Report on the ANZLIC/ICSM Metadata Working Group Meeting No 9

7-8 October 2021

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Overview

The ANZLIC/ICSM Metadata Working Group (ANZ MDWG) Meeting No 9 was held online on 7-8 October 2021. The meeting attracted 55 participants from New Zealand (NZ) and across Australia (AUS). The attendees represented all levels of Governments, research and industry sectors.

The meeting was opened by Simon Costello, the National Location Information Branch Head and the sponsor of the ANZ MDWG. Thirteen presenters delivered 16 presentations. In addition, short written statements were provided by Tasmania, Northern Territory and Western Australia.

Day One of the meeting was dedicated to updates from:

* NZ and AUS states/territories on progress with implementation of the metadata and their ability to provide support to the emergency management (EM) sector;
* EMSINA on progress with the metadata project and their requirements/level of expectation of support in relation to metadata;
* A discussion on what needs to be done across Australia to support the EM sector also took place.

Day Two consisted of:

* Updates from standards organisations (ISO, OGC) relevant to geospatial community standards, technology and activities;
* Targeted presentations on FAIR vocabularies, data quality, Digital Twins, and a new amendment of the ISO 19115-1 standard;
* Report from the technical ANZ MDWG activities;
* Demonstration of a new metadata tool that was developed to replace the outdated ANZMet Lite, and to enable the EM sector to create fit for purpose metadata.

Summary

New Zealand

Significant progress with implementation of metadata standards. Chosen standard – SpatioTemporal Asset Catalog (STAC) for internal implementation with transformation to the ISO 19115 as one of external formats. Main focus is on flexibility and adoptability of the chosen standard implementation to suit multiple use cases. Workflows were implemented for topographic data.

Next steps – development extensions for priority use cases (e.g. imagery, quality)

Australia

ANZ Technical MDWG

The ANZ Technical MDWG (TMDWG) continued meeting fortnightly. Since March 2021, the focus was on development and production delivery of a new metadata creation tool to replace the outdated ANZMet Lite tool, monitoring progress with adoption of the ISO 19115-1 across AUS and NZ, and participating in global activities.

The ANZMet Lite V2 tool was developed and published to replace the outdated ANZMet Lite tool; and to provide the EM sector with a metadata creation template compliant with the EM metadata profile. Significant enhancement of the implemented tool now allows users to create metadata for datasets, products and services compliant endorsed by the ANZLIC version of the metadata standards, ISO 19115-1(-3).

Monitoring progress with adoption of the ISO 19115-1 standard across AUS and NZ was done through a survey (June 2021). The survey showed slow but steady progress. 38 organisations which participated in the survey compared with 16 organisation in June 2018.

Participation in global activities included work on the UN GGIM in the 3rd Ed. of Guide to Role of Standards in Geospatial Information Management, ISO/OGC working groups of TC 211 and Data Quality.

Catalogues

Many variations in methodology, implementations for metadata creations and catalogues. There is a significant dependency in many states on implementations of data.gov catalogues, in particular WA, NT and NSW. VIC and SA had significantly progressed their implementation of metadata systems. QLD, TAS and ACT are in different stages of reviewing current metadata systems.

Support for EM Sector

While all jurisdictions understand the importance of enabling support for the EM sector, including the creation of metadata and supporting catalogues, most of them are not in the position to implement the EM profile and would require support. The ACT and QLD are interested in testing the developed tools. TAS is interested in implementing a system that would support multiple metadata use cases, including EM.

Technology

The technology used to create/maintain metadata and data include proprietary, open source and in-house software. Mainstream software included ESRI, QGIS and MapInfo (for both data and metadata), and Geonetwork (for metadata). Data.gov. au and jurisdictional data.gov implementations were also identified as commonly used metadata systems.

It was recognised that solutions were required to assist integrating the current metadata standard (ISO 19115-1) within these systems.

Other Activities:

Presentation on progress with the Digital Twins activity provided explanation of how Digital Twins support decision making, visualisation and building intelligent systems; and provided example implementations in Australia.

Presentation of FAIR vocabularies described how FAIR Vocabularies support IoT capabilities, how to create FAIR vocabularies, and progress in Australia and around the world with building capabilities.

Presentation on data quality provided an update on the work of the ISO and OGC communities on enhancement of the data quality standards and their compliancy with current practices for machine-actionable registries.

Recommendations

The following activities are recommended to enable significant improvement in metadata interoperability across Australia, and in support of the EM sector to enable them to quickly find, access and evaluate EM and other relevant datasets and services in a consistent way.

* Activity 1

**Influence upgrade of the data.gov (federal and jurisdiction) systems to enable harvesting and export of the ISO 19115-1 (-3) metadata statements (xml).**

**Aim:** Significant improvement in adoption of the ANZLIC endorsed metadata standard across Australia by enabling data.gov systems to provide metadata translation to the ISO 19115-1 as default. This also provides support for the EM Sector and National Map system.

**Approach:** The Australian Federal and jurisdictional data.gov systems have a good alignment in technical architectures, and implementations of common standards. While the data.gov systems are based on CKAN standards, they also provide access to metadata in the (outdated) ISO 19115 standard. If the current mapping between CKAN and ISO metadata elements is remapped to be compliant with the ISO 19115-1 standard in data.gov.au, it will be easy for the jurisdictional data.gov systems to adopt this change and become compliant with the ISO 19115-1 standard, that is currently endorsed by ANZLIC.

* Activity 2

**Upgrade ESRI Desktop tool to assist ESRI users with creating metadata statements compliant with the endorsed ANZLIC ISO 19115-1 metadata standard.**

**Aim:** Work with ESRI Australia to upgrade current method to enable creation of the ISO 19115-1 (-3) compliant metadata statements. This also provides support for the EM Sector and ACS program.

**Approach:** Liaise with ESRI Australia on upgrade of the existing process of transitioning of ESRI metadata to the ISO 19115-1 (-3) compliant format for datasets and services, or to develop a new process supporting this. Preliminary investigation on translation of metadata statements between ESRI and the ISO 19115-1 standard was successfully implemented in GA in April 2021. Review and operationalisation of this the developed process could be reused to develop a required solution. GA has agreed to maintain the developed tool.

* Activity 3

**Pilot projects with ACT, QLD and other stakeholders on adoption of the EM metadata profile.**

**Aim:** Test the developed metadata creation tools, evaluate for further enhancements.

**Approach:** Liaise with ACT, QLD and other stakeholders to test and evaluate developed EM metadata creation tools to improve consistency and compliancy of metadata statements to improve understanding, provenance, constraints and how to access relevant EM resources. This activity includes assistance with deployment of the developed tool, creation metadata and finding relevant catalogues within jurisdictions for storing/accessing metadata.

* Activity 4

**Improve interoperability between adopted by ANZ MDWG stakeholders’ metadata standards by review and mapping between them.**

**Aim:** Improve consistency and interoperability between adopted by stakeholders’ metadata standards.

**Approach:** Conduct a survey to better understand what metadata standards were adopted by ANZ MDWG members and to review/update the crosswalk table. Publish the updated crosswalk table to provide access to all stakeholders.