http://www.ukdmos.org/sea rch-directory) Monitoring undertaken in accordance with https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:3 2017R1004
Maritime / Marine Spatial Planning (MSP)	Depending on the descriptor, the environmental target and geographical location, monitoring efforts are carried out by: Marine Management Organisation https://www.gov.uk/government/organisations/marine-management-organisation	Coordinated by national agencies, Marine Management Organisation, Marine Scotland Science, Natural Resources Wales	The MMO is an executive non-departmental public body, sponsored by the UK Department for Environment, Food & Rural Affairs. Marine Scotland is a Directorate of the Scottish Government and is responsible for the integrated management of Scotland's seas. Natural Resources Wales is sponsored by the Welsh Government to manage its natural resources.	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	Marine Scotland Science (http://marine.gov.scot/); Natural Resources Wales https://naturalresources.wales; Joint Nature Conservation Committee (http://jncc.defra.gov.uk/);		Depending on the monitoring programme, these efforts are aligned with: EC Marine Strategy Framework Directive EC INSPIRE Directive Marine (Scotland) Act 2010 Scotland's National Marine Plan Scotland's Regional Marine Plans	
Bathing Waters Directive	Depending on the descriptor and the environmental target, the monitoring efforts are carried out by: Environment Agency (England) https://www.gov.uk/government/organisations/environment-agency ; Scottish Environment Protection Agency https://www.sepa.org.uk/ ; Marine Conservation Society https://www.mcsuk.org/ ; Natural Resources Wales https://naturalresources.wales ; Northern Ireland Environment Agency https://www.daera-ni.gov.uk ;	National Coordination by the Department for Environment, food and rural affairs (DEFRA) and devolved agencies.	Depending on the monitoring programme, these efforts are aligned with: EC Shellfish Waters Directive EC Marine Strategy Framework Directive	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

Mandatory m	onitoring under National or Regional F	Regulation		
OSPAR/ICES	Depending on the descriptor and the environmental target, the monitoring efforts are carried out by: Joint Nature Conservation Committee (http://jncc.defra.gov.uk/); Centre for Environment, Fisheries and Aquaculture Science (www.cefas.co.uk/); Marine Scotland Science (http://marine.gov.scot/); Environment Agency (England) https://www.gov.uk/government/organisations/environment-agency;	National responsibility of the Department for Environment, food and rural affairs (DEFRA) and devolved agencies. Coordination is managed by the UK Marine Monitoring and Assessment Strategy (UKMMAS) Evidence Groups that are themselves coordinated under the Marine Science Coordination Committee (MSCC)	Depending on the monitoring programme, these efforts are aligned with: EC Dangerous Substances Directive EC Nitrate Directive EC Shellfish Waters Directive EC Urban Waste Water Treatment Directive EC Water Framework Directive EC Habitats Directive OSPAR Convention UN International Convention for the Regulation of Whaling Small Cetaceans of the Baltic and North Seas Conservation Agreement Radioactive Substances Act (UK) Wildlife and Countryside Act (GB) Conservation of Seals Act (GB) Food and Environment Protection Act (UK) Water Order (NI) Marine Act (Scotland) EC Marine Strategy Framework Directive	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	Agri-Food and Biosciences Institute (Northern Ireland) https://www.afbini.gov.uk/ ;		EC Environmental Quality Standards Directive	
	Scottish Environment Protection Agency https://www.sepa.org.uk/ ;			
	Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/ ;			
	Natural Resources Wales https://naturalresources.wales ;			
	Non-native Species Secretariat http://www.nonnativespecies.org/ ;			
	Sea Mammal Research Unit www.smru.st-andrews.ac.uk/;			
dredging	Joint Nature Conservation Committee (http://jncc.defra.gov.uk/); Centre for Environment, Fisheries and Aquaculture Science	Joint Nature Conservation Committee; Marine Scotland Science; Northern Ireland Department of	Depending on the monitoring programme, these efforts are aligned with: EC Birds Directive EC Environmental Impact Assessment Directive OSPAR Convention	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS).
	(www.cefas.co.uk/); Marine Scotland Science (http://marine.gov.scot/);	Agriculture, Environment and Rural Affairs; Scottish Association for Marine Science;	Food and Environment Protection Act (UK) EC Marine Strategy Framework Directive EC Habitats Directive Marine (Scotland) Act Harbours Act Pilotage Act	Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	Scottish Association for Marine Science https://www.sams.ac.uk ; Natural Resources Wales https://naturalresources.wales ; Agri-Food and Biosciences Institute (Northern Ireland) https://www.afbini.gov.uk/ ; Scottish Environment Protection Agency https://www.sepa.org.uk/ Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/ ;	Centre for Environment, Fisheries and Aquaculture Science	Ports Act	
Flooding, (sea level rise, climate change)	Environment Agency (England) https://www.gov.uk/government/o rganisations/environment-agency; Scottish Environment Protection Agency https://www.sepa.org.uk/ Department of Agriculture, Environment and Rural Affairs (Northern Ireland) https://www.daera-ni.gov.uk/;	National responsibility of the Department for Environment, food and rural affairs (DEFRA) and devolved agencies. National responsibility is managed under the Flood and Water Management Act (2010) that is delivered at regional scales by Risk Assessment Management	Flood and Water Management Act 2010 EC Shellfish Waters Directive EC Water Framework Directive EC Birds Directive EC Habitats Directive EU Common Fisheries Policy EC Strategic Environment Assessment Directive OSPAR Convention UN Framework Convention on Climate Change African-Eurasian Waterbirds Agreement	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

Authorities (RMAs) Centre for Environment, Fisheries IMO International Convention for the and Aquaculture Science including; Safety of Life at Sea (www.cefas.co.uk/); EC Marine Strategy Framework Directive EC Maritime Spatial Planning Directive Environment **EC INSPIRE Directive** Natural Resources Wales Agencies https://naturalresources.wales; Lead Local Flood The Climate Change (Scotland) Act 2009 Authorities Marine Scotland Science District and (http://marine.gov.scot/); Borough Councils Agri-Food and Biosciences Institute Coast protection (Northern Ireland) authorities https://www.afbini.gov.uk/; Water and sewerage Met Office companies https://www.metoffice.gov.uk/ Internal **Drainage Boards** Joint Nature Conservation Highways Committee authorities. (http://jncc.defra.gov.uk/); Additional sustained National Oceanography Centre observing is (www.noc.ac.uk) undertaken under research activity Scottish Association for Marine that is largely Science https://www.sams.ac.uk; focused on the effects of climate Marine Biological Association change on sea level www.mba.ac.uk and its impacts. This work is coordinated Plymouth Marine Laboratory by UK Research & www.pml.ac.uk Innovation (UKRI).

	Bangor University www.bangor.ac.uk Channel Coastal Observatory https://www.channelcoast.org/			
Offshore energy (Oil & Gas)	UK CAA require basic measurement of met parameters to improve safety of helicopter operations. One of the requirements is to load data to www.helimet.com	The CAA have delegated responsibility to manage and monitor the use of Helimet to Oil & Gas UK, who contract the delivery of the web site to a commercial provider (presently RigNet Limited)		
Non-mandatory s	ustained observing organized at autho	ority level (national, subnat	cional) or by theme/sector to inform manage	ment/ policies
Sustained ocean observations as research infrastructure	National Oceanography Centre (www.noc.ac.uk) Scottish Association for Marine Science https://www.sams.ac.uk; British Antarctic Survey (https://www.bas.ac.uk/)	National coordination is managed under the CLASS programme (https://projects.noc.ac.uk/class/), which is funded by the UK Research & Innovation (https://www.ukri.org/). CLASS is led by the National Oceanography	UK Research infrastructure supports sustained observing through programmes 'Climate Linked Atlantic Sector Science' (CLASS), RAPID, and 'Ocean Regulation of Climate by Heat and Carbon Sequestration and Transports' (ORCHESTRA) These programme feed into monitoring and reporting activities around climate change, commercial fishing, and nutrient	The UK collates information on its monitoring activities in the UK Directory of Marine Observing Systems (UKDMOS). Information provided from UKDMOS (http://www.ukdmos.org/search-directory)

	Sea Mammal Research Unit www.smru.st-andrews.ac.uk/ Marine Biological Association www.mba.ac.uk Plymouth Marine Laboratory www.pml.ac.uk Continuous Plankton Recorder (CPR) Survey www.cprsurvey.org Met Office (www.metoffice.gov.uk) Marine Scotland Science (http://marine.gov.scot/); Centre for Environment, Fisheries and Aquaculture Science (www.cefas.co.uk/);	Centre, in partnership with Scottish Association for Marine Science, Marine Biological Association, Sea Mammal Research Unit and Plymouth Marine Laboratory Additional sustained observing is managed under RAPID (www.rapid.ac.uk/), which is coordinated by the National Oceanography Centre in partnership with US agencies. Sustained observations under ORCHESTRA (http://projects.noc.ac.u k/orchestra/) are coordinated by the British Antarctic Survey in partnership with National Oceanography Centre.	enrichment, including MSFD, ICES, OSPAR, WFD. Component programmes are: Continuous Plankton Recorder Survey Porcupine Abyssal Plain Deep Ocean Observatory Atlantic Meridional Overturning Circulation moored transport arrays (RAPID, OSNAP, Ellett Array) Ellett Array repeated glider transects Western Channel Observatory Atlantic Meridional Transect Atlantic GO-SHIP sections at 57N, 26N, 24S and Drake Passage (Antarctica) South Atlantic Tide Gauge Network Fixed point observatories in UK Marine Protected Areas Argo missions (core, deep, biogeochemical) Sea Surface CO ₂ monitoring from Ships of Opportunity	
Sustained ocean observations under operational capability	Met Office <u>www.metoffice.gov.uk</u>	Operated under the UK Public Weather Service, which is mainly funded by the Department for Business, Energy and	 Voluntary Observing Ships (manual and automatic) Fixed point observations from Instrumented moored buoys and light vessels 	Observing programmes contributing to the Global Ocean Observing System (GOOS) and the Global

		Industrial Strategy (BEIS) on behalf of Government.	Drifting buoys Argo missions (core, deep, biogeochemical)*	Climate Observing System (GCOS) *Joint programme with National Oceanography Centre and Plymouth Marine Laboratory
Offshore energy (Oil & Gas)	Several commercial operators share data voluntarily via the UK Met Office GTS http://www.wmo.int/pages/prog/www/TEM/GTS/	Met data from offshore installations are shared for a limited number of locations. The data are generally also sent on to Cefas for display on WaveNet. The display of data does not imply rights to download or use the data, and Cefas are careful to connect user requests for data to the operator providing the source.		

Additional other relevant information or input (e.g. what you feel works, what could be done better, ideas for strengthening coordination through existing or new mechanisms):