DC3 DATA MANAGEMENT PLAN

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EOL Data Management Philosophy

- Early involvement in project planning
- Involvement with PIs to develop data management strategy (e.g., plan, policy, format, special collection and processing)
- Consistent implementation of data management strategy for lifetime of project and beyond (data Stewardship)
- Reliable and efficient long-term archive and distribution system
- Easy and efficient access to datasets by broader community including educators and students

Project Data Management Considerations

- Develop Data Management Plan
- Data Types
- Data Formats and Documentation
- Data Collection
- Real-time Data Requirements
- Data Quality Control
- Data Archival
- Data Distribution
- Coordination with other Programs

Data Management Working Group (DMWG) "Typical" Charge

(Reports to the Scientific Steering Committee)

- Coordinate with the Project Participants to define the data requirements
- Design a distributed data management system to provide access to all data sets
- Prepare a data management plan describing the data policy, strategy, and implementation
- Determine special product generation or data integration needs
- Oversee data collection to ensure a permanent archive upon completion of the program
- Coordinate and collaborate with other field projects/programs and data providers

DC3 DATA MANAGEMENT PLAN OUTLINE

1.0 Introduction/Background
- 1.1 Scientific Objectives
- 1.2 Data Management Philosophy

2.0 Data Management Policy
- 2.1 Data Protocol
- 2.2 Data Processing/Quality Control
- 2.3 Data Availability
- 2.4 Data Attribution
- 2.5 Community Access to Data

3.0 Data Management Functional Strategy/Description
- 3.1 Data Archive and Analysis Centers
- 3.2 Investigator Requirements
  - 3.2.1 Data Format Conventions
  - 3.2.2 Data Submission Requirements
- 3.3 Data Collection Schedule
  - 3.3.1 On-line Field Catalog
- 3.4 Data Processing following the Field Phase
- 3.5 Data Integration
- 3.6 Data Archival and Long-term Access

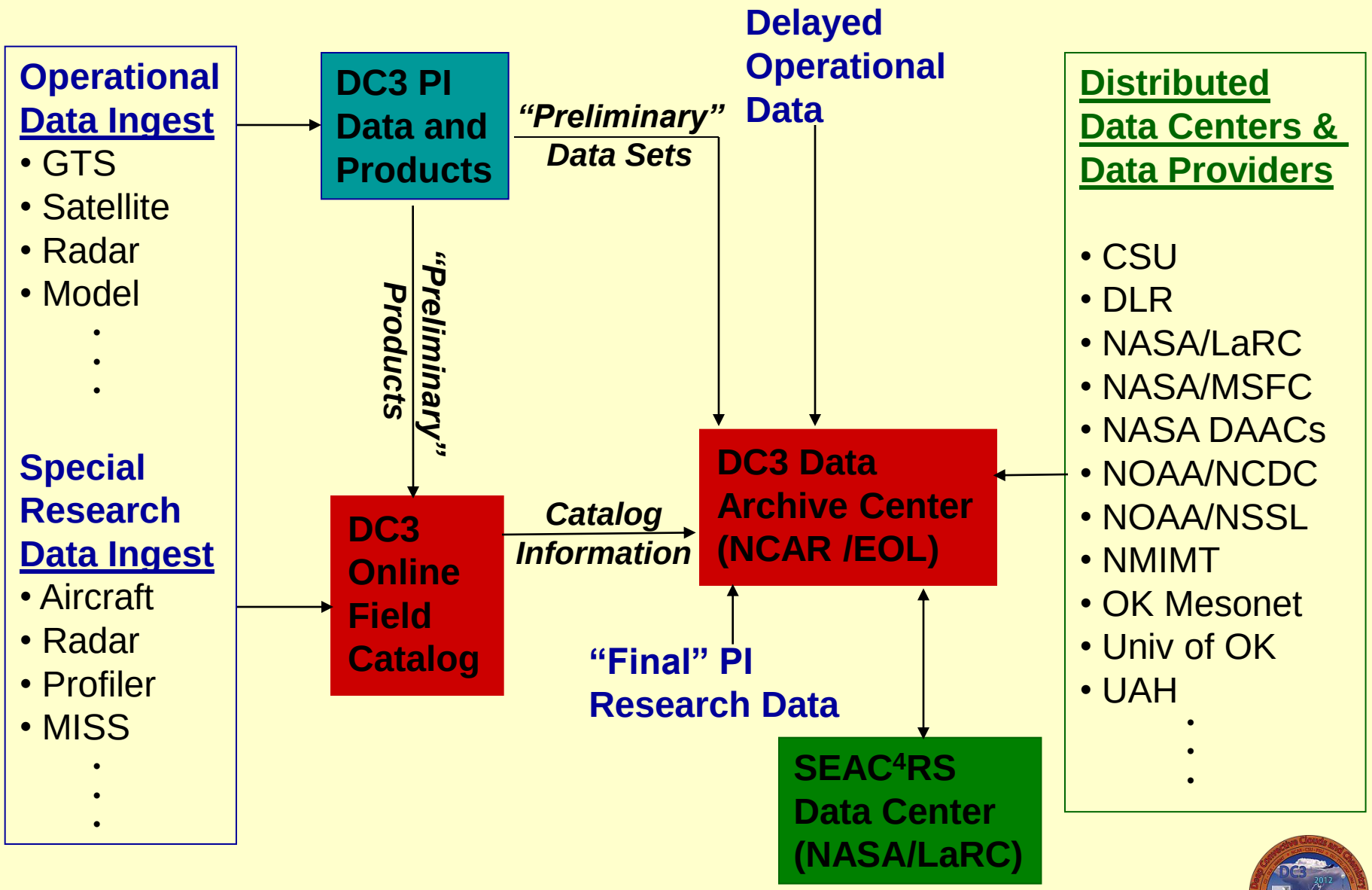
4.0 DC3 Data Sets
- 4.1 Data Collection/Processing
- 4.2 Status Update Procedures
- 4.3 In-field Data Display and Analysis Requirements
- 4.4 Coordination with other Programs
- 4.5 Advanced Water Vapor Sensor Intercomparison Data Set

APPENDICES
- A. Research Data Sets
- B. Operational Data Sets

DC3 DATA POLICY SUMMARY (*Proposed*)

- **All investigators must agree to promptly submit their processed "preliminary" data to the DC3 archive no later than 1 May 2013**
- **All "preliminary" data shall be provided to other DC3 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 DC3/SEAC^{4}RS field phase (1 November 2013)**
- **Any use of the data will, at a minimum, include acknowledgment. Co-authorship TBD with the investigator(s) who collected the data**

Expected DC3 Data Flow



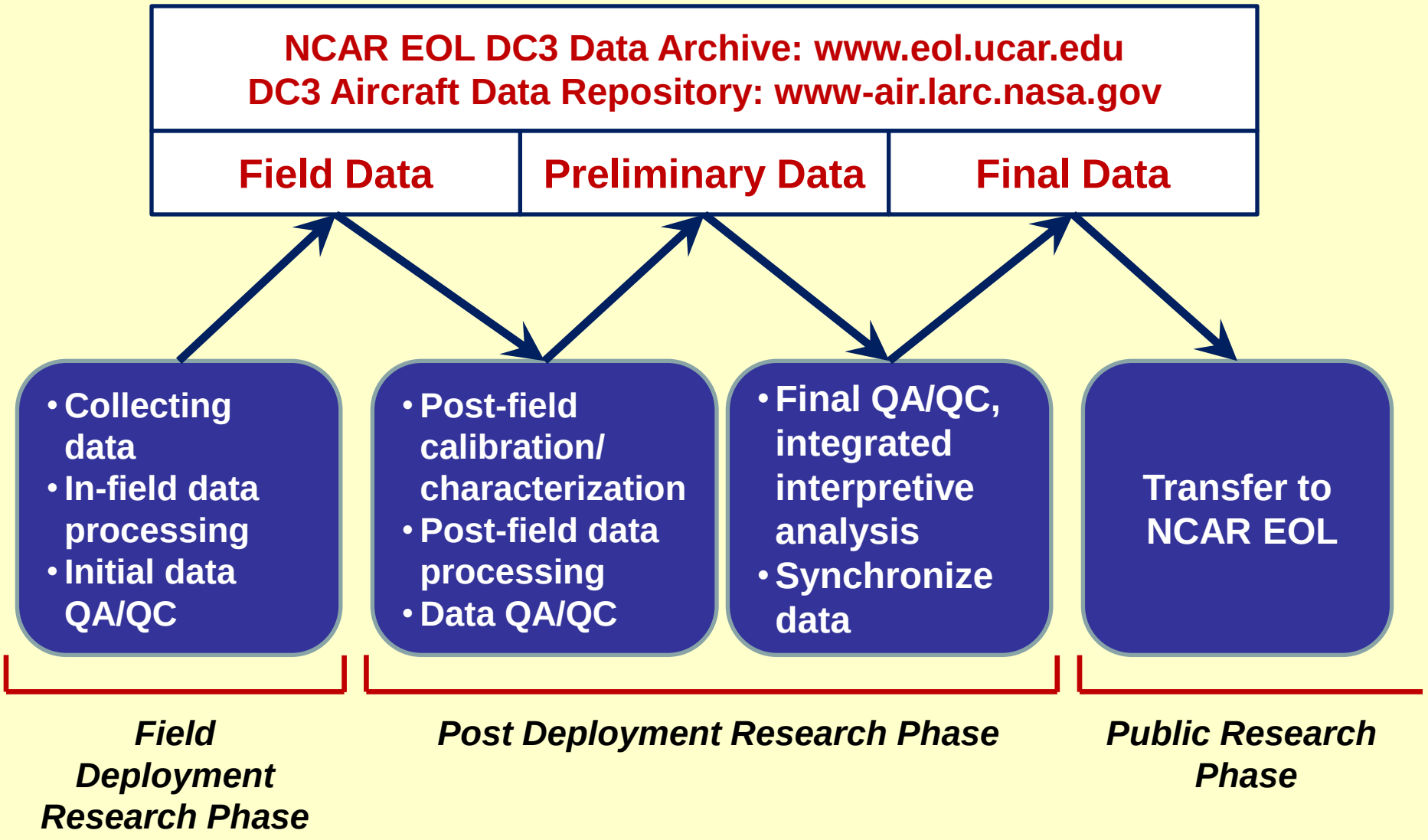
DC3 Aircraft Data Submission Timeline

Proposed data submission deadlines:

Phase	Data Type	Deadline	Access Control
Field Deployment Research	Field Data	24 hour after each flight	Science teams and partners
Post-deployment Research	Preliminary Data	April 1, 2013	Science teams and partners
Public Research	Final Data	October 1, 2013	Public

- **Data submission deadlines are consistent and apply for both SEAC^{4}RS data and DC3 aircraft observational data**
- **Exemptions may be granted on a case-by-case basis by program managers and project management**

DC3 Aircraft Data Flow Overview



DC3 Aircraft Data Archive

Data Repository	Operation Period	Access Control
Field Data Archive	04/20/12 – 03/30/13	Science team and partners
Preliminary Data Archive	04/01/13 – 10/01/13	Science team and partners
Final Data Archive	04/01/13 – 10/01/13	Public

- Data will be promptly updated at NCAR EOL data archive in each phase of the study
- Access control will be implemented through a single username and password for both SEAC^{4}RS and DC3 science teams and partners
- Preliminary and field data will be expunged after their operation periods, respectively
- The data archives will hold airborne observational data from NSF GV, NASA DC-8, and DLR Falcon.
- Data revisions will be tracked by revision numbers as part of the filenames and Dataset Master Lists

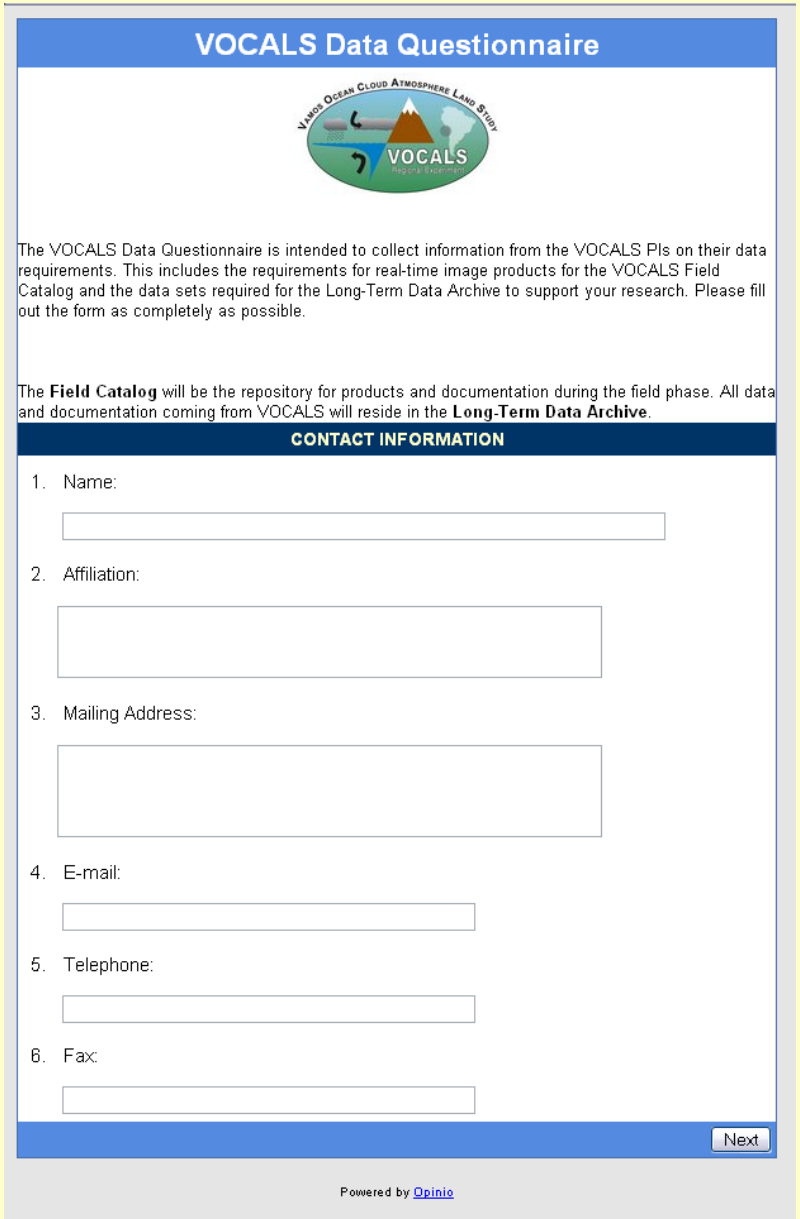
DC3 Aircraft Data Format Requirement

- The data from SEAC^{4}RS field study and DC3 aircraft observations will conform to the International Consortium for Atmospheric Research on Transport and Transformation (ICARTT) data format standards
- ICARTT format has been widely used in airborne field studies since 2004 and is now one of the NASA Earth Science Division approved data system standards
- All incoming data files will be scanned to ensure compliance to the ICARTT format requirements.
- Assistance will be made available to the science team to trouble-shoot issues in generating ICARTT files

EOL/CDS DATA SERVICES

- Data Questionnaire
- Data Management Plans
- Real-time Data Ingest
- Field Operations Catalog and Mapserver
- Data Processing
- Interactive Data Archive and Distribution (EMDAC)
- Web Services and Mailing Lists
- Special Media Products and Services

http://survey.ucar.edu/opinio/s?s=3634



INFORMATION COLLECTED ON:

- Imagery and products needed for the field catalog (real-time ingest)
- Supporting Datasets needed for research
- PI Data to be submitted to the field catalog/archive
- Product transfer to aircraft
- Special products/reports/datasets needed

DATA CATEGORIES

Aircraft	Upper Air
Satellite	Oceanographic
Land-based	Model Output
Radar/Lidar	Other

“FIELD” DATA ACCESS

Catalog Home | Daily Reports | Operational Products | Radar Products | Model/Forecast Products | Research Products | Missions | Tools & Links | Data Access | Help ?

Boulder, CO: Mon, Feb 20, 10:00 PM	Norman, OK: Mon, Feb 20, 11:00 PM
Huntsville, AL: Mon, Feb 20, 11:00 PM	UTC: Tues, Feb 21, 4:00 AM

Current Reports:

Operations Plan of the Day

GV Status

Weather Discussion

Catalog Earth Tool

Mission Coordinator Display

Way Point Calculator

Latest Radar

Latest CHILL radar

Additional Imagery

Latest 4 hours GOES-13 Visible
Latest 4 hours G-13 IR
Latest 2 hours G-13 Ch3 Water Vapor

DC-3 flight tests have concluded

General Information:

DC3 Tiimes Home Page

DC3 Data Management

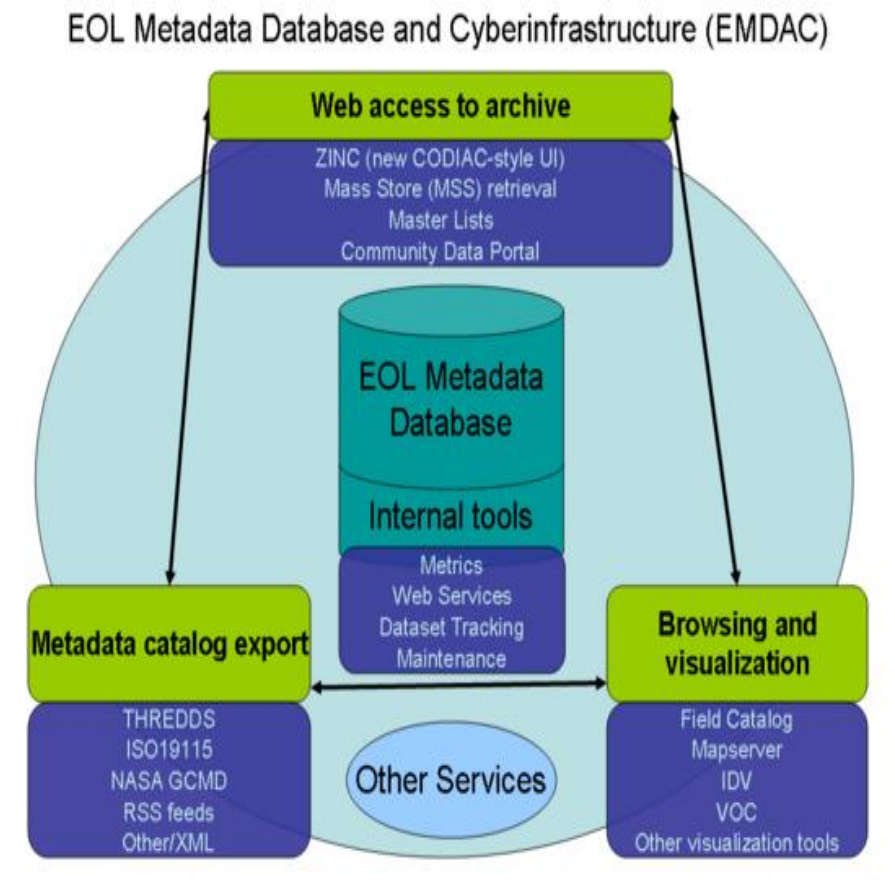
Teleconference Access Number:

1-866-740-1260 (US toll free)
Access Code: 4978380

RAF Status Message
(303) 497-1040

Colorado Domain

EOL DATA MANAGEMENT



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**

MODEL DESCRIPTIONS AND DOCUMENTATION

CEOP Model Center Documentation

This table summarizes some basic characteristics of models providing MOLTS output for CEOP. DRAFT (as of 1 November 2004, to be completed by all Centre representatives. Further columns may have to be added, if required.)

Center (Linked to further documentation)	**Model Name and Type** (operational, re-analysis, forecast, ...)	**Model Horizontal Resolution** (Both spectral and long/lat or km information)	**Time Resolution**	**Number of Vertical Levels**	**Vegetation Description Scheme Used** (name and number of types, details in a separate table)	**Soil Description Scheme Used** (name and number of types, details in a separate table)	**MOLTS Location Characteristics Table**	**MOLTS Format**
BMRC	Operational Global Medium Range Prediction Model	T239L29	1 hour	29	bucket hydrology	3 layers		netCDF
CPTEC	CPTEC/COLA	T126 gaussian grid ~1.125 degrees on pressure surfaces	6 hours	28	SSiB scheme 13 vegetation types	13 types related to the vegetation		IEEE binary read from GRADS
ECMWF	ERA-40 (and continuation)	T159 Reduced gaussian grid (125 km)	1 hour	60	TESSEL BATS classification	1 soil type	Table ERA-40	ASCII
	Operations	T511 Reduced gaussian grid (39 km)	1 hour	60	TESSEL BATS classification	1 soil type	Table Operations	ASCII
	Reanalysis-II	T62L28 2.5 X 2.5 degrees on pressure surfaces	3 hours	28 sigma 17	12 vegetation	OSU2 LSM 2 soil levels fixed soil type as either	Table	NetCDF

Composite Data Sets at NCAR/EOL

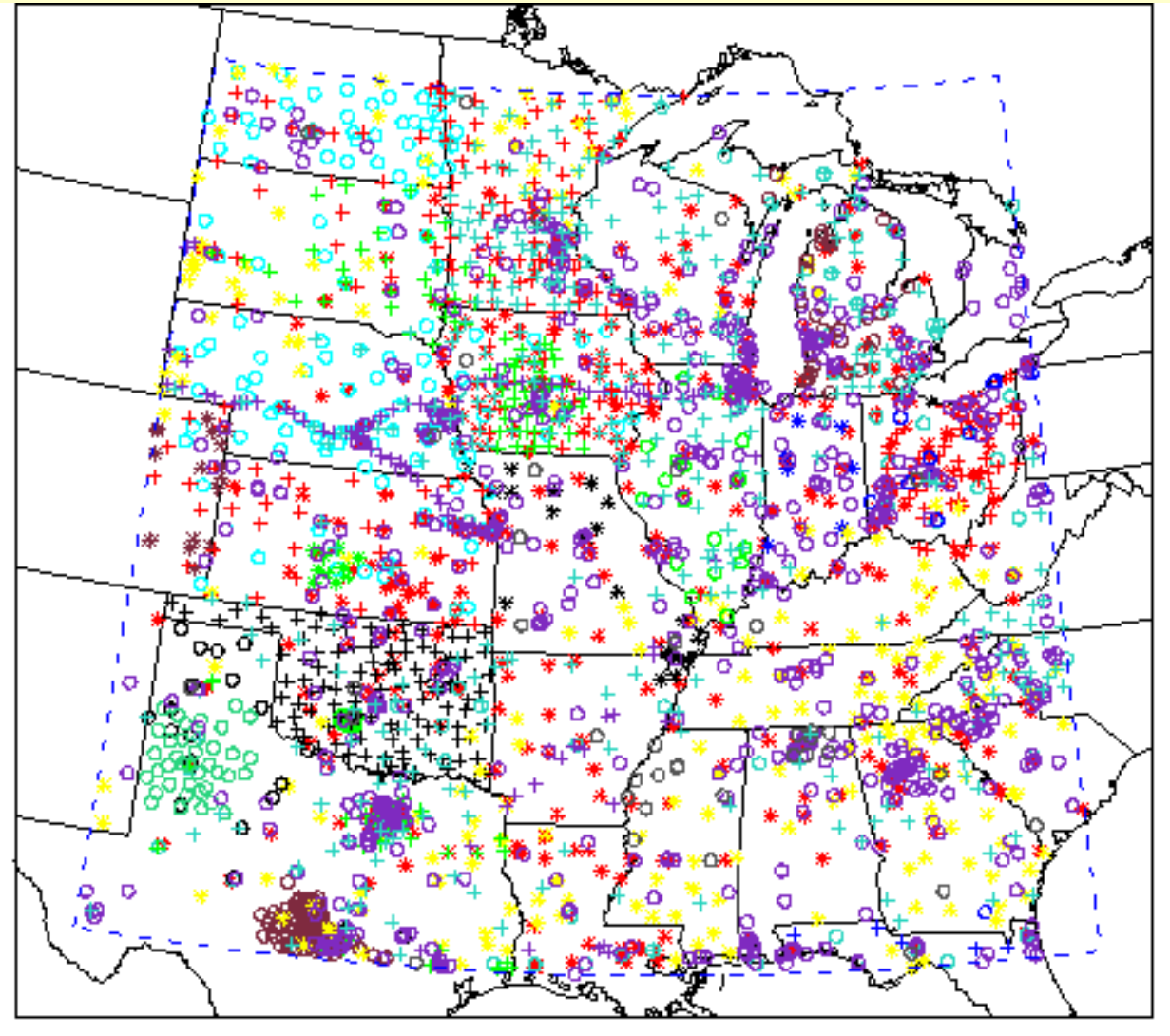
A composite dataset is a collection (over some time period and region) of similar data (e.g. surface meteorological) from a variety of sources, put into a common format, and passed through a uniform quality control.

Why does NCAR/EOL develop composites?

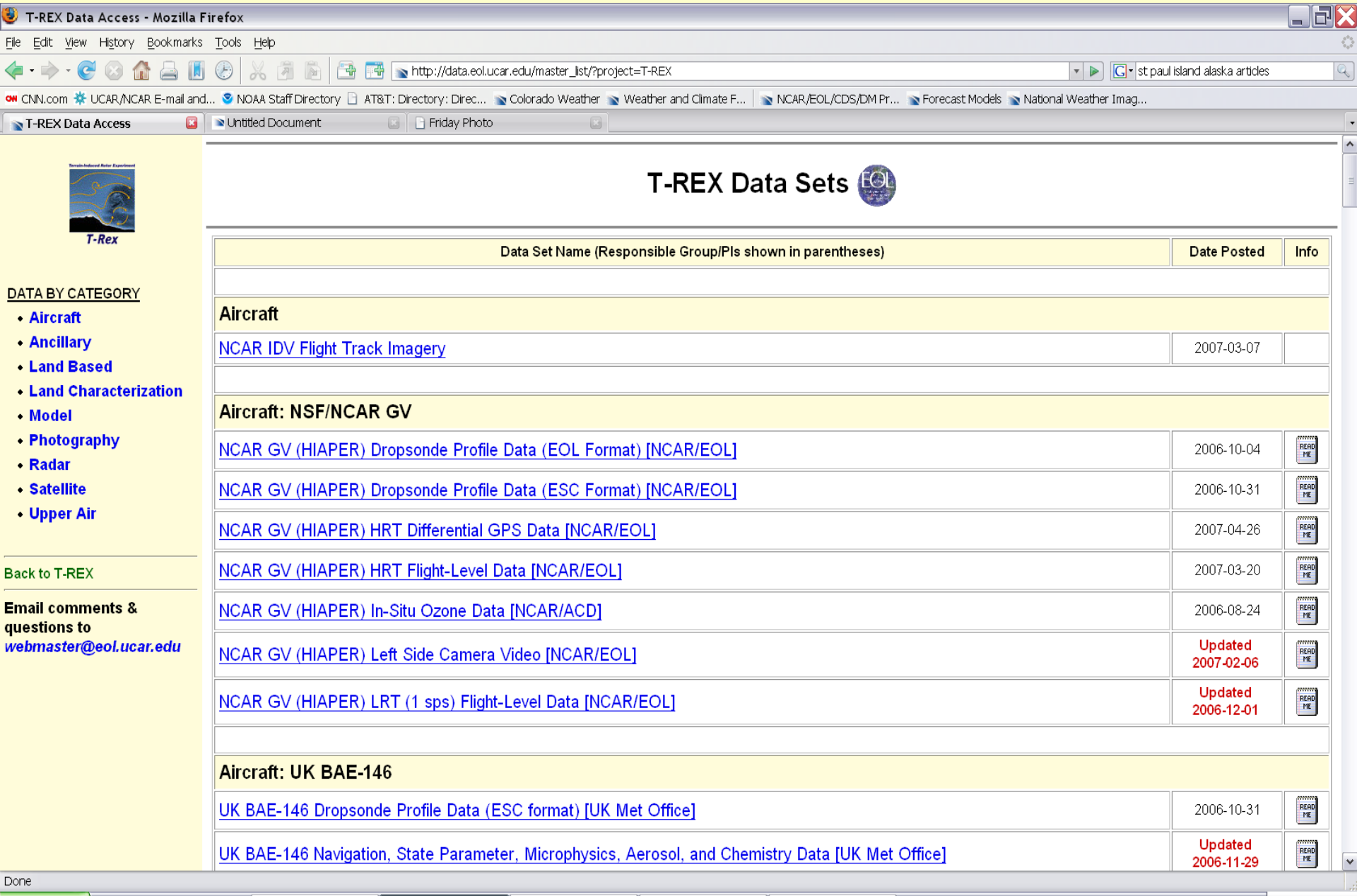
- Provides data in a uniform format with QC.
- Allows determination of network/site problems.
- Useful for model applications.
- Prevents duplication of effort.

Hourly Surface Meteorological Data Composite (2991 stations)

1-min sites (* 385)
AWOS (+ 335)
RAWS (* 220)
MesoWest (+ 94)
HPCN (o 138)
RWIS (+ 279)
GPSMET (o 153)
CO CoAgMet (* 17)
FL FAWN (+ 5)
IA IEM (+ 88)
IL ICN (o 19)
IN PAAWS (* 7)
KS GWMD5 (* 10)
MI MAWN (o 33)
MO CAWS (* 21)
OH OARDC (o 11)
OK ARS Micro (o 42)
OK Mesonet (+ 119)
TX LCRA (o 102)
TX TNRCC (+ 47)
West TX Meso (o 39)
Texas ET (o 23)
15 Other Networks (o 804)

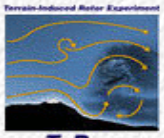


PROJECT MASTER LISTS



PROJECT PUBLICATIONS LIBRARY

T-REX Publications



(How to Submit Publication References to this List)

Web of Science Meteorological Abstracts - *(UCAR access only)*

Peer Reviewed Publications

- Doyle, J.D., and D.R. Durran, 2007: Rotor and sub-rotor dynamics in the lee of three-dimensional terrain. J. Atmos. Sci., 64, 4202.4221.
- Grubišić, V., and B. J. Billings, 2007: The intense lee-wave rotor event of Sierra Rotors IOP 8. J. Atmos. Sci., 64, 4178.4201.
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Conference Proceedings

- Grubišić, V., L. Armi, J. P. Kuettner, S. J. Haimov, L. Oolman, R. R. Damiani, and B. J. Billings, 2006: Atmospheric rotors: Aircraft in situ and cloud radar measurements in T-REX. AMS 12th Mountain Meteorology Conference, Santa Fe, Amer. Meteor. Soc.
- Grubišić, V., and B. J. Billings, 2006: Sierra Rotors: A comparative study of three mountain wave and rotor events. Poster. AMS

DC3 Project & Data Management Web Site at NCAR/EOL

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

http://www.eol.ucar.edu/projects/dc3/