



CSET Web Site & Data Management



Steve Williams, Scot Loehrer, and Linda Echo-Hawk

NCAR Earth Observing Laboratory (EOL)

Computing, Data, and Software Facility (CDS)

CSET Science Meeting

Boulder, CO

14-15 June 2016



EOL CSET support sponsored by



NCAR

Project Web Site at NCAR/EOL

Cloud System Evolution in the Trades
CSET

July 1, 2015 to August 15, 2015
Project Location: Sacramento, CA - Kona, HI

What's New?:
CSET Science Meeting, NCAR Foothills Lab, FL1-2042, 14-15 June 2016

[Submit Data to the Archive](#)
[Submit a CSET Publication](#)

Project Description:
The Cloud Systems Evolution in the Trades (CSET) study was designed to describe and explain the evolution of the boundary layer aerosol, cloud, and thermodynamic structures along trajectories within the north-Pacific trade-winds using the NSF/NCAR Gulfstream V (HIAPER). This effort included characterization of the cloud, precipitation and aerosol fields in the stratocumulus and the fair-weather cumulus regimes within the subtropical easterlies over the northern Pacific. These characterizations along trajectories were designed to aid in our understanding and simulation of the transition between the two convective regimes—a critical factor in the climate system. LES models have become a robust tool for Lagrangian simulations of subtropical cloudiness transitions, but there are few good datasets for comprehensively testing these simulations. In particular, we lack adequate observations of the coupled evolution of aerosol, cloud droplet number concentration and simulation during such transitions. Thus, the observing strategy was to sample aerosol, cloud, and boundary layer properties upwind from the transition zone over the North Pacific and to resample these areas one or two days later. This Lagrangian approach was designed to minimize uncertainties in the large-scale forcing due to horizontal advection in the lower troposphere and thus facilitate model simulations and isolate critical physical processes. Two key elements of the observing system were a newly developed HIAPER Cloud Radar (HCR) and the HIAPER Spectral Resolution Lidar (HSRL). The HCR was used to provide cloud and precipitation characteristics. The HSRL points provided cloud boundaries and aerosol characteristics when viewing non-cloudy volumes.

A full suite of probes on the aircraft was used for in situ measurements of aerosol, cloud, precipitation, and turbulence properties. Two modes of operations were made on flights between the west coast of California and Hawaii. One included remote sensing of the clouds and boundary layer from higher flight levels as the aircraft approached and left the StCu to Cu transition zone. The other involved detailed profiling in the sub-cloud and cloud layer in two or three selected areas before and after the transition zone. On the recon legs dropsondes were used to obtain the thermodynamic and wind structure in and above the boundary layer. Several flight sequences were planned for the June-July 2014 timeframe. Historical analyses were used to develop the sampling strategies needed to ensure optimum chances of sampling uniform air masses along trajectories within the sampling volume available. Models of different complexity were used to assist in the development of observing strategies and detailed flight plans.

DATA ACCESS
Data Access
Field Catalog

DATA DOCUMENTATION
HIAPER Documentation Summary
Data Set Documentation ("Readme")
Guidelines
CSET Data Policy
CSET Data Submission Instructions

MEETINGS AND PRESENTATIONS
CSET Meetings and Presentations

CSET EDUCATION & OUTREACH
CSET Educational Module

FACILITIES & PLATFORMS
HIAPER Gulfstream GV

INSTRUMENTS
HIAPER Cloud Radar (HCR)
High Spectral Resolution Lidar (HSRL)
Holographic Detector for Clouds
Microwave Temperature Profiler

GV INFORMATION
GV Upload Schedule
GV Cabin Layout, Wings
Shipping information
Flight Schedule
Flight Hours

CSET GALLERY
CSET Photo Gallery

ARTICIPANTS AND MAILING LISTS
[CSET Mailing List](#)
[CSET Contact List \(Password Required\)](#)

CONTACT INFORMATION
Principal Investigators:
Bruce Albrecht Univ. of Miami
Project Manager:
Lou Luesky NCAR/EOL
Data Manager:
EGL Data Archive NCAR/EOL

- **Project Description**
- **Data Archive**
- **Field Catalog**
- **Publications**
- **Meetings**
- **Education & Outreach**
- **Mailing Lists**
- **Contact Information**

https://www.eol.ucar.edu/field_projects/cset

CSET DATA POLICY SUMMARY

- All investigators must agree to promptly submit their processed “preliminary” data to the CSET archive no later than 15 February 2016
- All “preliminary” data shall be provided to other CSET Investigators upon request (restricted as appropriate)
- During the initial 1-year data analysis period, data may be provided to a third party (outside CSET) 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 CSET project (15 August 2016)
- Any use of the data will, at a minimum, include acknowledgment or use of DOI. Co-authorship TBD with the investigator(s) who collected the data

CSET DATA MANAGEMENT MILESTONES

Event	Deadline
End of Field Campaign	15 August 2015
“Preliminary” Data Submission	15 February 2016
Final Data Submission	15 August 2016
Data Analysis Period (CSET Investigators have exclusive access to the data during this period). Data may be password protected	15 August 2015 to 15 August 2016
Data becomes Public Domain	15 August 2016

CSET 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.

CSET Data Archive at NCAR/EOL



DATA BY CATEGORY

- Accompanying Archives
- Aerosols
- Aircraft
- Ancillary
- Chemistry
- Cloud Properties
- Flux
- Hydrology
- Intercomparison
- Land Based
- Lightning
- Model
- Oceanography
- Photography
- Radar
- Radiation
- Satellite
- Ship Based
- Upper Air

DATA BY SITE

- Diego Garcia
- Maldives

[Back to DYNAMO](#)

Email comments & questions to rodac@ucar.edu

Aerosols		
ARM Gan Aerosol Optical Depth_derived from MFRSR/NIMFR (MFRSBA00) VAP Data [Koozitz, A. (ARM)]	2012-08-11	
ARM Gan Cimel Sunphotometer (CSPHOT) Data [(ARM)]		
ARM Gan High Spectral Resolution Lidar (HSRL) Data [(ARM)]	2012-08-02	
RV Mirai MAX-DOAS CO, NO2, Ozone, and AOD Data [Takashima, H. (JAMSTEC-Fukuoka Univ)]	Updated 2013-04-12	
RV Roger Revelle Aerosol Ion Chemistry Data [Bates, T., and T. Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Aerosol Light Scattering and Absorption Data [Bates, Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Aerosol Mass and Trace Elements Data [Bates, T., and T. Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Aerosol Mass Spectrometry (AMS) Data [Bates, T., and T. Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Aerosol Optical Depth Data [Bates, T., and T. Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Condensation Nuclei (CN) and Ultra Fine CN (UFCN) Data [Bates, T., and T. Quinn (NOAA-PMEL)]	2013-02-28	
RV Roger Revelle Water Isotopic Composition Data [Noone (CIRES, U Colorado)]		
Aircraft		
Aircraft: CNES Falcon		
CNES Falcon Navigation and State Parameters		
DYNAMO Field Catalog Missions Summary [(NCAR-EOL)]	2012-10-23	
DYNAMO Field Catalog Reports [(NCAR-EOL)]	2012-10-23	
Aircraft: NOAA P-3 (N43)		
DYNAMO Field Catalog Missions Summary [(NCAR-EOL)]	2012-10-23	
DYNAMO Field Catalog Reports [(NCAR-EOL)]	2012-10-23	
NOAA P-3 1-Hz Navigation and State Parameters [Wang, Q. (NPS)]	2013-04-12	
NOAA P-3 25-Hz Navigation and State Parameters [Kheif, D. (University of California-Irvine)]		
NOAA P-3 50-Hz INS/GPS Data [Kheif, D. (University of California-Irvine)]	2013-09-23	
NOAA P-3 Airborne eXpendable Bathythermographs (AXBT's) [Wang, Q. (NPS)]	2013-09-23	
NOAA P-3 Airborne eXpendable Conductivity Temperature and Depth Probe (AXCTD) Data [Wang, Q. (NPS)]	2013-09-23	
NOAA P-3 Cloud Microphysics 1-Hz Data [Chuang, Patrick and Mikael Witte (UCSC)]	2014-03-04	
NOAA P-3 Corrected Radiometric SST Data [D. Kheif (University of California-Irvine)]		
NOAA P-3 Dropsonde High Resolution L3 Data (EOL format) [(NCAR-EOL)]	2012-02-21	
NOAA P-3 Infrared Camera Ocean Skin Temperature Imagery [Zappa, C. (LDEO)]		
NOAA P-3 Radiation Data [Bucholtz, A. (NRL)]		
NOAA P-3 Riegl LMS Q240i Scanning Lidar Data [Kheif, D. (University of California-Irvine)]		
NOAA P-3 Soundings Derived from 25 Hz Data [Kheif, D. (University of California-Irvine)]	Preliminary 2013-09-23	
NOAA P-3 Tail X-band Doppler Radar [Jorgensen, D. (NOAA-NSSL)]	2013-03-15	
NOAA P-3 Tail X-band Doppler Radar Gridded Dual-Doppler Data [Jorgensen, D. (NOAA)]	2013-11-15	
Ancillary		
Bureau of Meteorology MJO Monitoring Imagery [(Bureau of Meteorology)]	2013-01-02	
DYNAMO Chat Logs [(NCAR-EOL)]		
DYNAMO Field Catalog Missions Summary [(NCAR-EOL)]	2012-10-23	
DYNAMO Field Catalog Reports [(NCAR-EOL)]	2012-10-23	

- Linked on the CSET home page
- Data organized by categories and sites
- Includes operational as well as research data sets
- Data sets and documentation linked as they become available
- Notification of updates to data sets
- Research data sets will be password protected as required by the CSET Data Policy

CSET Dataset Submission Instructions

CSET Data Submission Instructions

The [CSET 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 CSET international data sets (with links) has been compiled to provide easy access to all CSET 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 [CSET Master List](#).

If you collected data for CSET, 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 the [EOL Data Archive](#). 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 CSET Long-term Data Archive at NCAR Earth Observing Laboratory. Data set (and metadata) documentation guidelines are available by direct link at: [CSET Data Set Documentation \("Readme"\) Guidelines](#).

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

```
FTP: ftp.eol.ucar.edu  
Login: anonymous (No password required.)  
cd /pub/data/incoming/cset (NOTE: This command should be done all in one step.)
```

It is very important to **send an e-mail to the [EOL Data Archive](#) 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., authorship information including corresponding author(s), data formats, descriptions, acknowledgments, and metadata). Documentation files may be e-mailed to the [EOL Data Archive](#) directly if preferred.

Password protection is available for this data set upon request. **The data set will not be password protected unless requested at the time of submission.** If password protection is requested, you will receive a project-specific "user ID" and "password." If you require additional security, please contact the [EOL Data Archive](#) to request a unique "user ID" and "password" for your data. For users without direct Internet access, or if your data set(s) are too large to FTP, you may send digital file(s) on magnetic or optical media (with documentation) by conventional mail to the EOL shipping address below.

Thank you very much for your assistance in providing final data to the CSET archive. Feel free to contact the [EOL Data Archive](#) should you encounter any problems or have any questions.

- Provides the instructions for submitting data to the CSET Data Archive **after the field phase.**
- Important to send an email to sfw@ucar.edu when submitting data sets.
- **These instructions are different from those for uploading products to the field catalog.**
- There is no specified naming convention for data sets submitted to the CSET Data Archive.



DATA ACCESS

Data Access
Field Catalog

DATA DOCUMENTATION

HIAPER Documentation Summary
Data Set Documentation
("Readme") Guidelines
CSET Data Policy
CSET Data Submission Instructions

MEETINGS AND PRESENTATIONS

CSET Meetings and Presentations

CSET EDUCATION & OUTREACH

CSET Educational Module

FACILITIES & PLATFORMS

HIAPER Gulfstream GV

INSTRUMENTS

HIAPER Cloud Radar (HCR)
High Spectral Resolution Lidar (HSRL)
Holographic Detector for Clouds

July 1, 2015 to August 15, 2015

Project Location: Sacramento, CA - Kona, HI

What's New?:

CSET Science Meeting, NCAR Foothills Lab, FL1-2042, 14-15 June 2016

[Submit Data to the Archive](#)

[Submit a CSET Publication](#)



Project Description:

The Cloud Systems Evolution in the Trades (CSET) study was designed to describe and explain the evolution of the boundary layer aerosol, cloud, and thermodynamic structures along trajectories within the north-Pacific trade-winds using the NSF/NCAR Gulfstream V (HIAPER). This effort included characterization of the cloud, precipitation and aerosol fields in the stratocumulus and the fair-weather cumulus regimes within the subtropical easterlies over the northern Pacific. These characterizations along trajectories were designed to aid in our understanding and simulation of the transition between the two convective regimes—a critical factor in the climate system. LES models have become a robust tool for Lagrangian simulations of subtropical cloudiness transitions, but there are few good datasets for comprehensively testing these simulations. In particular, we lack adequate observations of the coupled evolution of aerosol, cloud droplet number concentration and precipitation during such transitions. Thus, the observing strategy was to sample

New Publication Submission Form

The first
submission
causes the
Publications
Page to be
created –
something
we had to
do manually
before.

Submit a
publication
yourself or
contact us.



Publication Reference Submission

To submit a publication reference, please fill out the form below.

Reference *

Doe, J., and M. Smith, 2010: Publication Title. Journal, 54, 234 - 240, doi: 10.1029/exampleDOI555.

Enter a full publication reference above. AMS reference format (as shown in the example) is preferred.

Publication DOI (or URL)

[http:// dx.doi.org/10.102doi_example.555](http://dx.doi.org/10.102doi_example.555)

Enter the DOI for the publication above. If a DOI is not available enter the URL of the online publication.

Publication Type *

Publications

Select the category associated with this reference (publication, conference proceeding, report, etc.)

Corresponding Author *

Full name of the main author associated with this publication.

E-mail *

Enter the e-mail of the corresponding author above.

Organization/Institution *

Enter the corresponding author's organization or institution above.

Related Field Project(s) *

Enter the field project acronym(s) associated with the publication (e.g. PECAN, DYNAMO, ACADIS, etc.).

EOL Facility/Instrument

Please list any EOL observing facilities, platforms or instruments that generated datasets used in this publication.

Submit

CSET Publications Library

DYNAMO 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**

Alappattu, D., and Q. Wang, 2014: Correction of Depth Bias in Upper Ocean Temperature and Salinity Profiling Measurements from Airborne Expendable Probes. *J. Atmos. Oceanic Technol.* doi:10.1175/JTECH-D-14-00114.1, in press.

Barnes, H. C., and R. A. Houze Jr. (2013), The precipitating cloud population of the Madden-Julian Oscillation over the Indian and west Pacific Oceans, *J. Geophys. Res. Atmos.*, 118, 6996-7023, doi:10.1002/jgrd.50375.

Chandra, A., C. Zhang, P. Kollias, S. Matrosov, and W. Szyrmer, 2014: Automated rain rate estimates using the Ka-band ARM Zenith Radar (KAZR). *Atmos. Meas. Tech.*, 7, 1807-1833, doi: 10.5194/amtd-7-1807-2014.

Chen, S., M. Flatau, T. Jensen, T. Shinoda, J. Schmidt, P. May, J. Cummings, M. Liu, P. Ciesielski, C. Fairall, R. Lien, D. Baranowski, N. Chi, S. deSzoeke, and J. Edson, 2015: A Study of CINDY/DYNAMO MJO Suppressed Phase. *J. Atmos. Sci.* doi:10.1175/JAS-D-13-0348.1, in press.

Chi, Nan-Hsun, Ren-Chieh Lien, Eric A. D'Asaro and Barry B. Ma (2014), The surface mixed layer heat budget from mooring observations in the Central Indian Ocean during Madden-Julian oscillation events, DOI: 10.1002/2014JC010192.

Ciesielski, Paul E., R. H. Johnson, K. Yoneyama, and R. K. Taft, 2014): Mitigation of Sri Lanka Island Effects in Colombo Sounding Data and Its Impact on DYNAMO Analyses. *J. Met. Soc. Japan*, 92, 385-405. doi: 10.2151/jmsj.2014-407.

Ciesielski, Paul E., and Coauthors, 2014: Quality-Controlled Upper-Air Sounding Dataset for DYNAMO/CINDY/AMIE: Development and Corrections. *J. Atmos. Oceanic Technol.*, 31, 741-764. doi: http://dx.doi.org/10.1175/JTECH-D-13-00165.1

Deng, M. and Coauthors, 2014: Stratiform and Convective Precipitation Observed by Multiple Radars during the DYNAMO/AMIE Experiment. *J. Appl. Met.* in press, doi: 10.1175/JAMC-D-13-0311.1.

DePasquale, A., C. Schumacher, and A. Rapp, 2014: Radar Observations of MJO and Kelvin Wave Interactions During DYNAMO/CINDY2011/AMIE. *J. Geophys. Res. Atmos.*, DOI: 10.1002/2013JD021031, accepted.

de Szoeke, S., J. Edson, J. Marion, C. Fairall, and L. Bariteau, 2014: The MJO and Air-Sea Interaction in TOGA COARE and DYNAMO. *J. Climate*. doi:10.1175/JCLI-D-14-00477.1, in press.

DeWitt, H. L., D. J. Coffman, K. J. Schutz, W. A. Brewer, T. S. Bates, and P. K. Quinn, 2013: Atmospheric aerosol properties over the equatorial Indian Ocean and the impact of the Madden-Julian Oscillation. *J. Geophys. Res. Atmos.*, 118, 5736-5749, doi:10.1002/jgrd.50419.

Feng, Z., S. A. McFarlane, C. Schumacher, S. Ellis, J. Comstock, and N. Bharadwaj, 2014: Constructing A

- Will provide links to all CSET publications
- Includes refereed papers, conferences, reports, and theses.
- Needs the input of investigators.
- Can also include papers in submission stage (via password protection) if desired.



CSET Science and Planning Meeting, April 28-29, 2015

NOTE: The presentations are password protected for CSET Investigators only. For access, please contact the Principal Investigators listed in the CSET Contacts Section below.

[Meeting Summary/Action Items](#)

Tuesday, 28 Apr 2015

Location: EOL Atrium, NCAR Foothills Lab, 3450 Mitchell Lane, Boulder, CO.

Introduction and Logistics	
0830	Welcome (Vanda Grubišić)
0835	Introduction/Agenda (Lou Lussier)
0840	Science Overview (Bruce Albrecht)
0900	Schedule/Travel/Logistics (Lou Lussier, Rob Wood)
Instrumentation Overview/Discussion	
0930	GV Aircraft and Standard Instrumentation (Lou Lussier)
0935	In Situ Gas Phase Tracer Measurements During CSET (Teresa Campos)
0945	CSET Cloud and Aerosol Instruments (Jeff Stith)
1000	HOLODEC (Susanne Glinke)
1010	Break
1030	NCAR/NSF G-V Automated Dropsonde System (Terry Hock)
1045	HSRL (Bruce Morley)
1100	Microwave Temperature Profiler and Other RAF Radiometers for CSET (Julie Haggerty)
1120	HIAPER CLOUD RADAR: Instrument Operations and Data Quality (Peisang Tsai)

DATA ACCESS

Data Access
Field Catalog

DATA DOCUMENTATION

HIAPER Documentation Summary
Data Set Documentation
("Readme") Guidelines
CSET Data Policy
CSET Data Submission Instructions

MEETINGS AND PRESENTATIONS

CSET Meetings and Presentations

CSET EDUCATION & OUTREACH

CSET Educational Module

GV INFORMATION

GV Upload Schedule
GV Cabin Layout; Wings
Shipping Information
Flight Schedule
Flight Hours

CSET GALLERY

CSET Photo Gallery

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

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



**Thank you!
Questions?**

https://www.eol.ucar.edu/field_projects/cset

Steve Williams (sfw@ucar.edu)

Scot Loehrer (loehrer@ucar.edu)

Linda Echo-Hawk (echohawk@ucar.edu)