



The CLME Information Management System (IMS) and Regional Environmental Monitoring Programme (REMP).

Considerations on a Data Policy for CLME and IMS/REMP Deliverable D.3.6.

The “Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions” is a GEF funded Project. Its main objective is the Sustainable management of the shared Living Marine Resources of the Caribbean LME and adjacent areas through an integrated management approach that will meet the WSSD target for sustainable fisheries.

This document presents the results of a study carried out in the context of the IMS/REMP component of the CLME project, on the sharing of data and information and corresponds to deliverable D.3.6. The report discusses and considers the various legal aspects of this important issue for CLME and LMR governance, and subsequently develops a proposal for a CLME Data Policy including guidelines and protocols for managing and sharing of data and information. This sharing of data and information is the cornerstone of the decision-making process, since only on the basis of data and information, indicators can be generated to support decision-makers responding to specific policy issues. This report will be included in the information system IMS.

**Caribbean Large Marine Ecosystem
(CLME) Project**

**Considerations on a
Data Policy for CLME
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F.G. von der Dunk

CONSIDERATIONS ON A DATA POLICY FOR CLME and IMS/REMP

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The CLME (Caribbean Large Marine Ecosystem) project is aimed at establishing a new basis for governance of the shared living marine resources of the Wider Caribbean Region through an ecosystem approach. This approach implies, amongst others, the need for updated, complete and reliable data on ecosystems, environment and related issues. The organisations (institutions) of the CLME community handle much data on ecosystems and environment resulting from measurements and observations carried out by them or by others, within the framework of research and monitoring activities, funded by national and international sources.

This data is highly multi-disciplinary and covers a wide variety of spatial and temporal scales. Undoubtedly, it represents a valuable source of information on environmental processes and ecosystems in the region, and an essential support of decision-making and governance, especially when processed in the form of indicators. However, there are hardly any agreements, commitments and operational procedures in place regulating the management of this data, the access to them, and their accessibility on the long-term. Some organisations have developed their own policy with regard to the access to their data, but there is no coordination or harmonisation on this issue at national or regional levels. As a consequence, the data is archived in a wide variety of forms and formats, in digital (hard disk, magnetic and optic media) and analogue (paper) form, and distributed over many institutions and organizations, without proper overview and without reliable conditions for management and accessibility.

It is therefore recommended to consider the development and implementation of a data policy for CLME with the following objectives:

- ensure the long-term access to and usefulness of data on ecosystems and environment,
- ensure the production of information required generate indicators for decision-making and governance,
- protect the rights of the researcher(s) responsible for the acquisition of the data,
- regulate the rights of users to access and use the data,
- protect the rights of Governments or other entities, which have facilitated and financed the acquisition of the data.

A data policy can include several themes:

- **management of the archives by the institutions and organizations.** This refers to the internal procedures established by institutions and organizations for the management of the archives, especially in the long term. Includes elements such as: identification of the responsibility for the management of the archives, the regular copying of files on the same media or on media of the new generation, the backup copies, a decision on the duration of storage of individual files, and the maintenance of an inventory of metadata.
- **conditions and modalities of access for different groups of users.** It would be advisable to identify and distinguish different user groups (researchers, projects, external scientists, business partners), each with its own access level: real time or after a certain delay, what kind of data or product, and the potential costs of access.

Also one needs to consider the legal and legal aspects related to data proprietary rights, copyrights and responsibility in case of errors in the data, or in the event of improper use,

- **promotion** of the existence of the archives, to promote multi-use and thus increase the efficiency of the initial investment made for the acquisition.

It is recommended to start a discussion among institutions and relevant organizations of CLME on this subject, in order to reach a general agreement on a data policy for the CLME. This data policy should take account of already existing national and international agreements on copyrights and protection of databases (such as Directive 96/9/EC), in particular if formally applicable to one or more member states of the CLME community.

Directive 96/9/EC operates along the lines of copyright but duly takes into consideration the specific issues resulting from electronic database generation – such as the requirement of ‘creativity’ which may be ill suited for application to collection of data of existing (natural) phenomena. It thus noticeably provides for an extraction right and a re-utilisation right as applicable to the database beyond any potentially applicable copyright as such.

With a view to data policy legal aspects, it should be clarified not only which organisations handle those data, but also:

1. What character those data have, in particular whether it concerns paper data or electronic data;
2. To what extent these organisations generate those data themselves, that is pay for the researchers and other persons involved in collecting them and (usually) storing them in some sort of database; and
3. To what extent these organisations in their formal arrangements (contracts or other arrangements on access to data generated outside the organisation alternatively employment contracts with respect to data generated within and/or on behalf of the organisation itself) have provided for conditions under which the copyrighted material may be accessed, used and/or forwarded to others.

From the study on this subject it further appears that there is no single answer to the question which data involved in CLME may be subject to existing copyright, as that depends both on the characteristics of a specific dataset (such as paper versus electronic, minimum of creativity versus lack thereof, minimum of effort versus lack thereof) and on the manner in which in each case the applicable national legislation (or within the European Union: EU law, as relevant) has addressed these various characteristics.

For example, international satellite data providers such as the European Space Agency (ESA) and the European Meteorological Satellite Organisation (EUMETSAT) have used copyright with respect to remote sensing satellite data as their first legal instrument of control over use of and access to such data, and then in accordance with specific data policies differentiated in particular between non-commercial and commercial users alternatively uses, and in the case of EUMETSAT as far as access fees to certain datasets was concerned, even differentiating between various classes of developing countries.

From the perspective of CLME it is important to establish an entity for the purpose of running a CLME database, depository or portal in a state with the national copyright law

considered most suitable for the purposes of CLME. This would presumably mean a state where also electronic data would be covered by such a regime, in order to obtain the desired level of copyright, hence control, over the data and their use further downstream. The almost world- wide recognition and hence application of copyright once duly established in one country by way of the international treaties referred to will then to a large extent cause the protection to be valid in most other countries as well.

In this context it is further recommended to consider the establishment of a region-wide inventory of data holdings, as an approach towards not only centrally storing reference information (metadata) for all relevant data and for regulating access, but also to monitor whether the legal consequences and parameters of the several categories of data at issue from a legal perspective would appropriately be respected. Especially in the case of digital data, software tools might be developed and applied to facilitate this process.

With respect to the issue of metadata, it may be interesting to note that the INSPIRE Directive in Europe mentioned earlier does provide for a specific set of requirements for member states to ensure metadata are widely, easily and to a certain extent even freely available, in order to generate maximum visibility, accessibility and user-friendliness once certain datasets are found to have come within its sway.

As the CLME project intends to, inter alia, give rise to a number of agreements and commitments, it may be helpful for further guidance to realize that within the EU context legislation has been enunciated which, with specific focus on environmental issues, requires of member states to take a number of measures and undertake certain commitments to ensure in practice widespread, free and easy access to those data, notably through the INSPIRE Directive and the Aarhus Convention.

In order to ensure the availability of actual, complete and reliable data for decision-making and governance, it is also recommended to consider the creation in the CLME region of an operational monitoring mechanism, solely dedicated to provide reliable data and information on ecosystems and environment, as a basis for governance, and without the usual access and other limitations of data access generated by the academic world.

It would be advisable to draft appropriate disclaimers of liability with regard to damage potentially resulting from the use of erroneous data in the context of CLME, either – to the extent data may be offered freely and openly, for example on a website – on that same website in a manner that no one could overlook it, or – to the extent data would be offered only to specific users under copyright licenses or other usage-related contracts – by way of clauses in such licenses respectively contracts.

The following pages present a first proposal for a data policy for CLME, IMS/REMP and the Wider Caribbean. The current document was developed in close interaction between Frans von der Dunk, Black Holes, and Paul Geerders, project leader IMS/REMP of CLME.

DATA POLICY FOR CLME and IMS/REMP

(draft)

1. Objectives.

A data policy for CLME and IMS/REMP has the following objectives:

- ensure **access and usefulness** of long-term data on ecosystems, environment and related issues,
- ensure the **availability of the data required to generate indicators** to support the governance processes in the region,
- protect the **rights of researchers** responsible for the acquisition of data,
- protect the **rights of Governments and other entities** which have facilitated and financed the acquisition of data,
- define the **rights of present and future users** regarding access to data.

2. Role of IMS/REMP in this context.

IMS/REMP serves to **promote and monitor the adequate implementation** of the data policy, and initiate adaptations of the data policy if so required.

When talking about data and data archives in the context of the CLME data policy, this explicitly refers to **paper-based (printed, microfiche) documents as well as to digital documents.**

3. Internal management of data archives.

- 3.1. **Responsibility:** each entity holding data archives designate a person responsible for the management of the data archives at the institutional level; to nominate a second person for in case of absence of the main person; to advise IMS/REMP of the names of these persons and on their data for communication (telephone, e-mail).
- 3.2. **Archival of printed (paper) data:** ensure storage of printer (paper) data under adequate conditions in order to prevent their deterioration over time due to external influences; initiate and implement digitizing projects in order to convert printer (paper) data archives into digital form, in order to facilitate their management and conservation.
- 3.3. **Recompilation on the same media:** recopying of digital files on the same medium, by medium, corresponding to the following table:

MEDIA	SUGGESTED FREQUENCY
Magnetic such as hard disk	3
Optical such as CD and	5

- 3.4. **Copying to new media:** the copying of digital files to new media will be implemented taking into account:
 - 3.4.1. the status and availability of the new storage media,
 - 3.4.2. the state of the technology (hardware) and the programs to read files recorded in earlier media and formats.

- 3.5. **Backup copies:** keep three copies of each digital file: one copy for daily work, a second one in a central place of the institution and a third one outside the institution.
- 3.6. **Duration:** for each digital file, establish an institutional agreement on how long it will be archived/maintained; in principle, digital data files with historical monitoring data of ecosystems and environment should never be deleted without previous consultation with IMS/REMP.
- 3.7. **Metadata:** maintain, update and deliver to IMS/REMP metadata relating to the digital archive of ecosystem and environment data, in the agreed format and at agreed intervals.
- 3.8. **Registration:** keep a record of all activities related to the digital archive of monitoring data, including access and editing.

4. Access.

- 4.1. **Researcher responsible for the acquisition:** has free access to archives of "raw" data acquired under his responsibility for a period of 1 year after the date of acquisition; in this period he is responsible for the management, documentation and metadata of the same. After this period, the responsibility for the management, documentation and metadata reverts to the institute or organization.
- 4.2. **Experts involved in the generation of indicators:** have free access to the archives of the "raw" data identified at any time as required for the generation of indicators. They have no right to use the data for other purposes.
- 4.3. **Scientists from institutions and organizations involved in CLME:** have free access (including metadata and documentation) to the "raw" data after a period of 6 months from the date of acquisition. The use of the data in any form of publication requires consultation with the researcher responsible for the acquisition, the inclusion of a reference to this researcher, and sending this researcher a copy of the publication.
- 4.4. **External scientists:** have free access (including metadata and documentation) to "raw" data after a period of 1 year from the date of acquisition. The use of the data in any form of publication requires the inclusion of a reference to the researcher responsible for the acquisition, and sending him a copy of the publication.
- 4.5. **Companies:** access to data for business and/or commercial use requires a specific agreement in each case between the user and the institute or organization holding the data; the agreement would specify the type of data or data product, the envisaged use or application, and the cost.
- 4.6. **Costs:** the scientific use of the data, including the production of indicators for decision-making and management will be free; in the case of large amounts of data it is permitted to charge for media costs and for the time required to perform the copy (COFUR); the cost of commercial use will be negotiated case by case between the user and the data manager, and will be formalised through an agreement.
- 4.7. **Legal and liability aspects:** Government is considered to be the main owner of data on ecosystems and environment in the country; institutes and organizations responsible for the daily management of such data are responsible to comply with the obligations and protect the rights of the owner under this policy. The institutional data manager is responsible to ensure the good quality of the data, and to inform the user as well as possible in relation to

the intended use of the data. However, the data manager is normally not liable for possible damage resulting from the use of the data, except in cases of wilful misconduct or gross negligence.

- 4.8. **Registration:** institutes and organizations holding archives of environmental and ecosystem data are obliged to keep a record of all activities of access to files and use of data, and provide this record upon request to IMS/REMP.

5. Promotion.

- 5.1. **Rights of promotion:** IMS/REMP has the right to promote data files which are included in its metadata inventory. In addition, individual institutions and organizations can promote their own data holdings, taking into account the conditions for access referred to in article 4.
- 5.2. **Media for promotion:** in order to facilitate a consistent presentation to users, IMS/REMP provides a standard format for the promotion of data, which includes the conditions for access as described in article 4. This standard format will be made available via the IMS/REMP website.
- 5.3. **Registration:** institutions and organizations are invited to keep a record of all promotional activities related to their data holdings.

Abbreviations & acronyms

CBERS = China-Brazil Earth Remote Sensing satellite

project CLME = Caribbean Large Marine Ecosystem

(Project) COFUR = Cost Of Fulfilling User Request

EC = European Community

ESA = European Space

Agency EU = European

Union

EUMETSAT = European Meteorological Satellite

Organisation IMS = Information Management System

INSPIRE = Infrastructure for Spatial Information in the European

Community IOC = Intergovernmental Oceanographic Commission

(UNESCO)

IOCARIBE = IOC Sub-Commission for the Caribbean and Adjacent Regions

IPR = intellectual property rights

REMP = Regional Ecosystem Monitoring

Programme SAP = Strategic Action Programme

UNESCO = United Nations Educational, Scientific and Cultural

Organization US = United States

USA = United States of America