

	<b>National Environmental Information Infrastructure Reference Group</b>	October 20th, 2016
		<b>For information</b>

## MEETING #07 – MINUTES DRAFT

<b>Meeting</b>	Meeting #07 – National Environmental Information Infrastructure Reference Group
<b>Chair</b>	Dr. Louise Minty, Assistant Director, Environmental Information Services
<b>Meeting Date</b>	October 20 <sup>th</sup> , 2016
<b>Location</b>	Bureau of Meteorology – Darcy Room, Level 3, 14 Childers Street, Canberra
<b>Time</b>	10.00 to 12.30 – lunch will be provided at 12.30

### MEMBERS

<b>Member</b>	<b>Organisation</b>	<b>Attending</b>
<b>Louise Minty (Chair)</b>	Bureau of Meteorology	Chair
<b>John LaSalle</b>	Atlas of Living Australia	Peter Brenton
<b>John D Moore</b>	Australian Bureau of Statistics	Apology
<b>Adrian Burton</b>	Australian National Data Service	Member
<b>Andrew Dingjan</b>	Australian Urban Research Infrastructure Network	Apology
<b>Tony Boston</b>	Bureau of Meteorology	Apology
<b>Phil Tickle</b>	CRC Spatial Information	Member
<b>Cynthia Love</b>	CSIRO	Member
<b>Evert Bleys</b>	Department of Agriculture and Water Resources	Member
<b>TBC</b>	Department of Education	Apology
<b>Lee-Anne Shepherd</b>	Department of the Environment and Energy	Ben Roudnew
<b>Toby Bellwood</b>	Department of Prime Minister and Cabinet	Member
<b>Neal Evans</b>	Geoscience Australia	Member
<b>Tim Moltmann</b>	Integrated Marine Observing System	Apology
<b>Stephen Kay</b>	Murray Darling Basin Authority	Stephen Sunderland
<b>Ben Evans</b>	National Computational Infrastructure	Apology
<b>Beryl Morris</b>	Terrestrial Ecosystems Research Network	Member

## SECRETARIAT

Representative	Organisation
Andre Zerger	Bureau of Meteorology, Environmental Information Services

## OBSERVERS

Representative	Organisation
Chantelle Doan	Bureau of Meteorology, Environmental Information Services
Vivienne Bordas	Bureau of Meteorology, Environmental Information Services
Martin Schweitzer	Bureau of Meteorology, Environmental Information Services
Michelle McCue	Department of Prime Minister and Cabinet

## MINUTES

<b>Item 7.1</b>	<b>Opening &amp; attendance</b>
	Dr. Louise Minty (Chair) welcomed participants to the seventh meeting of the reference group.
<b>Item 7.2</b>	<b>Minutes from Meeting #06 and actions</b>
	<b>Approved</b> the minutes as a true and accurate record of the NEII Reference Group meeting #6 held on the 12 <sup>th</sup> April 2016 noting that these will be made public at neii.gov.au along with earlier minutes. Dr Andre Zerger provided an update of the action items.
<b>Item 7.3</b>	<b>NEMSR - Launch</b>
	<p>Dr Louise Minty introduced and launched the National Environmental Monitoring Sites Register (NEMSR). In the first release five organisations, 12 unique networks and thousands of monitoring sites have been made available to improve discovery and access of environmental information. Thanked the people who contributed to the NEMSR, for their time and effort with special thanks to the build team headed up by Martin Schweitzer and Julian Noye; information modelling team including Dominic Lowe and Marissa Byrnes; the NEII team including Chantelle Doan, John Timermanis and Lisa Sainsbury and our external partners including Data61 and Splendid Projects.</p> <p>Dr Andre Zerger provided an overview and demonstration of the NEMSR noting that data providers have worked hard to ensure that their data conforms to the information model. Thanks were extended to the data providers who helped the programme design and populate the NEMSR information model by contributing their networks.</p> <p>www.neii.gov.au has been refreshed as it is the primary gateway for accessing the NEMSR application and data provider support material. Additional components in the NEMSR architecture include a file validation service and the NEMSR database that are hosted on operational Bureau of Meteorology infrastructure. The final validated NEMSR networks are then made available in GeoJSON format through a publically accessible web service and the NEII Viewer (<a href="http://neii.gov.au/nemsr/how-use">http://neii.gov.au/nemsr/how-use</a> and <a href="http://neii.gov.au/viewer/">http://neii.gov.au/viewer/</a>).</p>
<b>Discussion</b>	Members discussed the NEMSR and its national role as a key piece of data and ICT infrastructure. The NEII programme noted that for inclusion in the NEMSR, the observational data must be available publically with the longer term vision that it's available a web data service. At this stage only the Water Data Online network provides users access to observational data through data service endpoints and these are

	referenced in the NEMSR information model to direct users to data. Members discussed the architecture of the NEMSR noting that it currently adopts a manual upload model (through web-based forms) rather than supporting programmatic updates from data providers. The NEII programme noted that at this stage most data providers are unlikely to have the capability to deliver their site metadata through data services. As maturity improves the NEMSR could be enhanced to support programmatic updates of monitoring site data.
<b>Recommendations</b>	<b>Noted</b> The recent production release of the NEMSR under the NEII programme at <a href="http://www.neii.gov.au/nemsr">www.neii.gov.au/nemsr</a>
<b>Item 7.4</b>	<b>NEMSR - Expansion</b>
	<p>Given the recent release of the NEMSR, Dr Andre Zerger presented on future plans noting the following main priorities:</p> <ol style="list-style-type: none"> <li>1. Technical enhancements are currently being delivered under business-as-usual and include improved role and user management, user password management tools and development of user logs.</li> <li>2. Benefits and promotion – communication and release activities will consist of bilateral briefings with key stakeholders, a lead article in eXchange, showcases and updates at neii.gov.au. The team will also work with related activities to promote the possible role of the NEMSR to support the needs of different groups.</li> <li>3. Network expansion – the initial 12 networks were selected to provide a cross-section of domains and data providers to support the development of a community-agreed information model and GeoJSON exchange. The programme is now looking to expand the networks to 15 by the end of this FY.</li> </ol>
<b>Recommendations</b>	<p>That the Reference Group:</p> <ul style="list-style-type: none"> <li>• <b>Advise</b> on additional communication and promotion opportunities to improve national awareness regarding the release of the NEMSR.</li> <li>• <b>Advise</b> on priorities regarding inclusion of additional networks into the NEMSR through 2016-17.</li> </ul>
<b>Discussion</b>	<p>The following items were discussed with regard to the NEMSR expansion:</p> <ul style="list-style-type: none"> <li>• CSIRO noted the suitability of the Australian Soil Resources Information System for possible inclusion into NEMSR.</li> <li>• There is evidence from within a number of data providers that the NEMSR information model could also support achieving improvements in internal agency consistency in how monitoring site data is described and managed.</li> <li>• ANDS thanked the programme noting that the NEMSR provides a fundamental piece of infrastructure to support a range of user needs in the environmental information space.</li> <li>• NEMSR is a network of networks providing a national view and does this then create an ensuing need to develop a national monitoring site identifier scheme? The Bureau noted that this is very challenging undertaking based on Bureau experiences for water information and suggested data providers continue to contribute and interact with the system and then consider the possible need for a national site identifier solution.</li> <li>• Members explored how old monitoring sites are handled in the NEMSR. The programme noted that all sites should be included in the register noting the information model is sufficiently flexible to handle decommissioned sites.</li> <li>• IMOS suggested that NEMSR expansion could be targeted towards national priorities, for example State of the Environment reporting.</li> </ul>
<b>Action 7.1</b>	Members to advise on additional communication and promotion opportunities to improve national awareness regarding the release of the NEMSR.

<b>Action 7.2</b>	Members to advise on their priorities regarding inclusion of additional networks into the NEMSR through 2016-17.
<b>Item 7.5</b>	<b>Platforms for Open Data – Department of Prime Minister and Cabinet</b>
	<p>Toby Bellwood provided an overview of data.gov.au and current priorities under the platforms for open data initiative. Earlier this year a platforms for open data project was established to improve data.gov.au infrastructure given the duration since the original build. A key element of this will be improved treatment of data quality and the team are working with other agencies with experience in this space such as the ABS and GA.</p> <p>The team are working with related activities such as NEII, Fundamental Spatial Data Framework and the CRISP initiative to determine how best to make data emerging from these activities visible through data.gov.au.</p> <p>A priority is to also improve the user experience with regard to data discovery in data.gov.au. Later this month a prototype of data.gov.au will be released.</p> <p>The team are also considering how to enable agencies to improve their ability to share data. For example GovHack was successful but more can be done to support agencies and users. Possibilities include capabilities such as 'Rate this data' and using the Kaggle platform.</p> <p>Currently leading a project on synthetic data set and secure Application Programming Interfaces.</p> <p>The public data branch also recently launched the data fellowship programme to improve capability of the APS.</p>
<b>Discussion</b>	<p>CSIRO commented:</p> <ul style="list-style-type: none"> <li>• That public data is a huge input into research however there is a need to provide researchers with confidence that the data is of high quality.</li> <li>• data.gov.au momentum needs to be maintained.</li> <li>• Stressed the importance of attribute back to agencies and individuals to incentivise open data publishing.</li> </ul> <p>The Bureau commented that the data.gov.au infrastructure has also been successful as a change agent. Its key advantage has been that data.gov.au has a relatively low cost of participation but this can similarly impact data quality and poses a challenge for the future.</p>
<b>Item 7.6</b>	<b>Terrestrial Ecosystems Research Network update</b>
	<p>Dr Beryl Morris provided an overview of TERN describing its efforts to monitor land-based ecosystems. TERN is Australia's ecosystem observatory delivering data streams to enable environmental research and management. Six years ago TERN surveyed what data might be available to support the ecosystems science community and noted data were fragmented. This shaped the design and implementation of TERN. TERN Data publication highlights include the following.</p> <ul style="list-style-type: none"> <li>• Over 2250 data collections</li> <li>• Publish data from over 100,000 ecological sites</li> <li>• 12 long term research networks</li> <li>• 10 ecosystem observatories</li> <li>• Half hourly time series flux data across Australia</li> <li>• Over 40 continental scale soil and landscape attributes data</li> </ul> <p>An important product delivered by TERN has been the TERN data portal to provide a central point of access to TERN generated resources.</p> <p>The TERN web site is currently undergoing a major refresh.</p>
<b>Discussion</b>	<p>The ALA noted that there is strong desire to see a much greater level of integration between NCRIS facilities and a desire to fill gaps for example in freshwater systems. In this regard it's possible to bring existing governance groups together but allow them to</p>

	remain specialised around specific subject domains.
7.7	<p>Member updates – including relevant engagement with States and Territories</p> <p><b>CSIRO</b> – Are currently implementing a data management capability enhancement programme and resolving challenges about ingesting larger data through the data access portal (DAP). Related activity pertains to semantically enabling the DAP in addition to building a framework around data governance and data management planning tools for staff. A project is shortly to commence with support through ANDS to assist ASRIS to migrate to enterprise infrastructure including the development of a soils vocabulary and improved delivery of soils data through data services.</p> <p><b>ALA</b> – Continuing to work with states on sharing around biodiversity occurrence data in a two-way manner. This is working well with NSW and SA. Have recently released on behalf of the MDBA a data portal for SRA data. There is capacity to extend this to other data. ALA also have a major focus on indigenous knowledge and how best to represent this with regard to species observations. Have recently released a data capture tool to support citizen science programmes. AURIN and the Virtual Biodiversity Lab are now pulling data from the ALA. Internationally eleven countries are now using ALA infrastructure and GeoBON have released Bon in a Box with the ALA infrastructure targeted as a key part of the infrastructure.</p> <p><b>Department of Agriculture and Water Resources</b> – The Department is moving to beta testing of a 19115-3 conformant metadata catalogue. A major activity within the department is the Agricultural Intelligence Transformation Project which is taking a more holistic view of analytics capability across the department.</p> <p><b>Department of the Environment</b> – The Department are progressing the Essential Environmental Measures programme and have recently completed a pilot project focussed on native vegetation and specifically the development of an information model for vegetation site data. The programme is now expanding into the marine environment.</p> <p><b>ANDS</b> – ANDs are extending the ANDS discovery service (portal) with a focus on data services from the research sector. Geoscience Australia has been contributing vocabularies to the ANDS vocabulary service for internal and external use. A vocabulary service interest group has also recently been formed. ANDS are also involved in a number of community engagement activities in an attempt to move to a model that is more community driven. This includes for example the development of a self-guided program called 23 Things. 49 community groups have now been established to support their respective communities.</p> <p><b>PM&amp;C</b> – PM&amp;C are hosting the next Open Data event on November 23<sup>rd</sup> at the ABS. The Open Data forum will recommence in March next year. Also running a number of training courses to support agencies to use data.gov.au with interest remaining high.</p> <p><b>BoM</b> – The Bureau have recently established their Data Programme which at this stage is primarily inward focussed.</p> <p><b>CRCSI</b> – Note the recent release of the 2026 Spatial Industry Transformation and Growth Agenda which includes a series of workshops and consultation activities. Further information is available at <a href="http://www.crcsi.com.au/news/2026agenda/">http://www.crcsi.com.au/news/2026agenda/</a> and <a href="https://2026agenda.com/">https://2026agenda.com/</a>. At the project level the CRCSI are investing in improving access to time series satellite imagery to facilitate improved access to the Landsat archive. This includes the development of APIs to allow users to access High Performance Computing infrastructure to process data. The CRCSI continue to progress the development of the NRM Spatial Hub (<a href="http://www.nrmhub.com.au/about/">http://www.nrmhub.com.au/about/</a>).</p> <p><b>IMOS</b></p> <ul style="list-style-type: none"> <li>• IMOS has had responsibility for implementing the Australian Ocean Data Network (AODN) for some years. However this has been seen as an additional responsibility, in addition to the core business of making all IMOS data available through our electronic Marine Information Infrastructure (eMII). In line with the IMOS long term strategy, and with support of all key partners, we have now assumed full responsibility for AODN as of 29 May 2016. There is now just one national marine information infrastructure (AODN) which is a Facility of IMOS. Open access to marine data, including that collected outside of IMOS, is now core business for IMOS.</li> <li>• Related to this, Roger Proctor (AODN Director) has taken on the role as Australia's representative to the International Oceanographic Data and Information Exchange (IODE) of the UN Intergovernmental Oceanographic Commission (IOC).</li> </ul>

	<ul style="list-style-type: none"> <li>• Noting that AODN is broader than IMOS, the National Marine Science Committee (NMSC) has agreed to provide oversight of AODN and to make the AODN Technical Advisory Group its 'marine data sub-committee'. This is a necessary step in light of the above. It is also a significant and positive step in the context of NMSC's decadal plan focused on driving development of Australia's blue economy.</li> <li>• Within this context, a few marine data partnerships are worth noting. IMOS is working with the NSW Office of Environment and Heritage (OEH) to make its marine data holdings available via AODN. We are co-chairing the Data Management and Systems working group of the Reef Integrated Monitoring and Reporting (RIMRep) program aiming at revolutionising GBR monitoring and reporting, and associated data management and systems, in line with the Reef Long Term Sustainability Plan (2050). These initiatives are in addition to established partnerships with the NESP Marine Biodiversity Hub, the WA Marine Science Blueprint (2050)/WAMSI, and the Great Australian Bight Research Program</li> <li>• Through the National Marine Science Committee we are in discussion regarding the Essential Environmental Measures programme in the marine environment</li> </ul>
<b>ACTION 7.3</b>	Reference group members to let Evert Bleys know if they use anything on the Australian Natural Resources Data Library. ASAP
<b>7.8</b>	<b>NEII programme update</b>
	Updated provided in paper at Item 7.8
<b>7.9</b>	<b>Other business &amp; next meeting</b>
	Next meeting early next year (TBA) noting the Bureau will have moved to their new location in Canberra in the Treasury Building

## ACTIVE ACTIONS

Actions completed and accepted by the NEIIRG will be removed from the rolling action list and are available and [www.neii.gov.au](http://www.neii.gov.au) (password protected collaboration space)

#	Action	Due	Status
6.2	NEII Programme to create a mechanism to share technical learnings in regard to NEII implementation.	ASAP	In-progress
6.3	NEII Programme to continue expansion of the framework to other information types including observations, monitoring sites and controlled vocabularies	ASAP	In-progress
6.4	NEII Programme to establish the environment.data.gov.au working group and members to nominate representatives. The working group would report to a future meeting of the Reference Group	Hold	Not started
7.1	Members to advise on additional communication and promotion opportunities to improve national awareness regarding the release of the NEMSR.	Ongoing	In-progress
7.2	Members to advise on their priorities regarding inclusion of additional networks into the NEMSR through 2016-17.	Ongoing	In-progress
7.3	Reference group members to let Every Bleys know if they use anything available on the Australian Natural Resources Data Library.	ASAP	In-progress