

**Nairobi work programme on impacts, vulnerability and adaptation to climate
change:
Adaptation planning and practices**

**New Zealand submission
March 2009**

New Zealand welcomes this opportunity to make a submission under the Nairobi work programme providing information on approaches to and experiences in integrating and expanding adaptation planning and action at national, sub-national, community and local levels (FCCC/SBSTA/2008/6, paragraph 9 refers). This submission updates some of the information provided in New Zealand's May 2007 submission under the Nairobi work programme.

New Zealand's approach has concentrated on the preparation of guidance and information material at central government level which is then available to local governments, and at community level to raise awareness of climate change impacts and assist in the incorporation of adaptation to climate change into the planning process. The submission is divided into two parts: the first covers materials developed for local government in New Zealand, and the second highlights some of the approaches being taken in the land based sectors: agriculture and forestry.

Materials for local government

In New Zealand local government is responsible for a range of functions that may be affected by climate change. These responsibilities occur under the Local Government Act 2002, the Resource Management Act 1991 and other legislation. Local authorities have both social and legal obligations to take climate change effects into account in their community planning. Long-term planning functions need to embrace expected long-term shifts and changes in climate extremes and patterns to ensure future generations are adequately prepared for future climate conditions. Following the success of similar materials prepared in 2004, the New Zealand Ministry for the Environment recently proceeded with updating several technical reports and guidance manuals that are aimed at providing local government with information to assist them in carrying out their statutory responsibilities with respect to climate change effects. The updated materials are consistent with the most up to date assessment of the science in the IPCC 4th assessment report.

General guidance:

Climate Change Effects and Impacts Assessment: A Guidance Manual for Local Government in New Zealand (2nd ed)

Preparing for climate change: A guide for local government in New Zealand

The guidance manual and its summary overview (*Preparing for climate change*) together provide the latest projections of the expected physical impacts of climate change, both at the national level and for regions around New Zealand. They are designed to help local government identify and quantify opportunities and risks that climate change poses for their functions, responsibilities and infrastructure. They also demonstrate how to

incorporate climate risk assessment into local government regulatory, assessment and planning processes to reduce vulnerability to the impacts of climate change.

For further details refer to:

<http://www.mfe.govt.nz/publications/climate/climate-change-effect-impacts-assessments-may08/index.html>

<http://www.mfe.govt.nz/publications/climate/preparing-for-climate-change-guide-for-local-govt/>

Building on the above documents an information sheet is also available designed to assist local government planners to include adapting to the physical impacts of climate change in plans required under the Resource Management Act (RMA). The information sheet (*Climate Change Adaptation and Second Generation RMA Plans*) provides check lists to assist local authorities in their plan development and review. For further details refer to:

<http://www.mfe.govt.nz/publications/climate/adapt-climate-change-second-generation-rma-2008-09/index.html>

Coastal zone guidance:

Coastal Hazards and Climate Change – A Guidance Manual for Local Government in New Zealand (2nd ed)

Preparing for Coastal Change – A guide for local government in New Zealand

The guidance manual and its summary overview (*Preparing for coastal change*) together highlight the impacts that climate change is expected to have on coastal hazards. They provide detail on the climate change impacts that are expected not only through sea-level rise but also through storm surge, wind and waves. A risk management framework is presented in which to assess the associated risks, and guidance is provided on appropriate response options.

For further details refer to:

<http://www.mfe.govt.nz/publications/climate/coastal-hazards-climate-change-guidance-manual/>

<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/>

In order to make the coastal hazards information even more accessible, a set of information sheets are also available covering:

- Components of sea level
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/components-of-sea-level.pdf>
- Tides
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/tides.pdf>
- Storm surge
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/storm-surge.pdf>

- Waves
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/waves.pdf>
- Coastal erosion
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/coastal-erosion.pdf>
- Coastal inundation
<http://www.mfe.govt.nz/publications/climate/preparing-for-coastal-change-guide-for-local-govt/coastal-inundation.pdf>

Approaches in the agriculture and forestry sectors

For the agriculture sector, at the **national level** adaptation to climate change is part of the **Sustainable Land Management and Climate Change Plan of Action**. The focus is on partnerships with the land based sectors, Māori and local government. The key adaptation component is development of a Five Year Adaptation Programme. The Programme outlines agreed outcomes and directs priorities for actions including research and technology transfer to understand the impacts of climate change and adapt to these. The Programme has been endorsed by a key stakeholder group and, as of March 2009, is about to be considered by Ministers.

In developing the Five Year Adaptation Programme we have found that it is important to work with the land management sectors to understand the issues and also to make use of sector networks. The information gathering phases, including workshops provided good information to develop the programme but also served to disseminate information and raise awareness of climate change.

As part of developing the Five Year Adaptation Programme, the Ministry of Agriculture and Forestry funded a report (the ***EcoClimate Report: Climate change and agricultural production***) that uses down-scaled global models to make projections on future temperatures, rainfall and droughts across the regions of New Zealand. The economic effect of these projections was then estimated on dairy, sheep and beef farming production. The results provide useful information for New Zealand's land management sectors, including farmers, foresters, growers and regional councils, to use for risk assessment and future planning.

For further details refer to:

<http://www.maf.govt.nz/climatechange/slm/>
<http://www.maf.govt.nz/climatechange/slm/ag-production/page.htm>

Under the Sustainable Land Management and Climate Change Plan of Action, the Government has provided additional funding for research in the agriculture and forestry sectors. The research is to help the land-based sectors to reduce their greenhouse gas emissions or enhance sinks and to build the capability and resilience of the agricultural

and forestry sectors to adapt to a changing climate. As an example, research money was made available for funding **case studies in the kiwifruit industry**. The funding allowed the researcher to work extensively with growers and industry organisations on impacts and adaptation using a participative approach. Experiences and lessons learnt show an already a high degree of awareness of climate change in the kiwifruit industry because of environmental concerns of target markets in Europe. This provided a good platform for grower action once the case studies had been completed. For further details refer to: <http://www.maf.govt.nz/climatechange/slm/grants/research/2007-08/2008-25-summary.htm>

Various fact sheets for land managers and case studies of land managers adapting to climate change are under development. These will be used by the Ministry of Agriculture and Forestry and the sectors as part of technology transfer programmes.

Targeting actions at the **community level**, the Ministry of Agriculture and Forestry administers the **Sustainable Farming Fund: Climate Change**. This initiative funds community driven programmes that specifically incorporate climate change, including adaptation. The Fund does this by funding projects that are based around solving problems, or taking up opportunities, related to climate change and sustainable resource use, and that are defined and driven by a farmer, grower or forester-led community of interest. These are groups of stakeholders drawn together by common problems or opportunities. Experiences and lessons learnt include that the programme provides an opportunity and funding for communities to understand what climate change may mean for them and how to develop best practice. For more information refer to: <http://www.maf.govt.nz/sff/about-projects/>