

NIWA Instrument Systems

accurate and dependable data for science

NIWA Instrument Systems is a specialist instrumentation group within NIWA Science. We provide hardware and software for environmental monitoring and a full package of design, construction, and installation services.

Wind energy assessment made easier

A device constructed by Instrument Systems is proving its worth in assessing potential wind farm sites.

The trailer-mounted Remtech 'SODAR' (sonic detection and ranging) unit is much more mobile, quicker, and cheaper than conventional mast-mounted technology. More importantly, the data collected are proving just as reliable. This year we achieved correlations of 97% between SODAR and mast-mounted measurements at one proposed turbine site. (A 100% correlation is impossible

because the mast and SODAR trailer cannot be in precisely the same place at the same time.)

In addition, the SODAR's analysis systems derive some statistics which are not readily available from masts. It provides data on wind speed and direction, turbulence, thermal structure, and mixing, through heights ranging from 25 to 1500 metres rather than just a fixed point.



Long track-record in irrigation systems

Since the late 1990s, Instrument Systems has developed and installed monitoring and control systems at 18 sites on irrigation schemes in Canterbury and South Canterbury.

This year, we built, installed, and commissioned a series of flow monitoring and control stations on the Benmore Irrigation Scheme, McKenzie Basin, for the main contractors, Attewell Irrigation Ltd. The automation systems are designed to ensure that the operational consents granted for the scheme are satisfied and each property gets the required amount of water.

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