EUROPEAN DIRECTORY OF THE INITIAL OCEAN-OBSERVING SYSTEM (EDIOS)

Information and guidance notes for completing the EDIOS Metadata Input Form (MIF)

EDIOS is an information system for marine observing stations (including moored buoys, coastal installations, seabed stations, drifting buoys, repeated sections and sampling stations, airborne repeated tracks, etc) where there are routine, repeated, and consistent long-term observations of the marine environmental conditions, and where the data are made available for use in real-time, or near real-time. In the following paragraphs the word "station" is used to mean the location and geographical co-ordinates at which any series of observations are being made which comply with the definition of "operational oceanography" given in the EuroGOOS Strategy:

Operational Oceanography can be defined as the activity of systematic and long-term routine measurements of the seas and oceans and atmosphere, and their rapid interpretation and dissemination. Important products derived from operational oceanography are:

- *now casts: provide the most usefully accurate description of the present state of the sea including living resources*
- *forecasts: provide continuous forecasts of the future condition of the sea for as far ahead as possible*
- *hind casts: assemble long term data sets which will provide data for description of past states, and time series showing trends and changes*

Operational Oceanography proceeds usually, but not always, by the rapid transmission of observational data to data assimilation centres. There, powerful computers using numerical forecasting models process the data. The outputs from the models are used to generate data products, often through intermediary value-adding organisations. Examples of final products include warnings (of coastal floods, ice and storm damage, harmful algal blooms and contaminants, etc.), electronic charts, optimum routes for ships, prediction of seasonal or annual primary productivity, ocean currents, ocean climate variability etc. The final products and forecasts must be distributed rapidly to industrial users, government agencies, and regulatory authorities.

The following locations of stations should be included in the EDIOS Directory. Some of the definitions are overlapping.

a) All stations within the EEZ of states which are Members of the European Union, or the Council of Europe, or which border the Mediterranean Sea or Black Sea. Russian stations should be included only in regard to laboratories, agencies, and institutes located west of the Urals.

b) All stations observed on an operational basis by laboratories, institutions, or agencies situated in European countries which are included within the EDIOS project, even if they are outside the EEZ. These stations must be part of a long term observing programme. Russian stations should be included only in regard to laboratories, agencies, and institutes located west of the Urals.

c) Marine meteorological observation stations (such as for sea level wind speed, barometric pressure, waves, sea surface temperature, and sea ice data) obtained from ships and buoys should be included.

d) Observation stations on shores, beaches and coasts, measuring marine parameters and variables should be included, and the upper limit of such observations should be the spring water high tide level on open coasts, and the landward extent of tidal oscillations (or salinity?) in estuaries.

   For the Baltic and Black Seas special definitions are required, since the sea water is almost fresh, and there are no tides, the limit of sea influence up-estuary is much more difficult to define. For the Baltic the upper limit of landward limit of intrusion of the 2 psu halocline may be used.

e) Tidal and sea level stations, HF radar stations measuring offshore wind, waves and currents, should be included.

f) Satellite missions measuring marine variables will be included by accessing information available from CEOS and WMO. This work will be done by the EDIOS Secretariat, and need not be repeated in each EDIOS Region.

g) Where observations are repeated seasonally or annually in a broadly defined sea area, but not at exactly repeated identical stations, the stations should be reported as existing within a box (with co-ordinates) or in a named sea area. This could also apply to long-term programmes of drifting floats or profiling floats.

h) Repeated tracks or sections should be listed with the co-ordinates of the start and end of the track, or a long narrow box, if the track is subject to considerable lateral variability.

i) EDIOS will check the availability of river discharge data defining river inputs to the sea. Assistance may be required at the EDIOS Regional level to obtain this information.

The following stations should not be included

j) Stations or sections which are not repeated on a regular basis.

k) Stations where the resulting data are confidential and cannot be obtained for use by others, even after reference to the originator.

l) Stations in closed lagoons or lakes separated from the sea by beach or sand bars.

In case of doubt: We recommend including stations in the EDIOS entry system in cases of doubt or uncertainty. If the minimum mandatory data is supplied, then further checks can be made to resolve the ambiguity.

The EDIOS project will constitute a prerequisite for the full implementation of EuroGOOS by allowing for the first time an analysis of the continuously available data for operational models in Europe, and hence the ability to optimise the deployment of instruments, and the design of sampling strategy. Classification of the ocean-observing sites/devices included in EDIOS will set European standards for ocean observations and help define the initial European ocean-observing system.

EDIOS Metadata Input Form (MIF)

The EDIOS metadata database has been designed to hold information about ongoing observing programmes to answer questions such as 'What platforms measure these parameters?', 'Which instruments do they use?', 'To what accuracy are the measurements made?' The database has been designed around the three elements of prime importance; these are platforms, instruments and parameters. Much detailed information is required, but not all of the fields are mandatory. Those which are include platform, instruments, parameters, positional information (latitude, longitude, water depth) and start date of observations (these are indicated in **bold** and with an ***** on the MIF). Other fields, whilst important, are not mandatory. These include information relating to the accuracy of parameters measured, calibration, processing and quality assurance. Nevertheless this information is very important for the qualification phase of EDIOS.

In addition, the Directory includes the names and addresses of contact points of those responsible for the observing programmes, the resulting real-time data and, where appropriate, the archive centres, together with information about conditions and protocols relating to accessing the observations. Links to web sites where real time data are available are also included.

Standards are used where these are available and where possible (e.g. links within database use standards such as ISO 3166 for countries, the sea areas are taken from the internationally agreed IHB Limits of Oceans and Seas, the code list for platforms derived from the IOC GF3 system and the parameter codes are also based on GF3 codes, as extended and adapted by BODC). The European Directory of Marine Environmental

Data (EDMED) and other databases (e.g. the NASA Global Change Master Directory (GCMD)) have been consulted and utilised in the design of the EDIOS metadata database.

This Metadata Input Form has been designed to allow simple input of information to EDIOS. It is in are two parts, A and B. Part A includes information relating to platforms, geographic coordinates, instruments, parameters, quality management systems and observing programme details. Part B is for contact information. Part A should be completed for each platform or group of platforms. Part B should be also completed for each platform or group of platforms. Where relevant information is already held in digital form, this should be supplied in its current form (i.e. as ASCII files output from spreadsheets or databases). Similarly if technical information relating to instruments is available in either digital or printed form, then provide copies of these noting that they are attached.

THANK YOU FOR YOUR COLLABORATION AND COOPERATION