

DATA AND INFORMATION GUIDE STANDARDS AND GUIDELINES FOR CERF FUNDED RESEARCH HUBS, PROJECTS AND FELLOWSHIPS (Aug 2007)

The Commonwealth Environment Research Facilities (CERF) aims to improve Australia's capacity to understand and respond to critical environmental challenges.

A crucial factor identified in the protection and management of Australia's environment and heritage assets is having timely access to the best available data and information for analysis and decision making.

The guidelines and standards have been developed to assist CERF researchers ensure that data and other information are dependable, consistent, reliable and easily shared and used across the programme. CERF funded research data and information will be generated from hundreds of scientists involved in Fellowship, Project and Hub activities over the next four years. It is a requirement that all CERF funded research outputs are made publicly available.

The standards will ensure integration of CERF research data into existing applications, online information resources and metadata catalogues, and future data portals across the whole-of-government and the research community. This is essential for efficient and cooperative interactions, building on initiatives that have the same data needs, preventing duplication of data capture and coordinating data requests. This in turn will increase the opportunities for data to be freely distributed, interpreted and be utilised by multiple stakeholders.

DATA STANDARDS AND CUSTODIANSHIP

These guidelines define schemas, formats and timing of information delivery in the provision of data and other information including spatial data or maps.

Custodianship assigns certain rights and responsibilities for the acquisition and management of information on behalf of the Commonwealth of Australia. Responsibilities include maintaining the quality and currency of the information, data storage and security, compliance with relevant legislation and agreed standards, and enabling appropriate access to the information.

CERF researchers will assume the role of data custodian and will be expected to maintain data and metadata according to the principles outlined in the *Australian Government Custodianship Guidelines* <http://www.osdm.gov.au/osdm/custodianship.html> produced by the Office of Spatial Data Management. This will be required for the duration of the grant, and for a period of five years after funding ceases, unless otherwise agreed. Before custodianship ceases, CERF researchers will ensure they have discussed the need for on-going custodianship with the Australian Government.

A key part of any set of data is the accompanying metadata. Metadata is 'information about data' which may include statements of the source, accuracy, standards adhered to, completeness, currency, reliability, access conditions, available formats and a range of other information about the data.

Metadata will be required by DEW before the CERF funded research is published.

CONSULTATION WITH END USERS AND ERIN

We recommend consultation occur at the commencement of a funded project before data collection begins.

The CERF principle investigator would meet with key data hosts of the research, and with representatives from the CERF and the *Environmental Resource Information Network* (ERIN) teams ([mail to:help@erin.gov.au](mailto:help@erin.gov.au)). Consultation would then continue through the life of the project as appropriate to each project, to achieve best practice results.

Consultation would include discussions on:

- possibility for data capture for Government Agencies
- the preferred model for information storage and sharing
- a plan for the dissemination of data requirements to all relevant researchers
- data standards, schemas and guidelines specific to the objective of the project (that are not adequately covered by the general DEW data standards and guidelines addressed below)
- time frames for data delivery and accessibility.

DATA DELIVERY PROCEDURES

The document *Models for Data Storage and Sharing* (<http://www.environment.gov.au/programs/cerf/data-guidelines/index.html>) provides some more information regarding options for this. It is expected that any data generated from CERF research will be made freely available and accessible to the public as soon as practicable after its collection.

The CERF principle investigator will be required to notify DEW before the publication of data.

In the case where the researcher provides public access to the data and information, they will maintain that access for the duration of the grant, and for a period of five years after funding ceases, unless otherwise agreed. Before custodianship ceases, CERF researchers will ensure they have discussed the need for on-going custodianship with the Australian Government.

Data archives will not be required unless there is a significant agency requirement or the data is hosted by a government agency. Removal of access from the data host can only be considered with agreement from DEW and consultation with ERIN and CERF staff about archiving the information.

GENERAL CERF DATA STANDARDS AND GUIDELINES

Data generated by CERF funded research must comply with the following formats and standards which can be found at

<http://www.environment.gov.au/programs/cerf/data-guidelines/index.html>

- *ERIN Data Formats and Standards* for spatial data and non-spatial (tabular) data
<http://www.environment.gov.au/programs/cerf/publications/formats-standards.html>

- *Guidelines for Biological Survey and Mapped Data* for flora and fauna survey data
<http://www.environment.gov.au/programs/cerf/publications/biological-data-guidelines.html>
- *Map Production Guidelines*
<http://www.environment.gov.au/programs/cerf/publications/map-guidelines.html>

New Information Systems and Information Technology

Where research could lead to the development of new information systems or information technology products and applications for DEW, researchers are expected to contact the CERF contract manager to arrange for consultations with relevant Departmental ICT (Information and Communications Technology) and Information Management areas to ensure compatibility with existing DEW standards.

Information systems will need to comply with the Department's current IT platforms, systems and infrastructure (refer to *DEW Environmental Information Systems – Current Infrastructure* which can be found at <http://www.environment.gov.au/programs/cerf/data-guidelines/index.html>) as well as other Departmental requirements.

Metadata Requirements

Metadata must be completed before data are made publicly available and must be maintained in current state as long as the information remains publicly available.

Metadata must be created by the researcher for all data and information funded by CERF using the following standard formats:

- *ANZLIC Metadata Profile* http://www.anzlic.org.au/metadata_project.html (an Australian/New Zealand Profile of AS/NZS ISO 19115:2005, implemented using ISO/TS 19139:2006) for both spatial and non-spatial (tabular) datasets. Researchers may use any compliant system to generate metadata. If required, the *CERF Metadata Editor* <http://www.environment.gov.au/programs/cerf/publications/spatial-data-guidelines.html> has been provided to assist with the process of creating, updating and publishing metadata appropriate to our standards (users will require Microsoft Access). A *completed example of DEW ISO Metadata* is also provided. See <http://www.environment.gov.au/programs/cerf/publications/spatial-data-guidelines.html>
- *AGLS Metadata Standard* <http://www.agls.gov.au/> (based on the Dublin Core Standard) for other types of information, e.g. written records and reports.

Web publishing on an external site

All CERF research hubs are to be represented on the internet through a dedicated website. This website should be the initial point of contact for stakeholders seeking to obtain information about the research hub and access to the research outputs.

Web content generated by CERF research that is published on the internet needs to comply with the *Australian Government Information Management Office's, Guide to Minimum Website Standards*. <http://www.agimo.gov.au/practice/mws>

DEW follows best practice in online service delivery and as such, recommends adherence to the Priority Two checkpoints of the *W3C Web Content Accessibility Guidelines 1.0*. <http://www.w3.org/TR/WAI-WEBCONTENT/full-checklist.html>. Each checkpoint has a priority level assigned by the Working Group based on the checkpoint's impact on accessibility:

Priority 1. A Web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.

Priority 2. A Web content developer **should** satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing Web documents.

General Publishing Standards

Web pages should be prepared in line with the *CERF communications plan* (see <http://www.environment.gov.au/programs/cerf/data-guidelines/index.html>).