



Centre for Land and Water



Winter Lectures 2011

Eight informative lunchtime lectures in the
Green Shed: Fridays at 12 noon

Lecture 4

**Data -
managing and making sense of it**

Mark Rodgers



Winter Lectures 2011

REGISTRATIONS REQUIRED

Phone: 06 650-4532 or Email greenshed@claw.net.nz

Small charge to cover expenses: \$25 inc GST per lecture
(\$150 inc GST for a Series Registration*)

You will receive a light lunch (if you register on time), a lecture and an invitation to stay and discuss the topic in more depth should you wish.

ACKNOWLEDGEMENTS:

The Centre for Land and Water thanks the Winter Lecturers who have generously given their time:



*Berry
Beekeeping*



NOTES:

- * We may cancel or vary presentations if speakers become unavailable or if registrations fail to meet minimum numbers.
- * If a speaker becomes unavailable, we may arrange a suitable replacement to cover the same or a similar topic.
- * Holders of a Series registration will be refunded for any cancelled lectures at \$20 inc GST per cancellation, up to \$150 inc GST total.

On Farm Data Collection

- Knowledge is power, especially when it feeds into irrigation and spray scheduling.
- The instrumentation can be expensive.
- Beware of walking into someone's R & D project.
- Simple climate stations can be effective but watch out for rain gauge placement.
- Soil moisture probes must be installed carefully and the soil around the probe checked to ensure it is representative.



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On Farm Data Collection

- A rain gauge must be installed at ground level.
- A rain gauge on top of the pump shed won't correlate with other gauges because of problems with wind blowing the rain drops past the bucket.
- The gauge must be away from the shadow of trees, at least twice the height of the trees.
- Councils use really expensive equipment, \$2500. A Rain-o-matic is a much cheaper, \$150, and good quality.
- A simple gauge mounted on the fence and one you read daily is an indication only.



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On Farm Data Collection

- Telemetry is difficult, and don't let anyone tell you otherwise.
- Systems development has been going in New Zealand since 1983, and is still going.
- Be aware of all costs when considering systems.
- Running the farm computer costs \$21 per month in electricity.



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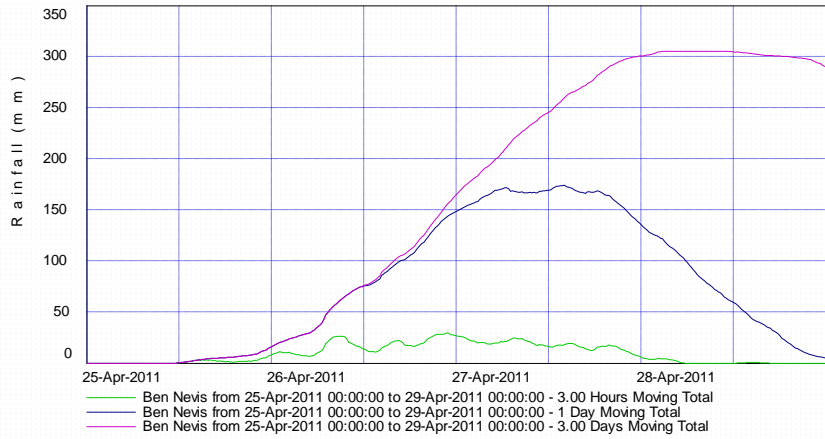
On Farm Data Collection

- Send all possible data by telemetry. Your third party supplier will keep it and display it, and the Regional Council is also happy to accept it.
- The third party transmission of water meter data is highly competitive, and there will be winners and losers.
- There are established players though.



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Rainfall

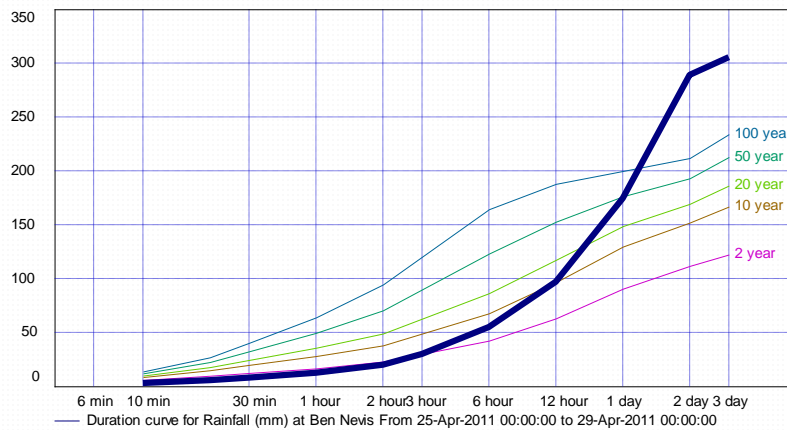


- It just kept raining!!



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Rainfall

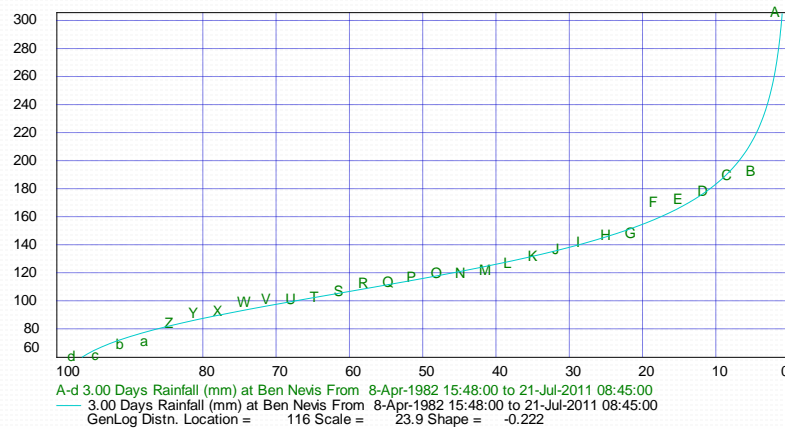


- During the storm. It was bad after 18 hours



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Rainfall



- Frequency Analysis: Looking back after the storm



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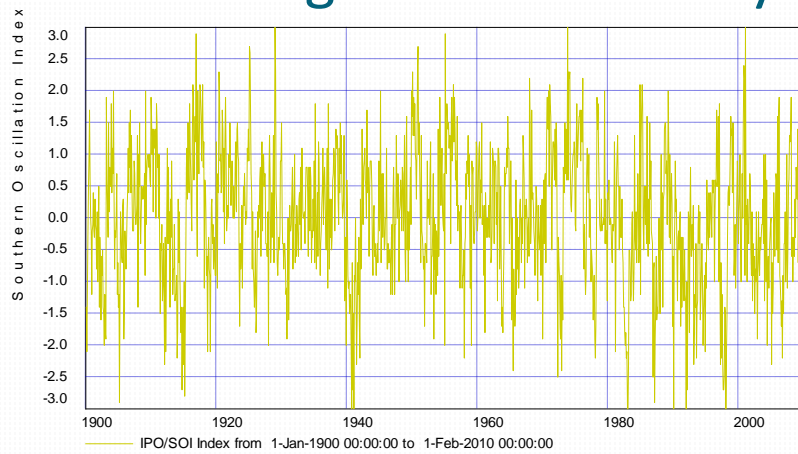
Climate Change and Climate Cycles

- Climate change is a fact and was always going to be.
- The planet will survive. We will too, but it might be a little more lonely.
- It's not about the latest evil molecule, it's about energy and thermodynamics.



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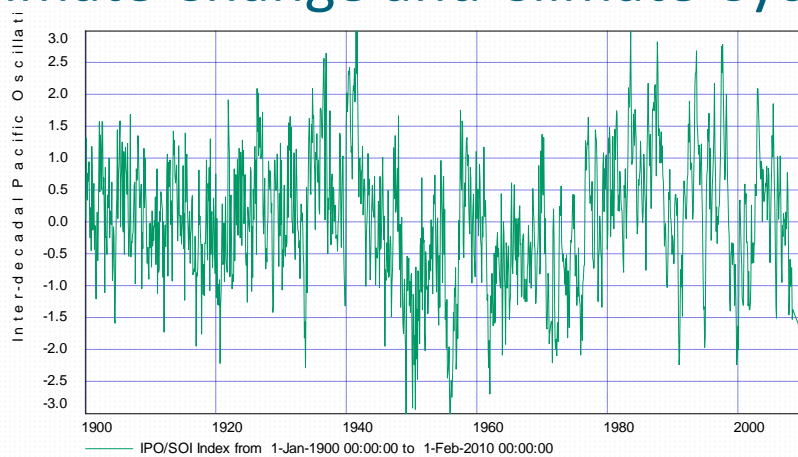
Climate Change and Climate Cycles



- The Southern Oscillation Index: Not interesting

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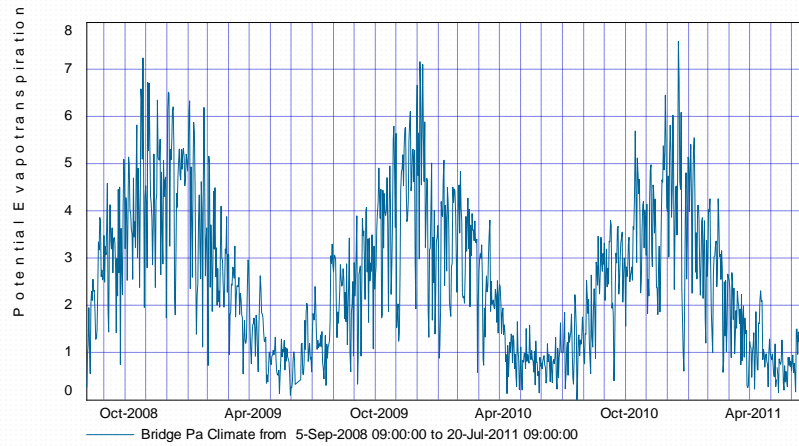
Climate Change and Climate Cycles



- The Inter-decadal Pacific Oscillation Index: Very Interesting

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Climate Stations

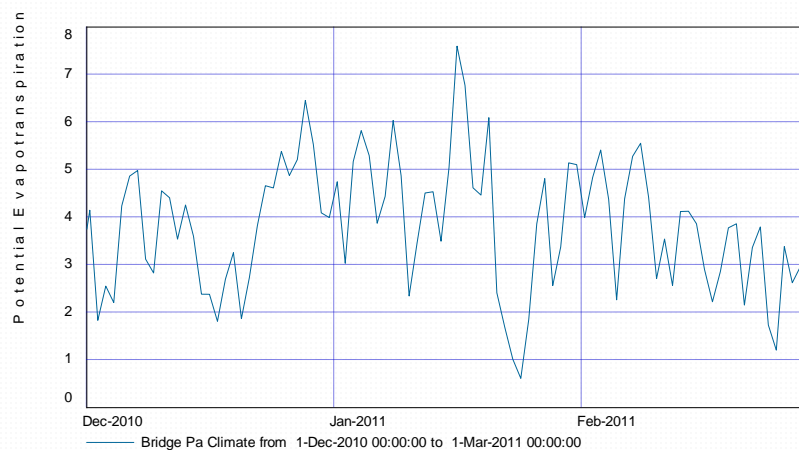


- PET: Not much change from one year to next.



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Climate Stations

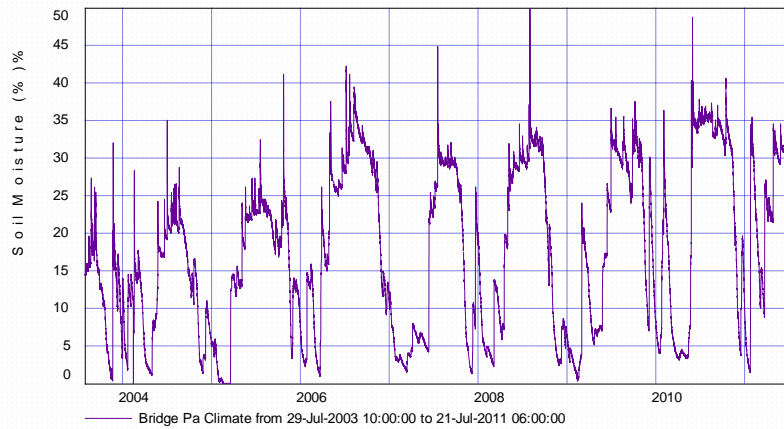


- PET: Last Summer.



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Climate Stations

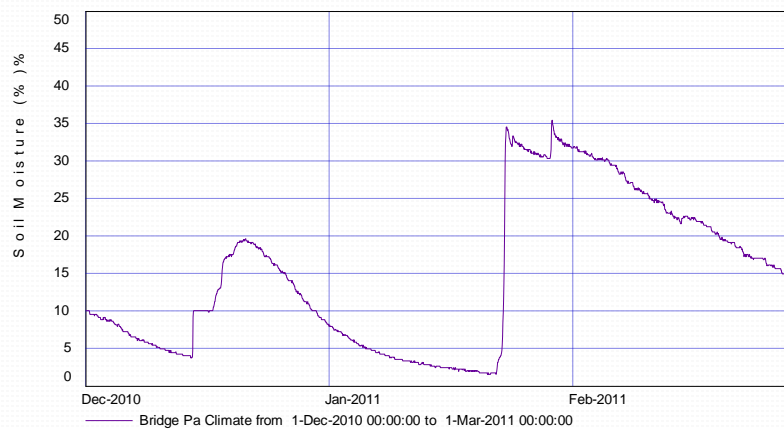


- Soil Moisture: Droughts and OK years.



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Climate Stations

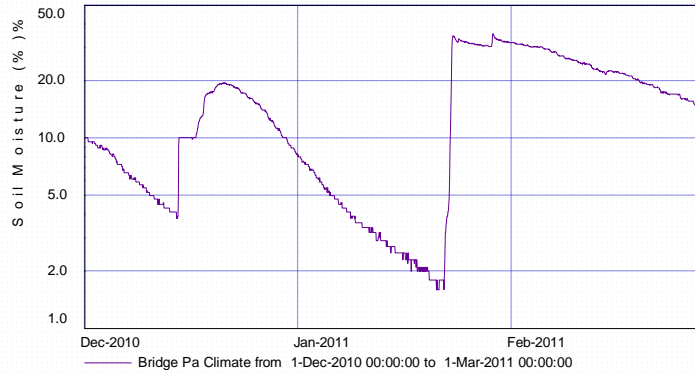


- Soil Moisture: Last Summer.



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Climate Stations

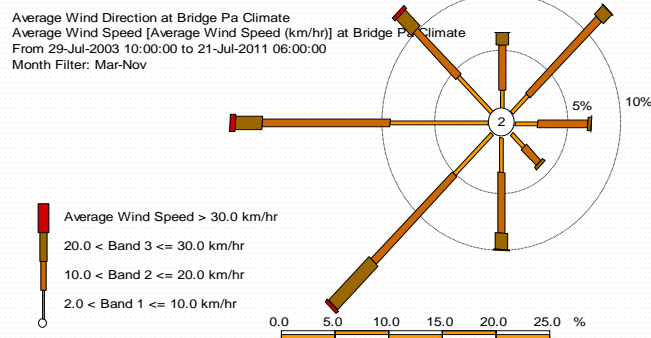


- Soil Moisture: Log Scale. Trend line established at Christmas



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Climate Stations

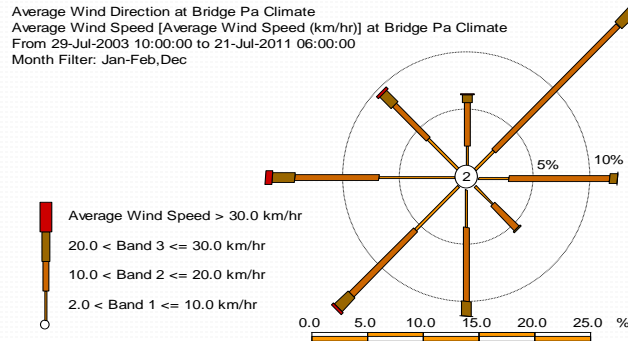


- Wind Rose: The last eight years, excluding summer.



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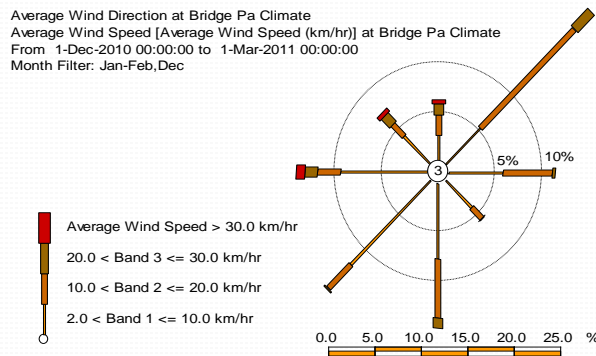
Climate Stations



- Wind Rose: The last eight summers.



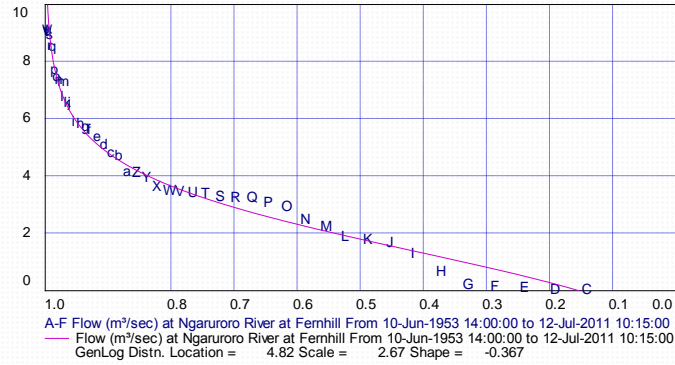
Climate Stations



- Wind Rose: Last summer.



Low Flows

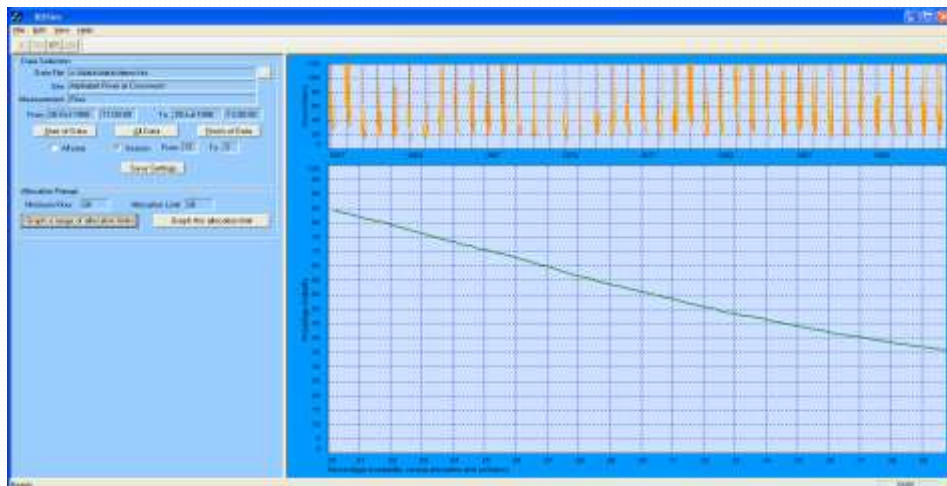


- Event Analysis of Summer Flows: The river will go on ban.



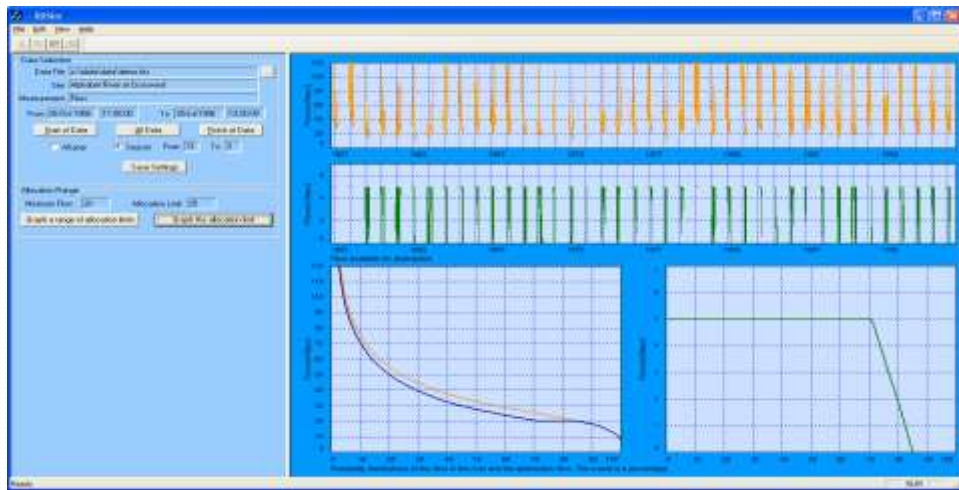
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Low Flows



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Low Flows



- Availability with 5 cumecs for irrigation

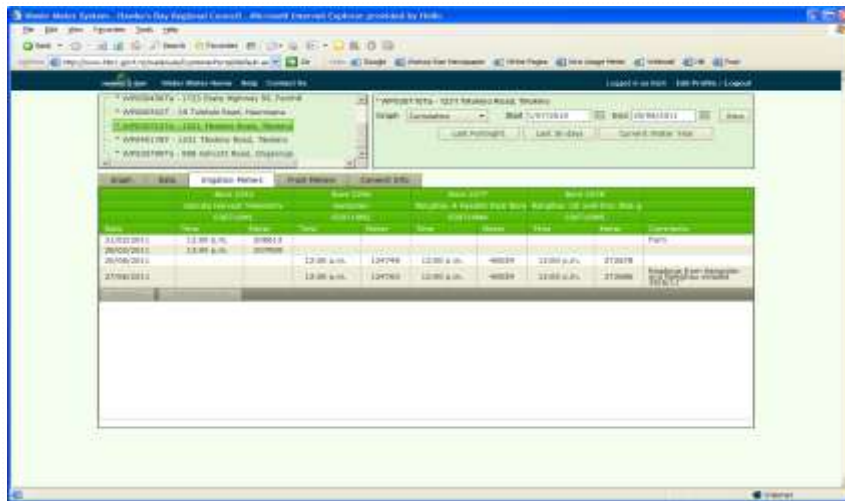
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Water Use Data

- Nick Smith wants data driven decisions at Commissioner and Environment Court level.
- There is now a National Standard which means you must have a water meter and you must read it.
- Regional Councils are pushing telemetry.
- HBRC will accept data from third party providers and from you.

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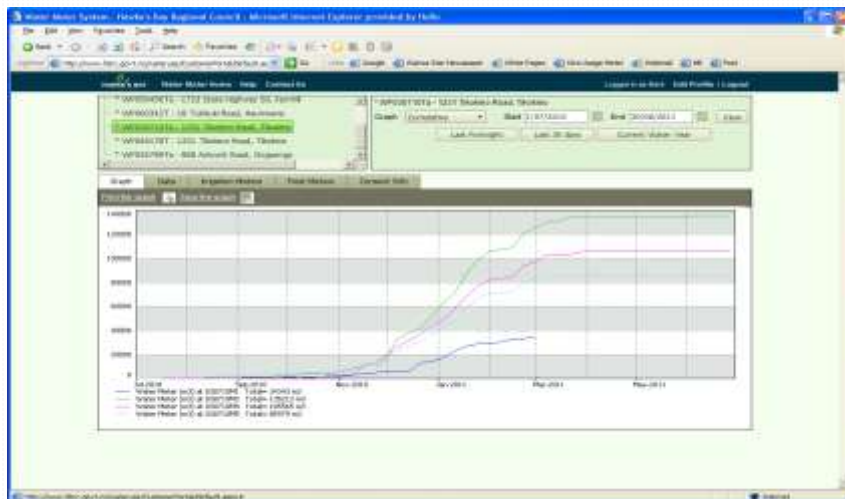
Water Use Data



- Web site for manual data entry

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Water Use Data



- Graphs of your data. Will have climate stations next season.

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Centre for Land and Water

WELCOME

Welcome to the Centre for Land and Water, a venue supporting sustainable agriculture through training, research and consultancy.

The Centre provides professional offices, meeting and seminar facilities and land for research and training.

We currently have rental offices available. Terms by agreement - phone, fax, copy and print facilities available on-site.

The Green Shed seminar venue is available for training, meetings or for general event hire. Contact us: Phone: 06 650-4532 or Email greenshed@claw.net.nz

The Centre is located on a 4 ha site with easy access and plentiful parking. Entry is from Ruahapia Road, accessed from Karamu Road (SH2) at Waipatu or Pakowhai Road at Chesterhope. It is 4 km (8 minutes) from the Hastings CBD, 17 km (20 minutes) from Napier CBD and 18 km (20 minutes) from Hawke's Bay Airport.

COMING SOON

CLAW Short Seminars:

Communications: Preparing a media release

Communications: Writing popular articles

Communications: Writing technical reports and manuals

Communications: Preparing and delivering public presentations

Irrigation: System calibration theory and practice

Irrigation: How much water do I really need?

CLAW Short Courses

NZQA Certified Irrigation Evaluator



Centre for Land and Water

- 1. Rural New Zealand Biofuels - the future could arrive any time:** **July 8th**
Speaker: Rocky Renquist, Plant and Food Research
Rocky is a crop research scientist. Bio-energy can replace ¼ of all energy use by 2050 and reduce the footprint of ag products. Having identified better conversion technologies, Rocky has worked on crops and crop residues to supply fuel plants. His focus is on bio-energy for rural New Zealand.
- 2. Ground Water Resources – beginners guide to hydrology:** **July 15th**
Speaker: Tony Davoren, HydroServices
Tony is a hydrologist with extensive experience in irrigation, soil water, surface and groundwater water resources. He will explain key hydrology concepts so you can make sense of well tests and groundwater science. What does an aquifer report tell me? How do we know if current take levels are sustainable?
- 3. Bees - what's happening in the hive:** **July 22nd**
Speaker: Peter Berry, Berry Beekeeping
Fresh from the National Beekeepers Association Conference, Peter will update us on the latest developments. He is a conservationist, tramper, hunter, fisherman, farm forester, muso and playwright. He is also passionate about bees, with lifelong beekeeping experience.
- 4. Managing and making sense of data:** **July 29th**
Speaker: Mark Rodgers, "Datatamer"/ Hilltop Software
Mark is a data management specialist and developer of Datatamer software which is used by regional councils and irrigation schemes. He will explain how data from water meters, river monitoring, soil moisture and other sensors can be captured, cleaned, stored and made available. What is this data for and how can it help me?
- 5. Employment Matters - getting it right:** **August 5th**
Speaker: Gill Riley, Grow Human Resources
Gill is an HR specialist with experience in management and operational HR across many sectors. She presents a common sense approach to people issues, good employment structures, and ways to de-escalate issues. Her focus is excellence and optimal results through integration of all business operations.
- 6. Lean Production - taking the waste out of what we do:** **August 12th**
Speaker: Glenn Manahi, SBF
Glenn is the director of SBF, a company facilitating businesses into "lean" ways of thinking and doing. Lean is about doing more with less: less time, inventory, space and money; getting the process right the first time. Glenn promises a fun interactive session looking at systems - what works and what doesn't.
- 7. Social Media - business in the online era for Rural Communities:** **August 19th**
Speaker: Matthew Miller, Mogul
Matt has a wealth of experience in digital marketing and web development. He will enlighten us on social media including Facebook and Twitter – what role do they have in keeping rural communities connected with each other, their markets and the rest of the world.
- 8. Interpreting leaf and petiole test results:** **August 26th**
Speakers: Mike White, Analytical Research Laboratories and Andre Lubbe, Ravensdown
Mike and Andre will co-present this session on testing plant material and turning results into fertiliser recommendations. They will use grapes as a case study to explain what your tests tell you about your crop. Mike and Andre are happy to answer questions about other crops that have particular interest to attendees.