

# International data initiatives relevant to the UK marine sector – a MEDIN summary

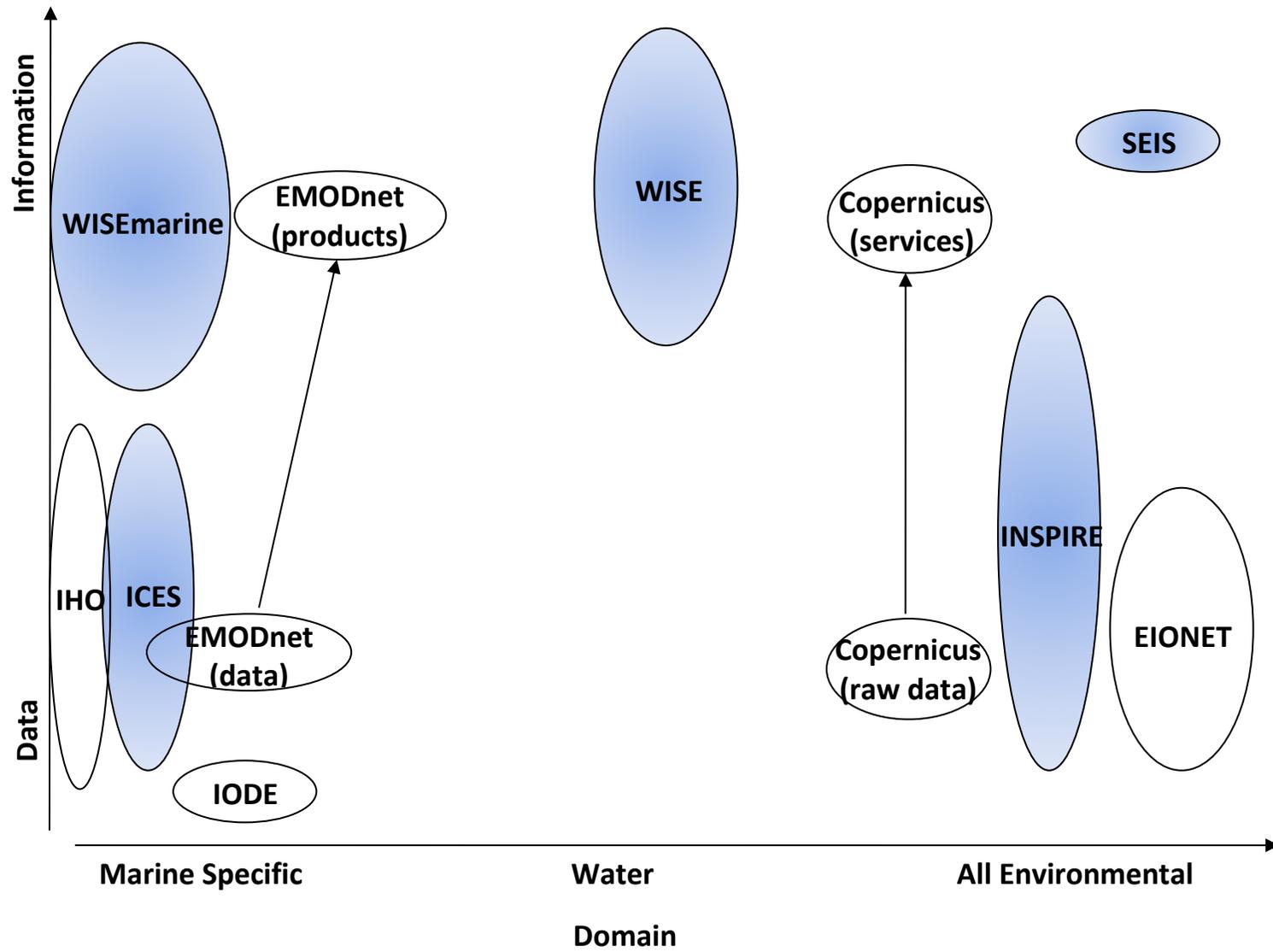
Last updated April 2016

---

There are many European data and information initiatives particularly in the marine domain which are in the process of being developed. This document gives a summary of these describing where relationships have been established and the interaction with those initiatives by individuals and organisations in the UK. Specifically the initiatives considered are:

- Water Information System for Europe (WISE) and WISEmarine
- Shared Environmental Information Service (SEIS)
- Infrastructure for Spatial information in Europe (INSPIRE)
- European Marine Observation and Data Network (EMODNet)
- European Environment Information and Observation Network (EIONET)
- International Council for the Exploration of the Sea (ICES)
- Copernicus Marine Environment Monitoring System (CMEMS)
- International Hydrographic Organisation (IHO)
- Intergovernmental Oceanographic Commission (IOC)
- European Spatial Data Research (EuroSDR)

The table below gives details of these initiatives and the figure gives a summary on what type of data those initiatives consider. Shading donates initiatives that currently are, or anticipated will, manage data and information taken to satisfy EC Legislation or International Conventions.



	<b>Water Information System for Europe (WISE) and WISEmarine</b>	<b>Shared Environmental Information Service (SEIS)</b>	<b>Infrastructure for Spatial information in Europe (INSPIRE)</b>	<b>European Marine Observation and Data Network (EMODNet)</b>	<b>European Environment Information and Observation Network (EIONET)</b>	<b>International Council for the Exploration of the Sea (ICES)</b>	<b>Copernicus (CMEMS=Copernicus Marine Environmental Monitoring Service)</b>	<b>Intergovernmental Oceanographic Commission (IOC)</b>	<b>International Hydrographic Organisation (IHO)</b>
<b>What are the aims of the initiative?</b>	To provide a mechanism to report compliance with EC water directives and provide that information to the public.	To provide timely, relevant and reliable information on environmental quality for decision makers, and for the public. This system would tie in better all existing data gathering and flows. Can also be thought of as a set of data management principles (information being managed close to its source, along with harmonized formats etc.)	The INSPIRE directive sets obligations on what the public authorities do with the data they collect. In doing so it aims to deliver improvements in the sharing of and access to public sector spatial information leading to better environmental policies and outcomes in Europe.	'to open up opportunities for high technology commercial companies in the maritime sector, improve the efficiency of activities such as marine observation, management of marine resources and marine research in European laboratories'	A network of some 900 experts from over 300 national environment agencies and other bodies aiming to provide timely and quality-assured data, information and expertise for assessing the state and pressures of the environment. It includes Reportnet - web applications and processes that support international environmental reporting.	'coordinates and promotes marine research on oceanography, the marine environment, the marine ecosystem, and on living marine resources in the North Atlantic.' To underpin these aims ICES collect data for their own purposes and to support other conventions.	Copernicus is the European Earth Observation Programme. The EU relies on space technology for implementing policies – protecting the marine and land environment and biodiversity, combating climate change, responding to disasters, managing transport, etc.	IOC carries out work to promote the efficient distribution and use of oceanographic data and information through its International Oceanographic Data and Information Exchange (IODE) programme.	IHO is an intergovernmental consultative and technical organization.  Primary purpose is to support safety of navigation and the protection of the marine environment.
<b>Who is driving the initiative?</b>	European Commission (DG Environment, EUROSTAT and JRC) and EEA	European Commission and EEA	European Commission	The European Commission are driving to provide data for the EU Maritime Policy	EEA	ICES. Submission of marine and fisheries data also enforced by OSPAR convention and CFP	The European Commission and the European Space Agency (ESA).	UNESCO	The Directing Committee, together with a small international staff of technical experts in hydrography and nautical cartography, makes up the International Hydrographic Bureau in Monaco. The IHB is the secretariat of the IHO, coordinating and promoting the IHO's programmes and providing advice and assistance to Member States and others. The IHO has observer status at the UN.
<b>Status of implementation</b>	EA, SEPA and EHS have already reported some WFD information using WISE. Plans to establish WISEmarine were put to consultation in 2008 and is now being overseen by a Marine Strategy Framework Directive Working Group on Data, Information and Knowledge Exchange	A Commission Communication 'Towards a SEIS' was issued in 2008, which was complemented with visits to Member States. DG Environment are now drafting a legal proposal on environmental reporting obligations, embodying the SEIS principles An implementation plan is also in preparation.	The directive was transposed into national legislation in 2009. In England the implementation is being overseen by Defra and the Spatial Data Infrastructure being produced via The Location Strategy.	Conceived in 2007; first expert group meeting was held in 2008. 6 contracts let in a preparatory phase to demonstrate capacity in specific themes of Hydrography, Geology, Chemical, Habitats, Biology and Physical. 2 <sup>nd</sup> phase started in 2013 and also includes human activities and 'sea basin check points'.	Established in 1994.	Established since 1904.	Copernicus services address six main thematic areas which are at different levels of maturity: Land monitoring; Emergency Management; Marine Monitoring; Atmospheric Monitoring; Security; Climate Change. Mercator Ocean implements and manages CMEMS, now operational.	IODE was established in 1961, a year after IOC was formed. It has been operational since inception.  In 2003 IOC adopted an 'Oceanographic Data Exchange Policy' which promotes the timely, free and unrestricted international exchange of oceanographic data.	IHO was established in 1921; it has been operational since inception.
<b>What is the legislative status?</b>	The legislative basis for the provision of information to the EC is in the water	DG Environment are drafting a legal proposal although it is currently not clear if	INSPIRE is a Commission Directive. The detail of INSPIRE is being enforced by	No legislative basis at present but recent communication suggests it will be used	No legislative commitment identified but a set of priority annual data flows are	The legislative commitment to provide data is predominantly from the OSPAR	A general focus on supporting environmental policy.	UNESCO established IOC in 1960.	IHO was established in 1921 whose functions are further justified by the

	directives themselves rather than from new legislation.	this will be taken forward. This will include a proposal for the revision of the Standardised Reporting Directive (91/962/EC)	'Implementing Rules'	to make data available for the Marine Strategy Framework Directive in coordination with WISEmarine.	monitored and country performance is reported against these. Flow of marine data is <i>via</i> ICES.	convention and the Common Fisheries Policy (CFP). Other data is provided on an <i>ad hoc</i> basis.			SOLAS convention and is supported by the UN.
<b>Thematic and Spatial scope</b>	Currently WFD information (Articles 3, 5 and 8) but will include other water related Directives in the future. WISEmarine will support the implementation of the Marine Strategy Framework Directive.	Theme is environmental, spatial scope is EU Member States. The legal proposal will be focused on data collected under community legislation.	INSPIRE considers data in 34 themes in 3 annexes. The themes in the first annex are 'building blocks' for the other themes. Specifications are being finalized in 2012. INSPIRE considers any data collected by public authorities in EU member states within those themes.	EMODNet mainly deals with data and capacity demonstration in 7 themes.	5 themes, one of which is 'water'. Some themes are more developed than others. Spatially it considers data from any EU Member States. Marine data appears to be limited to that submitted to ICES.	Thematic scope is marine. Members of the ICES community now include all coastal states bordering the North Atlantic and the Baltic Sea, with affiliate members in the Mediterranean Sea and southern hemisphere.	The state of the environment and its evolution are monitored to support policy decisions or investments. Services are global in scope – though primarily focused in Europe. The Marine Environment is one of 6 themes that have been supported.	IODE interests cover all oceanographic data and information on a worldwide basis. IOC collaborates with IHO on the General Bathymetric Chart of the Ocean (GEBCO).	IHO remit is for hydrographic data and information on a worldwide basis. IHO collaborates with IOC on the General Bathymetric Chart of the Ocean (GEBCO).
<b>Does it consider raw data or interpreted information?</b>	Aggregated data, information (e.g. WFD water body boundaries), results of assessments	Both - current examples include Water Watch <a href="http://www.eyeonearth.eu/EN/Map/Pages/default.aspx">http://www.eyeonearth.eu/EN/Map/Pages/default.aspx</a>	Both	Raw data which is then used to make 'products'	Raw Data	Raw Data	Raw data (core services) and interpreted information (downstream services). <i>The MARCOAST programme provides water quality information services</i>	Raw data, information and capacity building.	Raw data, information and capacity building.
<b>Is data/information managed centrally or distributed?*</b>	Centralised at present but it strives towards a distributed approach	Distributed	Distributed at European level. Also likely to be distributed at a UK level.	The 6 themes for the pilot phased are all working on the principle of a distributed architecture.	Centralised. Marine data is provided to EIONET from ICES.	Centralised. Data is submitted each year in specified format.	Distributed	Dependent on different aspects of the initiatives. IODE has established an Ocean Data Portal (ODP) to provide access to distributed data sources.	Distributed among Member States
<b>How is the management of the initiative structured?</b>	The WG on Data, Information and Knowledge Exchange oversees the implementation of WISEmarine.	A SEIS taskforce has been established to assist the Commission in preparing its policy proposals for the implementation of SEIS and bring together all relevant stakeholders. It first met in September 2008.	There are several different working groups implementing different aspects of the directive and the UK is well represented on all of these.	A Marine Observation and Data Expert Group (MODEG) has been established, whose mission is to provide the Commission with the scientific, technical and operational expertise it needs to ensure that EMODNet meets the needs of its future users.	The network is made up of National Focal Points and National Reference Centres	The most senior group is the ICES Council under which the advisory and consultative committee sit and then many expert groups. Some of these expert groups are data specific.	Coordinated and managed by the European Commission. European Space Agency are responsible for the space component; the EEA and Member States are responsible for <i>in situ</i> component. See (add web link)	UNESCO>IOC>IOD E> Working Groups.	A Directing Committee coordinates the technical programmes and provides advice and assistance to Member States
<b>Who is involved or leads in the UK?</b>	The EA, SEPA and NIEA all represent on WISE working groups and at a UK level is coordinated by a UK TAG Information Strategy Group. The policy lead for WISEmarine is the Defra MSFD group	James Tucker (Defra) represents the UK on the SEIS taskforce group.	DEFRA is the lead department for the UK Govt, and hosts the UK Location Programme which is managing the development and interaction with INSPIRE. There are a range of other individuals from OS, Met Office, BADC, Environment Agency et al	Experts from BGS, BODC and University of Sussex plus 2 independents (ex-SAHFOS and EuroGOOS/NOC) are on MODEG. UK organizations are represented in consortiums themes of hydrography, geology,	<b>Christine Holleran</b> (Defra) is the UK national focus point.	Marine Scotland and Cefas represent the UK on the ICES Council. Many UK scientists participate in the expert groups. BODC and Marine Scotland Science representatives sit on the SCICOM Operational Group - DIG (Data and Information	DEFRA provides the policy lead and organizes Copernicus Network groups and forum events. The UK Space Agency provides UK investment in the Sentinel Satellites. The Met Office, NERC and PML are contributing	NERC and UKHO represent the UK on IODE.	UKHO represents the UK on IHO. MCA also have involvement.

			who are involved in the many working groups.	chemistry, habitats and physics.		Group.	to Core services (through CMEMS).		
<b>How does it link to the other initiatives?</b>	May form a 'hub' of SEIS and will use the INSPIRE data specifications for implementation. WISEmarine may link to EMODnet for MSFD reporting purposes in the future.	SEIS will go beyond the scope of INSPIRE by considering non spatial information and other themes. WISE would likely become a 'module' of SEIS focusing on water related information. Metadata will likely use INSPIRE format.	Some of the thematic data specifications will be used by other data initiatives such as WISE. Links to GMES and SEIS are not currently clear.	Anticipated that EMODNet will provide raw data that will be linked to assessments reported to WISEmarine for implementation of the MSFD.	ICES transfer the UK marine data that is used in EIONET.  Technical links to SEIS and WISE are unknown.	ICES transfer the UK marine data that is used in EIONET.  ICES is involved in the EMODNet projects.	GMES forms the European contribution to GEOSS. Links to WISE, EMODNet are under discussion.	As IOC/IODE is global and in specific fields, strong links to the European initiatives are not required, however many participants in the European initiatives also participate in IODE. IODE has had close links with the ICES Data Centre for many years.	As the IHO is primarily concerned with safety of navigation, no formal links to the other initiatives exist.
<b>What is MEDIN's input to these initiatives</b>	MEDIN provides technical input to the Working Group on Data, Information and Knowledge Exchange.	MEDIN maintains a watching brief on SEIS.	MEDIN is involved in various UK Location Programme groups and is a thematic portal for the UK implementation of INSPIRE. Further details <a href="#">here</a> .	MEDIN DACs are partners in almost all of the initial portals and so making data available via that route. MEDIN staff also attend MODEG.	MEDIN staff are a National Reference Centre for the marine theme (?) providing data advice and checking assessment outputs for accuracy.	MEDIN staff are involved in the ICES Data and Information Group (DIG). UK environmental data is transferred to ICES through MERMAN.	No direct involvement	For IODE, BODC is the lead and provides input on behalf of MEDIN. IODE have adapted the MEDIN accreditation criteria for their network of NODCs.	None (although UKHO has membership of MEDIN and IHO and coordination takes place via UKHO's External Relations section)
<b>What does this mean for UK policy?</b>	The UK already submits data and information to WISE to meet its WFD reporting commitments. The UK must have input to the development of WISEmarine so it does not duplicate existing reporting.	The development of SEIS needs to be closely monitored so that the resource commitments and benefits are fully understood and commensurate with other national and international initiatives.	Implementation of the INSPIRE directive in the UK is underway and further interaction is required to ensure integration with existing UK and European initiatives.	Resource implication may appear if all raw data used for MSFD has to be reported via this route. Coordination with other UK and international initiatives is required.	The future of the theme 'water' for EIONET is unclear given developments in WISE. Keeping developments coordinated with UK requirements are required. Keeping a watching brief on how the UK data are assessed is also required	Ensuring that reporting lines to ICES are not duplicated with the advent of EMODNet and WISEmarine.	Coordination with other UK and international initiatives is required. Communication of the downstream services to UK scientists may improve assessments and research.	Ensuring that outputs from the IODE are used and the policies are adhered to is required. Integration is required to coordinate the developments with UK needs.	Ensuring that standards developed and endorsed by the IHO are used where appropriate by all the UK marine community.
<b>Links and suggested contact point</b>	<a href="http://water.europa.eu/en/welcome">http://water.europa.eu/en/welcome</a>  WISE, Rory Wallace (Defra), Ingrid Baber (SEPA) WISEmarine, Naomi Matthiessen (Defra)	<a href="http://ec.europa.eu/environment/seis/index.htm">http://ec.europa.eu/environment/seis/index.htm</a>  Christine Holleran christine.holleran@DE FRA.GSI.GOV.UK	<a href="http://inspire.jrc.ec.europa.eu/">http://inspire.jrc.ec.europa.eu/</a>  Andrew Newman (Defra) <a href="mailto:Andrew.newman@defra.gsi.gov.uk">Andrew.newman@defra.gsi.gov.uk</a>  Shona Nicol (Scottish Government) Shona.Nicol@scotland.gsi.gov.uk	<a href="http://www.emodnet.eu">http://www.emodnet.eu</a>  Lesley Rickards (BODC) <a href="mailto:ljr@bodc.ac.uk">ljr@bodc.ac.uk</a>	<a href="http://www.eionet.europa.eu/">http://www.eionet.europa.eu/</a>  Martin Fowell <a href="mailto:martin.fowell@Defra.gsi.gov.uk">martin.fowell@Defra.gsi.gov.uk</a>	<a href="http://www.ices.dk">http://www.ices.dk</a>  Lesley Rickards (BODC) <a href="mailto:ljr@bodc.ac.uk">ljr@bodc.ac.uk</a> for data related enquiries.  Jens Rasmussen (MSS) <a href="mailto:Jens.Rasmussen@gov.scot">Jens.Rasmussen@gov.scot</a>	<a href="http://www.gmes.info">http://www.gmes.info</a> <a href="http://www.marcoast.eu/">http://www.marcoast.eu/</a> <a href="http://www.myocean.eu.org/">http://www.myocean.eu.org/</a>	IOC: Steve Hall (NOC) <a href="mailto:sph@noc.ac.uk">sph@noc.ac.uk</a>  IODE: <a href="http://www.iode.org/">http://www.iode.org/</a> Lesley Rickards (BODC) <a href="mailto:ljr@bodc.ac.uk">ljr@bodc.ac.uk</a>	<a href="http://www.iho.int">http://www.iho.int</a>

Last Updated Apr 2016 by MEDIN.

\*i.e. based on data submitted to a central database (centralized) or data held at in each organisation and harvested (distributed)

\*\* for the purposes of this table only the marine aspects of GMES are described