

# **XDC JUNE 2006 MONTHLY REPORT**

## **1. LOOKING AHEAD**

**NSA:**

**SGP:**

**TWP:**

**XDC:**

**BACK-TRAJECTORIES:** The aerosol WG frequently needs back-trajectories to analyze in-situ data. They requested the XDC to explore the feasibility of running back-trajectory models on an ongoing basis and store the result in an external data-stream. A Stonybrook graduate student, Howard Teich, is looking into this.

**PROBLEM REPORTING FORMS:** Need to develop detailed requirements (ECO-545).

**XDC QUICKLOOKS:** Provide variables and data range or plotting code to the Archive to produce quicklooks for the external data streams.

MANUS:

NAURU:

DARWIN:

**DMF:**

**SDS:**

**EOP:**

## **2. IOPS AND CAMPAIGNS**

## **3. NEW INSTRUMENTS AND DATA STREAMS**

**NSA:**

**SGP:**

**TWP:**

**XDC:**

DATASETS SUBMITTED TO THE IOP BROWSER THROUGH THE XDC:

PI-DATASETS- Added Jensen's Instantaneous (averaged) Microbase PI Profiles  
<http://iop.archive.arm.gov/arm-iop/0pi-data/jensen/microbase-pi/>

BETA-DATA- Updated Collins TDMA beta data with additional data.  
<http://iop.archive.arm.gov/arm-iop/0beta-data/tdma/>

SPECIAL-DATA- Continued to add data from the updated (hardware and software) AERI instrument. Needs to be compared to C1 system for several months. This month added new noise filter data for the AERI instrument (next month it will have moved to the 2004 aeri-er IOP).

<http://iop.archive.arm.gov/arm-iop/0special-data/turner-aeri/>

Added new RSS Langley data this month:

<http://iop.archive.arm.gov/arm-iop/0special-data/asrc-rss/>

Added new ARM-NOAA carbon data:

<http://iop.archive.arm.gov/arm-iop/0special-data/arm-lbnl-carbon/arm-noaa/>

SGP IAP 2006: Uploaded IAP data for May 2006:

<http://iop.archive.arm.gov/arm-iop/2006/sgp/iap/>

TWP/ICE 2006: Set up the final data area for the TWP/ICE field campaign.

**DMF:**

#### **4. ACCOMPLISHMENTS**

**NSA:**

**SGP:**

**TWP:**

**XDC:**

MTSAT DATA INGEST: Seospace TWP MTSAT data includes an additional channel and better resolution. The ingest was modified to include this new channel. There is no need to change the MTSAT composite images ingest.

POSTER SUBMISSION: A new web administrative application was developed for extended poster submissions. This application is based on a newly designed poster database, which will be used in the next STM poster abstract submission. The capability to submit either a poster or a poster abstract (or both) was added and all is working well.

**DMF:**

**SDS:**

**EOP:**

**5. MEETINGS**

**NSA:**

**SGP:**

**TWP:**

**XDC:**

Rick Wagener, Kathy Doty, Laurie Gregory and Min Liang attended the Developer's Meeting at PNNL June 27 – 29, 2006.

**EOP:**

**DMF:**

**SDS:**

**6. ISSUES**

**NSA:**

**SGP:**

**TWP:**

GENERAL:

MANUS:

NAURU:

DARWIN:

**XDC:**

**NASA LANGLEY VISST PRODUCT:** Preparing netCDF VISST gridded cloud products from Minnis' group to send to the ARM Archive. Due to the large number of files, the data need to be concatenated. Currently working on a concatenation script.

**PEOPLE DATABASE:** Modifications and improvements began on the People DB (ECO-563). Initial modifications include creating a unique user name for each user. A new user management capability is ready for review, which includes ability to change username, password, and other profile info such as name, affiliation, address, etc.

**WPDN:** Switched source of WPDN data to the UCAR IDD network, since FSL discontinued providing data. We are missing a couple of weeks of data in the interim, but replacement data can be picked up from the MADIS Archive. Also, some minor changes may be required to the ingest, but the data look very similar to the data previously provided by FSL. A DQR (D060612.1) was filed this month

**GOOGLE:** Need to finalize the format of the Google statistics (EWO-11791).

**BARROW RADIOMETER:** The ingest to convert Barrow surface radiation data from ASCII to netCDF has been tested and installed into development. A script to automatically fetch current and backlogged data is currently being written.

**MTSAT WEB APPLICATION:** MTSAT composite images are available through ([http://www.xdc.arm.gov/data\\_viewers/twpmntsat\\_composite](http://www.xdc.arm.gov/data_viewers/twpmntsat_composite)). Currently working on new web application to handle all the composite images for NSA, SGP, TWP GOES and TWP MTSAT. The application has been modified to run more quickly and efficiently. (It will go into production when web servers are installed on new production machine.)

**PHP VULNERABILITY:** Work has begun on reducing the vulnerability in ARM PHP applications. The Research Highlights and People DB PHP Web applications have been updated. Data, Instruments, Measurements, and Education/Ask a Scientist are in review. Updated the IMMS and DQA systems to remove the “register\_globals” vulnerability (EWO-11609). (No new work this month.)

**ICRCCM-1 DATA:** Continued work on capturing the input requirements for ICRCCM-1, including all historical correspondences, publications and reports, and results for longwave, and shortwave clear-sky and cloudy conditions, as well as aerosols. All the information is now included on the site and will be rearranged and fine tuned as necessary. It will be available through the IOP Browse Tool Web site.

**INSTRUMENT MAPS:** Continued to retrieve new and updated datasets for the SGP site, i.e. digital elevation model data, satellite data, aerial photographs, soil data, land use/land cover data. It was determined that the resolution of the GPS locations for the instruments at the SGP site is not at enough detail to plot accurately on a fine resolution GIS map. The Suominet GPS data include very fine resolution location data and will be used for locating the Extended Facility sites at the SGP. One meter resolution aerial photography data were retrieved for the Oklahoma sites. Also tested a trial version of Google Earth Pro for potential use with the ARM Web site but it was too slow with too many features that were not necessary for ARM’s needs bogging it down.

**CIMEL DATA TRANSFER:** Work began on using the Internet for Cimel data transfer rather than the GOES satellite uplink due to undetected transmitter failures (at SGP) and low sun angle (at NSA). See ECO-00555 for additional details. (No additional work this month.)

**GLOBAL FORECAST SYSTEM (GFS) NCEP DATA:** Work began on the visualizations for the GFS data stream. Working with the Archive to provide GFS quicklooks. We received NCEP GFS data from Dec 2005 through Feb 2006. After Dec additional points were added to include the Niamey site. The coordinates of 25 points form a 5x5 matrix with 1-degree resolution. The ingest was modified to include the new points. See ECO-00477. (Visualizations are on hold due to higher priority work.)

**CIMEL SUNPHOTOMETER:** There have been problems and updates to the Cimel Sun-Photometer data. There was a satellite transmitter problem at the SGP Cimel from 5/7/05 – 9/14/05 (P050920.1). Also Aeronet has implemented a new algorithm on all sites. Data will need to be reprocessed. Some changes in processing have been proposed (P050923.1). A BCR will follow. A problem with the battery voltage of the Nauru CSPHOT is being tracked in DQPR-721.

**ETA MODEL DATA:** Looking into archiving an ETA analysis dataset for the NSA to replace the data we have been collecting, which is large and in GRIB format. We have

picked up new sample data from NCEP and are currently comparing the files to those files collected at Penn State to see if they will be suitable. See ECR-00476 for details. Looking at GRIB utility GRADs for converting ETA (and GFS) to netcdf.

IOP SPECIAL DATA: Moved “dummy” IOP entries in development into production for data under the special-data area of the IOP so they can be included in data searches. Next step is to add pi-instruments and metadata for each. (No work done this month.)

IMMS: Installed an automated monthly reminder system into production, per Jim Liljegren request.

DQPR: Modified distributed email to include comments entered into DQPR, to eliminate need to go to Web based DQPR system to read them.

IOP METADATA TOOL: Continued making improvements to metadata entry tool. Began work on EWO-1181 “Revise the Pre-proposal Form in the Field Campaign/IOP Database”. Waiting for input on initial draft system.

SAR (SITE ACCESS REQUEST) SYSTEM: Fixed minor bug in entry form.

SGP IAP: Lynn is working with Annette Koontz to install the CMDL IAP ingest and review data (BCR-00989). New fieldnames have been generated, and sample output files have been sent to for review. Annette has begun working on the ingest for data format prior to March 2006. The format changed after that and will require a separate ingest.

AMERIFLUX: (ECR-00288). All Ameriflux data for Alaska have been downloaded to the Special Data area of the IOP Browse Tool (No new updates this month).

NSA CRN RAINGAUGE: The ingest is still on hold, waiting for availability of public ftp access from NOAA/CRN, which was now tentatively scheduled for the end of August.

NWS SOUNDINGS: (No new data this month.)

IOP DOCUMENTATION: Joyce Tichler continues to enter metadata for IOPs and has contacted PIs (along with Jimmy Voyles) to retrieve past IOP data not delivered. She began planning for reorganization of TOGA-COARE data on IOP machine, which may be the only archive of the data.

BIRTH OF A DATA STREAM (BODS): (No BODS submitted this month.)

XDC DOCUMENTATION: (No new documentation this month.)

SERVER HARDWARE UPGRADES: Transitioned site-transfer and data collection to new Solaris 10 hardware. New RAID controller on production failed and was replaced by spare. Transitioned Sybase development server to new Solaris 10 system.

TWP MANUS PROCESSED AVHRR: Completed processing NOAA-16 2005 data up through its end date of 08/29/2005 and continued processing NOAA-17 and NOAA-18 data.

TWP NAURU PROCESSED AVHRR: Completed processing NOAA-16 2005 data up through its end date of 08/29/2005 and continued processing NOAA-17 and NOAA-18 data.

TWP KWAJ AVHRR: Processed data for 20060501 – 20060531.

FILE TRANSFER: The XDC sent 12,217 files with a volume of ~320 GB in June.

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7. ONGOING XDC ENGINEERING TASKS