



VOCALS DATA MANAGEMENT PLANNING



Steve Williams

NCAR Earth Observing Laboratory (EOL)

Boulder, Colorado

1st VOCALS Regional Experiment Preparatory Workshop

Boulder, Colorado

11-12 June 2007



NCAR

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 strategy for lifetime of project and beyond**
- **Reliable and efficient archive and distribution system**
- **Easy and efficient access to datasets by broader community including stakeholders, educators and students**



VOCALS VAMOS Ocean-Cloud-Atmosphere-Land Study



www.eol.ucar.edu/projects/vocals/

WCRP / CLIVAR / VAMOS / GEWEX Program

About VOCALS REX

Schedule of Events

Summary Document of the VOCALS campaign

The VAMOS Ocean-Cloud-Atmosphere-Land Study **Regional Experiment** (VOCALS-REX) is an international field experiment designed to better understand physical and chemical processes central to the climate system of the Southeast Pacific (SEP) region. The climate of the SEP region is a tightly coupled system involving poorly understood interactions between the ocean, the atmosphere, and the land.

To achieve its goals, VOCALS-REx field campaign plans to:

- improved model simulations
- provide detailed and targeted observations
- designed to complement a suite of enhanced long-term

What's New

Information on the VOCALS-REX Pre-Planning Workshop, **NEW** (June 11-12, 2007) NCAR, Boulder, Colorado
 VOCALS: A Program for Studies of the Climate System in the Southeastern Pacific *A Presentation by C.R. Mechoso*
 SWG Letter to Investigators and Calendar of Upcoming Events (28 Feb 2007) **NEW**
 Preliminary Schedule for the R/V Ron Brown **NEW**
 Dept of Energy Proposed VOCALS White Paper (Feb 2007) **NEW**
 10th Annual Meeting of the VAMOS Panel (April 2007) **NEW**
 VOCALS Modeling Plan (Sept 2006)
 VOCALS Overview at the 1st CPPA Science Meeting (Aug 2006) (PDF version)
 VOCALS Status Report to the 9th VAMOS Panel Meeting (Apr 2006)
 VAMOS Calendar

Science and Planning

Meetings and Presentations
 Science Working Group
 VAMOS Support Center at NCAR/EOL
 VOCALS Modeling Plan
 VOCALS Experimental Design Overview

Data Management

VOCALS Data Management page at NCAR/EOL
 Master List of All VOCALS International Data Sets
 VOCALS Data Management Plan
 VOCALS On-line Field Catalog

Documentation

SWG Letter to Investigators and Calendar of Upcoming Events (28 Feb 2007) **NEW**
 Documents
 Publications

Sponsors



10th VAMOS Panel Meeting - Santiago, Chile


VOCALS Data Access - Mozilla Firefox

file Edit View History Bookmarks Tools Help

http://data.eol.ucar.edu/master_list/?project: Google

CNN.com Weather and Climate F... UCAR/NCAR E-mail and... NOAA Locator (Public) AT&T: Directory: Direc... Systems Support Online

Mail :: Inbox VOCALS Data Access



DATA BY CATEGORY

- [Aircraft](#)
- [Hydrology](#)
- [Land Based](#)
- [Model](#)
- [Oceanography](#)
- [Radar](#)
- [Radiation](#)
- [Satellite](#)
- [Ship Based](#)
- [Upper Air](#)

[Back to VOCALS](#)

Email comments & questions to vebmaster@eol.ucar.edu

Land Based: Precipitation

GPCP Global Daily 1-Degree Combination Data [NASA]	2003-06-03	Document
GPCP Global Daily Merged Precipitation Analyses Imagery [NASA]	2003-06-03	Document
GPCP Global Monthly 1-Degree Combination Data [NASA]	2003-06-03	Document
GPCP Global Monthly Merged Precipitation Analyses Climatology Data [NASA]	2003-06-03	Document
GPCP Global Monthly Merged Precipitation Analyses Imagery [NASA]	2003-06-03	Document
GPCP Global Pentad (5-Day) Precipitation Analysis [NASA]	2003-06-03	Document
NCEP/CPC Global CMAP Precipitation Analyses	2003-06-03	Document
NCEP/CPC Global CMORPH Precipitation Analyses	2003-06-03	Document
PERSIANN 1°x1° Tropical Rainfall Data [NASA]	2003-06-03	Document
TRMM Real-time Rainfall Analyses (3-h) [NASA]	2003-06-03	

Model

ECMWF Global Grids [NCAR/SCD]	2003-05-29	
EDC 30 Arc-Second Elevation Data [EDC]	2003-06-05	Document
NCEP AVN Regional Grids [NCAR/SCD]	2003-05-29	

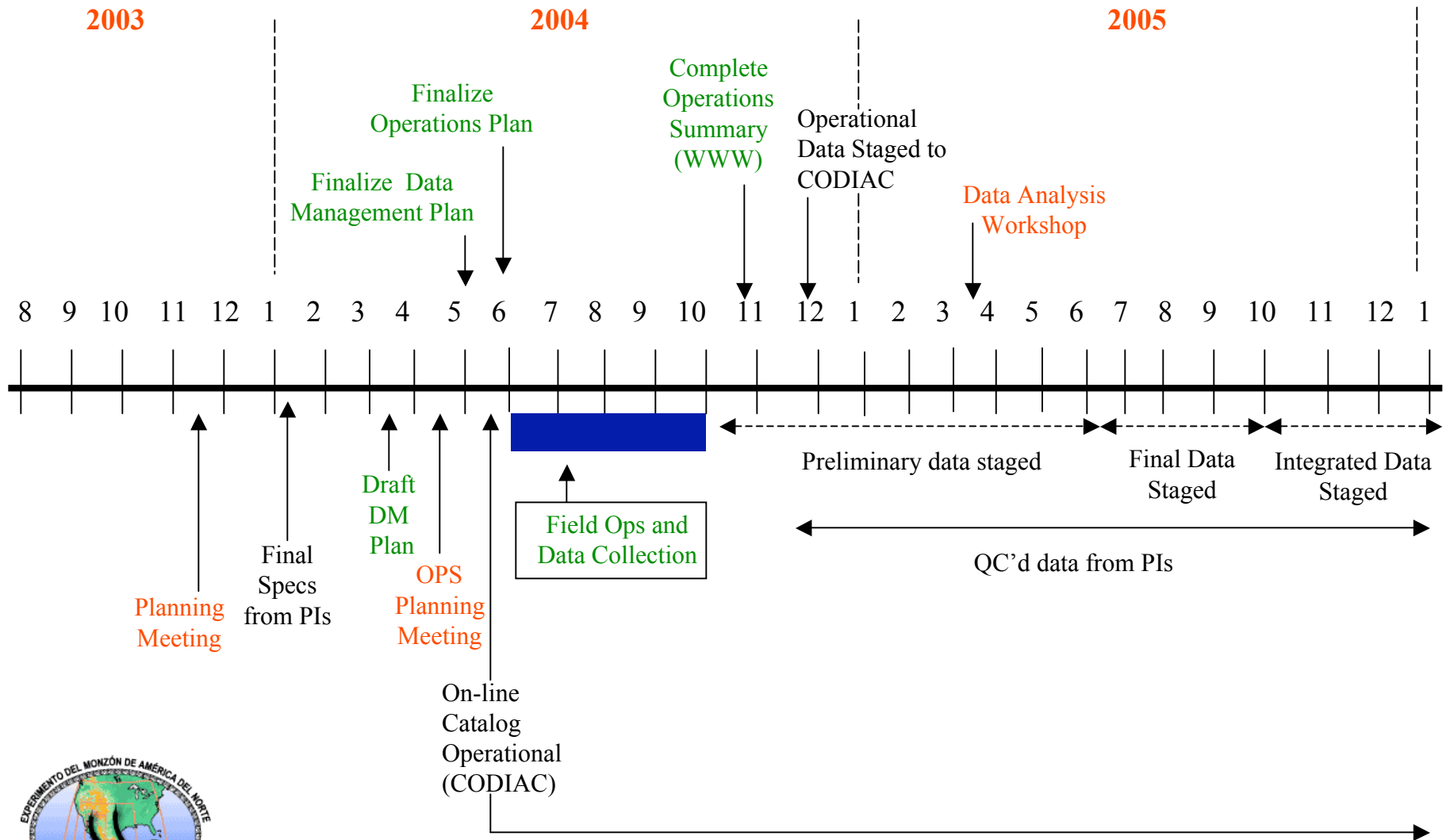
Done

Data Management Considerations for VOCALS

- Establish a project data policy
- Consider data questionnaire to determine needs
- Identify supporting operational datasets
- Will the project data archive be centralized or distributed?
- Consider format and documentation guidelines
- Determine required data for real-time decision making
- Prepare the Data Management Plan
- Identify Data Integration needs (e.g. composites)
- Conduct Analysis Workshop after Field Phase
- Other needs (e.g. mailing lists, CDs)?



NAME Data Management Timeline





Data exchange guidelines (I) :

- (1) To comply with WMO Resolutions 40 (CG-XII) and 25 (CG-XIII) in particular: No financial implications.**

- (2) *Data users* and SDA: Commercial exploitation of SALLJEX data is prohibited.**

- (3) *Data users*: No transfer to third parties.**

- (4) Data release to *data users*: Turn-around period.**
 - Category 1* data (operational, routine): **6 months****
 - Category 2* data (research, experimental): **15 months****



Data exchange guidelines (II) :

(5) Acknowledgement and citation:

(5.1) *Data users'* publications: SALLJEX, SDA, *Data providers*, funding sources

(5.2) SDA: *Data providers* and their funding sources

(6) Co-Authorship for SALLJEX PIs recommended, collaboration required if PI requests co-authorship (in particular for *category 2* data)

(7) SALLJEX Publication Library at SDA

RICO Data Questionnaire

The following Questionnaire is intended to collect information from RICO PIs regarding their individual needs for specific types of data both in the field and during post-analysis.

Please fill out the form as completely as possible. For the purposes of this questionnaire **Real Time** means that the data are needed in the RICO Operations Center. After clicking on the submit button, your response will appear above the form on this page. Please check it over for any errors or omissions and change as desired. In order for changes to be registered, you must click on the confirm button after you are satisfied with your responses.

Please specify your contact information

Name (Required):	<input type="text"/>
Affiliation:	<input type="text"/>
Mailing Address:	<input type="text"/>
Telephone (Please include country code and area/city code):	<input type="text"/>
Fax (Please include country code and area/city code):	<input type="text"/>
E-mail (Required):	<input type="text"/>

Please specify your geostationary satellite needs below

GOES Data	Real Time Need	Archive Need
GOES Imager Data	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
GOES Sounder Data:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
GOES Derived Products	Real Time Need	Archive Need
Convective Available Potential Energy (CAPE) Product:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Lifted Index Product:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Precipitable Water Product:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Cloud Top Pressure Product:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

IHOP_2002 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 IHOP_2002 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
- C. List of Acronyms (LOA)





EOL FIELD CATALOG TOOL

In-field tool to ingest and display operational and preliminary research data and project documentation for making real-time decisions and evaluating project progress

Features:

- Daily Mission Reports
- Operations Summary
- Facility Status Reports
- Data Analysis Products
- Authoring Tools
- Web-based access

Megacity Initiative: Local and Global Research Observations

MILAGRO Field Catalog

Mexico City, DF March 2006

[Catalog Home](#)
[Daily Reports](#)
[Operational Products](#)
[Model/Forecast Products](#)
[Research Products](#)
[Missions](#)
[Tools & Links](#)

(The following listing is auto generated. Click reload/refresh often to see new products.)

Available Model Products for 2006/03/15 UTC

[Previous Date\(UTC\)](#)

[Next Date\(UTC\)](#)

FLEXPART Forecast Products

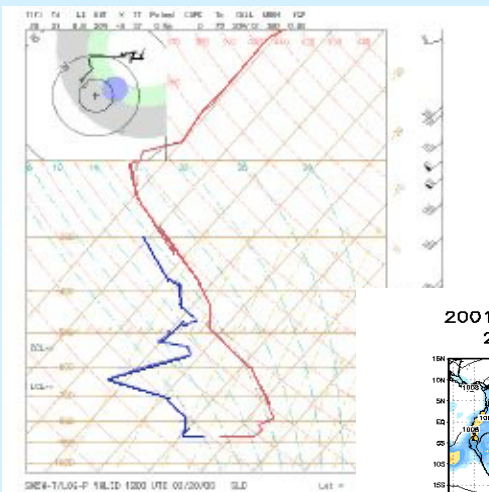
Forecast Times(UTC)	15 Mar 2006				16 Mar 2006				17 Mar 2006				18 Mar 2006				19 Mar 2006				20 Mar 2006				SP																
	03	06	09	12	15	18	21	00	03	06	09	12	15	18	00	06	12	18	00	06	12	18	00	06		12	18	00	06												
FLEXPART - Analysis and Forecast from 2006/03/15 12:00 UTC																																									
300_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	027e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	081e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP
500_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	027e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	081e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP
700_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	027e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	081e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP
Total_Column_CO					003e	006e	009e	012e	015e	018e	021e	024e	027e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	081e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP
FLEXPART - Analysis and Forecast from 2006/03/15 06:00 UTC																																									
300_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP		
500_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP		
700_MC_CO2_Height					003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP		
Total_Column_CO					003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e	SP		
FLEXPART - Analysis and Forecast from 2006/03/15 00:00 UTC																																									
300_MC_CO2_Height	003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e					SP		
500_MC_CO2_Height	003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e					SP		
700_MC_CO2_Height	003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e					SP		
Total_Column_CO	003e	006e	009e	012e	015e	018e	021e	024e	030e	033e	036e	040e	043e	046e	049e	052e	055e	058e	062e	065e	068e	072e	075e	078e	084e	088e	091e	094e	098e	102e	105e	108e	114e	120e					SP		

GFS Forecast Products

Forecast Times(UTC)	15 Mar 2006				16 Mar 2006				17 Mar 2006				18 Mar 2006				SP	
	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18		
GFS - Analysis and Forecast from 2006/03/15 12:00 UTC																		
000_MSLP_500_Heights					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
000_MSLP_Winds					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
000_Precip_6h					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
000_Precipitable_Water					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
000_Temperature					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
500_Heights_Winds					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
700_Heights_Winds					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
850_Heights_Winds					000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e	SP
GFS - Analysis and Forecast from 2006/03/15 00:00 UTC																		
000_MSLP_500_Heights	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
000_MSLP_Winds	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
000_Precip_6h	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
000_Precipitable_Water	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
000_Temperature	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
500_Heights_Winds	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
700_Heights_Winds	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
850_Heights_Winds	000e	006e	012e	018e	024e	030e	036e	042e	048e	054e	060e	066e	072e				SP	
Forecast Times(UTC)	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12			
	15 Mar 2006	16 Mar 2006	17 Mar 2006	18 Mar 2006														



FIELD CATALOG SAMPLE PRODUCTS



BCC-BSIA FIELD CATALOG
UCAR - JOINT OFFICE FOR SCIENCE SUPPORT - CHANGDE - USA

REPORTS PRODUCTS JOP LINKS

00P 0127 Jan 2004METC → 31 Jul 2004METC

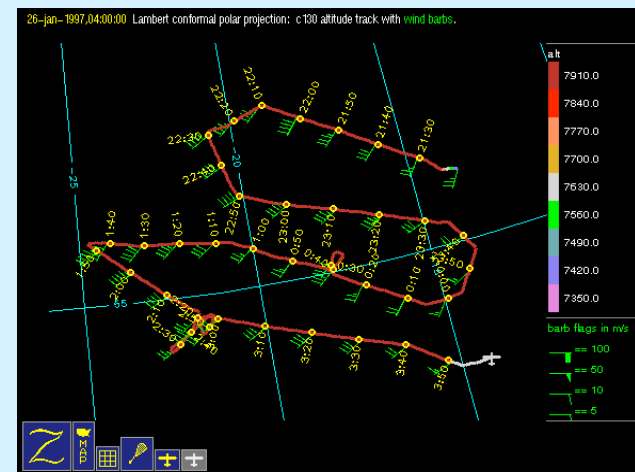
The following listing is auto-generated using the information in the database.

Science, Operations and Mission Summaries for IOP-3

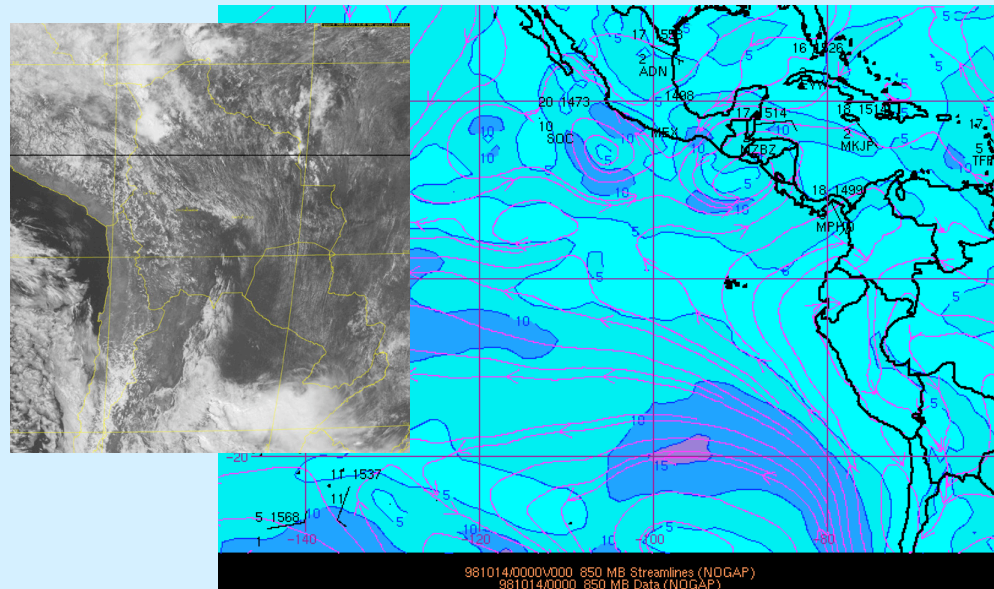
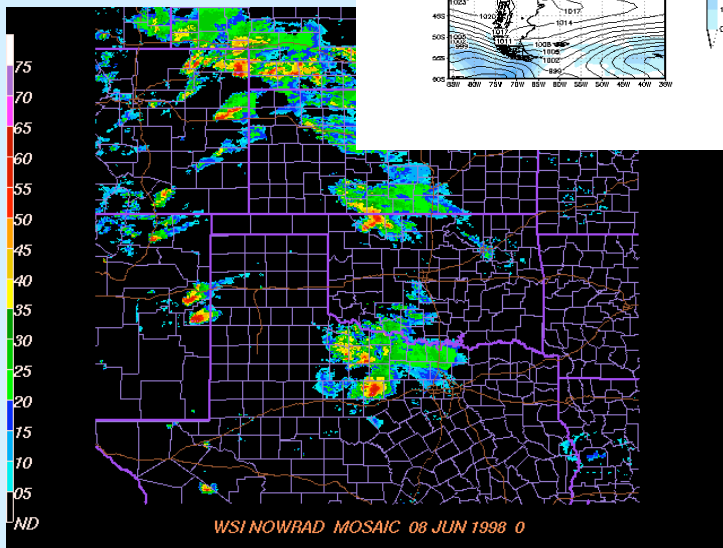
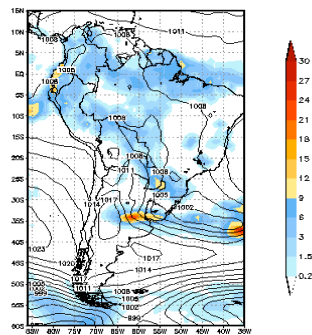
	23 Sep 01	24 Sep 01	25 Sep 01	26 Sep 01	27 Sep 01
HEAT at sea	0.00	0.00	0.00	0.00	0.00
CO2 at sea	0.00	0.00	0.00	0.00	0.00
DCM sensor	0.00	0.00	0.00	0.00	0.00
ELECTRA M. SHT. AIRPORT	0.00	0.00	0.00	0.00	0.00
Fluorescence	0.00	0.00	0.00	0.00	0.00
SST anomaly data	0.00	0.00	0.00	0.00	0.00
EDGATE	0.00	0.00	0.00	0.00	0.00
EMF sea	0.00	0.00	0.00	0.00	0.00
POC (operation, reserved)	0.00	0.00	0.00	0.00	0.00

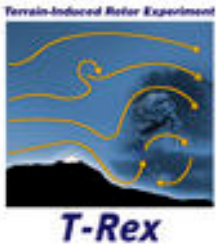
acts for IOP-3

	23 Sep 01	24 Sep 01	25 Sep 01	26 Sep 01	27 Sep 01
...



2001 03 23 00 (UTC)
24 hr forecast





T-REX Map Server

- DEM
- DOQ
- DRG
- Global Landsat7
- Pop. Density
- Aero Charts effe
- Vector
 - LatLon Grid
 - Countries
 - US States
 - US Cities
 - Roads(BTS)
 - Hydrography(NHI)
 - Federal Lands
- T-REX Fixed Senc
 - IOP-1 Mobile Sites
 - IOP-2 Mobile Sites
 - IOP-3 Mobile Sites
 - IOP-4 Mobile Sites
 - IOP-5 Mobile Sites
 - IOP-6 Mobile Sites
 - IOP-7 Mobile Sites
 - IOP-8 Mobile Sites
 - IOP-9 Mobile Sites
 - IOP-10 Mobile Site
 - IOP-11 Mobile Site
 - IOP-12 Mobile Site
 - IOP-13 Mobile Site
 - IOP-14 Mobile Site
 - IOP-15 Mobile Site
- EOP-1 Mobile Sites
- EOP-2 Mobile Sites
- EOP-3 Mobile Sites
- EOP-4 Mobile Sites
- EOP-5 Mobile Sites
- Flight Intercomp A
- BAe Test Flight M
- BAe146 Other Trac
- WOW Other Tracks
- Five Minute Surf
- Hourly Surface Co
- Other Surface Net
- Other Upper Air Il

Longitude: -119.46 to -117.23 Latitude: 36.31 to 37.42 Scale: 500378

Layer: Hourly Surface Met Composite

Station ID	Station Name	Begin Date	End Date	Longitude	Latitude	Elevation	State (6=CA,32=NV)
IDPC1	RAWS OAK CREEK CA US	20060301	20060430	-118.25940	36.84250	1479.8	6

0 11 km

Composite Data Sets at NCAR/EOL

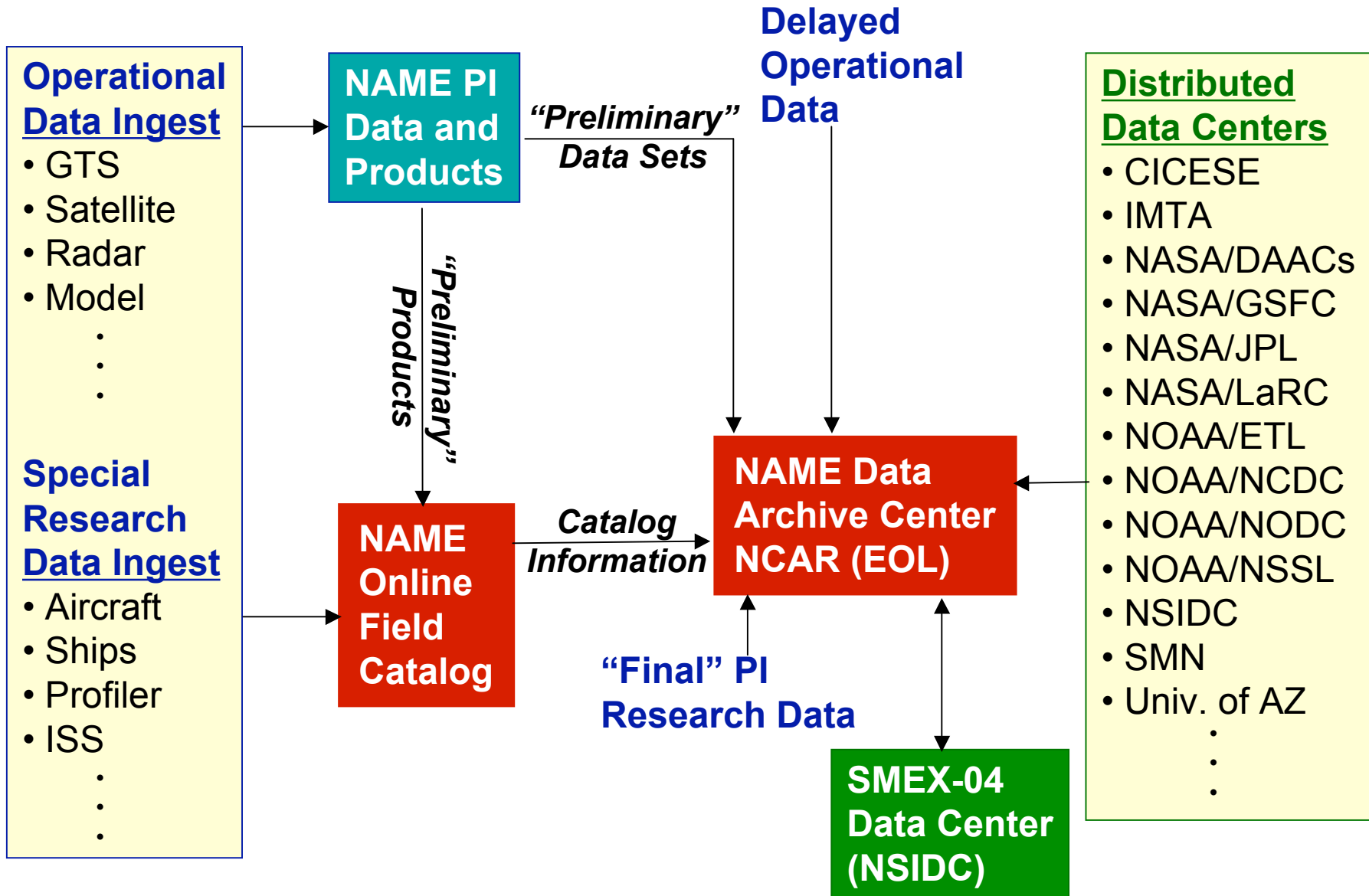
A **composite dataset** is a collection (over some time period and region) of similar data (e.g. surface meteorological) from a variety of sources, put into a common format, and passed through a uniform quality control.

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.



NAME Data Flow



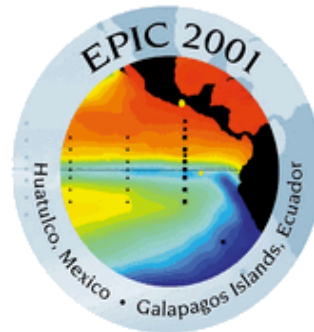
EPIC Publication References - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.eol.ucar.edu/projects/epic/public: Google

CNN.com Weather and Climate F... UCAR/NCAR E-mail and... NOAA Locator (Public) AT&T: Directory: Direc... Systems Support Online

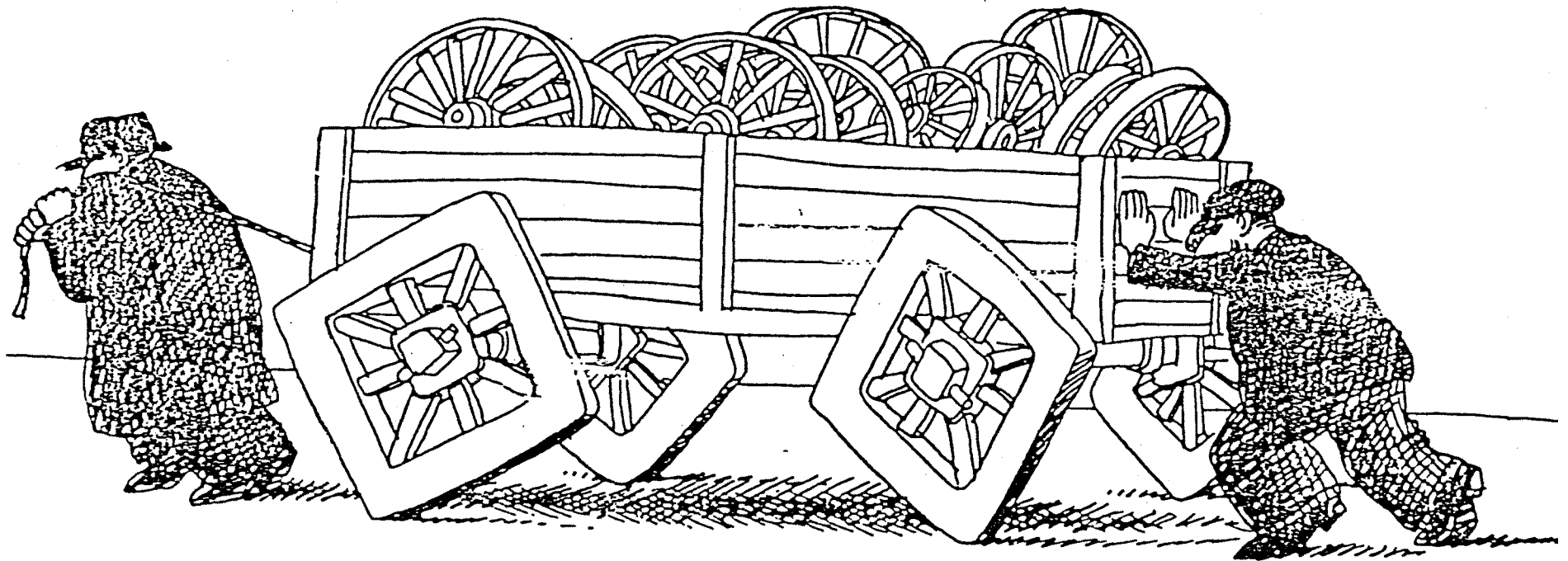
Mail :: Inbox EPIC Publication References



EPIC Publication References

- Boccippio, D.J., W.A. Petersen, R. Cifelli, and S.A. Rutledge, 2002: Diurnal cycle of convection in the east Pacific ITCZ during EPIC-2001. Preprint Volume, 25th Conference on Hurricanes and Tropical Meteorology, American Meteorological Society, 29 April - 3 May, 2002, San Diego, CA.
- [Bretherton, C. S., T. Uttal, C. W. Fairall, S. Yuter, R. Weller, D. Baumgardner, K. Comstock, R. Wood, and G. Raga, 2004: The EPIC 2001 stratocumulus study. Bull. Amer. Meteor. Soc., 85, 967-977.](#)
- [Caldwell, P., C. S. Bretherton, and R. Wood, 2005: Mixed-layer budget analysis of the diurnal cycle of entrainment in SE Pacific stratocumulus. J. Atmos. Sci., 62, 3775-3791.](#)
- Cifelli, R., D. Baumgardner, W. Petersen, S.A. Rutledge, C. Williams, P. Johnston, and K. Gage, 2002: Comparison Z-R Relationships in EPIC-2001. Abstract, 2002 AGU Fall Meeting, 6-10 December, 2002, San Francisco, CA.
- Cifelli, R., S. W. Nesbitt, and S.A. Rutledge, 2003: Convective Variability Across the East Pacific: A Comparison of Precipitation Structure in the TEPPS and EPIC Domains. EPIC 2001 Workshop, 15-16 September, 2003, Boulder, CO.

RESULTS OF BAD OR NO DATA MANAGEMENT PLANNING



THANK YOU!

ANY QUESTIONS?