



U.S. - New Zealand Joint Committee Meeting on Science and Technology Cooperation

Action Items under the Roadmap of Cooperative Activities for 2012-2014

19 – 20 September 2012, Washington DC

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1. Preamble

The United States hosted the third U.S.-New Zealand Joint Committee Meeting (JCM) on 19-20 September 2012. The U.S. delegation was led by Dr Kerri-Ann Jones, Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. The Honorable Steven Joyce, Minister of Science and Innovation, Ministry of Business, Innovation and Employment (MBIE) was the New Zealand Head of Delegation. The 2012 JCM builds on the outcomes of the first and second JCMs held in Washington DC in October 2007 and Wellington in January 2010.

Approximately 50 delegates from the U.S. and New Zealand attended the JCM to discuss priority areas for increased cooperative activities and develop an action plan under the 2010 Roadmap of Cooperative activities for the 2012-2014 period. The two-day meeting consisted of a set of half-day workshops for each topic area, followed by the JCM Plenary on day two, which agreed a set of actions for each topic area and cross-cutting theme.

In addition, it was agreed that the next JCM will be held in New Zealand in October 2014.

Progress since the 2010 JCM

The 2012 JCM continued in the path set by the 2010 JCM, talking through a number of topic areas, but also establishing some new priority topics and cross cutting themes. The JCM continues to strive for strategic, long term outcomes, with tangible deliverables that can contribute to strengthening and deepening the long term science and technology relationship between the U.S. and New Zealand.

In each topic area of the 2010 JCM Roadmap, the working groups came together at least once to try to take forward agreed actions. In the Agriculture and Food Innovation, and the Grid Integration topics, the groups were not able to maintain momentum beyond an initial workshop. In determining the areas of focus for the 2012 JCM, it was agreed not to pursue these two areas further at this time.

In some areas, we saw great progress and found that the activity in the Bioenergy topic was able to be 'graduated' and could continue at a strategic level outside the scope of the JCM.

The ocean and marine, and climate topics from 2010 also advanced well with a high level of interaction amongst the working groups. These topic areas remain a strategic priority for the U.S. and New Zealand and the topics were brought through to this 2012 JCM. The focus this year was on expanding the platform of cooperation in each area and formalizing the relevant institutional relationships. To this end, at the 2012 JCM, the U.S. National Oceanic and Atmospheric Administration (NOAA) and the New Zealand National Institute for Water and Atmospheric Research (NIWA) signed a Letter of Intent for the Development of Future Collaboration in Atmospheric, Climate, and Ocean Research.

These topic areas remain strategic priorities for the U.S. and New Zealand and the topics were brought through to the 2012 JCM. The focus of the 2012 JCM was on expanding the platform of cooperation, engagement and agreed tangible outcomes in each area and formalizing the relevant institutional relationships. In preparatory discussions, new topics and cross cutting themes were added to the agenda, reflecting the strategic direction of the relationship and newly prescient areas of importance for the U.S.-New Zealand science relationship.

2012-2014 Priority topics and cross cutting themes

The priority topics to be worked on over the coming two years, and respective lead organizations are:

- a) Climate Change Monitoring, Research, and Services in the Pacific (National Oceanic and Atmospheric Administration and National Institute of Water and Atmospheric Research)
- b) Health and Health Innovation (U.S. Department of Health and Human Services and New Zealand Health Research Council)
- c) Natural Hazards and Resilient Cities (U.S. Geological Survey and GNS Science/Natural Hazards Research Platform)
- d) Marine and Ocean Research (National Oceanic and Atmospheric Administration and National Institute of Water and Atmospheric Research)

New cross cutting priority topics agreed during the JCM are:

- e) Women in Science (U.S. Department of State and MBIE-Science and Innovation)
- f) Science and risk communication (U.S. lead tbc;¹ MCDEM)
- g) Data accessibility (to be addressed by each of the above four topical working groups)

In addition, connections will be further considered in the following areas to determine if the topics would benefit from more in depth collaborative discussions in the next JCM forum or elsewhere:

- h) Invasive Species (National Invasive Species Council and MFAT-IDG)
- i) Science for international development (USAID and MFAT-IDG)

Other agenda items discussed during the JCM were Cooperation in Antarctica, which was an examination of the success of the U.S.-New Zealand partnership in third regions, in this case Antarctica, and elements of best practice that could be applied in other cooperative endeavours; and Research Infrastructure, which covered some of the key issues and activities being undertaken in New Zealand, and a similar examination by the U.S. Department of Energy into their systems for supporting infrastructure. While no specific actions were agreed in the Infrastructure session, relevant officials will remain in contact.

¹ HHS/NIH has suggested and highly recommends Dr. Carol Mangione at UCLA. She is an expert in medical communication and risk determination.

2. Topical Working Groups

2.1 Climate Change Monitoring, Research, and Services in the Pacific

The objective of this working group is to harmonize U.S. and New Zealand efforts in the Pacific to contribute to a well resourced, sustained Pacific Climate System and to maximize the impact of climate change research in decision-making to further enhance economic growth, sustainable development, health, good governance and security.

Priority action items from the Climate Change Monitoring, Research, and Services in the Pacific working group include:

- <u>Activity:</u> Continue existing bilateral climate science and related data collection, sharing and analysis.
 - First Step: Finalize contract between U.S. Global Climate Observing System (GCOS) primary contractor and Meteorological Service of New Zealand (MetService) on carrying out agreed to and continuing climate science activities – November 2012.
 - Second Step: Continue to collaborate and coordinate at meetings of opportunity, including the 9^{th} International CO₂ conference in Beijing, China in June 2013.

Contacts:

New Zealand - Pene Lefale (MetService) Pene.Lefale@metservice.com

U.S. - Howard Diamond (NOAA/NCDC) Howard.Diamond@noaa.gov

- Activity: Link climate science work to adaptation.
 - First Step: Participate in Pacific Climate Services Forum in Suva, Fiji from January 21-25, 2013.
 - Second Step: Participate in Pacific Invasive Species Partnership Conference in Suva, Fiji in April 2013.

Contacts:

New Zealand - Doug Ramsay (NIWA) Doug.Ramsay@niwa.co.nz

U.S. – John Marra (NOAA/NCDC) John.Marra@noaa.gov; Phil Andreozzi (U.S. National Invasive Species Council) Phillip_Andreozzi@ios.doi.gov

- <u>Activity:</u> Incorporate the health science sector as it relates to the application of climate science & research.
 - First Step: Connect with Health Workshop of U.S.-New Zealand JCM expected by early 2013.
 - Second Step: Include health component into the Samoan Climate Early Warning System (CLEWS) expected to commence by mid-2013.

Contacts:

New Zealand - Virginia Hope (ESR) Virginia.Hope@esr.cri.nz

U.S. - George Luber (CDC) gcl4@cdc.gov

- <u>Activity:</u> Increase outreach and associated adaptation efforts to link the work of the Intergovernmental Panel on Climate Change (IPCC) and Global Framework for Climate Services (GFCS) to aid communities across the Pacific Islands region.
 - First Step: Investigate better integration of the Pacific into the IPCC outreach program expected by the end of 2013.
 - $\circ~$ Second Step: Develop a plan for regional IPCC outreach by the time of the next JCM 2014.

Contacts:

New Zealand – David Wratt (NIWA) David.Wratt@niwa.co.nz

U.S. - Howard Diamond (NOAA/NCDC) Howard.Diamond@noaa.gov

In Summary:

It is widely recognized that the Pacific Island region is a critically vulnerable area of the world when it comes to the issue of climate change. Furthermore, given that the Pacific is the home of the El Nino Southern Oscillation (ENSO) phenomenon, an understanding of the science behind climate in the region has significant global implications. Understanding climate change and how its impacts will impact society an inherently science-based matter, so it is vitally important for any climate policies to be based on sound scientific advice. Since at least 2003, several scientists from the Meteorological Service of New Zealand, Ltd. (MetService); National Institute of Water and Atmospheric Research (NIWA); and National Oceanic and Atmospheric Administration (NOAA) have been involved in a wide range of operational and research-related science and capacity building activities with respect to climate science in the Pacific Islands region. The scope of the Working Group on Climate Change Monitoring, Research and Services in the Pacific workshop was to continue to build upon the work done to date, raise awareness of the work and its value among a broader scientific community, as well as decision makers, by: (1) reviewing the work that has been done; (2) focusing on three primary areas of cooperation; and (3) exploring what further opportunities exist to further and enhance the work in the region. It is envisioned that participants will come from across the organizations noted in this abstract. The three areas to be covered in this one-half day session involve: (a) Climate Monitoring and Related Services in the Pacific; (b) Climate Science, Research and Related Capacity Building in the Pacific; and (c) Climate and Health in the Pacific.

The JCM had a very successful session that recounted the work and accomplishments in the areas of:

- climate science and related data collection and analysis,
- capacity building, and
- interactions across the Pacific region that have resulted in positive benefits to the region.

In addition to the organizations noted above, participants represented the U.S. Centers for Disease Control, New Zealand Institute of Environmental Science and Research Ltd., the U.S. Navy's Office of the Oceanographer, and Department of Defense, U.S. Agency for International Development, the National Invasive Species Council, and the U.S. State Department's Office of Global Change. The ability to raise these activities to the JCM bilateral level has been instrumental in ensuring that this kind of work can continue. The attendees at this workshop were from a diverse group of agencies, and in addition to now including health issues related to climate (a new activity since 2010), the attendees had an excellent discussion that stressed the importance of keeping adaptation in mind since the issue can be closely related to Global Climate Observing System (GCOS) activities in the Pacific region; this is key, as GCOS is the formal climate observing and science arm of the Global Earth Observations System of Systems. The workshop conveners from NIWA, New Zealand MetService, and NOAA, were very attuned to this, and believe that the adaptation community is a primary customer of their work. As such, including work in better linking those two activities has the potential to create a lot of positive synergy. The resultant actions and way forward are believed to be specific enough, discrete, and practical to the point of being activities that can be reasonably achieved over the period from 2012-14 and can be reported on in an effective manner. Overall, the discussion during the workshop, and outcomes thereof, should be a benefit to the region and demonstrate the value of the JCM process between our two countries. The cooperation and collaboration between U.S. and New Zealand scientists has a long and successful history, and it is believed that the work accomplished here will continue to add value to these activities.

2.2 Health and Health Innovation

The objective of this working group is to bring the collective expertise and knowledge of experts from both New Zealand and the United States to address the most serious health topics confronting both nations, as well as the Pacific region in general, which is of great interest to both countries. The primary focus of the group is to address the serious and troubling impact of chronic non-communicable disease. Specifically, the group focuses on highlighting new data, emerging technology and policies that can be used to improve the health and well-being for the general public.

Priority action items from the Health and Health Innovation working group include:

• <u>Activity</u>: Analysis of tobacco control efforts in American Samoa and Samoa by the next JCM.

Contacts:

New Zealand - Robin Olds (HRC) rolds@hrc.govt.nz

U.S. - Brad Wolters (Human and Health Services) Bradley.wolters@hhs.gov

• <u>Activity</u>: Meet at the 2012 M-Health Summit in Washington, DC to further discuss implementation science issues regarding tobacco control in the Pacific.

Contacts:

New Zealand - Dr Robyn Whitaker (NIHI) r.whittaker@nihi.acukland.ac.nz

U.S. – Audie Atienza (NCI, NIH) Atienzaa@mail.nih.gov; Brian Lee (CDC) brian.lee@cdc.hhs.gov

• <u>Activity</u>: Draft proposal for a Pacific NCD Observatory by June 2013 to include cancer, diabetes, CVD.

Contacts:

New Zealand – Boyd Swinburn (University of Auckland) boyd.swinburn@auckland.ac.nz U.S. – John Flanigan (Center for Global Health, NCI, NIH) john.flanigan@nih.gov

• <u>Activity</u>: NIDDK and HHS will connect with New Zealand funding bodies to discuss joint collaborations in diabetes preventions and interventions in Pacific populations by June 2013.

Contacts:

New Zealand – Robin Olds (HRC) rolds@hrc.govt.nz; Sir Peter Gluckman, pd.gluckman@auckland.ac.nz U.S. – Sandy Garfield (NIDDK, NIH) garfields@mail.nih.gov

2.3 Natural Hazards and Resilient Cities

The objective of this working group is to bring the collective expertise and knowledge of experts from both New Zealand and the United States together to discuss lessons learned from recent natural hazards, such as the 2011 Christchurch earthquakes, and to examine the tools, science, and technology available for improved risk reduction and emergency management. Participants discussed topics such as hazard management for severe weather, tsunami, and liquefaction; risk communication and community engagement; mitigation through resilient cities; disaster response; and earthquake engineering.

Priority action items from the Natural Hazards and Resilient Cities working group include:

• <u>Activity</u>: Threat assessment, especially severe weather and tsunami – formalized agreements to be put in place by December 2012. <u>Contacts</u>:

New Zealand – Murray Poulter (NIWA, POC for weather) Murray.Poulter@niwa.co.nz; Ken Gledhill (GNS Science, POC for tsunamis) Ken.Gledhill@gns.cri.nz U.S. – Jennifer Lewis (NOAA, POC for weather) Jennifer.Lewis@noaa.gov; Michael Angove (NOAA, POC for tsunamis) Michael.Angove@noaa.gov

• <u>Activity:</u> Risk communication lessons from Christchurch and application in New Zealand and Western U.S. – broaden existing engagement between New Zealand researchers and counterparts in USGS and State EM agencies (underway). This activity links closely to the new cross-cutting theme identified in the plenary session on science risk communication.

Contacts:

New Zealand – David Johnston (JCDR) David.Johnston@gns.cri.nz U.S. – Craig Weaver (USGS) craig@ess.washington.edu

 <u>Activity</u>: Risk and economic modeling – comparison of methods, sequential and prolonged event scenarios (Christchurch) – HAZUS/RiskScape workshop to be planned, prior to that New Zealand attendance at EERI meeting February 2013. <u>Contacts</u>:

New Zealand – Andrew King (GNS Science) Andrew.king@gns.cri.nz U.S. – Douglas Bausch (FEMA) Douglas.Bausch@dhs.gov • <u>Activity</u>: Resilient Cities – lessons from U.S. and New Zealand Shakeouts and Christchurch events – scientist exchange visits to be planned (at February EERI meeting) as a first step. Next step would be to improve awareness of activities (researchers and EM sectors) in New Zealand and U.S. research programs as a whole. Contacts:

> New Zealand – Kelvin Berryman (GNS Science & NHRP) kelvin.berryman@gns.cri.nz U.S. – Craig Weaver (USGS) craig@ess.washington.edu

2.4 Marine and Ocean Research

The objective of this working group is to further U.S. and New Zealand collaboration and cooperation on ocean research initiatives that will inform the management of marine resources and marine conservation in the Pacific.

Priority action items from the Marine and Ocean working group include:

• <u>Activity</u>: Establish a steering committee, and associated terms of reference by early 2013, to coordinate cooperative activities, which will enable implementation of the desired activities and exchange of ideas including: advancing the role of women and young people in science; education and outreach; and enhancing data linkages and data exchanges.

Contacts:

New Zealand – Rob Murdoch (NIWA) rob.murdoch@niwa.co.nz U.S. – John McDonough (NOAA/OER) john.mcdonough@noaa.gov

<u>Activity</u>: Vulnerable marine ecosystems (VME) – explore options for NOAA/WHOI participation (including use of ROV/AUV technologies) in New Zealand funded initiative and voyage to explore and ground-truth VMEs in the South Pacific (in February 2014); exchange environmental data and data for VME taxa that will allow improved models for VMEs in the Pacific by 2015; explore alignments with CBD initiatives to identify Ecological and Biologically Significant Areas (EBSAs). Contacts:

New Zealand – Ashley Rowden (NIWA) ashley.rowden@niwa.co.nz U.S. – John McDonaugh (NOAA) john.mcdonough@noaa.gov; Tom Hourigan (NOAA) tom.hourigan@noaa.gov; Tim Shank (WHOI) tshank@whoi.edu

• <u>Activity</u>: Deepsea corals – secure funding to increase post-doctoral participation in initiatives that improve taxonomy of deep-sea corals (e.g., workshops, visiting scientists schemes) by 2013; develop specimen-based databases and make them available publically (e.g. make NIWA's Specify database available via web, and provide all records to OBIS) by 2014. Contacts:

New Zealand – Dianne Tracey (NIWA) di.tracey@niwa.co.nz

U.S. – Steve Cairns (Smithsonian Institution) cairnss@si.edu; Tom Hourigan (NOAA) tom.hourigan@noaa.gov

• <u>Activity</u>: Ocean acidification (OA) – both countries to report research activities to the OA International Coordination Center and use ICC as a means of developing and implementing strategies for further collaboration by 2014; undertake research on understanding how OA acts as one of many stressors on ocean fauna, and in particular seek collaboration that seeks to determine how to monitor and measure the effects of OA. <u>Contacts</u>:

New Zealand – Cliff Law (NIWA) cliff.law@niwa.co.nz

U.S. - Libby Jewitt (NOAA) libby.jewitt@noaa.gov

 <u>Activity</u>: Ocean observations – further develop collaborations between NOAA and NIWA on the Deep Argo and Bio Argo programs during 2013 and 2014; any future plans to establish cable-based observatories in New Zealand should learn from and seek collaboration with the NSF Ocean Observatories Initiative; NIWA to seek partners to establish an ocean observation reference site south of New Zealand, as part of SOOS, by 2014; NIWA to further explore collaboration with the US to undertake glider surveys of Western Boundary Current in Southwest Pacific by 2014. <u>Contacts</u>:

> New Zealand – Philip Sutton (NIWA) philip.sutton@niwa.co.nz U.S. – Steve Piotrowicz (NOAA) steve.piotrowicz@noaa.gov; Dean Roemmich (Scripps) droemmich@ucsd.edu; Bob Houtman (NSF) bhoutman@nsf.gov

The *Marine and Ocean Research* theme has been a standing working group under the strategic dialog between the United Stated and New Zealand, led by the National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Water and Atmospheric Research (NIWA). The mission of the working group is to further collaboration and cooperation on ocean research initiatives that will inform the management of marine resources and marine conservation in the Pacific. Following the 2010 U.S.-New Zealand JCM, there have been significant collaborative advancements in the areas of Vulnerable Marine Ecosystems (VMEs), deep sea corals, and marine observations. In addition to furthering work in these areas, both countries have agreed to increase collaborative efforts in Ocean Acidification research and monitoring.

Recognizing the need for a systematic approach to coordinate these activities, both parties have agreed to establish a steering committee, which will enable implementation of the desired activities and exchange of ideas including: advancing the role of women and young people in science; education and outreach; and enhancing data linkages and data exchanges.

3. Cross Cutting Themes

3.1 Women in Science

There are a number of potential challenges for women in science. The small number of women in senior science positions indicates there are challenges in career development, mentoring, training and support. Of particular concern in New Zealand and the U.S., is how women get back into science following a break in their career to raise a family. Career breaks can also occur for teaching, business or travel etc and these could affect researchers regardless of gender.

The challenge identified, is that once a person has made a break it is hard to get back into a competitive funding environment, given potential disconnects with current literature, a lower publication record, and being out of practice for grant application writing.

The JCM determined that there may be benefits in comparing issues and solutions between New Zealand and the U.S. regarding women in science, and identifying opportunities to work together.

The leads for this working group are:

Susan Gardner (U.S. Department of State) GardnerSC@state.gov

Prue Williams (MBIE) prue.williams@msi.govt.nz

Action:

The leads will work together to compile a report into the topic of women in science, reviewing at common issues and solutions, working with the four topic leads and using the topic areas as appropriate for examples. The joint report will be presented at the 2014 JCM and a separate session will be dedicated to the discussion of findings and determination of any next steps.

3.2 Science and risk communication

The aim of this cross cutting theme is to identify communication strategies that provide information that engages the public, reduces their confusion, and helps them evaluate risk and determine appropriate actions, relevant to:

- a) the focus topics of this JCM (hazards, climate change, health, and oceans) and;
- b) various timescales from immediate to long term

Actions:

a) Identify several key people/relevant agencies from each country to participate in the working group (in addition to or in place of those noted below).²

b) Organize a teleconference amongst the working group members to discuss and agree an action plan towards achieving the aims set above, that is achievable by the 2014 JCM (for example, this

² Note: NOAA would like to stay engaged in this working group moving forward, and will identify specific individuals to participate as plans for the working group develop.

could be to identify several examples of successful risk communication strategies and also failures in risk communication – there may be some lessons from the Canterbury earthquakes).

c) Implement the action plan.

Working group leads:

Richard Smith (MCDEM) richard.smith@dia.govt.nz Jonathan Margolis, U.S. Department of State

3.3 Data accessibility

Access to data was a consistent theme and challenge noted amongst each topic area. It was agreed that each of the four topics would incorporate in their action plans and reporting consideration of how access to data could be improved in their respective activities and wider contexts.

4. Areas for further exploration

The two thematic areas of 'science for development' and 'invasive species' were identified as worthy of further discussion between now and the 2014 JCM. In particular, the New Zealand Ministry of Primary Industries and the New Zealand International Development Group of the Ministry of Foreign Affairs and Trade (MFAT-IDG) will work with the U.S. National Invasive Species Council (NISC) to identify areas where joint work may be beneficial in a Pacific context, to improve biosecurity capacity in the region.

Leads for this work are:

Mary Livingston (MPI) mary.livingston@mpi.govt.nz

Phil Andreozi (NISC) Phillip_Andreozzi@ios.doi.gov

The leads will reach out to other relevant agencies as needed,³ and report back to the JCM in 2014, if not earlier.

³Note: NOAA welcomes further exploration of the invasive species topic, including aquatic invasive species. In particular, New Zealand is a leader on marine biofouling and marine invasive species ecosystem monitoring. NOAA looks forward to participating in future discussions and would also be happy to initiate contact on these topics, as they have worked with New Zealand at the International Maritime Organization on these issues.

5. Reporting

The JCM agreed to institute regular progress reporting against the agreed actions outlined in this Action Plan.

Reporting will take place every six months and will be accompanied by a teleconference or videoconference involving the following people or their delegates –

	United States	New Zealand
Coordinators	U.S. Department of State, Office of Science and Technology Cooperation Foreign Affairs Officer, Bilateral Team, EAP region	MBIE, Science, Skills and Innovation Branch Counsellor – Science and Innovation and/or Manager – International
Climate Change Monitoring, Research, and Services in the Pacific	Howard Diamond, NOAA	David Wratt, NIWA
Health and Health Innovation	Erika Elvander, HHS	Robin Olds, HRC
Natural Hazards and Resilient Cities	Charles Mandeville, USGS	Terry Webb/Kelvin Berryman, GNS Science
Marine and Ocean Research	John McDonough, NOAA	Rob Murdoch, NIWA
Science and risk communication	Carol Mangione, UCLA ⁱ	Richard Smith, MCDEM
Women in Science	Susan Gardner, DOS	Prue Williams, MBIE

The U.S. Department of State's Office of Science and Technology Cooperation and New Zealand's Counsellor – Science and Innovation will coordinate this meeting, and all reporting from topic and thematic leads.

The approximate timing for all reporting is as follows:

1 st report	March 2013
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2 nd report S	eptember 2013
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- 3rd report March 2014
- 4th report October 2014, at the JCM

APPENDIX – Workshop Attendees

Climate Change	Monitoring.	Research. a	and Services	in the Pacific
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NAME	ORGANIZATION	E-Mail Address
David Wratt	NIWA	david.wratt@niwa.co.nz
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Health and Health Innovation

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Marine and Ocean Research

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Natural Hazards and Resilient Cities

Science and Risk Communication Break-out Session

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