

# Roadmap of Cooperative Activities 2010 – 2020

REPORT OF THE UNITED STATES – NEW ZEALAND JOINT COMMISSION  
MEETING ON SCIENCE AND TECHNOLOGY COOPERATION

25–26 JANUARY 2010, NEW ZEALAND

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## 1. Introduction

New Zealand hosted the second Joint Committee Meeting (JCM) on 25–26 January 2010. It was co-chaired by Dr Helen Anderson, Chief Executive of the Ministry of Research, Science and Technology, and Dr Arden Bement, Director of the US National Science Foundation.

The theme for the meeting was 'Global Challenges'. Under this heading, the following five areas of focus were identified:

1. Antarctic research
2. Agriculture, biotechnology and food innovation
3. Climate change
4. Renewable energy
5. Ocean and marine biosciences

Over 30 US delegates attended the JCM to discuss priority areas for increased cooperative activities and develop a roadmap of science and technology cooperation for the ensuing 2 – 3 years, to the next JCM.

The two-day meeting consisted of [one-day workshops under each of the areas of focus (two in renewable energy)/day-long workshops in each of the focus areas (two in renewable energy) on the first day], followed by the formal JCM on day two which outlined of a programme of priority areas and cooperative activities, based on the outcomes of the various workshops.

The JCM workshops and discussions investigated ways to facilitate research in those areas (for example, meetings, research exchanges, etc) to maximise the benefit of scientific cooperative activities. In particular, the JCM:

- facilitated and promoted enhanced research, science, and technology (RS&T) cooperation between USA and New Zealand at government, institutional and individual scientist levels; and
- contributed to and developed partnerships around common RS&T interests in cooperative activities over the next two to three years.

JCM discussions culminated in the development and joint approval of this Roadmap of Cooperative Activities for US–NZ research collaboration at the close of Day Two. The Roadmap identifies areas of research where the niche expertise of New Zealand can merge with the broad-based science excellence of the USA to mutual benefit.

## 2. Principles of the US–NZ S&T Relationship: How should we focus our efforts?

Science and technological cooperation between New Zealand and the United States should:

- emphasise multidisciplinary discussions, exchanges and challenges, particularly including social sciences, indigenous knowledge, and cross–discipline problems; and
- seek strong engagement on solving global challenges, to understand how we can best complement our quests for solutions.

## 3. Long–lead Actions and Outcomes

Agriculture and food innovation

- Establishment of a Research Consortium devoted to collaboration in basic and applied plant and animal sciences, and related environmental considerations of agriculture and aquaculture, involving the USDA, AgResearch, Plant and Food Research, NIWA and other US and NZ universities as founding partners

Antarctic research

- Facilitate, where appropriate, the coordination of science priorities, strategies, and proposal review processes between NZ and the US, to reduce lead time between proposing and implementing joint projects

Bioenergy

- Framework to enhance scientific exchange and allow for long–term project planning

Climate change in the Pacific

- Harmonising international (leveraging on existing US and NZ partnerships) efforts in the Pacific to maximise the impact of climate change research, and to contribute to a well resourced Pacific Climate System

Electrical grids and renewable energy

- Shared understanding of smart grid development and implementation issues

Ocean and marine sciences<sup>1</sup>

- Enhanced coordination, for data collection, data preservation and curation, and data utilization, to enhance conservation and management of deep–sea vulnerable marine ecosystems.

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<sup>1</sup> Activities under this Roadmap focusing on ocean and marine sciences are meant to complement, not supersede, activities of existing international committees.

## 4. Immediate Actions: Years 1 through 3

### Agriculture and food innovation

- Year 1: Begin discussions related to agricultural greenhouse gas mitigation
- Years 1&2: Organise several specialised workshops and delegations for specific topics of common importance to US–NZ agriculture research agencies, academics and industry, including agriculture, other basic plant and animal sciences, and related environmental considerations
- Year 2: Administrative support mechanism to link congruent US and NZ projects by connecting research teams
- Years 2&3: facilitate initial meeting of plant and animal research organisation heads to discuss strategy implementation challenges and opportunities

### Antarctic research

- Ongoing: Continue to support and develop collaborative projects that emerge through respective national merit review processes; and convene workshops of joint interest that are justified by research community interests.
- Year 1&2: Discuss, with researchers and national funding agency representatives, the possibility of a workshop to explore the potential for an integrated terrestrial and marine ecosystems program using the LTER model

### Bioenergy

- Year 1: Initiate coordinated scientific collaboration in the areas of feed stock development, conversion technology and value chain economics
- Year 2: Develop administrative support mechanism to link congruent US and NZ projects by connecting research teams

### Climate change in the Pacific

- Year 1: Facilitate multilateral data workshop for data management activities, preservation and governance in Pacific contexts
- Year 2: Administrative support mechanism to link congruent US and NZ projects by connecting research teams
- Year 2 & 3: Collaborate on joint climate observing and research efforts across the Pacific Region

### Electrical grids and renewable energy

- Year 1: Exchange of scientists to and from US/NZ to enable better understanding of two systems and to identify specific project(s) in which to collaborate
- Year 1 & 2: Large scale workshop to define strategic approach to identifying research priorities, in collaboration with key governmental, academic and industry partners
- Year 2: Have initiated a collaboration on a specific project

- Year 2: Administrative support mechanism to link congruent US and NZ projects by connecting research teams

#### Ocean and marine sciences<sup>2</sup>

- Year 1: Facilitate establishment of an ocean and marine science steering committee to coordinate US/NZ cooperative activities, which will enable implementation of the 2– 3 year desired activity and exchange ideas
- Year 1&2: Facilitate coordination of workshop intentions with high profile conference opportunities
- Year 2&3: Administrative support mechanism to link congruent US and NZ projects by connecting research teams

## 5. Potential Areas of Cooperation

The following areas were identified at the JCM as being worthy of further discussion and investigation as to their merit for more targeted cooperative efforts.

#### Health innovation

- Health innovation was proposed as a topic for the 2010 JCM. However, it was not able to be progressed due to unavailability of sufficient participants for a workshop. While the workshop was cancelled, it was decided that the area is an important one for increased research cooperation between New Zealand and the United States.
- Action (Year One): Hold a workshop to discuss priority areas for collaboration, particularly including, but not necessarily limited to, the areas of bioengineering, computational neuroscience, Pacific health needs, and health-related applications of contemporary evolution.

#### Earth dynamics

- Action (ongoing): Continue with established process to pursue collaboration in alpine fault drilling.
- Action (Year One): Begin Steering Committee-level discussions on collaborative opportunities in hazard early warning systems and infrastructure resilience.

#### Contemporary evolution

- Action (Year One): Begin Steering Committee-level discussions on collaborative opportunities in contemporary evolution applications outside of health innovation.

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<sup>2</sup> Activities under this Roadmap focusing on ocean and marine sciences are meant to complement, not supersede, activities of existing international committees.

#### GHG emissions

- Action (Year One): Begin Steering Committee-level discussions on how NZ and the US can provide leadership in standardising GHG emissions monitoring, methodologies and metrics to contribute to policy discussions and agreements.

#### Social Sciences

- Action (Year One): Begin Steering Committee-level discussions on collaboration opportunities in understanding the societal dimensions of the above areas, particularly including learning from and application of indigenous knowledge.

### 6. How should we proceed as a joint commission?

The Joint Commission decided that the next JCM will be held in Washington DC, in 2012.

A JCM Steering Committee should be established to lead discussions and direction of the cooperative activities outlined in this Roadmap.

The Steering Committee should have regular communications via tele- or video-conference between now and the next JCM.

The current workshop chairs should act as working group leaders on the Steering Committee, and wider working groups should progress the approved Roadmap actions.

Steering Committee members and the working group committee are to be determined.

Annex One: JCM Action Summary Table



| ACTION AREA                     | LONG-LEAD ACTIONS AND OUTCOMES to 2020                                                                                                                                                                                                                                                                       | IMMEDIATE ACTIONS                                                                                                                                                                                                                                                          |                                                                                                                                               |        |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                                 |                                                                                                                                                                                                                                                                                                              | YEAR 1                                                                                                                                                                                                                                                                     | YEAR 2                                                                                                                                        | YEAR 3 |
| Agriculture and Food Innovation | Establishment of a Research Consortium devoted to collaboration in basic and applied plant and animal sciences, and related environmental considerations of agriculture and aquaculture, involving the USDA, AgResearch, Plant and Food Research, NIWA and other US and NZ universities as founding partners | 1. Organise several specialised workshops and delegations for specific topics of common importance to US-NZ agriculture research agencies, academics and industry, including agriculture, other basic plant and animal sciences, and related environmental considerations. |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              | 2. Begin discussions related to agricultural greenhouse gas mitigation.                                                                                                                                                                                                    | 3. Administrative support mechanism to link congruent US and NZ projects by connecting research teams                                         |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            | 4. Facilitate initial meeting of plant and animal research organisation heads to discuss strategy implementation challenges and opportunities |        |
| Antarctic Research              | Facilitate, where appropriate, the coordination of science priorities, strategies, and proposal review processes between NZ and the US, to reduce lead time between proposing and implementing joint projects.                                                                                               | 1. Continue to support and develop collaborative projects that emerge through respective national merit review processes; and convene workshops of joint interest that are justified by research community interests.                                                      |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              | 2. Discuss, with researchers and national funding agency representatives, the possibility of a workshop to explore the potential for an integrated terrestrial and marine ecosystems program using the LTER model                                                          |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            |                                                                                                                                               |        |
| Bioenergy                       | Develop a framework to enhance scientific exchange and allow for long-term project planning                                                                                                                                                                                                                  | 1. Initiate coordinated scientific collaboration in the areas of feed stock development, conversion technology and value chain economics.                                                                                                                                  | 2. Develop administrative support mechanism to link congruent US and NZ projects by connecting research teams.                                |        |
| Climate Change in the Pacific   | Harmonising international (leveraging on existing US and NZ partnerships) efforts in the Pacific to maximise the impact of climate change research, and to contribute to a well resourced Pacific Climate System.                                                                                            | 1. Facilitate multilateral data workshop for data management activities, preservation and governance in Pacific contexts.                                                                                                                                                  | 2. Administrative support mechanism to link congruent US and NZ projects by connecting research teams.                                        |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            | 3. Collaborate on joint climate observing and research efforts across the Pacific Region.                                                     |        |
| Electrical grids                | Shared understanding of smart grid development and implementation issues                                                                                                                                                                                                                                     | 1. Exchange of scientists to and from US/NZ to enable better understanding of two systems and to identify specific project(s) in which to collaborate.                                                                                                                     |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              | 2. Large scale workshop to define strategic approach to identifying research priorities, in collaboration with key governmental, academic and industry partners.                                                                                                           |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            | 3. Have initiated a collaboration on a specific project.                                                                                      |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            | 4. Administrative support mechanism to link congruent US and NZ projects by connecting research teams.                                        |        |
| Ocean and Marine Sciences       | Enhanced coordination, for data collection, data preservation and curation, and data utilization, to enhance conservation and management of deep-sea vulnerable marine ecosystems.                                                                                                                           | 1. Facilitate establishment of ocean and marine science steering committee to coordinate US/NZ cooperative activities, which will enable implementation of the 2- 3 year desired activity and exchange ideas.                                                              |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              | 2. Facilitate coordination of workshop intentions with high profile conference opportunities.                                                                                                                                                                              |                                                                                                                                               |        |
|                                 |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                            | 3. Administrative mechanism to link congruent US and NZ projects by connecting research teams.                                                |        |

Annex Two: Framework of Cooperation Status by Focus Area

← Stage in collaborative process →

