



OWLeS DATA MANAGEMENT



Steve Williams and Linda Echo-Hawk
NCAR Earth Observing Laboratory (EOL)
Computing, Data, and Software Facility (CDS)

OWLeS Science Meeting

Oswego, NY


25-26 June 2015



NCAR

OWLeS Project & Data Management Web Site


Help NCAR UCAR EOL Earth Observing Laboratory
Development • Deployment • Data • Discovery
Log In Search



Ontario Winter Lake-effect Systems (OWLeS)

December 1, 2013 to January 31, 2014 Project Location: Lake Ontario
Funding Type: NSF Funded
What's New?:
Coming Soon: **OWLeS Science Meeting**
Location: SUNY-Oswego
Dates: 25 - 26 June 2014 (Wednesday and Thursday)
[Agenda \(Revised 16 June 2014\)](#)
[GoToMeeting Invitation and Call In Information](#)
Parking Info: Please park in **Lot #17 near Shineman**. You will not be required to have a permit in Lot #17. [See the map for details.](#)

Project Description:
The Ontario Winter Lake-effect Systems (OWLeS) project will be conducted during December 2013 through January 2014. The OWLeS project examines the formation mechanisms, cloud microphysics, boundary layer processes and dynamics of lake-effect systems (LeS) using new observational tools capable of detailing LeS characteristics not observed in previous LeS field experiments. Lake-effect systems form through surface-air interactions as a cold air mass is advected over relatively warm (at least partially) ice-free mesoscale bodies of water. The OWLeS project focuses on Lake Ontario because of its geometry and size, influence of upstream lakes, frequency of LeS, nearby orography, and proximity to several participating universities with a strong record of undergraduate research. We distinguish between short-fetch LeS (those oriented at large angles to the long axis of the lake) and long-fetch LeS (those more aligned with the lake's long axis).



The Lake Effect Inn
Photo Courtesy Dave Kelly, 8 Feb 2007
[NWS Buffalo's Online Photo Album](#)
(Click Image for Full Resolution)

SCIENTIFIC OBJECTIVES

The overarching objectives of the OWLeS project are to:

- describe the upwind surface and atmospheric factors determining the three-dimensional structure of short-fetch LeS convective bands that develop over a relatively-warm, open water surface;

DATA ACCESS

Data Access
Field Catalog

FACILITIES & PLATFORMS

DOW
UW King Air
WCL
WCR

DATA DOCUMENTATION

Draft Data Policy
Data Set Documentation
Guidelines
Data Submission Instructions

PUBLICATIONS

NSF OWLeS Article |
Scientists brave Old Man
Winter to dig out secrets of
lake-effect snows

DOCUMENTS

OWLeS Whitepaper (last updated
8/29/2012)
Request for LAOF Facility
Support
Long-Fetch Proposal
Short-Fetch Proposal
Slides for Facility Advisory
Panel

MEETINGS AND PRESENTATIONS

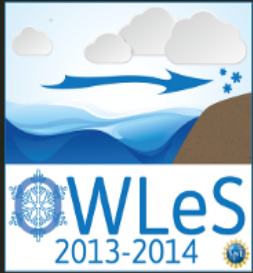
Meetings and Presentations -
NOTE: The presentations are password
protected for OWLeS Investigators only.
For access, please contact the
Principal Investigators listed in the

- Project Description
- Logistics
- Data Access & Field Catalog
- Documentation
- Meetings and Presentations
- Publications
- Education and Outreach
- Related Web Pages
- Participants

OWLeS DATA POLICY SUMMARY

- **All investigators must agree to promptly submit their processed “preliminary” data to the OWLeS archive no later than 31 July 2014**
- **All “preliminary” data shall be provided to other OWLeS Investigators upon request (restricted as appropriate)**
- **During the initial 1-year data analysis period, data may be provided to a third party only with the permission of the investigator(s) who collected the data**
- **All data will be considered public domain not more than one year following the end of the OWLeS Field Project Deployment (31 January 2015)**
- **Any use of the data will, at a minimum, include acknowledgment. Co-authorship TBD with the investigator(s) who collected the data**

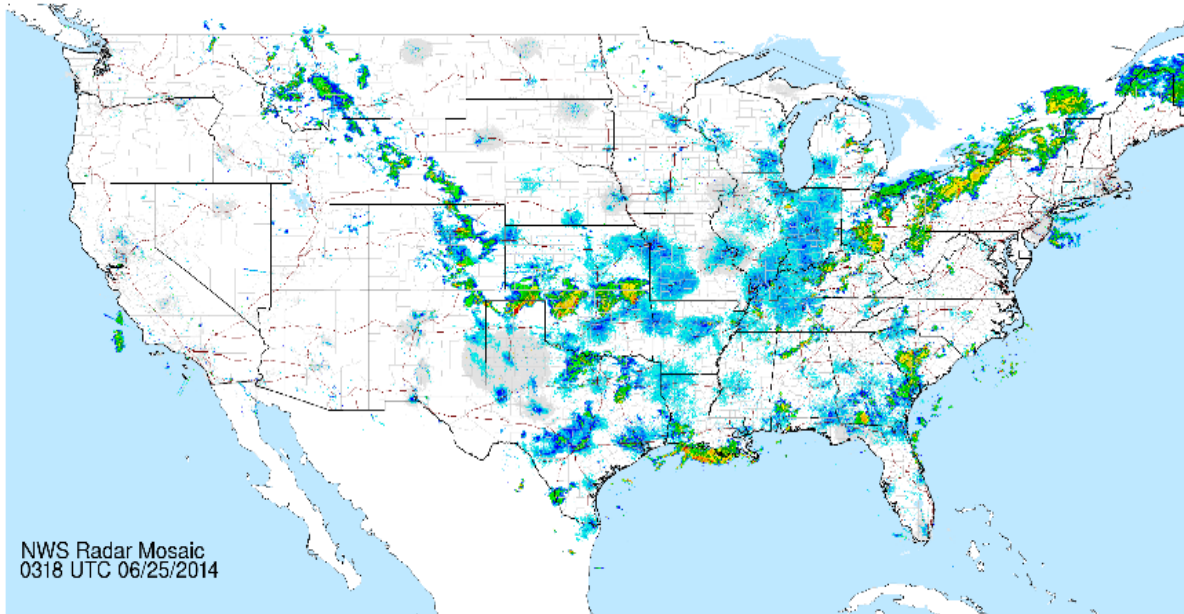
OWLeS Field Catalog



OWLeS Field Catalog Ontario Winter Lake-effect Systems

[Home](#) [Reports](#) [Status](#) [Ops Products](#) [Model Products](#) [Research Products](#) [Missions](#) [Tools & Links](#) [Data Access](#) [Help](#)

Latest National Radar Mosaic



NWS Radar Mosaic
0318 UTC 06/25/2014

Project Time

Current Reports

[Operations Plan of the Day](#)
[Facilities Status Summary](#)
[Weather Discussion](#)

Tools

[Catalog Maps \(GIS Tool\)](#)

Chatrooms

[IRC Chat Access](#)
[Help Documentation](#)
Get a Password:
catalog@eol.ucar.edu



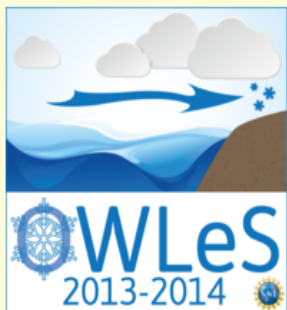
Schedule

Wednesday 29 Jan: IOP 24


- UWKA take-off at 12 noon for a LLAP band near the Canadian coastline (short flight)
- 12:15 pm sounding from KBUF (NWS) and Darlington Ontario (U)

<http://catalog.eol.ucar.edu/owles>

OWLeS Data Archive (Master List)



OWLeS Data Sets

Data Set Name (Responsible Group/PIs shown in parentheses)	Date Posted	Info
Aircraft		
Aircraft Meteorological Data Reports (AMDAR) and Aircraft Communications Addressing and Reporting System (ACARS) Data [(ESRL-GSD)]		
Aircraft: WY King Air		
Flight Tracks [(NCAR-EOL)]	New 2014-06-18	
Navigation, State Parameter, and Microphysics Flight-Level Data (Password Required) [(U of Wyoming)]	New 2014-06-18	
Wyoming Cloud Lidar Data [(U of Wyoming)]	New 2014-06-18	
Wyoming Cloud Radar Data (Password Required) [(U of Wyoming)]	New 2014-03-27	
Wyoming King Air Photography (Password Required) [(U of Wyoming)]	2014-03-25	
Ancillary		
OWLeS Chat Logs [(NCAR-EOL)]	New 2014-05-01	
OWLeS Field Catalog [(NCAR-EOL)]		

DATA BY CATEGORY

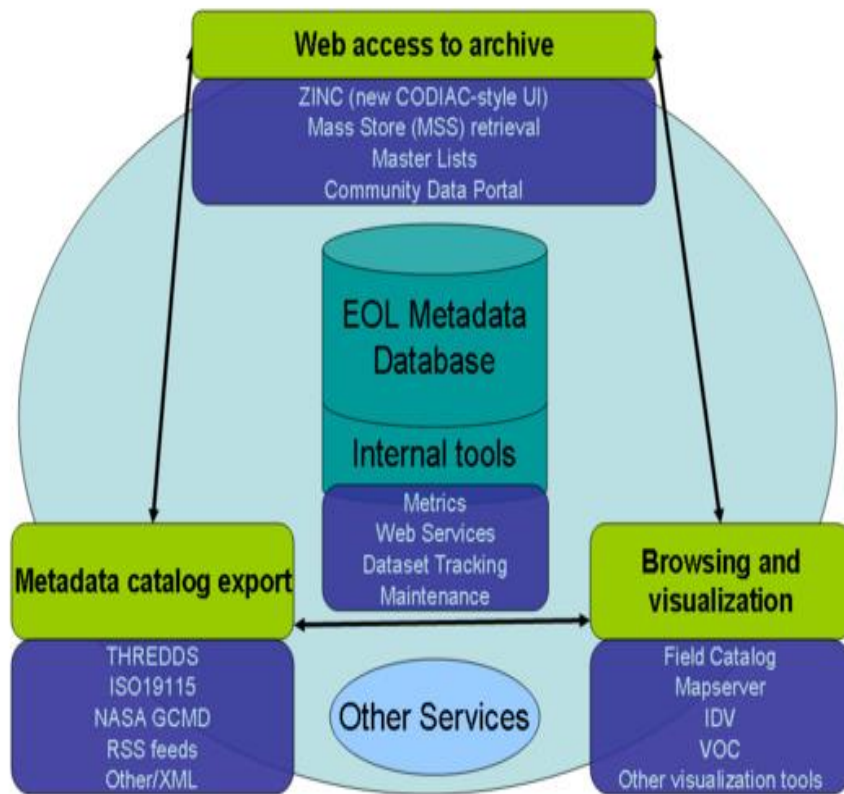
- [Aircraft](#)
- [Ancillary](#)
- [Flux](#)
- [Hydrology](#)
- [Land Based](#)
- [Lightning](#)
- [Model](#)
- [Oceanography](#)
- [Photography](#)
- [Radar](#)
- [Upper Air](#)

[Back to OWLeS](#)

Email comments & questions to codiac@ucar.edu

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

EOL Metadata Database and Cyberinfrastructure (EMDAC)



EOL Data System (EMDAC)

Primary means for all project scientists and researchers to browse and retrieve data from any EOL-supported projects

Features:

- Long-term field project data archival and distribution
- Interactive data browsing, subsetting, and format translation
- Web-based access
- Value-added datasets
- Data documentation

OWLeS ARCHIVE DATA SUBMISSION



Ontario Winter Lake-effect Systems (OWLeS)



OWLeS Data Submission Instructions

The [OWLeS home page](#) contains relevant links to project and data documentation, distributed data access, and other collaborating projects' data sets.

An initial master list of all OWLeS international data sets (with links) has been compiled to provide easy access to all OWLeS data sets (both operational and research). Data sets are grouped by platform and sorted by data type (i.e., aerosol, cloud properties, radar, satellite, etc.). This list will be updated frequently. It is available directly at [OWLeS Master List](#).

If you collected data for OWLeS, please review this list to verify that your data set(s) are properly named with the appropriate Principal Investigators (PIs) identified. Please e-mail any corrections, additions, or deletions directly to [Steve Williams](#). If you already have your data sets available on-line, please provide the web link or FTP access information. Once your data set (with metadata) is available, a link will be provided from the master list web page along with a submission date to track future data set upgrades or revisions (if needed).

Please submit your data set(s) (including accompanying metadata or documentation files) to the OWLeS Long-term Data Archive at NCAR Earth Observing Laboratory. Data set (and metadata) documentation guidelines are available by direct link at [OWLeS Documentation Guidelines](#).

To expedite matters, the EOL has established an anonymous FTP capability to accept your OWLeS data set(s). The Internet address is:

- **FTP:** ftp.eol.ucar.edu
Login: anonymous (No password required.)
cd /pub/data/incoming/owles (NOTE: This command should be done all in a **single step**.)

It is very important to **send an e-mail to [sfw at ucar.edu](mailto:sfw@ucar.edu) indicating that the data file(s) have been FTPed**, along with the file(s) names, data contact information, any data restrictions, and appropriate file documentation (i.e., data formats, descriptions, acknowledgments, and metadata). Documentation files may be e-mailed to [sfw at ucar.edu](mailto:sfw@ucar.edu) directly if preferred.

DATA DOCUMENTATION

Draft Data Policy
Data Set Documentation
Guidelines
Data Submission Instructions

PUBLICATIONS

NSF OWLeS Article |
Scientists brave Old Man
Winter to dig out secrets of
lake-effect snows

DOCUMENTS

OWLeS Whitepaper (last updated
8/29/2012)
Request for LAOF Facility
Support
Long-Fetch Proposal
Short-Fetch Proposal
Slides for Facility Advisory
Panel

MEETINGS AND PRESENTATIONS

Meetings and Presentations -
NOTE: The presentations are password
protected for OWLeS Investigators only.
For access, please contact the
Principal Investigators listed in the
OWLeS Contacts Section below.

LOGISTICS

Logistics

OWLeS 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 on-line publications, if available.

PROJECT PUBLICATIONS LIBRARY



Publication References



How to Submit Publication References to this List

Publications

Conferences

Reports

Theses

Other Citation Links

Publications

[A-D](#) [E-H](#) [I-L](#) [M-P](#) [Q-T](#) [U-Z](#) [Back to Top](#)

- Bryan, G. H., and M. D. Parker, 2010: Observations of a squall line and its near environment using high-frequency rawinsonde launches during VORTEX2. *Mon. Wea. Rev.*, 138, 4076-4097, doi:10.1175/2010MWR3359.1.
- Coniglio, Michael C., 2012: Verification of RUC 0.1-h Forecasts and SPC Mesoscale Analyses Using VORTEX2 Soundings. *Wea. Forecasting*, 27, 667-683, doi:10.1175/WAF-D-11-00096.1.
- Elston, J., B. Argrow, E. Frew, A. Houston, J. Straka, 2011: Evaluation of UAS Concepts of Operation for Severe Storm Penetration using Hardware-in-the-Loop Simulations. *AIAA Journal of Aerospace Computing, Information, and Communication*, 8(9):269-294.
- Elston, J. S., J. Roadman, M. Stachura, B. Argrow, A. Houston, and E. Frew, 2011: The tempest unmanned aircraft system for in situ observations of tornadic supercells: Design and VORTEX2 flight results. *Journal of Field Robotics*, 28: 461-483, doi:10.1002/rob.20394.
- Kosiba, K. A., J. Wurman, P. Markowski, Y. Richardson, P. Robinson, and J. Marquis, 2012: Genesis of the Goshen County, Wyoming Tornado on 05 June 2009 during VORTEX2. *Mon. Wea. Rev.*, Accepted, in press, doi:10.1175/MWR-D-12-00056.1.
- Wakimoto, R. M., N. T. Atkins, and J. Wurman, 2011: The LaGrange Tornado during VORTEX2. Part I: Photogrammetric Analysis of the Tornado Combined with Single-Doppler Radar Data. *Mon. Wea. Rev.*, in press, doi:10.1175/2010MWR3568.1.

Conference Proceedings

[A-D](#) [E-H](#) [I-L](#) [M-P](#) [Q-T](#) [U-Z](#) [Back to Top](#)

- Atkins, N. T., R. M. Wakimoto, A. McGee, R. Ducharme, and J. Wurman, 2010: The LaGrange tornado during VORTEX2. Part II: Photogrammetry analysis of the tornado combined with dual-Doppler radar data. Preprints, 25th Conf. on Severe Local Storms, Denver, CO, Amer. Meteor. Soc., 6.3.
- Atkins, N., R. M. Wakimoto, and J. Wurman, 2011: The LaGrange Tornado during VORTEX2: Single- and Dual-Doppler Analysis of the Tornado. 35th Conference on Radar Meteorology, Pittsburgh, PA, Amer. Meteor. Soc.
- Bluestein, H., D. Burgess, D. Dowell, P. Markowski, E. Rasmussen, Y. Richardson, L. Wicker, and J. Wurman, 2009: VORTEX2: The

USE OF DIGITAL OBJECT IDENTIFIERS (DOIs) FOR DATA

- 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



Ontario Winter Lake-effect Systems (OWLeS)



OWLeS Planning Meeting June 2013

24-25 June 2013

NCAR/EOL Atrium, Boulder, Colorado

[OWLeS Meeting Report and Attendee List](#)

Google Earth OWLeS Planning Files: [LLAP Sites](#), [OWLeS Sites](#), [Updated OWLeS Sites](#)

MONDAY, 24 JUNE 2013

- 8:45-9:00 *Opening Comments (Vanda Grubišić, EOL Director)*
Meeting Logistics, latest news (Bart Geerts)
- 9:00-2:15 **Scientific Objectives - Long-Fetch Lake-effect Systems**
OWLeS: Lake Ontario Long Fetch Systems, Jeffrey Frame and Scott Steiger
- 9:00-9:20 *Science Objectives, [PPSX], Karen Kosiba and Josh Wurman*
- 9:20-9:40 *Summary of UAH instruments and operations for the OWLeS campaign, Kevin Knupp*
- 9:40-10:00 *UWKA observations in OWLeS, Bart Geerts (includes Kocera Disdrometer Presentation)*
- 10:00-10:20 *-- Break --*
- 10:20-10:40 **Scientific Objectives - Short-Fetch Lake-effect Systems**
OWLeS Scientific Research Objectives, Neil Laird and Nicholas Metz
- 10:40-11:00 *Ontario Winter Lake-effect Systems (OWLeS), Dave Kristovich*
- 11:00-11:20 *Richard Clark, George Young, Todd Sikora (discussion)*
- 11:20-11:40

.... Finally, please provide EOL a copy of your PPT presentation for Science Workshop Documentation.

A PDF copy of your presentation (not the PPT file) will be posted on the OWLeS web pages
















"We back up our data on sticky notes because sticky notes never crash."

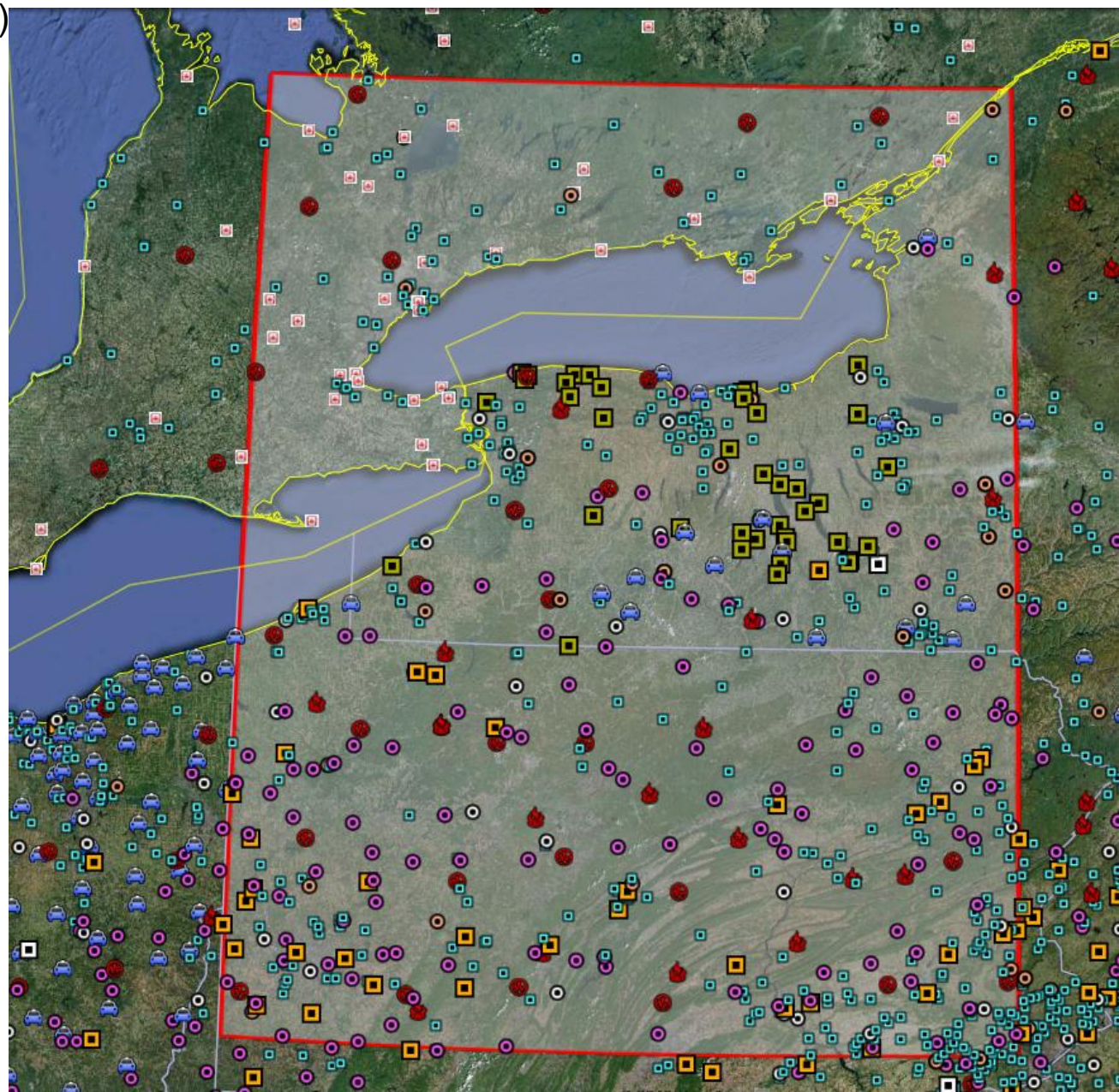
THANK YOU!

ANY QUESTIONS?

Contact: Steve Williams (sfw@ucar.edu)

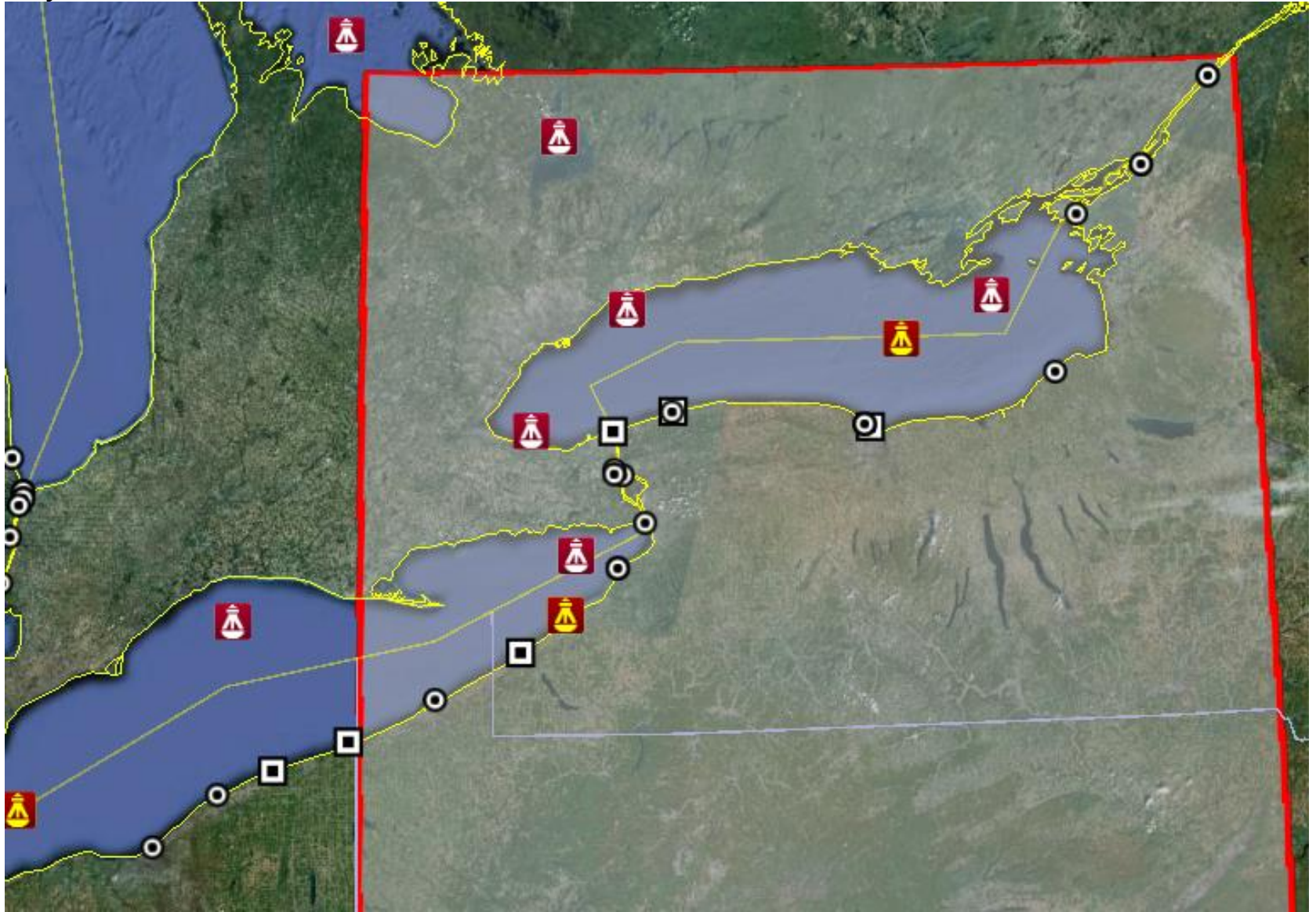
Some of the Operational Surface Met Networks in the OWLeS Region

-  USArray (pressure only)
-  Canada METAR
-  ASOS
-  AWOS
-  CRN
-  RAWS
-  Air Quality
-  NEWA
-  HADS
-  RWIS
-  APRSWXNET /CWOP



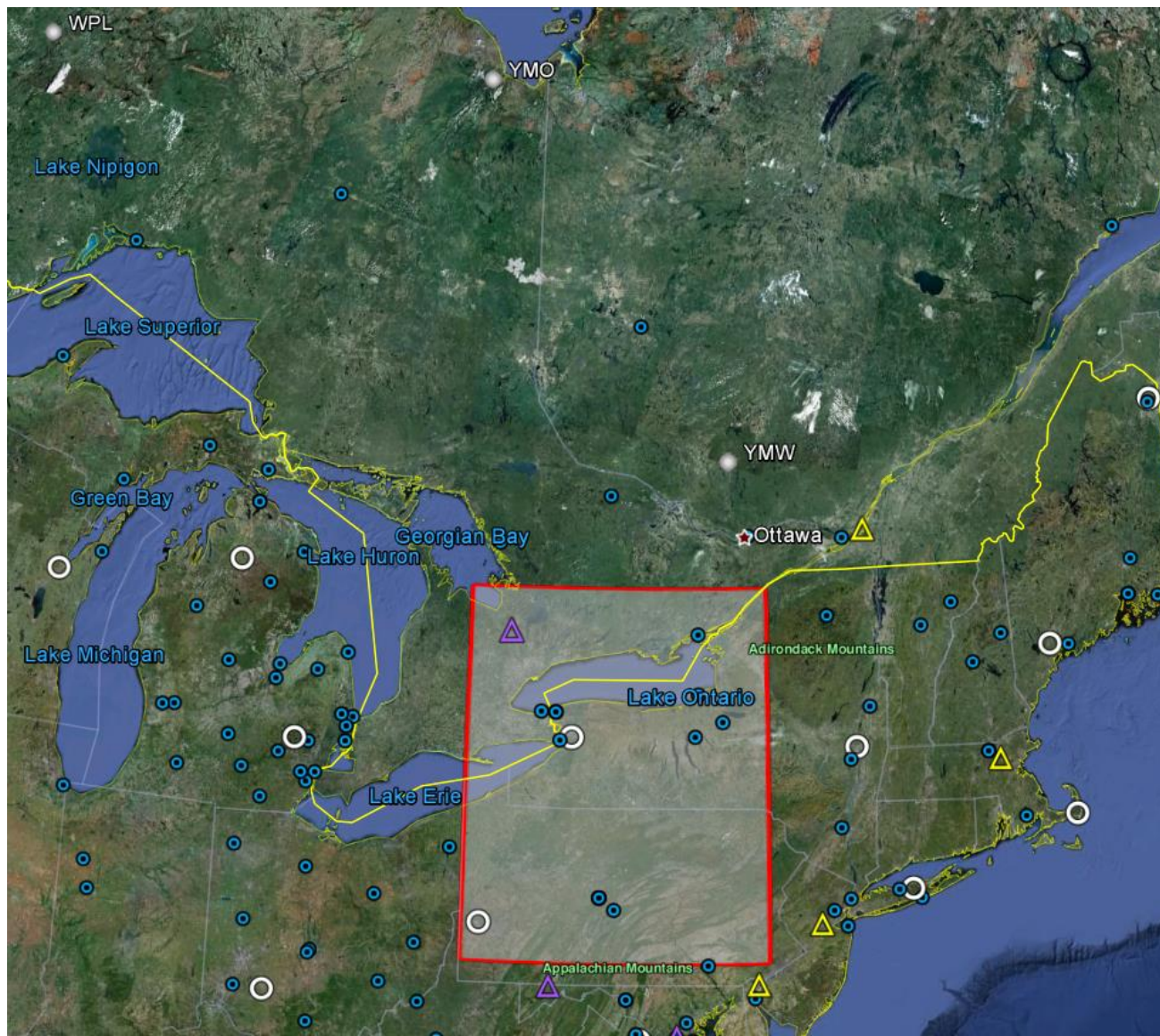
Some of the Operational Coastal/Buoy Networks in the OWLeS Region

- Great Lakes Observing System
- NDBC Buoy/CMAN
- Canada NOMADS Buoy
- NWLON

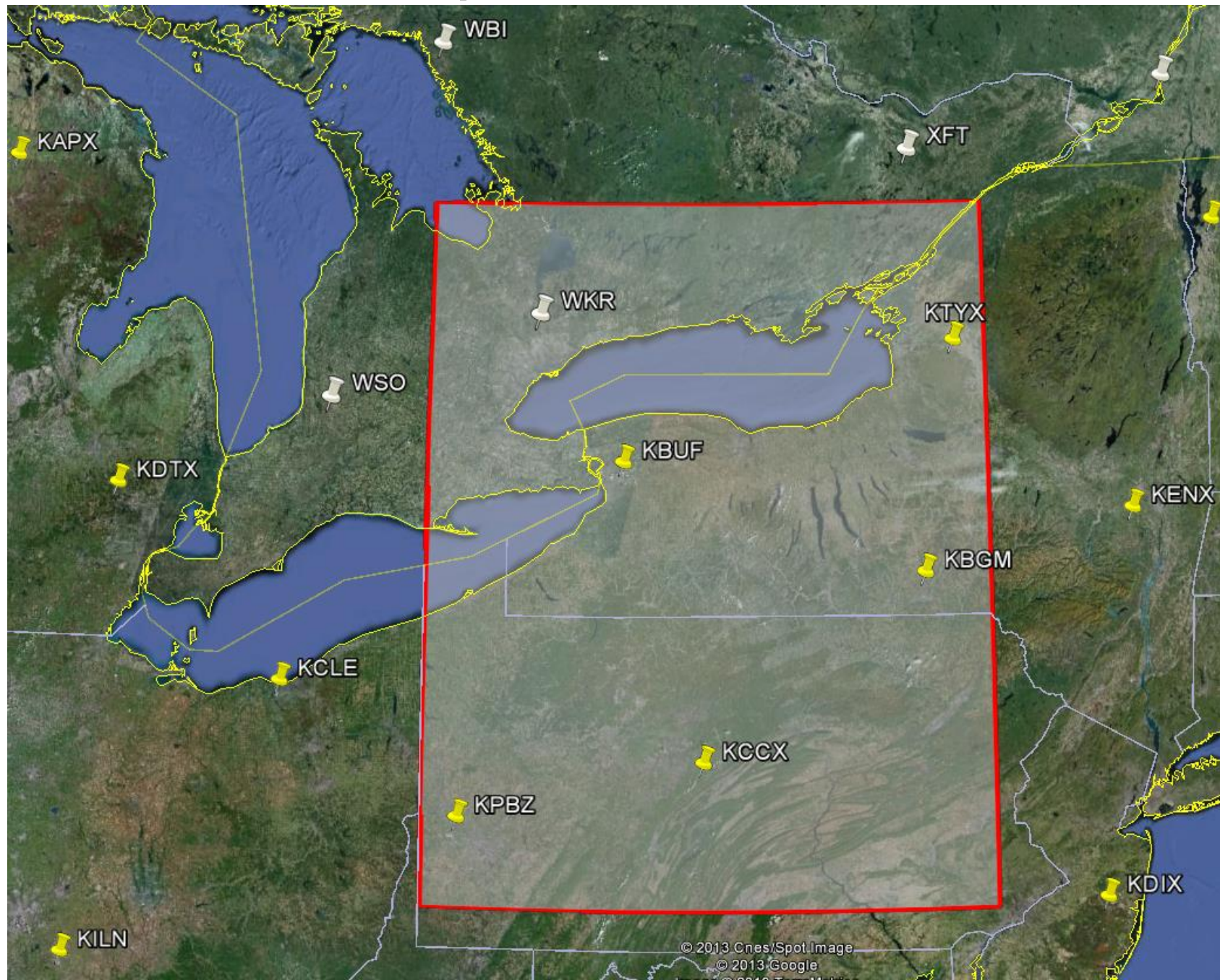


Some of the Operational Upper Air Networks in the OWLeS Region

- GPSMET
- ▲ Coop Agency Profiler (Active)
- ▲ Coop Agency Profiler (Inactive)
- NWS Radiosonde
- Canada Radiosonde



US/Canada Operational Radar Locations



Some of the Operational Precipitation Networks in the OWLeS Region

- CoCoRaHS
- Cooperative
- NCEP

