



Australian Ocean Data Network



Integrated **Marine**
Observing System



AODN Vision



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A single distributed, federated network for Australian marine science data and information.

- One-stop shop (discovery and access)
 - Effective searching/discovery;
 - Optimising data access and data re-use
 - Ensure interoperability
 - within the AODN; and
 - between the AODN and other related national and international information systems.
- → STANDARDS deliver this

AODN : Standards.....

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Standards – for Data and Metadata

- Fully describe data collection

Metadata – to describe dataset

Metadata - Ancillary Info

- Station (where, what, etc)
- Instrument (where, what)
- Sensor / Recorder
- Calibration
- Deployment
- VERSIONS
- Processing
 - Conversion (signal to real, etc), Aggregation/Averages, etc
 - QA/QC
 - Real-time/Delayed

- Title [of dataset]
- Person responsible for creating data
- Subject [of data]
- Abstract [reason for collection of data ++]
- Constraints on use of data
- Geospatial and temporal coverage [of data]
- Availability (how to access) of data
- Dataset completion [ongoing?]
- Data Model [data parameters collected]

Challenges: getting it right

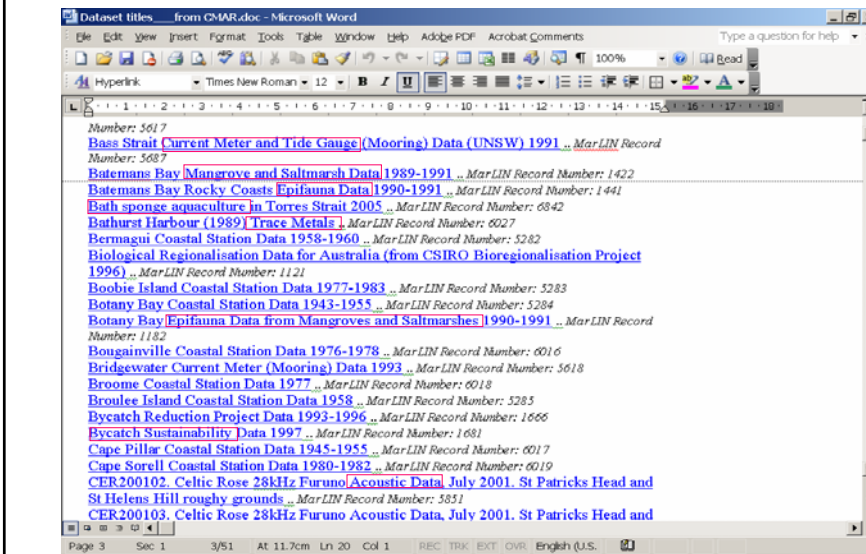
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Standards, common practice, and adherence

- Data without additional metadata /ancillary data.....
- Metadata – if not consistently applied.....
 - Machine-to-machine queries and parsing;
 - content/format of TITLE?
 - Consistently applied signifiers of a dataset's data parameters (eg water temperature, salinity, depth...from?) within the metadata
 - Keywords used?
 - Abstract, quality signification, etc
- Metadata standards: consistently applied;
 - Time-consuming;
 - Not easy, if unused to metadata creation;

Challenges: Standards

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AODN - eMII Service

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Provision of tools and services for eMII

- Comprehensive help documentation
 - for MEST use, metadata creation, IP, hosting issues, etc
- MEST (Metadata Entry and Search Tool)
 - Online MEST (further devt- drop-down lists, etc), and
 - “in-the-field” tool, and conversion program, for non-networked metadata entry
- User guides, induction guides, web pages, FAQs, Discussion lists
- Help desk
- Training and workshops: standard and special-needs sessions (for various stakeholder groups)

Services to maximise data exposure / discoverability

- Publish metadata to the Australian Spatial Data Directory (ASDD)
- Links to other similar information resources and services

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How eMII will help reach that vision

- Identify expected dataflows, and benchmark against ideal dataflows [iterative]
- Benchmark existing international and local practice for handling data-types (data and related metadata) - singular or various? Consistently applied, if singular?; (staff have been working on this)
- Identify actions needed (both by eMII staff, and at facilities) to facilitate interop.
 - alter metadata details collected?
 - alter metadata collecting/creation -and QA - processes for it?
 - alter process of handling/managing data (processing, QC, storing, archiving, transferring and delivering data)?
 - convert data, aggregate data, etc
- ➡ • Identify needs of each Facility [part of the focus of this workshop]; [iterative] (staff have been working on this)
- Based on needs identified, develop eMII PDs, and make appointments;

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How eMII will help reach the “data-management and delivery” vision

- Prioritise development of products for each datatype
- Prioritise development of tools for datatypes handling, data integration, data-use (eg plotting aggregations, detailed data)
- Further refine, and rollout guidelines in “curating” datasets [archiving, 24/7, etc]; ensure that “virtual hosting repository” members are adhering to services promised
- Identify and document interim stds, and develop metadata templates for these; (part-time staff have been working on this)
- Develop the future-focussed stds and software needed for interoperability, and eResearcher's data discovery.
- Provide outreach: (mentioned previously)
- Build the AODN, including QA for the hosting service, and building critical mass:
- Work to encourage “virtual hosting repository” members to publish their own non-IMOS marine data, and bring their metadata records into line;

Challenges: getting it right

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- Negotiate standards with you, document/provide additional guidelines, training, QA, and related support;
- Develop tools to smooth the path
 - Template records / documentation (for datatypes, sensors, instruments, QA/QC processes)
 - Automated creation of metadata where possible (harvesting details from the dataset to create metadata),
 - Sensor registries,
 - Tools to generate a simple record, as near-realtime data arrives;
- Tools to monitor timeliness, usage-stats;
- Tools to enhance ease of adhering to good archival practice etc. (tools to produce alerts, and automated copying of data to the “backup” archive, at key “transfer” and “processing” points in the dataflow)

Challenges: eMII Service

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Technical & services

- Access/Authentication/Authorisation
(MAMS middleware – linking to local authentication systems)
- Versioning, duplication and ‘point-of-truth’ (flags)
- IP, acknowledgement;
(pre-populated templates; or click-throughs – to help decide on and generate Creative Commons-like statements, etc)
- Developments (technical products and standards development and implementation) for web services: web-map services, web features etc

- Next session