

Climate and water resources

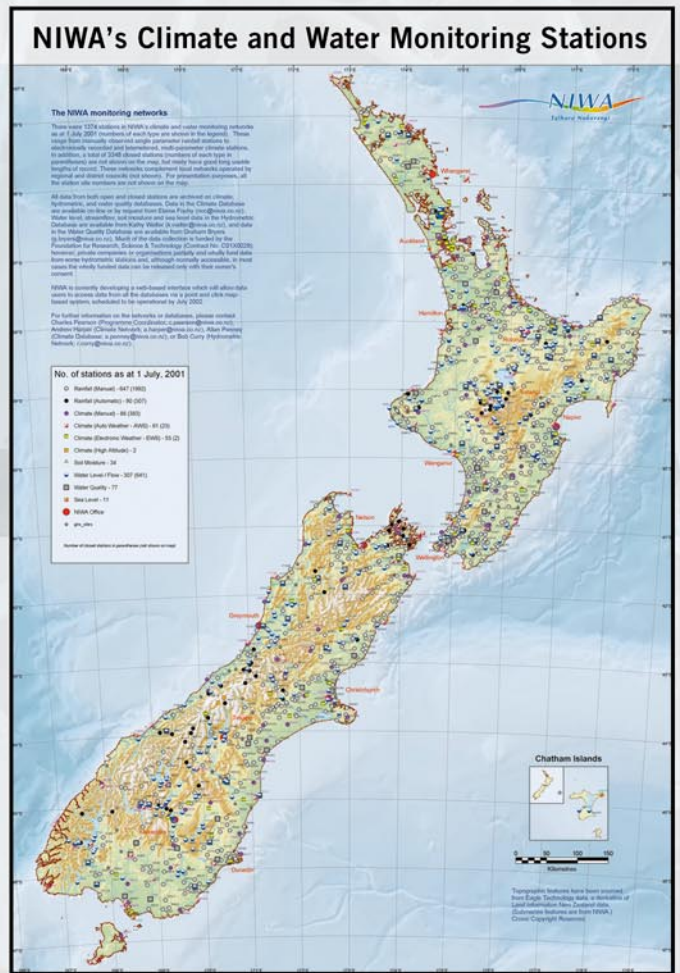
NIWA operates the Water Resources and Climate Archives, both 'Nationally Significant Databases'. The Archive comprises three main databases – climate, water quantity, and water quality. The databases are regularly updated with rainfall, air temperature, barometric pressure, wind speed and direction, soil moisture level, lake and river water level, river flow, river sediment load, and river water quality data, collected from more than 1000 locations nationwide. The earliest records extend back to the mid 1800s. The data are provided to a wide spectrum of users for many different purposes, including the sustainable management of air and freshwater resources and ecosystems, flood control, hydropower operations, resource management, freshwater and climate research, forecasting, hazard warning, and education.

Freshwater Biodata Information System

With support from DoC's Terrestrial and Freshwater Biodiversity Information System programme fund the following four freshwater databases are being integrated into a single data management system which will hold New Zealand freshwater biodiversity and biosecurity data and provide an expanded online service complete with data viewing and searching via web-maps.

1. Freshwater fish

The New Zealand Freshwater Fish Database, also a Nationally Significant Database, is the national repository for data collected by a wide variety of agencies. It currently holds data from more



Databases

NIWA manages a number of databases, either as nationally significant databases with FRST support, as repositories for numerous research data sets, or by managing data under contract to various clients. Some of them are discussed here.

than 20 000 sites throughout New Zealand. The database is available without cost online to registered users and NIWA staff. Last year, 125 registered users made over 1000 connections to the web site to query the database. Information from the database is used in resource consent applications, catchment management plans, and for a variety of research projects, such as establishing the relationship between common freshwater fish communities and physical attributes of streams.



2. Freshwater plants

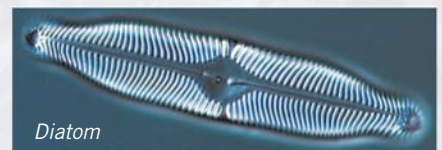
The NIWA Aquatic Plant Database holds plant survey records for 155 New Zealand lakes. The database has more than 16 000 species records, incorporating ecological information on depth, cover, and height. In the last year, 5000 records were added from current and historical survey information. The data are available to NIWA researchers and outside agencies who use them to establish relationships



between submerged vegetation habitat and physical lake conditions, and to assess plant species as indicators of lake trophic status.

3. Freshwater algae

The NIWA Freshwater Algal Database includes some 2000 samples from rivers, lakes, and wetlands throughout New Zealand.



4. Freshwater invertebrates

NIWA holds about 8500 invertebrate records for freshwater sites throughout New Zealand.

Ministry of Fisheries Research Databases

NIWA manages more than 30 databases for the Ministry of Fisheries. These cover a wide range of fisheries research datasets collected from the New Zealand Exclusive Economic Zone over the last 40 years. They are used widely by marine fisheries researchers for the assessment of New Zealand's fish stocks and the effects of fishing.

Land Information New Zealand

NIWA is currently building a digital data repository for Land Information New Zealand to manage large data sets of hydrographic bathymetry data collected by swath multibeam systems.