The DEEPWAVE Field Catalog

catalog.eol.ucar.edu/deepwave

DEEPWAVE Field Catalog

A Study of Deeply Propagating Gravity Waves from the Earth's Surface to the Mesosphere

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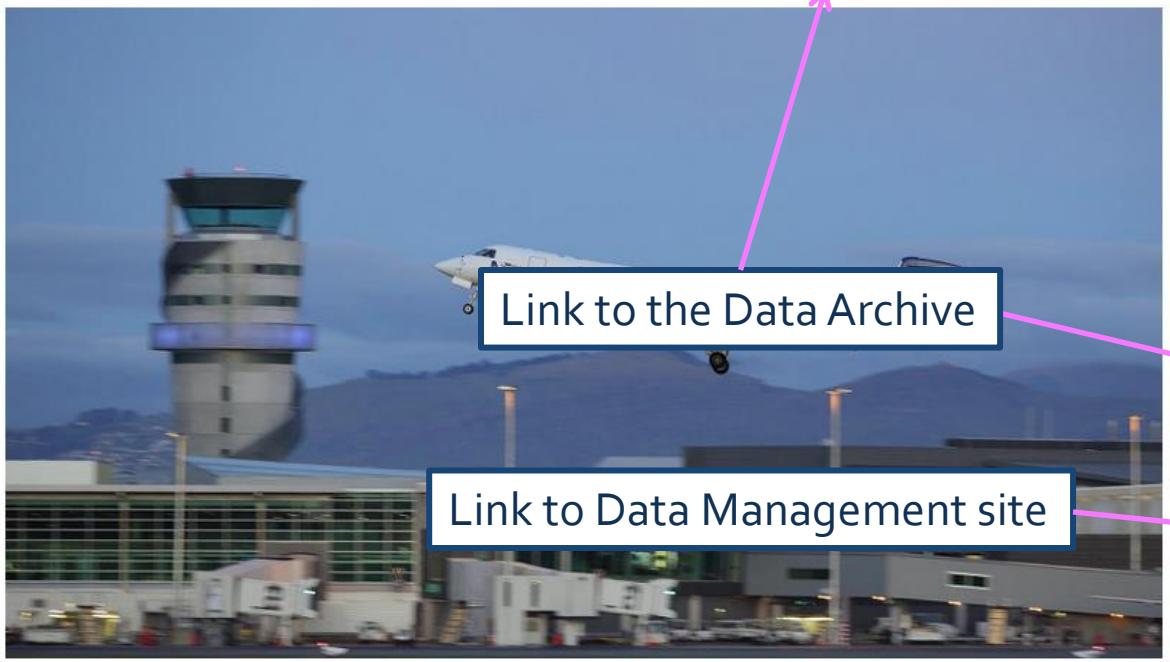

Status

The DEEPWAVE Field Campaign took place between 5/24 - 7/27/2014 in and around the New Zealand. The base of operations was located at the USARP base, Christchurch Airport. The NSF/NCAR-GV and the DLR Falcon were the research aircraft involved. Major ground-based research facilities were located at Hokitika, Lauder and Haast as well as in Tasmania near Hobart.

For a summary of these operations and related products, please click on the **"Missions"** link above.

To replay previous cases via the Field Catalog GIS tool, click on Catalog Maps.

For a list of reports related to project operations, click on the **"Reports"** link above.

Datasets for this project can be found in the DEEPWAVE Data Archive at EOL.

For other data management related questions, please see the DEEPWAVE Data Management Pages at EOL.

Phone Numbers
Operations Coordination Office: x35473
358 1473 (Outside USAP offices)
03 358 1473 (NZ Cell Phone)
64 3 358 1473 (International)
Operations Director Cell: 021 0847 8717
Teleconference: 1-866-740-1260 (US)
NZ Toll free: 080 045 0780
Access Code: 4978635

External Webpages
DEEPWAVE
E & O
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EOL/CDS
EOL/PMO

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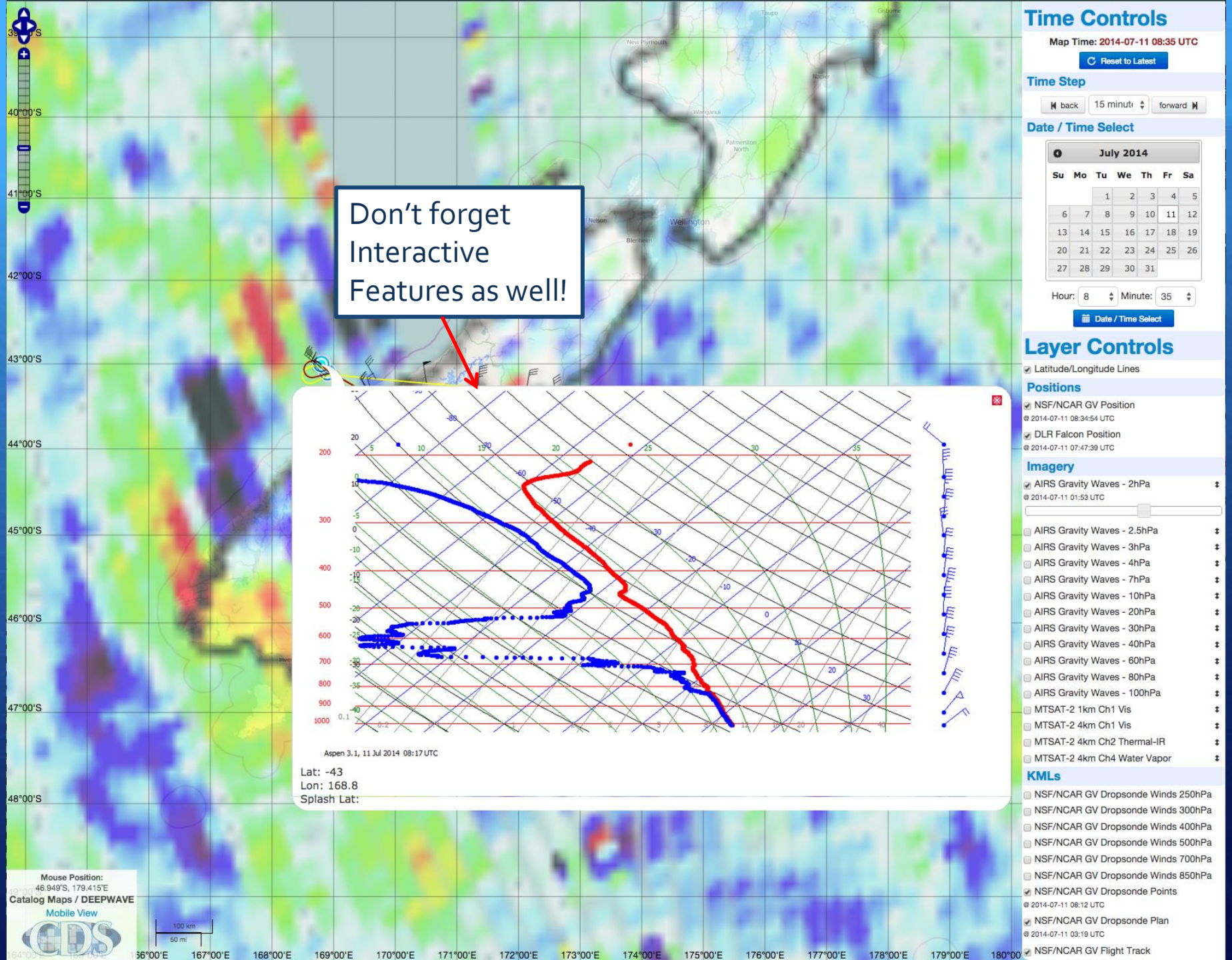
Mission Table

DEEPWAVE

IOP	Start Date/Time (UTC)	End Date/Time (UTC)	Aircraft	Objectives	Catalog Products	Flight Track Plot	Flight Track KML	Summaries	Notes
01	2014-06-06 06:20	2014-06-06 13:30	NSF/NCAR GV (RF01)	• Weak Mountain Waves • Non-orographic Waves SW of the South Island • Gain experience with ATC and other	Satellite Radar Surface Upper-Air Aircraft Model	GV	GV	GV Summary	While the overall results of the flight were of minimal interest perhaps, this was no surprise. Both targets were expected to be weak. A great deal was learned about how to conduct operations in this region. There were no ATC-forced altitude or course changes. The entire flight was exactly as planned.
02	2014-06-11 07:38	2014-06-11 15:47	(RF02)	the Tasman Sea • Gain experience with Australian ATC flight operations • Further test and optimize GV remote-sensing instruments	Satellite Radar Surface Upper-Air Aircraft Model	GV	GV	GV Summary	The mission provided needed opportunities for instrument and ATC communications testing and shake-out. However, the observed gravity waves were relatively weak at all altitudes and appeared to have different orientations and amplitudes than forecast.
03	2014-06-13 06:00	2014-06-14 15:00	NSF/NCAR GV (RF03) NSF/NCAR GV (RF04)	• RF03: To sample a region of adjoint sensitivity upstream of the Southern Alps prior to a gravity wave event. • RF03: To gain experience with predictability missions. • RF04: Observe mountain waves and trailing waves over the South Island	**June 13, 2014** Satellite Radar Surface Upper-Air Aircraft Model **June 14, 2014** Satellite Radar Surface Upper-Air Aircraft Model	GV (RF03) GV (RF04)	GV (RF03) GV (RF04)	GV Summary GV Summary	A sensitivity maximum was located near the shortwave at 700 and 500 mb. There was an enhanced cloud shield near the sensitive region and a Low-level jet within sensitive regions. Targeted dropsondes (RF03) successfully observed this feature well. On the multiple legs flown across the South Island (RF04) the T mapper and associated side viewing IR cameras detected for most of the flight only complex "chaotic" type structuring and no dominant, extensive wave patterns in the OH emission (altitude ~87 km). However, later in the flight, on the second upwind leg the cameras detected some coherent waves that were aligned roughly parallel to the South Island out over the ocean to the NW.
04	2014-06-16 07:07	2014-06-16 14:56	NSF/NCAR GV (RF05)	Observe mountain waves and trailing waves over the South Island	Satellite Radar Surface Upper-Air Aircraft Model	GV	GV	GV Summary	In the early part of the flight the airflow may have been complicated by a front swept up against the west coast. There was deep convection on the west coast that we had to divert around. The upstream legs showed little shear with latitude, along with small random waves and turbulence. The upstream drops showed either a blocked layer or a barrier jet near the earth's surface.. The pattern of waves across the island was very repeatable leg after leg. Near 170E, the UIC drops from about 20m/s to 10m/s, slight turbulence is found and short wave train begins. Typical amplitude of the vertical velocity in the wave train was 2 m/s. The wavelength was about 10km. It extends usually all the way to the east end of the leg. It is the longest wave oscillation I have

Best links to products/reports by IOP


Don’t forget Interactive Features as well!
Aspen 3.1, 11 Jul 2014 08:17 UTC
Lat: -43
Lon: 168.8
Splash Lat:
Time Controls
Map Time: 2014-07-11 08:35 UTC
Reset to Latest
Time Step
back
15 minute
forward
Date / Time Select
July 2014
Su Mo Tu We Th Fr Sa
Hour: 8
Minute: 35
Date / Time Select
Layer Controls
Latitude/Longitude Lines
Positions
NSF/NCAR GV Position
@ 2014-07-11 08:34:54 UTC
DLR Falcon Position
@ 2014-07-11 07:47:39 UTC
Imagery
AIRS Gravity Waves - 2hPa
@ 2014-07-11 01:53 UTC
AIRS Gravity Waves - 2.5hPa
AIRS Gravity Waves - 3hPa
AIRS Gravity Waves - 4hPa
AIRS Gravity Waves - 7hPa
AIRS Gravity Waves - 10hPa
AIRS Gravity Waves - 20hPa
AIRS Gravity Waves - 30hPa
AIRS Gravity Waves - 40hPa
AIRS Gravity Waves - 60hPa
AIRS Gravity Waves - 80hPa
AIRS Gravity Waves - 100hPa
MTSAT-2 1km Ch1 Vis
MTSAT-2 4km Ch1 Vis
MTSAT-2 4km Ch2 Thermal-IR
MTSAT-2 4km Ch4 Water Vapor
KMLs
NSF/NCAR GV Dropsonde Winds 250hPa
NSF/NCAR GV Dropsonde Winds 300hPa
NSF/NCAR GV Dropsonde Winds 400hPa
NSF/NCAR GV Dropsonde Winds 500hPa
NSF/NCAR GV Dropsonde Winds 700hPa
NSF/NCAR GV Dropsonde Winds 850hPa
NSF/NCAR GV Dropsonde Points
@ 2014-07-11 08:12 UTC
NSF/NCAR GV Dropsonde Plan
@ 2014-07-11 03:19 UTC
NSF/NCAR GV Flight Track
Mouse Position:
46.949°S, 179.415°E
Catalog Maps / DEEPWAVE
Mobile View
100 km
50 mi
39°00'S
40°00'S
41°00'S
42°00'S
43°00'S
44°00'S
45°00'S
46°00'S
47°00'S
48°00'S
167°00'E
168°00'E
169°00'E
170°00'E
171°00'E
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180°00'

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Products: Satellite, Radar, Surface, Upper-Air, Aircraft, Model

New product dropdown

Satellite

« 2014/08/24 (UTC) | Choose Other Date | 2014/08/26 (UTC) »

Browse Other Dates

Choose Product Group

Satellite Products 2014/08/25

CLOUDSAT					
overpass track/swath	2014/08/20 15:29 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
DMSP F-13					
overpass track/swath	2014/08/25 19:07 UTC	2014/08/25	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
DMSP F-14					
overpass track/swath	2014/08/20 17:34 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
DMSP F-15					
overpass track/swath	2014/08/20 15:39 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
DMSP F-16					
overpass track/swath	2014/08/20 18:35 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
DMSP F-17					
overpass track/swath	2014/08/25 19:52 UTC	2014/08/25	Loop Last 6 Im		op Last 24 Images
DMSP F-18					
overpass track/swath	2014/08/25 21:45 UTC	2014/08/25	Loop Last 6 Im		op Last 24 Images
METOP-2					
overpass track/swath	2014/08/20 12:31 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
NOAA-18					
overpass track/swath	2014/08/20 18:07 UTC	2014/08/20	Loop Last 6 Images		
NOAA-19					
overpass track/swath	2014/08/20 15:45 UTC	2014/08/20	Loop Last 6 Images		
POES NOAA-15					
overpass track/swath	2014/08/20 17:22 UTC	2014/08/20	Loop Last 6 Images		
POES NOAA-16					
overpass track/swath	2014/08/20 12:14 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
POES NOAA-17					
overpass track/swath	2014/08/20 18:35 UTC	2014/08/20	Loop Last 6 Images	Loop Last 12 Images	Loop Last 24 Images
SNPP					

Latest date/time products were collected

Loaded since the end of the campaign:
- MTSAT satellite imagery to 7/29
- GTS soundings through 8/1

javascript:void(0);


Questions, problems, errors, please contact: Greg Stossmeister (gstoss@ucar.edu)
catalog.eol.ucar.edu/deepwave