

NEW ZEALAND COUNTRY REPORT 2016

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24rd Meeting of the IHP RSC for Southeast
Asia and the Pacific: Ulaanbaatar, Mongolia

IHP links to Government priorities

- **Access to data: APFRIEND**
 - **Link to infrastructure – a central government priority**
 - Catalogue of rivers
 - National scale data access
 - Water User Groups
- **Flood estimation: APFRIEND**
 - **Link to infrastructure – a central government priority**
 - On a “to do”, but not clear which central govt. agency will lead
- **IHP-VIII**
 - **Link to infrastructure – a central government priority**
 - IWRM, Ecohydrology
 - “3 waters” (drinking water, stormwater, wastewater) and irrigation

Highlights

- **Status of IHP activities**
- **Major items:**
 - IHP –VIII
 - Canterbury Water Management Strategy(CWMS)
 - Waikato
 - Infrastructure , government priorities and resilience (including Flood Design methods)
 - FE²W
 - Land and Water Forum
 - South Pacific Applied Geosciences Commission (SOPAC)
 - Korean Water Resources Association (KWRA)
- **Activities with Pacific Islands**
- **Education/training – new technology**
- **Activities for 2016**

IHP Activities

- **Interim IHP National Committee**
 - Dennis Jamieson filling role of Chair and MS Srinivasan as Secretary
- **Update of Flood Estimation methods**
 - Working with Ministry form Environment to encourage Central Government leadership
 - Further collaboration expected with other UNESCO RSC participants (e.g. Australian Rainfall and runoff)
- **Freshwater resources data collection and archiving**
 - Coordination between Regional/Central Govt. And industries
 - Water use data (esp. irrigation) becoming more complete
- **Land use intensification effects - water quality/quantity**
 - Government has water allocation and development goals
 - “Adaptive management” focus
 - Rapid expansion of dairy industry + irrigation
- **Infrastructure**
 - Government desire to see increased irrigation with improved infrastructure
 - IHP-VIII (and earlier) link directly to better infrastructure practices (Canterbury Water Management Strategy)

Collaboration: A key theme

- **Collaboration**
 - Generally starts with cooperation, coordination and communication
 - Challenge to accepted ways for many organisations
- **“New Start for Freshwater”**
 - Stronger government focus on economic growth but strong rules to lift water quality
 - Linking with science a challenge given accelerated water planning process
- **Infrastructure**
 - Challenge with 3 waters
 - *IHP concepts such as IWRM, Ecohydrology and APFRIEND flood project are essential components!*
- **IHP –VIII: Canterbury Water Management Strategy**
 - An example of Adaptive Integrated Water Resources Management (AIWRM) as per IHP-VIII
 - Processes in other regions of New Zealand being influenced

National Infrastructure Plan

- Thirty year Plan – 2015-2045
- Assists in identifying gaps and setting priorities
- Process of developing Plan has identified common challenges across many classes of infrastructure

National Policy Statement: Freshwater Management

- Central Government setting expectations but allowing for local customisation.
 - Strong community interest in aspects such as whether water quality in rivers should be “wadeable”, “swimmable” or “drinkable”.
 - Indicates challenges in public expectations and understanding
- Urban water as well as rural
 - Urban people often not aware of their role....
 -but have high expectations for water quality and other values in water bodies

National and International collaboration

- **FE²W**
 - Watching brief
- **Land and Water Forum**
 - Stakeholder led collaborative process
- **SOPAC**
 - Continues role in Pacific after reorganisation
 - Complements direct country links
- **Korean Water Resource Association**
 - Important relationship continues with NZ Hydrological Society

Activities with Pacific Island Countries

- **Enduring links**
 - Many links between NZ and other Pacific Island Countries (PIC's). Challenges due to isolation, distances, competition for limited resources
- **SOPAC**
 - IHP-linked organisations in NZ working with SOPAC and others to identify and participate in projects that support colleagues in hydrology around the Pacific
 - Pacific Adaptation to Climate Change (PACC) programme
- **Coordination with other countries**
 - An important objective is to increase coordination between multiple funders in hydrology-related work to achieve long term objectives
 - Renewable energy a success story for this approach in Pacific

Publications

- **“Water User Group Portals”.**
 - Being implemented that combine hydrology and operational information.
 - Access to data by regulators and the public – multiple uses of data.
 - Other groups also use information – Whitewater (kayak, canoe, rafting), fishing, jet boating, cultural uses. etc.)
- **Continuing increase in use of real time environmental data due to “unrestricted access” policy by NIWA**
 - Includes about 10% international use
 - Outcome for NIWA – more support from other agencies
 - Seeking to use this support to increase funding for data collection systems
 - Recognition of need for modelling and remote sensing approaches to extend data value
 - Funding challenges
- **CWMS publications (insights into IWRM/Ecohydrology)**
 - <http://ecan.govt.nz/get-involved/canterburywater/Pages/Default.aspx>

24th IHP REGIONAL STEERING COMMITTEE MEETING FOR SOUTH EAST ASIA AND THE PACIFIC

Ulaanbaatar, Mongolia

(24 October 2016 – 25 October 2016)

NATIONAL REPORT OF NEW ZEALAND

1. Activities undertaken in the period October 2015– October 2016

1.1 Meetings of the IHP National Committee

1.1.1 Composition of the IHP National Committee

Mr. Dennis D Jamieson and MS Srinivasan have continued to maintain a watching brief of developments and act in the role of Chairman and Secretary respectively as per their previous formal roles in the IHP National Committee during the reporting period.

1.1.2 Status of IHP activities

The following projects continue to be funded:

- Information on New Zealand's Freshwaters: Water Resources Archive;
- Land Use Intensification: Sustainable Management of Water Quality and Quantity;
- Reducing the Impacts of Weather Related Hazards;
- Information on New Zealand's Freshwaters: Climate and Water Resources Archives is a national programme of climate and hydrometric data collection. The data produced from this programme are of increasing importance to guide decision-making on development (especially proposed hydropower and expanded irrigation) and to contribute to the assessment of effects of human related activities on rivers and lakes. In addition there is wide interest in the effects of climate change on water resources and consequent effects on hydropower and agriculture.

As reported in previous years, the implementing agency (National Institute of Water and Atmospheric Research - NIWA) continues a policy of "free" data access for most users although budget pressures resulting from reviews of government science make this approach difficult to sustain

1.1.3 Decisions regarding contribution to participation in IHP-VIII

Components of the New Zealand hydrological research programme have increasingly good alignment with IHP-VIII themes in eco-hydrology and IWRM. This is fostered by collaborative processes that

integrate social science and cultural perspectives into resource management with biophysical sciences. These approaches have been prominent in some regional councils regions in New Zealand (particularly Canterbury and Waikato), but are of increasing relevance to Central Government work.

1.2 Activities at national level in the framework of the IHP

1.2.1 National/local scientific and technical meetings

Core principles of IHP-VIII align with priorities for New Zealand. Central Government is responding to strong public and political pressure to improve water quality and flow regimes in rivers.

Scientific and technical meetings are generally held within the context of professional societies (particularly the New Zealand Hydrological Society) and resource management affairs (e.g. workshops to brief groups established to guide government decisions on future land and water use).

1.2.2 Participation in IHP Steering Committees Working Groups

New Zealand attended the 2015 RSC meeting enabled by sponsorship through UNESCO – Jakarta..

1.2.3 Research/applied projects supported or sponsored

None directly sponsored by IHP.

1.2.4 Collaboration with other national and international organizations and/or programmes

Republic of Korea Water Resources Association (KWRA) – collaborative research strategy with NZ Hydrological Society (NZHS)

The KWRA and NZHS have had a Memorandum Of Understanding (MOU) in place since 2007. Regular exchanges between the organisations continue.

Links with other International and Regional organisations

Regular contact is maintained with Charles Pearson, the Regional Hydrological Advisor to the President of the WMO Region V (Asia Pacific). Contact is also maintained with SOPAC's Suva based Water & Sanitation Unit, through its role of representing the SW Pacific Island states on water related issues.

1.2.5 Other initiatives

Ecohydrology and NZ government priorities for infrastructure

Application of Ecohydrology principles is evident as water infrastructure options are advanced in New Zealand. Two examples are on the Opihi and Hurunui Rivers (Canterbury) where and existing and possible infrastructure concepts are being refined through field studies. The approach of increasing rivers flows in rivers used for water sources is resulting in additional interest in infrastructure which will be required to achieve downstream flow regimes.

Update of New Zealand Flood design methods

The Central Government has just included the need for this in a report (October 2016) updating its National Infrastructure Plan. A series of meetings are being held to determine a work programme between central and local government that meets the needs of practitioners and policy makers. This initiative is aligned with the APFRIEND activities over a number of years.

Application of IHP-VIII approaches to urban water

There is increasing government interest in improving practices for “3 waters” (stormwater, wastewater and water supply). These interest align with concern from the NZ public, given the country is highly urbanized and there have been a series of high profile incidents. These include a major mass illness outbreak due to a contaminated urban water supply.

This change is significant as it indicates SDG topics are relevant and that the previous largely sole focus on “rural” water quality issues is changing. Investments in urban water infrastructure is far larger than in rural water infrastructure and public interest is more pronounced in urban water quality issues so this is a significant change. An important response to public concern has been increased coordination between the multiple infrastructure, policy, health etc. agencies involved and a realization that things need to change.

1.3 Educational and training courses

1.3.1 Contribution to IHP courses

None.

1.3.2 Organisation of specific courses

Courses and workshops run in New Zealand generally meet national needs. Because of the country's relative remoteness and distinctive resource management requirements, courses are not always suitable for participation by people from overseas.

National Institute of Water and Atmospheric Research (NIWA) Courses / workshops

Over the course of a year NIWA provides many courses for regional government agencies and their own staff. These cover many topics from general hydrological training to courses on specific topics of wide interest.

1.3.3 Participation in IHP courses

See 1.3.1.

1.4 Publications

Contributions to IHP publications have been principally through the Regional Steering Committee and the Asia-Pacific FRIEND. Other publications related to IHP activities include:

The "Climate Update" monthly bulletin

See <http://www.niwa.co.nz/climate/publications>

The "Island Climate Update" (ICU) monthly bulletin

The ICU, produced by NIWA's National Climate Centre in collaboration with SOPAC, is a multi-national project with important contributions from the meteorological services of countries around the region. The bulletin provides El Nino/Southern Oscillation and seasonal rainfall forecasts, discusses climate developments each month and provides a tropical rainfall outlook for the next three months and tropical cyclone outlooks during the cyclone season. It also includes an editorial on some topical aspect of relevance and interest to end-users.

<http://www.niwa.co.nz/climate/publications>

"Freshwater and estuaries update" bulletin

This is published to cover developments in the freshwater to estuaries zone. Estuaries are increasingly incorporated in joint programme given the direct connection to freshwater issues in NZ.

<http://www.niwa.co.nz/freshwater-and-estuaries/freshwater-and-estuaries-update>

1.5 Participation in international scientific meetings

1.5.1 Meetings hosted by the country

NZ Hydrological Society Annual Symposium

The annual conference of the New Zealand Hydrological Society 2015 was held in Hamilton NZ.

1.5.2 Participation in meetings abroad

A wide range of science conferences and events were attended. Alignment with IHP activities is a common theme of topics, given alignment with IHP-VIII.

1.6 Other activities at regional level

1.6.1 Institutional relations/co-operation

There is considerable contact between New Zealand and other UNESCO Member Countries in the Asia-Pacific region, especially with the Pacific Island countries. For example NIWA is working with agencies in many countries on updating hydrological information and database management systems. Many useful contacts have been enabled via the IHP, even though subsequent work has been in the context of bi-lateral arrangements and Pacific HYCOS.

1.6.2 Completed and ongoing scientific projects

Science programs are subject to ongoing change and reorganization. The “Science Challenge” programme in Land and Water sciences is being further rolled out. This is providing a framework for coordinated work amongst many institutions on effective work on f=diffuse pollution and required flow regimes..

2. Future Activities

2.1 Activities foreseen until December 2016

The annual conference of the NZ Hydrological Society is to be held at Queenstown New Zealand. The theme this year is “Water, Infrastructure and the Environment”. It is a major joint conference involving the New Zealand Hydrological Society, Engineers Australia’s National Committee on Water Engineering and the Institution of Professional Engineers NZ Rivers Group,

2.2 Activities planned for 2017

Generally scientific activities planned at the national level are within the context of the research programme funded by NZ government. A significant proportion of this activity will be in areas that are included within the IHP, but are not explicitly implemented as a component of the IHP.

NIWA Courses

A range of training courses will be offered by NIWA. For a full list of courses refer to the NIWA web site. These courses are also open to overseas participants.

2.3 Activities envisaged in the long term

Continuation of the:

- NZAID funded Pacific Hydrological Training Programmes as required;
- NZAID funded monthly “Island Climate Update” publication with stronger links to end users.
- Monthly NZ “Climate Update” and “Climate Outlook” (web) publications.
- Quarterly “Fresh Water and estuaries Update” (web) publication.