DEEPWAVE DATA MANAGEMENT UPDATE

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NCAR Earth Observing Laboratory (EOL)

Computing, Data, and Software Facility (CDS)

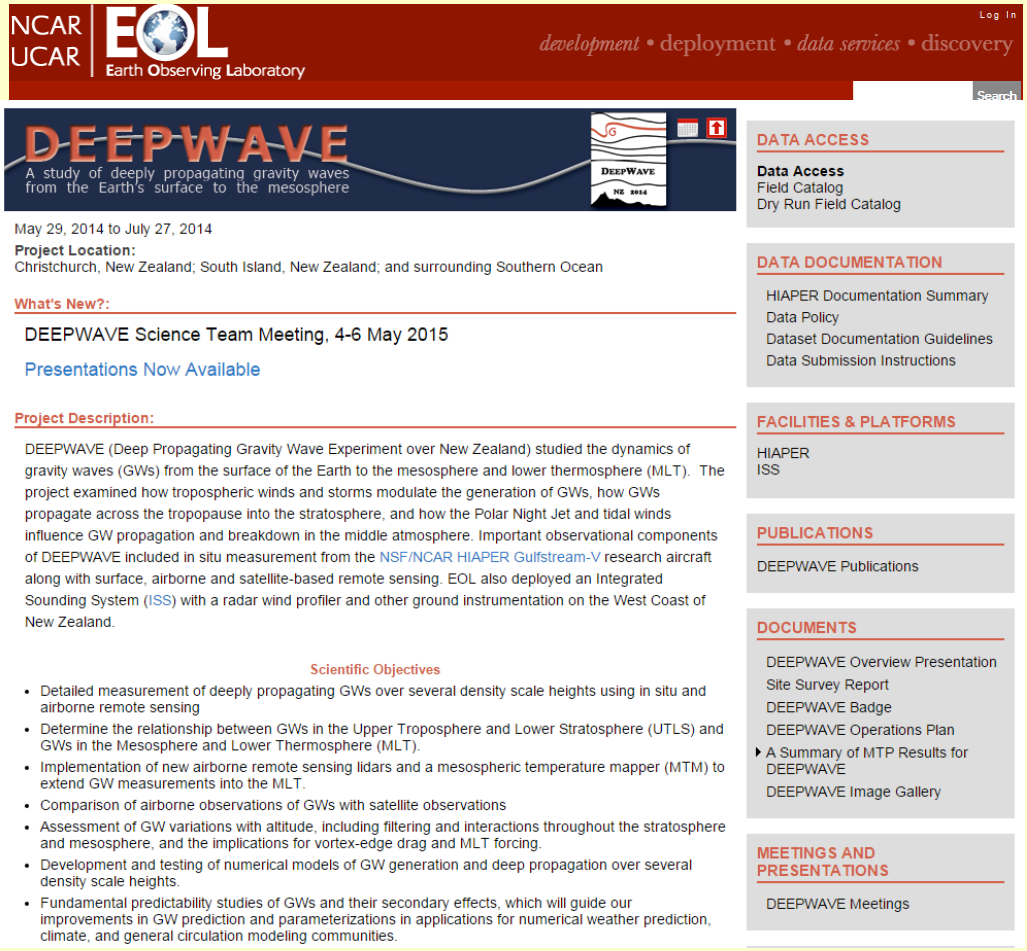
DEEPWAVE Science Meeting

Monterey, CA

11-12 December 2015

EOL DEEPWAVE support sponsored by NSF

DEEPWAVE Web Site at NCAR/EOL



- Project Description
- Data Access & Field Catalog
- Publications
- Documentation
- Meetings and Presentations
- Mailing Lists
- Education and Outreach
- Related Web Pages
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https://www.eol.ucar.edu/field_projects/deepwave

DEEPWAVE DATA MANAGEMENT MILESTONES

Event	Deadline
End of Field Campaign	28 July 2014
Preliminary Data Submission	29 January 2015
Final Data Submission	29 July 2015
Initial Data Analysis Period (DEEPWAVE Science Team members have exclusive access to the data during this period.)	29 January 2015 to 29 January 2016
Data becomes Public Domain	**1 February 2016**

DEEPWAVE Data Policy and Data Submission Instructions

FTP: ftp.eol.ucar.edu
Login: anonymous
(*No password required.*)

cd pub/data/incoming/deepwave

(NOTE: This command should be done all in one step.)

It is very important to **send an e-mail to sfw at ucar.edu indicating that the data file(s) have been FTPed**

1. **All investigators participating in DEEPWAVE agree to promptly submit their preliminary processed data and metadata to the main DEEPWAVE Data Archive Center at EOL no later than 29 January 2015** (six months after the end of the field campaign) to facilitate initial instrument inter-comparisons, quality control checks and calibrations, as well as early interpretation of the combined data set. Individual preliminary datasets can be restricted (password protected) at the discretion of the data provider. All archived supporting operational data and products will be open and accessible by the Scientific Community during this period. **The preliminary data submission period is from 29 July 2014 to 29 January 2015**.

2. DEEPWAVE Investigators agree to **submit their final research data and metadata to the EOL within the one-year** period following the conclusion of the field campaign. **The final data submission period is from 29 July 2014 to 29 July 2015**.

3. During the initial data analysis period, defined as a one-year period following the preliminary data submission deadline to the DEEPWAVE archive, DEEPWAVE Principal Investigators (PIs) will have exclusive access to these research data. This initial analysis period is designed to provide an opportunity to quality control the combined data set as well as to provide the PIs, their students and collaborators ample time to analyze and publish their results. **The initial data analysis period is from 29 January 2015 to 29 January 2016**.

4. **All data and metadata in the archive will be considered open to the public domain 18 months following the end of the field campaign** (i.e., on **1 February 2016** and thereafter). However, any research dataset within the DEEPWAVE archive can be opened to the public domain earlier at the discretion of the responsible data provider in consultation with the DEEPWAVE SSC.

5. **A list of DEEPWAVE Investigators will be provided by the project science leadership to EOL** and will include the PIs directly participating in the field experiment as well as collaborating scientists and agencies who have provided guidance and data in the planning and analysis of DEEPWAVE data. All DEEPWAVE investigators will have equal access to all data. All data shall be promptly provided to other DEEPWAVE investigators on the above specified list upon request. However, the **DEEPWAVE science leadership will be responsible for approving any data requests from investigators not included on the list.**

6. **During the initial data analysis period, the responsible data provider must be notified first of the intent to use their data**, in particular if data are to be provided to a third party (e.g., journal articles, presentations, research proposals, other investigators). It is strongly encouraged that the responsible data provider(s) be invited to become collaborators and/or co-authors on any projects, publications and presentations. If the contribution of the data product is significant to the publication, the PIs responsible for generating a measurement or a data product should be offered the right of co-authorship. Any use of the data should include an acknowledgment or preferably a citation (e.g. Digital Object Identifiers or DOIs). The **EOL expects to be assigning DOIs for all final datasets submitted to the main archive at EOL**. In all circumstances, the responsible data provider(s) should be acknowledged appropriately.

7. All acknowledgments of DEEPWAVE data and resources should identify: (1) DEEPWAVE; (2) The providers who collected the particular datasets being used in the study; (3) The relevant funding agencies associated with the collection of the data being studied, and (4) the role of EOL or relevant data archive center, and (5) use of any relevant DOIs.

8. The EOL will be responsible for the long-term data stewardship of the DEEPWAVE archive.

DEEPWAVE Field Catalog

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

DEEPWAVE NZ 2014

Home | Maps | Reports | Status | Products | Missions | Tools & Links | Data Access | Help

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.

https://catalog.eol.ucar.edu/deepwave

DEEPWAVE Field Catalog Statistics

- Reports/Summaries (Status, Mission, and Operations)

  317 documents (w/ 20 attachments)

- Research Platform Products (Aircraft and Upper Air)

  6,730 products

- Operational Products (Satellite, Surface, and Radar)

  44,565 products

- Model Output Imagery (Analysis and Forecast Fields)

  1,956,258 products

- Catalog Maps Products (GIS)

  38,167 products

- TOTALS: 2,046,037 Files (401.49 GB)

http://catalog.eol.ucar.edu/deepwave/

DEEPWAVE Data Archive (Master List)

DATA BY CATEGORY

- Accompanying Archives
- Aircraft
- Ancillary
- Land Based
- Model
- Oceanography
- Photography
- Radar
- Satellite
- Upper Air

DATA BY SITE

- Davis, Antarctica
- Hobart, Tasmania
- Hokitika, South Island, New Zealand
- Lauder, South Island, New Zealand
- Macquarie Island, Tasmania

DEEPWAVE Data Sets

Data Set Name (Responsible Group/PIs shown in parentheses)	Date Posted	Info
Accompanying Archives		
Australian Antarctic Data Centre [AADC]	New 2015-11-24	READ ME
Environment Canterbury Regional Council (ECAN) Data Catalogue [(ECAN)]	2014-10-21	READ ME
Global Atmosphere Watch (GAW) Lauder Station Information and Data [(GAWSIS)]	2014-10-16	READ ME
National Institute of Water and Atmospheric Research (NIWA) National Climate Database [Uddstrom, Michael (NIWA)]	2014-10-30	READ ME
NDACC Measurements at the Lauder Station Public Data [Querel, Richard (NDACC)]	2014-10-16	READ ME
NIWA Atmosphere Data Web Site [(NIWA)]		READ ME
Stable Boundary Layer Experiment (STABX) Project Data Archive [Katurji, Marwan, Jack Baggaley (Univ. of Cantebury NZ)]		READ ME
Aircraft		
DEEPWAVE Field Catalog Aircraft Imagery [(NCAR/EOL)]	2014-10-30	
Global Aircraft Meteorological DAta Relay (AMDAR) programme [(WMO)]	2014-10-21	READ ME
New Zealand Meteorological Service AMDAR Data [Kreft, Peter (NZMS)]	2015-07-14	
Aircraft: DLR Falcon		
DLR Falcon Basic Meteorological and Aircraft State Data - Nasa Ames format [Dornbrack, Andreas (DLR)]	2014-10-28	

http://data.eol.ucar.edu/master_list/?project=DEEPWAVE

DEEPWAVE DATA ARCHIVE METRICS (as of 4 December 2015)

Top 10 Dataset By Order Count

These are the top 10 datasets by order count. It includes all datasets associated with the DEEPWAVE project. The rightmost column is the total number of unique email addresses that have requested the dataset.

Dataset ID	Name	# of Orders	# of Unique Emails
379.003	Low Rate (LRT - 1 sps) Navigation, State Parameter, and Microphysics Flight-Level Data [(NCAR-EOL-RAF)]	39	20
379.044	High Rate (HRT - 25 sps) Navigation, State Parameter, and Microphysics Flight-Level Data	25	10
379.033	EOL Quality Controlled Dropsonde Data	17	13
379.028	Hokitika Quality Controlled ISS Radiosonde Data (EOL Format)	11	9
379.034	NSF/NCAR GV HIAPER Uplooking Rayleigh Lidar Data	9	5
379.046	Microwave Temperature Profiler (MTP)	8	7
379.026	ECMWF Profiles along GV Flight Track	8	5
379.025	DLR Lauder Radiosonde Data (ESC Format)	7	6
379.030	NIWA Haast Radiosonde Data (ESC Format)	5	5
379.029	Bureau of Meteorology Macquarie Island Radiosonde Data (ESC format)	5	5

Other Metrics:

Number of Datasets in Archive (Internal and External):	148 (65% available)
Total Disk Space:	1,450 GB
Total File Count:	2,201,665
Total Data Orders:	224
.edu (57%) | .com (18%) | .de (15%) | .mil (5%) | .nz (5%)	
Unique Dataset Ordered:	50
Total Size of all Orders:	210 GB
Total Number of Files Ordered:	14,041

DEEPWAVE Data Digital Object Identifiers (DOIs)

- DOIs becoming functional for proper citation of datasets (similar to publications)
- Provide users with a simple, standard way to reference datasets
- Allows for the unique tracking of metrics for individual datasets
- Allows for linking of related datasets and publications
- NCAR has established a process for creating DOIs (DataCite Registration)
- DOIs are considered “perpetual” and provides proper attribution
- 16 DOIs have been registered for DEEPWAVE (as of 12/4/15)

DEEPWAVE ARCHIVE DATA DOCUMENTATION

Data Set Documentation ("Readme") Guidelines

The documentation (i.e., the "Readme" file) that accompanies each project data set is as important as the data itself. This information permits collaborators and other analysts to understand any limitations or special characteristics of the data that may impact its use. Data set documentation should accompany all data set submissions, including both preliminary and final. The following outline and content is recommended and should be adhered to as closely as possible to make the documentation consistent across all data sets.

Data set Documentation/Readme Outline:

Title: This should match the data set name

Author(s):

Name(s) of PI and all co-PIs
Complete mailing address, telephone/facsimile numbers,
E-mail address of PIs, and web address (if applicable)
Similar contact information for data questions (if different than above)

1.0 Data Set Overview:

Introduction or abstract
Time period covered by the data
Physical location (including lat/lon/elev) of the measurement or platform
Data source if applicable (e.g., for operational data include agency)
Any web address references (i.e., additional documentation such as Project web site)

2.0 Instrument Description:

Brief text (i.e., 1-2 paragraphs) describing the instrument with references
Figures (or links), if applicable
Table of specifications (i.e., accuracy, precision, frequency, resolution, etc.)

3.0 Data Collection and Processing:

Description of data collection
Description of derived parameters and processing techniques used
Description of quality assurance and control procedures
Data intercomparisons, if applicable

4.0 Data Format:

Data file structure and file naming conventions (e.g., column delimited ASCII, NetCDF, GIF, JPEG, etc.)
Data format and layout (i.e., description of header/data records, sample records)
List of parameters with units, sampling intervals, frequency, range
Data version number and date
Description of flags, codes used in the data, and definitions (i.e., good, questionable, missing, estimated, etc.)

5.0 Data Remarks:

PI's assessment of the data (i.e., disclaimers, instrument problems, quality issues, etc.)
Missing data periods
Software compatibility (i.e., list of existing software to view/manipulate the data)

6.0 References:

List of documents cited in this data set description. Please provide links for any publications, if available

DEEPWAVE PROJECT PUBLICATIONS LIBRARY

DEEPWAVE
A study of deeply propagating gravity waves from the Earth's surface to the mesosphere

Submit Publication References to this List

Publications | **Conferences** | **Other Citation Links**

PUBLICATIONS

A-D | E-H | I-L | M-P | Q-T | U-Z | *Back to Top*

- Alexander, S., and D. Murphy, 2015: The Seasonal Cycle of Lower-Tropospheric Gravity Wave Activity at Davis, Antarctica (69°S, 78°E). J. Atmos. Sci., 72, 1010-1021, doi: 10.1175/JAS-D-14-0171.1
- Bossert, K., D. C. Fritts, P.-D. Pautet, B. P. Williams, M. J. Taylor, B. Kaifler, A. Dörnbrack, I. M. Reid, D. J. Murphy, A. J. Spargo, et al. (2015), Momentum flux estimates accompanying multiscale gravity waves over Mount Cook, New Zealand, on 13 July 2014 during the DEEPWAVE campaign, J. Geophys. Res. Atmos., 120, 9323–9337, doi:10.1002/2015JD023197.
- de la Cámara, A., F. Lott, 2015: A parameterization of gravity waves emitted by fronts and jets. Geophys Res Lett, 42, 2071-2078, doi: 10.1002/2015GL063298.
- Ehard, B., P. Achtert, A. Dörnbrack, S. Gisinger, J. Gumbel, M. Khaplanov, M. Rapp, and J. Wagner, 2015: Combination of lidar and model data for studying deep gravity wave propagation. Mon. Wea. Rev., doi: 10.1175/MWR-D-14-00405.1, in press.
- Hendricks, E. A., J. D. Doyle, S. D. Eckermann, Q. Jiang, and P. A. Reinecke, 2014: What Is the Source of the Stratospheric Gravity Wave Belt in Austral Winter?. J. Atmos. Sci., 71, 1583-1592, doi: 10.1175/JAS-D-13-0332.1

CONFERENCE PROCEEDINGS

A-D | E-H | I-L | M-P | Q-T | U-Z | *Back to Top*

- Bossert, K., Fritts, D. C., Pautet, P. D., Taylor, M. J., Williams, B. P., and Criddle, N., 2014: Large-scale gravity wave influences on the propagation of short-period gravity waves to higher altitudes. Presented at American Geophysical Union, Fall Meeting 2014, abstract #SA54A-02.

DATA ACCESS
Data Access
Field Catalog
Dry Run Field Catalog

DATA DOCUMENTATION
HIAPER Documentation Summary
Data Policy
Dataset Documentation Guidelines
Data Submission Instructions

PUBLICATIONS
DEEPWAVE Publications

DOCUMENTS
DEEPWAVE Overview Presentation
Site Survey Report
DEEPWAVE Badge
DEEPWAVE Operations Plan
A Summary of MTP Results for DEEPWAVE
DEEPWAVE Image Gallery

MEETINGS AND PRESENTATIONS
DEEPWAVE Meetings

DEEPWAVE OUTREACH EVENTS
DEEPWAVE Public Open House
DEEPWAVE Teacher Workshop

- Currently there are 5 publications and 29 Conference Proceedings listed

DEEPWAVE Data Management Issues

1. Do we want to include the STABX (Stable Boundary Layer Experiment) project data archive as an accompanying archive in DEEPWAVE? Right now we simply point to the project page (not clear if data is available on-line)

2. Model data:
    a. What's useful for the long term to be included in DEEPWAVE archive?
    b. Should we only include Global models in archive OR also include meso-scale/specialty model output?
    c. If we include the meso-scale models, would it be sufficient to have a link for contact information about accessing the data directly from the PI.

3. Current data needed for the archive:
    a. Lauder Station datasets
    b. DLR Falcon Datasets
    c. AAD Data
    d. University of Canterbury (New Zealand)

NCAR UCAR | EOL Earth Observing Laboratory — Development • Deployment • Data • Discover

DEEPWAVE

A study of deeply propagating gravity waves from the Earth's surface to the mesosphere

International Science and Operations Planning Meeting: Jan 21-22

DEEPWAVE INTERNATIONAL SCIENCE AND OPERATIONS PLANNING MEETING

21-22 January 2014

University of Canterbury

Christchurch, New Zealand

DEEPWAVE Meeting Summary Report

Meeting Presentations

NOTE: Password Required to View Presentations

For a PDF of one of the following presentations, click on the corresponding title. In some cases a PowerPoint Slideshow is also available, for those click on the PPSX after the title. A PowerPoint viewer can be downloaded from Microsoft.

TUESDAY, 21 JANUARY 2014

08:15 - 08:50	Light Breakfast
08:50 - 09:00	Introductions and Local Logistics (Andy Sturman, Ron Smith)
	DEEPWAVE PI presentations
09:00 - 09:30	DEEPWAVE Science Overview (Dave Fritts, GATS) [PPSX]
09:30 - 10:00	Satellite observations of waves in the middle atmosphere (Steve Eckermann, NRL)
10:00 - 10:20	Modeling and predictability of mountain waves (Jim Doyle, NRL)
10:20 - 10:30	Break
10:30 - 11:00	Mountain wave launching and energy diagnostics (Ron Smith, Yale)
11:00 - 11:30	Modeling gravity wave breakdown in the middle atmosphere (Dave Fritts, GATS) [PPSX]
11:30 - 12:00	Results from the 2013 DEEPWAVE Dry Run (Smith, Doyle, Fritts and Eckermann)
12:00 - 13:30	Lunch

…. Finally, please provide a final copy of your PPT presentation for this Science Meeting Documentation.

A PDF and/or PPSX copy of your presentation (not the PPT file) will be posted on the DEEPWAVE web site (password)

EARTH OBSERVING LABORATORY — Development Deployment Data Services Discovery