



# UNSTABLE Data Access Policy

Version 2.3

Adopted by the UNSTABLE Science Team

10 June 2008

## 1. Introduction

Environment Canada (EC) researchers and other interested scientists from academia and the private sector have designed a field experiment over the Alberta Foothills called The Understanding Severe Thunderstorms and Alberta Boundary Layers Experiment (UNSTABLE). UNSTABLE is designed to investigate atmospheric boundary layer processes associated with convective initiation (CI) and severe thunderstorm development. A pilot UNSTABLE project will be carried out in July 2008 with the full-scale project planned for summer 2011.

A Data Access Policy (DAP) has been established to promote and govern the access of data collected within the UNSTABLE research area by UNSTABLE Principal Investigators (PIs) and Co-Investigators (Co-Is), partners, non-participants, and any other Canadian and International groups. UNSTABLE PIs and contact information are listed in Appendix A.

UNSTABLE embraces as open an approach as possible to the exchange and access to data for scientific and noncommercial/non-profit uses. This approach must respect the rights of the data originators who have invested considerable effort and funds in obtaining and/or generating these data. For this reason, policies for those participating in UNSTABLE are different from those not participating or contributing to the project, and are described in the following sections. All relevant terms are defined in Section 7. This DAP will be reviewed by the Science Team on an annual basis, at which times it may be modified to improve its usefulness.

## 2. Requests from UNSTABLE Investigators

Requests from UNSTABLE PIs, Co-Is, and partners will be given priority over non-participants in the project. Access to datasets for UNSTABLE research will be unrestricted to UNSTABLE PIs and Co-Is *after the data have been quality-controlled and documented by the originating UNSTABLE PI*. UNSTABLE Co-Is will direct their data requests through their associated UNSTABLE PI or members of the science team. Co-Is will be asked to provide a one-page description of the research to be conducted using UNSTABLE data.

Access to data by any PI or Co-I does not allow them to extend that right of access to other investigators without first consulting with the UNSTABLE Science Team. Science Team meetings will typically be chaired by one of the project leads, Neil Taylor or David Sills.

### 2.1 Special UNSTABLE Datasets

Special EC- or university-funded datasets (observations and model results) may be obtained by UNSTABLE PIs through the UNSTABLE web site (this functionality is under development). This portion of the UNSTABLE web site will be password-protected to ensure that only UNSTABLE PIs and Co-Is have initial access. Passwords will be supplied by a designated UNSTABLE Information Manager. UNSTABLE datasets may also be obtained directly from the originating UNSTABLE PI.

In accordance with this DAP, UNSTABLE PIs will have unlimited access to all *raw* UNSTABLE datasets, regardless of the state of quality control (QC). PIs have a responsibility to make UNSTABLE-funded *special* datasets (see definition below) openly available to UNSTABLE Co-Is following an initial

reasonable period for QC and documentation (following the UNSTABLE Data Documentation Guidelines). This QC period will nominally be less than one year unless there are special circumstances, and an extension is granted by the Science Team. After this quality control period, use of the data will be restricted to other UNSTABLE PIs and Co-Is for a period of one year. In this way, the full dataset will be available to other scientific investigators on the approval of the Science Team within two years maximum. Graduate student Co-I requests will be given high priority, subject to all restrictions on use and acknowledgements as indicated below.

## ***2.2 Operational Datasets [EC Datasets]***

Operational datasets from EC will be made freely available to UNSTABLE PIs, Co-Is and Partners, only for use in their UNSTABLE research. Use of data obtained from the climate archive is governed by any EC Data Product Policy in effect at that time (a sample version is attached as Appendix B). UNSTABLE PIs and Co-Is are urged to read this policy carefully. Access to the data may be available from a password-protected portion of the UNSTABLE web site, or as can be provided through EC management. This will ensure that only UNSTABLE PIs and Co-Is have immediate access to the full-resolution operational datasets. Passwords will be assigned by a designated UNSTABLE Information Manager.

## **3. Requests from Non-Participants**

Requests for data from the research community at large are invited, but requests by non-participants need to be approved on a case-by-case basis by the Science Team. Non-participants may become UNSTABLE Co-Is by teaming up with an UNSTABLE PI (under approval of the Science Team), who will subsequently apply to the UNSTABLE Science Team for permission to allow data access for the new UNSTABLE Co-I. Alternately, non-participants may apply to the UNSTABLE Science Team to become an UNSTABLE Partner (following the UNSTABLE Partnership Policy). Data requests are subject to all restrictions on use and acknowledgements as indicated below.

### ***3.1 Special UNSTABLE Datasets***

Special UNSTABLE datasets (observational and modeling results) will only be made available to non-participants following data QC plus a one-year period during which UNSTABLE PIs and Co-Is have exclusive access. This one-year period begins *after* the UNSTABLE dataset has been quality-controlled by the originator.

### ***3.2 Operational Datasets [EC/MSC Climate Datasets]***

Full-resolution datasets from Environment Canada are not to be supplied to non-participants by UNSTABLE investigators. Operational datasets (hourly surface data, significant/mandatory-level upper air data) may be obtained from the Climate Information Branch of Environment Canada. Similarly, archived model output data may be obtained from the Canadian Meteorological Centre. Charges for the data and additional data-use restrictions may apply.

### ***3.3 Other Datasets***

Restrictions on the use of datasets provided to UNSTABLE by other organizations (University of Calgary, Alberta Agriculture, etc.) apply in some instances. Non-participants should check with those agencies prior to using these UNSTABLE data.

## **4. Requests from Commercial Entities**

Permission for anyone (UNSTABLE PIs, Co-Is, Partners or non-participants) to use UNSTABLE datasets for commercial/profitable purposes must be obtained from the UNSTABLE Science Team.

## **5. Requests from other National and International Groups**

National and international commitments for sharing of UNSTABLE datasets before the data becomes public will be considered on a case-by-case basis by the UNSTABLE Science Team.

## 6. Publications and Presentations

### 6.1 Overview Articles

Any written or presented article that deals with the UNSTABLE project as a whole will include all PIs as co-authors, each of whom should be given the option to contribute to the writing process as well. Examples include an overview article or an update on UNSTABLE. Any clarification required can be submitted to the UNSTABLE Science Team.

### 6.2 Specific Articles

Publications (journal articles, printed reports, conference proceedings/preprints/posters) on specific aspects of UNSTABLE, or that use any proprietary data, must grant the source PI the option of either being a co-author or just appropriate acknowledgement. Co-authorship assumes that the co-author participates in the writing of the article, and he/she should therefore review drafts prior to publication submission. Graduate theses are an exception, where the source PI is not a co-author but should be appropriately acknowledged, together with funding agencies and the UNSTABLE project as indicated in Section 6.3. Exceptions will be made for article-based theses and subsequent published articles based directly on thesis chapters, i.e., in these cases the option of co-authorship or acknowledgement must apply.

### 6.3 Acknowledgements

Any use of UNSTABLE datasets, by UNSTABLE participants (PIs, Co-Is, or Partners) or non-participants, requires citation in any resulting publications of the UNSTABLE dataset and, when applicable, citation of earlier studies by the UNSTABLE PI responsible for which the data were obtained. Appropriate citations are included with many of the UNSTABLE datasets. If you would like to cite data for which a citation is not provided, please contact the UNSTABLE Information Manager for help in citing the data.

Acknowledgement of the use of UNSTABLE data should also be made using a statement with the following format: *"The [\*\*\*] data in this paper were provided by the Understanding Severe Thunderstorms and Alberta Boundary Layers Experiment (UNSTABLE)", where [\*\*\*] refers to any specific UNSTABLE data used.* Funding sources should be indicated in all UNSTABLE publications, including Environment Canada and/or the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) as appropriate.

## 7. Definitions

### 7.1 UNSTABLE Datasets

An UNSTABLE dataset may be either observational station data, graphical output or photographs resulting from UNSTABLE fieldwork, or gridded data from model-derived output. The dataset includes operational data from EC forecast offices during the field period, UNSTABLE-designed special observations, and data provided by partner agencies designed for other purposes. We therefore define three sub-sets of UNSTABLE data as follows:

**Operational Data** – available from UNSTABLE or EC once initial quality control (QC) is completed, and includes:

- hourly surface data from EC surface synoptic sites;
- significant- and mandatory-level data or graphics from EC operational radiosonde sites at synoptic times (1200 and 2400 UTC);
- all radar and satellite images as available on-line or on request from Environment Canada;
- operational analyses and prognostic output available via internet (includes GEM Global, Regional, and GEM LAM 2.5 km output);
- Canadian Lightning Detection Network (CLDN) data/images.

**Special Datasets** – UNSTABLE PIs have unlimited access to all UNSTABLE datasets, even prior to QC; *special datasets* will be available to UNSTABLE Co-Is following initial QC (sooner with special permission from the Science Team), and to others on approval from the science team, within two years or less (pending data QC, followed by one year for analysis and publication by PIs). Special datasets include:

- full-resolution data from EC *operational* surface datalogger sites;
- data from ATMOS (automatic weather station sites installed specifically for UNSTABLE);
- FOPEX Surface data and GPS PWV data;
- all *mobile* radiosonde and associated surface weather data;
- full-resolution (1-second) data from *fixed* radiosonde systems and associated surface weather data;
- tetheredsonde data;
- *fixed* surface *micro-transect* data;
- *mobile* surface *transect* data (EC/Toronto AMMOS system plus at least one other transect dataset);
- aircraft data contracted by UNSTABLE;
- University of Manitoba Mobile Atmospheric Research System (MARS) datasets, including AERI, Doppler Sodar, Profiling Microwave Radiometer, IR Pyrometer, and Airmar PB-100;
- University of Calgary GPS precipitable water (GPS-PW);
- University of Calgary Water Vapour and Profiling Microwave Radiometers;
- Model Output from GEM-LAM-1 km runs;
- UNSTABLE Manual surface observations;
- Hailpad data along surface transects;
- UNSTABLE photos.

**Partner Datasets** –

- University of Calgary Foothills Climate Array;
- Alberta Agriculture AGCM surface data;
- Weather Modification Incorporated (WMI) radar data/images;
- Other partner data systems as may be added later.

## 7.2 UNSTABLE Science Team

The UNSTABLE Science Team consists of the current PIs. Meetings are chaired by either of the project co-Leads, Neil Taylor or David Sills. Decisions on data requests will be made by unanimous decision. This team may vary in future with any new field experiment or funding sources.

## 7.3 Principal Investigator (PI)

A Principal Investigator (PI) is someone who:

- contributes scientifically to UNSTABLE;
- has been recognized as a PI by the Science Team.

Contributions generally include instrumentation, funds, or other field support to the extent that, without their participation, the experiment may not be successful. The principal investigators for UNSTABLE are listed in Appendix A.

## 7.4 Co-Investigator (Co-I)

A Co-Investigator (Co-I) is defined as one who:

- is working with an UNSTABLE PI, and
- has been recognized as such by the UNSTABLE Science Team.

## *7.5 Partner*

An UNSTABLE Partner is defined as one who:

- contributes scientifically or operationally to UNSTABLE by providing supporting data, data sites, or assists in other ways but is not a PI or Co-I;
- has been recognized as such by the UNSTABLE Science Team;

Partners are acknowledged in publications as appropriate, are invited to workshops and planning meetings, and may have access to UNSTABLE data on the approval of the Science Team.

## *7.6 Non-Participant*

Non-participants include any person who is neither a PI, Co-I, or a Partner. Non-Participants include the general public.

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## Appendix A

### UNSTABLE Principal Investigators as of 10 June 2008

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## Appendix B

Following is a sample Environment Canada Data Product Policy used for a previous field study. A revised version will be provided for data requests following the UNSTABLE field campaign.

### **Sample Limited Use Software and Data Product Policy for Meteorological Service of Canada Supported Research Projects**

The Government of Canada (Environment Canada) is the owner of all intellectual property rights (including copyright) in this software and data product. You are granted a non-exclusive, non-assignable and non-transferrable licence to use this software and data product subject to the terms below. This software and data product are temporarily provided to you by Environment Canada for the sole purpose of carrying out the Meteorological Service of Canada supported research project entitled:

MACKENZIE GEWEX STUDY:\_\_\_\_\_.

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