

	National Environmental Information Infrastructure Reference Group	July 28, 2015
		Final Minutes
		For endorsement

MEETING #04 – MINUTES FINAL

Meeting	National Environmental Information Infrastructure Reference Group
Chair	Dr. Andre Zerger, Environmental Information Services
Meeting Date	July 28 th , 2015
Location	Bureau of Meteorology – Darcy Room Level 3, 14 Childers Street, Canberra
Dial-in/Video	
Time	10:00 am to 13:30 pm

MEMBERS

Representative	Agency	Attending
Louise Minty (Chair)	Bureau of Meteorology	Apology
Mark Lound	Australian Bureau of Statistics	Y
Tony Boston	Bureau of Meteorology	Paul Sheahan
Cynthia Love	CSIRO	Y
Evert Bleys	Department of Agriculture	Y
Tim Neal	Department of Communication	Apology
Lindsay Morgan	Department of Education	Y
Lee-Anne Shepherd	Department of the Environment	Y
Geoff Mason	Department of Finance	Apology
Neal Evans	Geoscience Australia	Y
Lex Cogle	Murray Darling Basin Authority	Apology
Tim Clancy	Terrestrial Ecosystems Research Network	Y
Tim Moltmann	Integrated Marine Observing System	Y
Adrian Burton	Australian National Data Service	Y
Ben Evans	National Computational Infrastructure	Apology
John LaSalle	Atlas of Living Australia	Y
Phil Tickle	Spatial Information CRC	Y

SECRETARIAT

Representative	Agency
Andre Zerger	Bureau of Meteorology, Environmental Information Services

OBSERVERS

Representative	Agency
Rachel Horswell	Bureau of Meteorology, Environmental Information Services
Vivienne Bordas	Bureau of Meteorology, Environmental Information Services
John Timermanis	Bureau of Meteorology, Environmental Information Services
Dale Percival	Bureau of Meteorology, Information Systems and Services
Jon Millard	Bureau of Meteorology, Information Systems and Services

MINUTES

Item	Item
Item 4.1	Opening and attendance
	Dr Andre Zerger (Chair) welcomed participants to the fourth meeting of the reference group.
Item 4.2	Minutes from Meeting #03
	Approved the minutes as a true and accurate record of the NEII Reference Group meeting #3 held on the 27 th March 2015 noting that these will be made public at neii.gov.au along with earlier minutes.
Item 4.3	NEII Web and Collaboration Space
	<p>Vivienne Bordas and Rachel Horswell provided an overview of the recently released NEII web and collaboration space (neii.gov.au). The website is designed to support the goals of the NEII programme by providing stakeholders access to all NEII resources in one location. The password-protected collaboration space enables Reference Group members and other collaborators to communicate through forums and share documents prior to their public release. A user guide has been developed to support the use of the site by collaborators and is available at http://www.neii.gov.au/publications.</p> <p>The principles guiding the site's development, look-and-feel and ongoing use include the following:</p> <ul style="list-style-type: none">• Given the whole-of-government intent of the NEII the site is independently branded.• It brings together in one location all NEII resources.• The site is the primary mechanism for supporting the programme's engagement and collaboration objective.• Its architecture is extensible (i.e. built on the govCMS implementation of Drupal) to 'future-proof' it.

Discussion	<p>The subsequent discussion focused primarily on the implementation of the recently-developed NEII Catalogue which is visible through the web and collaboration space (neii.gov.au\catalogue). Members discussed current approaches for metadata harvesting across different metadata catalogues, the role of data.gov.au as an authoritative catalogue and approaches for searching for authoritative records across respective catalogues (e.g. IMOS, TERN, ANDS, find.gov.au). The discussion highlighted the need to ensure any future metadata catalogue development consider work already completed by member organisations, particularly where more mature approaches to search interface design have been developed and tested with users. Given the depth of discussion around metadata, metadata harvesting and the role of authoritative catalogues (or metadata records), the secretariat committed to allocate time to this topic at NEII-RG #5. This discussion would follow-on from the presentation from GA regarding their metadata catalogue activities.</p>
ACTION	<p>Action 4.1 NEII team to circulate text describing the NEII web and collaboration space to members for possible linking across from their respective websites.</p> <p>Action 4.2 An additional agenda item to be added to NEII-RG#5 regarding metadata catalogues, federation across catalogues and possible re-use of existing metadata catalogue.</p>
Item 4.4	NEII Viewer and Services
	<p>Jon Millard (Bureau of Meteorology, Information Systems and Services) presented an overview of the recently completed NEII Viewer and Services projects (delivery of the GeoFabric and Australian Gridded Solar Climatology as NEII data services) presented against the following organising framework:</p> <ul style="list-style-type: none"> • Framework - The NEII Reference Architecture provides the framework within which to implement web data services. • Requirements - There was a requirement to work within Australian Government and Bureau-specific technology, business and data constraints – this will occur within all partner organisations. • Concept – Projects developed a generic pattern for implementation of services, taking the NEII Reference Architecture into account. • Governance – Considered data and business flows and constraints, as they would be in operation, who's responsible and who benefits. • Components – Defined general components and functions required to support process and to realise the overall process. • Deployment – Defined detailed aspects of the implementation, including specific technologies to implement functions. <p>Technical Drivers</p> <ul style="list-style-type: none"> • Scalability – ability to expand or contract according to demand. • Operability – minimizing ongoing effort and complexity in operation. Includes ability to repeat activities, analyse and resolve issues quickly. • Availability – maximising potential up-time for users of the services. This requires that systems are resilient under load or due to minor hardware outages. <p>Approach</p> <ul style="list-style-type: none"> • Both data and software are versioned and snapshotted. • This allows software and data to be bundled and deployable as 'units' • The solution uses automated deployment methods • Provides the Bureau the potential to deploy services and data to cloud-based environments

	<ul style="list-style-type: none"> Delivered through high-availability load balanced clusters. <p>Services demonstration through the NEII Viewer</p> <ul style="list-style-type: none"> Australian Gridded Solar Climatology; Geofabric; and eReefs (MWQ & Reef Temp). <p>The NEII programme and the Bureau have invested significant effort to make the services operational by the Bureau's definition (Category 3 infrastructure). The Bureau's approaches and learnings delivering these projects may be of use to partners and the programme is able to share key resources with reference group members.</p>
Discussion and Questions	<p>Reference Group members discussed plans for progressing further work regarding NEII data services noting that work is already underway in some organisations. The discussion explored future priorities for the Bureau for delivering NEII conformant data services. The NEII programme noted that they are working with Bureau business units to identify additional data candidates, but importantly they are also working with external stakeholders to promulgate the adoption of these standards. Data under consideration from within the Bureau includes other data from the Climate Information Services area such as soil moisture and climate grids. The working group to be formed to evaluate the NEII Conformance Framework will also be used to inventory web data services available within partner organisations.</p>
Item 4.5	NEII Conformance Framework
	<p>Dale Percival (Bureau of Meteorology, Information Systems and Services) introduced the NEII Conformance Framework – Consultation Draft and provided an overview of the framework, its design and intended use. The Conformance Framework has been developed to provide guidance to organisations considering adoption of NEII approaches, and for users to assess the suitability of NEII data for their needs using the framework's maturity model approach. Five maturity levels are described in the maturity metric ranging from entry, the most basic, through to mature, the most advanced. Two worked examples have been provided for Bureau of Meteorology NEII data services including the GeoFabric and Marine Water Quality System to improve users' understanding and use of the framework.</p> <p>The framework has been release as a consultation draft noting that its structural and technical robustness, and effectiveness as a communication tool requires further testing and peer-review. This is best achieved by establishing a targeted working group of experts with representation from member agencies.</p>
Discussion and Questions	<p>Reference Group members discussed the conformance framework, its design and the possible inclusion of additional conformance elements. Discussion explored possible inclusions including <i>versioning</i> into the framework to enable it to better support users that required access to earlier data versions. The discussion also examined issues of data provenance and noted that work is currently underway in CSIRO around the role of data provenance and some inclusion of this work could be included. The Information element in the maturity model engendered discussion regarding whether there was a logical progression from unstructured to structured and then to fully governed data? The discussions highlighted the need to conduct a more detailed review and assessment of the framework through the working group. Members endorsed the formation of a targeted working group to test the conformance framework and recommend improvements.</p>
ACTIONS	Action 4.3. For Reference Group members to nominate a representative to

	join the NEII Conformance Framework working group. Nominations to be provided to environment@bom.gov.au by September 4 th , 2015.
Item 4.6	Essential Environmental Measures for Australia
	Lee-Anne Shepherd (Department of the Environment) provided an update on the Department's Essential Environmental Measures for Australia programme. The Essential Environmental Measures aim to identify aspects of the environment that are essential to measure on an ongoing basis to track changes in the state of the environment at a local, regional and national scale. State of the Environment (SOE) themes are being used as the organising framework. Appropriate measures are being developed in collaboration with experts, initially through a series of workshops. The Department of Environment have undertaken two pilot workshops: one on water quality and the other on vegetation condition.
Discussion and Questions	Members endorsed the value of making national reporting processes such as State of the Environment more dynamic moving away from the current five yearly reporting model. There was also recognition that national reporting frameworks should adopt a more quantitative approach and the identification of essential measures goes some way to making this happen. Members expressed s interest in learning more about the programme and outcomes from the two workshops.
ACTION	Action 4.4 The Department of the Environment to send Reference Group members minutes from the recently completed vegetation workshop.
Item 4.7	Member Updates - Including relevant engagement with States and Territories
	<p>CRC SI – The Australian Government funded (National Landcare Program) NRM Hub Project is advanced with development of the OPPIS (Online Property Planning and Information System) which includes a range of new tools allowing individual land holders to view and analyse the Landsat time-series data coming out of GA, TERN AusCover, the States and global services via an Amazon Cloud implementation. OPPIS is now being trialed on over 100 extensive grazing properties, and a series of extension workshops are being completed around the rangelands over the next 6-8 months.</p> <ul style="list-style-type: none"> • The NRM Spatial Hub Fact Sheet is now available in the NEII collaboration space (Document management – 04 Reference Group Meeting). • The Hub is also developing YouTube material. The Hub Youtube channel is https://www.youtube.com/playlist?list=PL6E0zvIINrYwflk1d0dMgCfjrHXINsSFE <p>IMOS – are engaged in the Reef 2050 Plan and in particular the integrated monitoring and reporting program which is an \$8m program over 4 years. Some consideration is being given to include NEII as a possible architecture for publishing and accessing data emerging from the activity.</p> <p>TERN – are supporting the development of data plans for new Department of the Environment NESP hubs. TERN have received business as usual funding for another 24 months and are supporting the ongoing NCRIS review.</p> <p>Geoscience Australia – GA have recently developed the Interactive Maps toolkit with the contact for further information being Steven Ackerly - Steven.Ackerly@ga.gov.au. An overview of the current products utilising the</p>

	<p>Toolkit can be found at http://www.ga.gov.au/interactive-maps/#/. The software underpinning the Toolkit will be available via an external GitHub repository for re-use by partners. GA are also currently implementing an instance on the Amazon Cloud to ease deployment. GA will develop a presentation for the next Reference Group meeting on how they are moving into the digital, discoverable and federated world of catalogues rather than only providing a focus on FIND.gov.au.</p> <p>CSIRO – The Marine National Facility (Investigator) are currently operational and capturing and publishing data which is available through CSIROs data access portal (DAP). CSIRO have commenced an enterprise-wide activity to develop data management plans online that will also include a storage provisioning tool for staff. An emerging project of interest to reference group members is AUSNOME that will seek to improve data integration across disciplines (i.e. internet of things).</p> <p>Bureau of Meteorology – Water Data Online web services have been released using the NEII Sensor Observation Service (SOS) standard for observational data. The services are also contributing to World Water Online (demonstrator). WaterML2 remains under development through a collaboration with CSIRO.</p> <p>ALA – are collaborating with the Department of the Environment on the MERIT monitoring and reporting system and are looking for ways to extend this tool.</p> <p>Department of Agriculture – Have developed a bid to transform their ICT infrastructure in three years. Included in this work will be the ability to deliver Catalogue Service for the Web (CSW) conformant metadata for internal data and that will eventually be available externally.</p> <p>Department of the Environment – State of the Environment chapter authors have been engaged and the team are currently investigating digital online delivery options. Working through the Australian Government Environmental Information Advisory Group, the Department are developing national principles for environmental information to be released later this calendar year.</p> <p>Department of Education – are currently leading a whole-of-government review of e-research infrastructure funding that is looking at improved models for sustaining investments including boosting commercial returns.</p>
ACTIONS	Action 4.5 DotE to send list of SoE authors with minutes.
Item 4.8	<p>Other business</p> <p>New membership - Chair proposed to extend an invitation to the Australian Urban Research Infrastructure Network for membership of the NEII Reference Group given their critical role around urban data. The nomination was supported by members.</p> <p>Department of Agriculture – Offered to lead some informal metadata workshops for members and representatives focusing particularly on developing quality metadata. An invitation will be distributed shortly.</p>
ACTIONS	<p>Action 4.6 - AURIN to be invited to nominate a representative to join the Reference Group membership.</p> <p>Action 4.7 – Department of Agriculture to issue an invitation to members to participate in a metadata curation/maintenance workshops.</p>

NEXT MEETING	Next meeting 21st October - TBC
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ACTIONS SUMMARY

Actions completed and accepted by the NEII-RG will be removed from the rolling action list

#	Action	Due	Status
3.2	The Bureau of Meteorology to coordinate a stakeholder meeting leading to the development of a position paper around the role of vocabulary development and information modelling for the NEII.	Prior to NEII-RG #04	Carried over to next meeting
3.3	NEII Reference Group Meeting 5 to review the Terms of Reference in regard to possible expansion of membership.	NEII-RG #05	
3.4	Murray Darling Basin Authority to provide advice on membership of the Basin Plan Implementation committee and extend an invitation to the NEII programme.	Prior to NEII-RG #04	In-progress
3.5	NEII Programme to produce electronic communication pack for members	Prior to NEII-RG #04	In-progress
3.6	NEII Reference Group members to nominate a contact person to participate in the user stories and benefits work.	ASAP	Complete
3.8	Geoscience Australia to provide an update on their catalogue work with data.gov.au and possible integration with NEII at a future meeting.	See 4.5	In-progress
4.1	NEII team to circulate text describing the NEII web and collaboration space to members for possible linking across from their respective websites.	ASAP	Complete
4.2	An additional agenda item to be added to NEII-RG#5 regarding metadata catalogues, federation across catalogues and possible re-use of existing metadata catalogue functionality.	ASAP	Complete
4.3	For Reference Group members to nominate a representative to contribute to join the NEII Conformance Framework working group. Nominations to be provided to environment@bom.gov.au .	ASAP	
4.4	The Department of the Environment to send Reference Group members minutes from the recently completed vegetation workshop.	ASAP	Complete
4.5	DoE to send list of SoE authors with minutes.	ASAP	Complete
4.6	AURIN to be invited to nominate a representative to join the Reference Group membership.	ASAP	Complete
4.6	Department of Agriculture to issue an invitation to members to participate in a metadata curation/maintenance workshops.	ASAP	Complete

