

New Zealand – National Report

Glen Rowe, Senior Tidal Officer, Location Information



Organisation Structure

- Land Information New Zealand (LINZ)

A New Zealand government department responsible for land titles, geodetic and cadastral survey systems, topographic information, hydrographic information, managing Crown property and a variety of other functions.

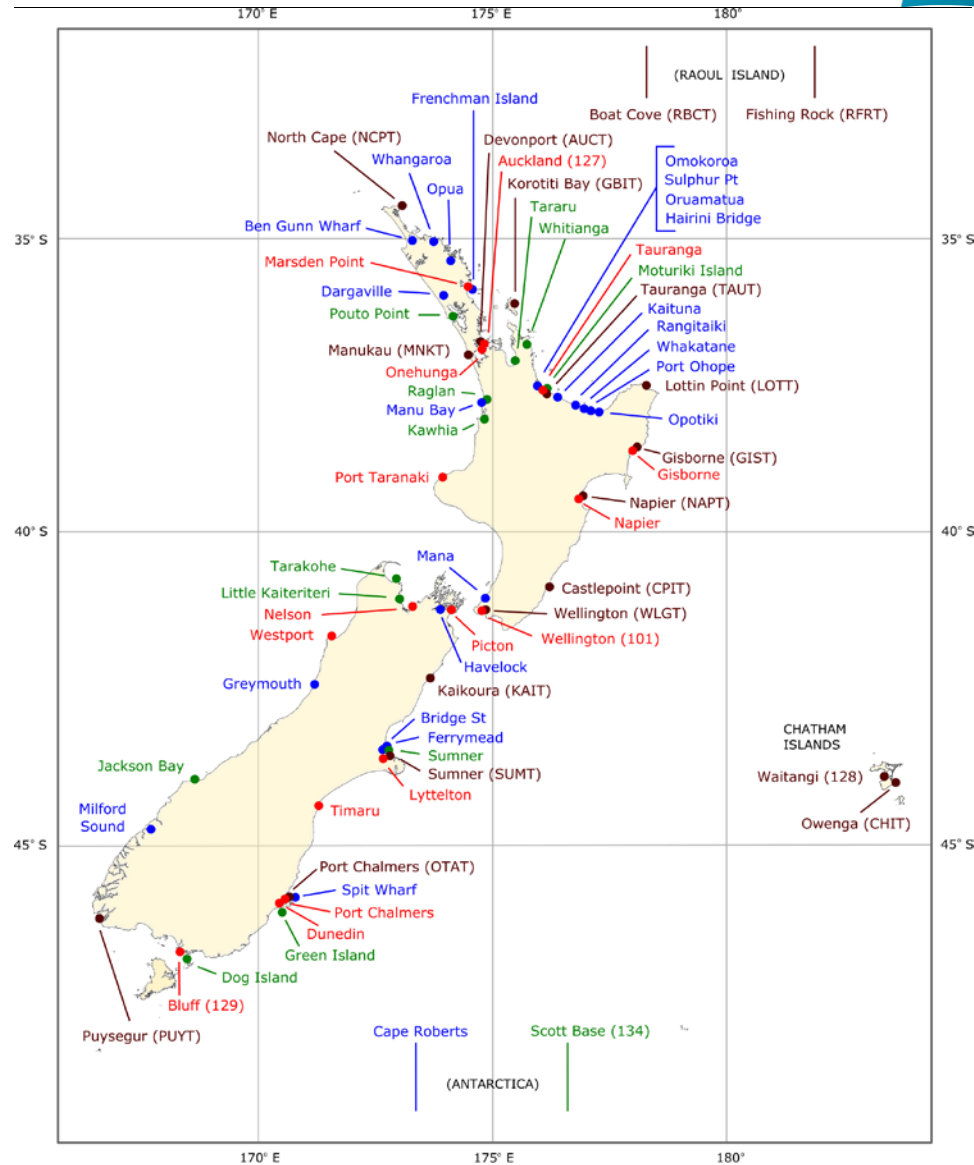
- New Zealand Hydrographic Authority

- LINZ assumed hydrographic responsibilities from Royal NZ Navy in 1996.
- Initially work contracted back to RNZN, now all in-house except for hydrographic surveys.

Organisation Structure

- Manager Hydrography
- National Hydrographer
- Hydrographic Leadership Team (Manager + 4)
 - Hydrographic Surveyors (2)
 - Nautical Cartographers (7)
 - Manager Chart Production
 - Hydro Systems Technical Lead
 - Hydro Data Analyst
 - Tide Officer

Permanent Tide Gauges



Sea Level Data

- Recorded at 1, 5 or 10 minute intervals
- Received daily, monthly, quarterly
- Multiple formats
- E-mail, ftp, internet
- Archived by LINZ
- Data owned by supplier

Analysis and Prediction

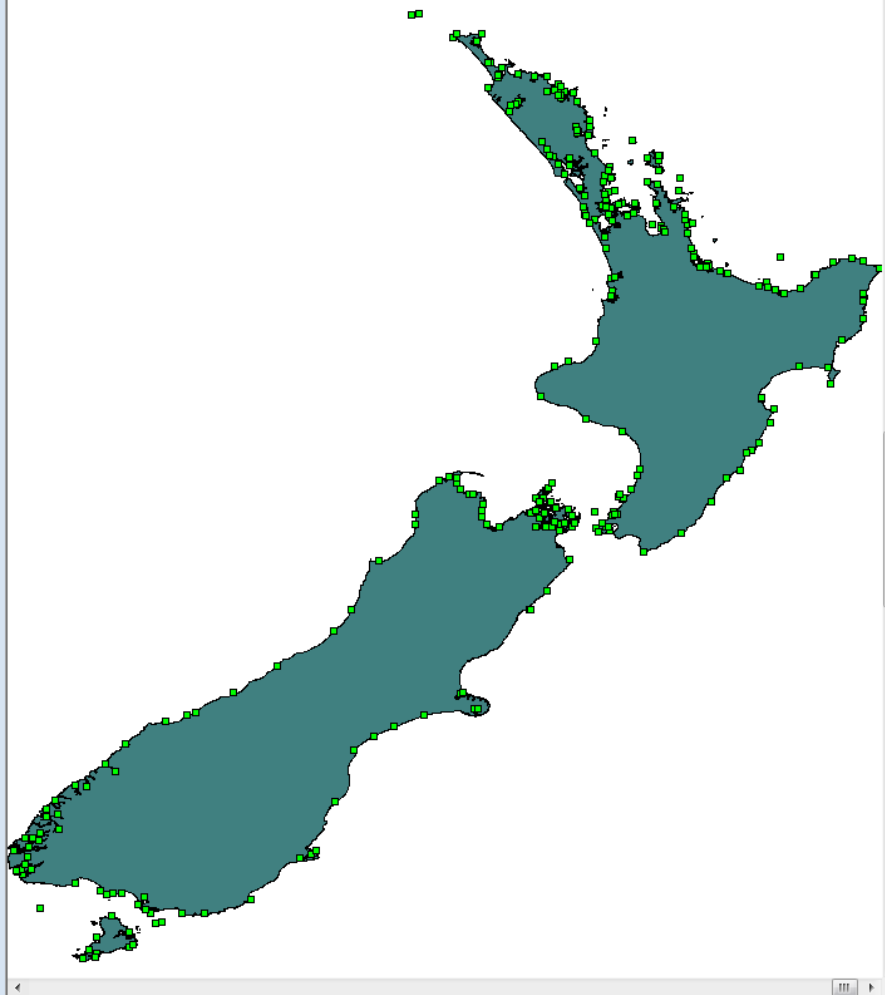
- Use Mike Foreman's software
- Sea Level Information Management System (SLIMS)
- Annual analyses of permanent sites
- Publish daily high/low predictions for 16 standard ports in NZ Nautical Almanac
- Publish offset corrections for 212 secondary ports in NZ Nautical Almanac

SLIMS

- Time-series data system
- Data validation, analysis, predictions, tide levels etc
- Editing functions
- Graphical views of data
- Data, constituent sets, tidal levels etc stored in SQL Server database

Sea Level Information Management System - [Main Window]

File Edit View Map Data Graph Window Help



Identification

Station ID:

Name:

Lat/Long:

Master Mean Tidal Levels

	Admiralty	Means	Manual
MHWS	<input type="text"/>	<input type="text" value="3.387"/>	<input type="text"/>
MHWN	<input type="text"/>	<input type="text" value="2.867"/>	<input type="text"/>
MLWN	<input type="text"/>	<input type="text" value="0.926"/>	<input type="text"/>
MLWS	<input type="text"/>	<input type="text" value="0.397"/>	<input type="text"/>
Derived			
MSL	<input type="text"/>	<input type="text"/>	<input type="text"/>
HAT	<input type="text"/>	<input type="text"/>	<input type="text"/>
LAT	<input type="text"/>	<input type="text"/>	<input type="text"/>

Secondary Port

Std Port:

	Computed	Manual
Time Differences	<input type="text"/>	<input type="text"/>
Mean High Water	<input type="text"/>	<input type="text"/>
Mean Low Water	<input type="text"/>	<input type="text"/>

Benchmarks

	Name	Code	CD Description
Primary	<input type="text"/>	<input type="text"/>	<input type="text"/>
Sec 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
Sec 2	<input type="text"/>	<input type="text"/>	<input type="text"/>

Constituents

Master Date:

Data from: to

Number of Constituents:

Theoretical RMS:

Matrix Condition:

Residual Std Deviation:

Comment:

Ready

47° 20'S 174° 40'E

Constituent Editor

Constituent

Port: Auckland

Nominal Date: 2-Jul-2013

Comment: Analysis of 379 days' data - 2013

Quality Code: Constituents Computed by SLIMS

Sea Level Data

From: 25-Dec-2012 00:00:00 To: 7-Jan-2014 23:00:00

Main Archive Unprocessed Archive

Name	Amplitude (cm)	Phase	SNR
Z0	193.2081	0.00	
SA	5.1257	123.57	9.453
SSA	0.9214	87.07	0.305
MSM	1.1887	348.44	0.508
MM	1.3599	254.71	0.665
MSF	1.2591	255.30	0.570
MF	0.4195	276.12	0.063
ALP1	0.0575	173.90	0.106
Q01	0.0805	320.61	0.208
SIG1	0.0834	214.02	0.223
Q1	0.1582	105.37	0.804
RH01			

Buttons: Close, Save, Delete

Mean Tidal Levels

Port: Auckland

Category: NZNA

Year: 2013

Quality Code: Tidal Levels Computed by SLIMS

Mean Tidal Levels

Reference Tidal Levels - MSL

Buttons: Close, Save, Delete, Master, Help

Predictions

Data Selection

Port: Auckland

Constituents: 1-Jul-2004

From: 1-Jan-2015 00:00:00 To: 1-Jan-2016 00:00:00

Output Format

Buttons: OK, Cancel, Help

Time Differences for a Secondary Port

Port Name: Rocky Point

Time Differences

Computed Manual

MHW: -00:17

MLW: -00:10

Buttons: Close, Save, Save As..., Delete, Rename, Help

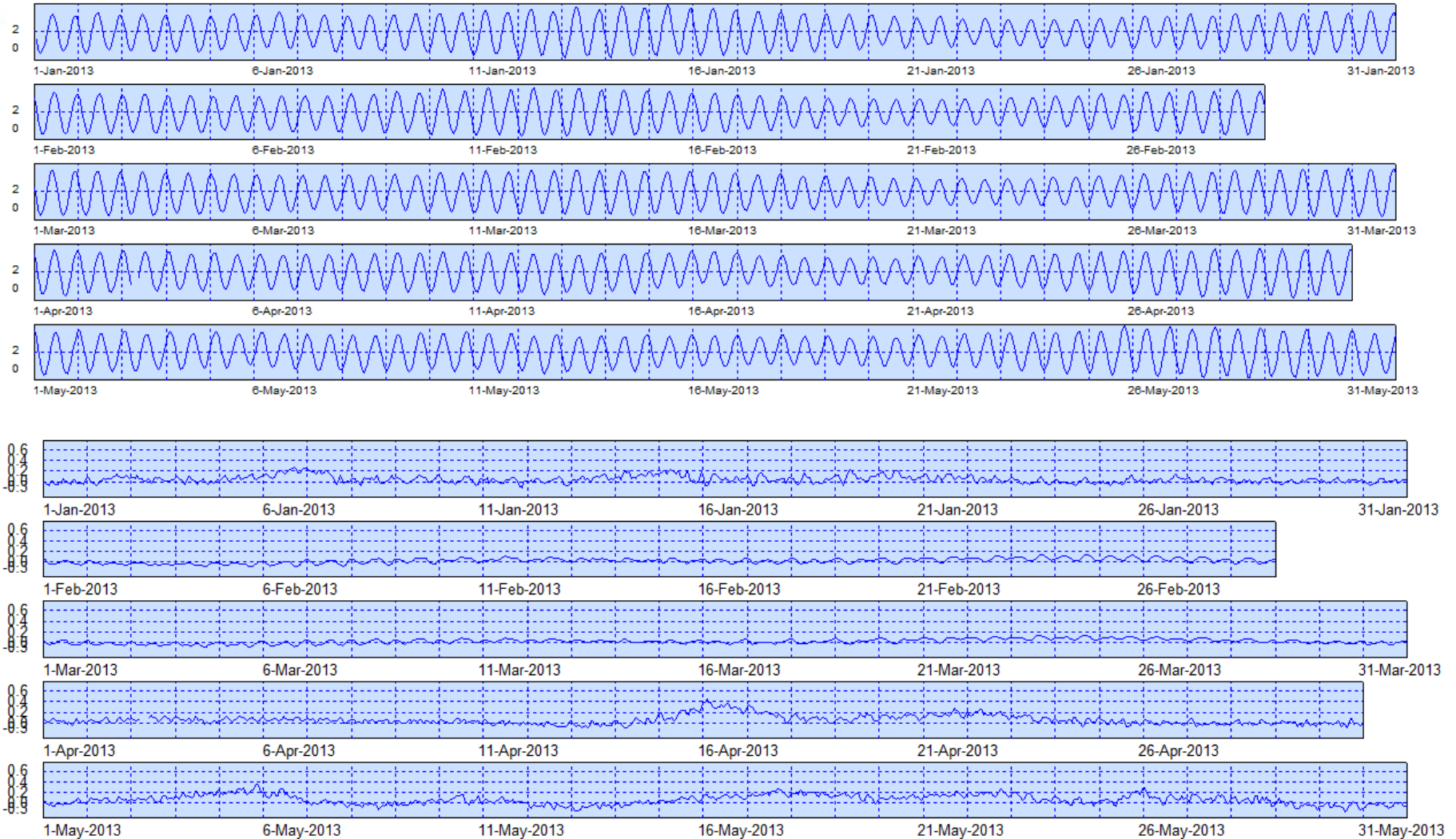
Data Selection for Calculations

Constituents from this port: 1-Jul-2005

Constituents from Std port: 1-Jul-1999

From: 1-Jul-2011 00:00:00 To: 1-Jul-2012 00:00:00

SLIMS



SLIMS

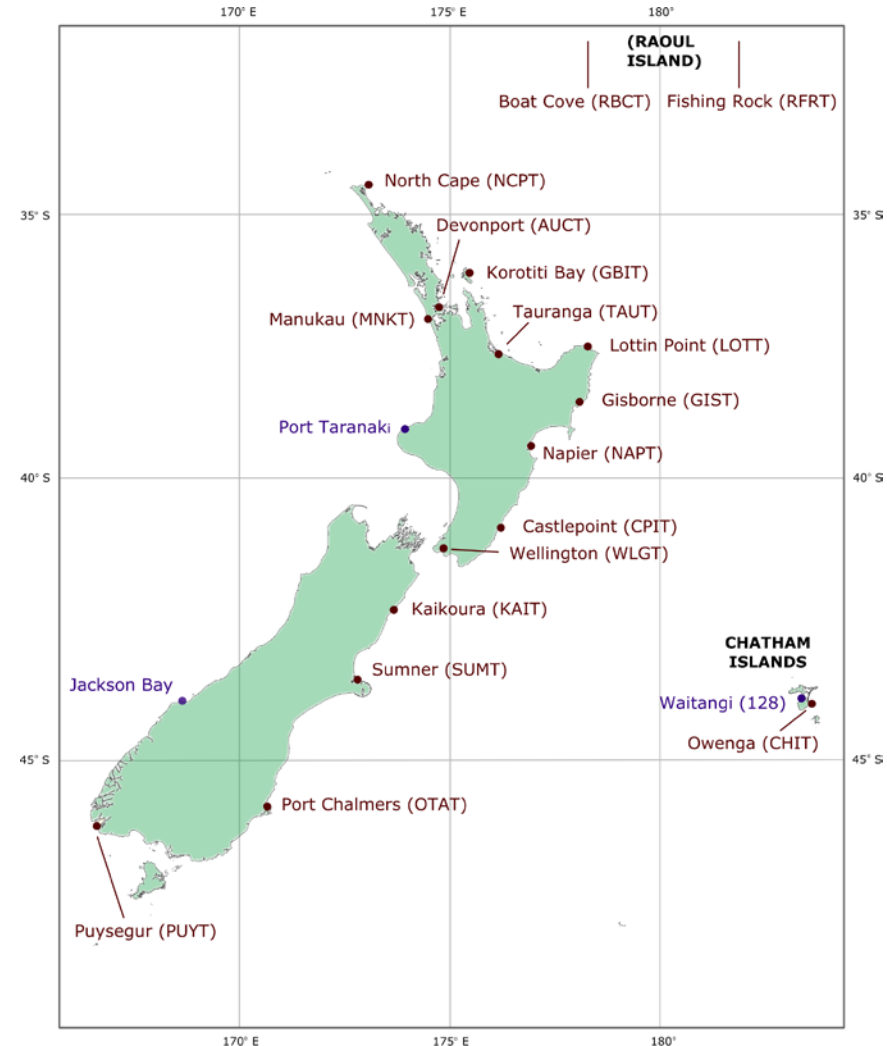
- New Zealand Nautical Almanac
- LINZ web-site
- MarineMate
- NZ MetService
- OceanFun
- Other 3rd parties on request
- All free of charge



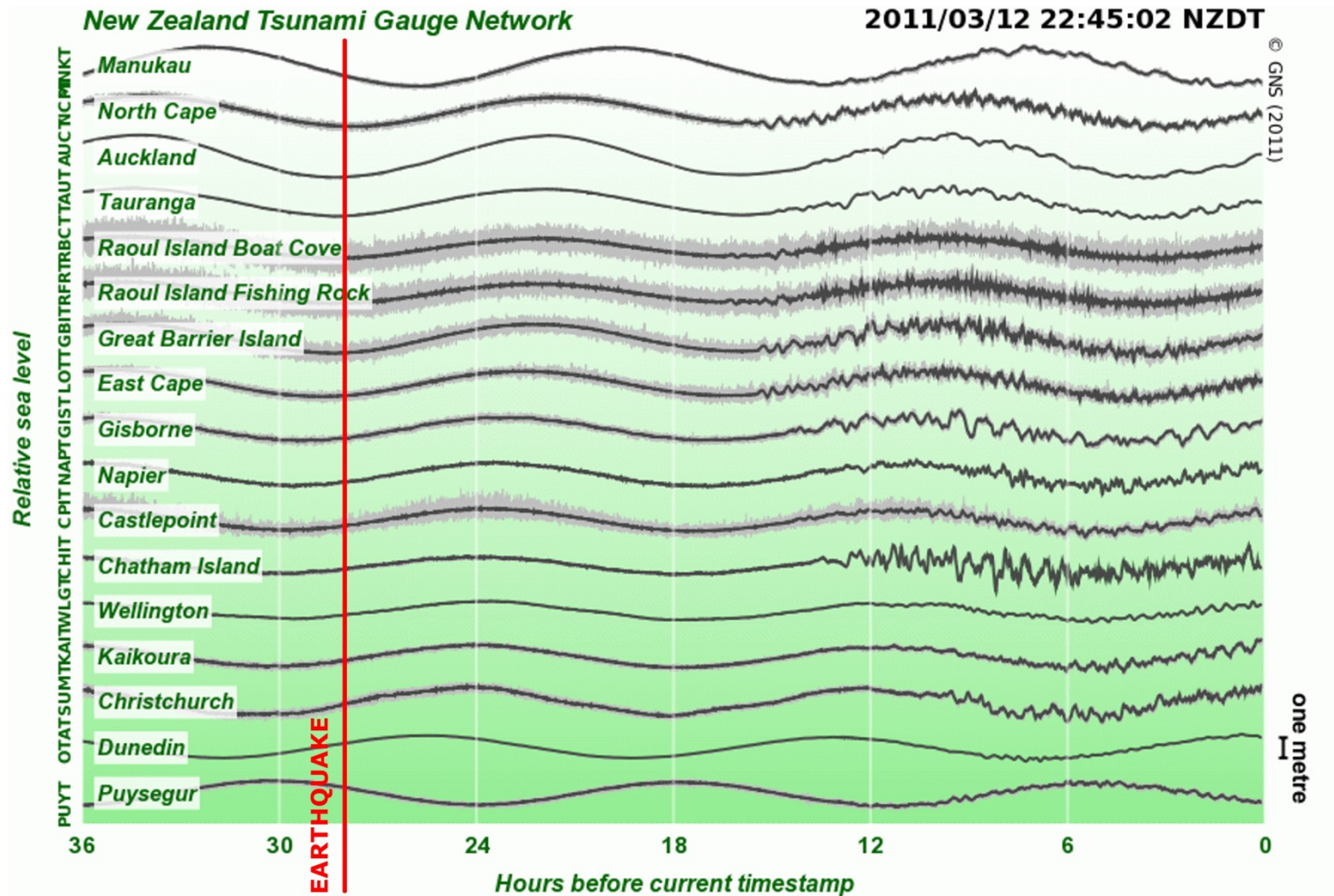
	High	Low	High	Low	High
1 Mar Friday	-	4:25 0.46 m	10:49 3.30 m	16:51 0.48 m	23:18 3.23 m
2 Mar Saturday	-	5:10 0.48 m	11:35 3.28 m	17:37 0.47 m	-
3 Mar Sunday	12:05 3.22 m	5:58 0.55 m	12:23 3.24 m	18:25 0.50 m	-
4 Mar Monday	12:54 3.19 m	6:52 0.63 m	13:13 3.18 m	19:17 0.55 m	-
5 Mar Tuesday	1:46 3.13 m	7:51 0.70 m	14:07 3.10 m	20:15 0.61 m	-
6 Mar Wed	2:44 3.08 m	8:53 0.74 m	15:06 3.04 m	21:16 0.65 m	-
7 Mar Thursday	3:49 3.06 m	9:56 0.75 m	16:10 3.01 m	22:21 0.66 m	-
8 Mar Friday	4:57 3.10 m	11:00 0.71 m	17:17 3.03 m	23:26 0.63 m	-
9 Mar	6:00	12:00	18:21	-	-

Tsunami Monitoring Network

- 17 sites
- Fully operational 2010
- Druck pressure sensors
- 30 sec comms
- Partnership with GNS Science



Tōhoku, Japan - 11 March 2011





Thank You