

Langley DAAC User Working Group Meeting Executive Summary

March 13-14, 1997

Compiled by Lin Chambers March 17, 1997

The meeting began with a report on the status of action items from the last meeting. See the Action Items Status web page for details.

The Langley TRMM Information System (LaTIS)

Richard McGinnis, DAAC Assistant Manager, gave a summary of the development of this system. It had its origins in a slip of the ECS Release A effort by the Hughes contractor. A stop work order was issued to allow work to focus on Release B (for the launch of the AM-1 spacecraft), with the Release A work (TRMM spacecraft) being taken on by the DAACs. None of the existing hardware could be used for this effort, but funds were supplied to purchase needed machines. The development of LaTIS is being done under the Rapid Development Method, with on-going input from the users. A set of requirements (V0 plus) has been identified. The system will be designed to support the full TRMM mission life, with maximum re-use of components from the VO system and maximum use of COTS. The architecture is similar to the existing LaRC DAAC, with the addition of an SGI Origin 2000 system and associated data storage. Procurement of all items is underway, and partial deliveries have been made of most items. Interfaces with all required data sources are being worked. Most are in final or near-final form. The LaTIS system design meets the intent of all the B0 and B1 standards identified by the DSWG.

As part of this development, the Langley DAAC will be reconnected to the network via the EBNET router, which should provide faster service.

The system is being planned in three Builds, to support upcoming TRMM program milestones. Mission Sim#2, in April, will test data ingest and archive, with limited product generation. The certification test in September will add automated cataloging, some CERES product generation, and distribution to the CERES Science Team. Full product generation will be available in time for instrument check-out, while full data distribution will be in place by the time the CERES instrument is operational (Launch +3-6 months).

Build 3 will include capability to subset some datasets. The group discussed various paradigms for subsetting data, and how CPU intensive they might be. S. Sorlie demo'd the subsetting capability that is now available via the LaRC DAAC IMS. Users are invited to test it further and submit comments. The concept of "supersetting" was also brought out (taking small homogeneous granules and combining them into a single file). The DAAC will investigate this concept. The UWG suggested that any effort to develop these capabilities should at first assume a "rational user". This should cover a large fraction of customers. Other means would be required to deal with "irrational" users.

A tour of the DAAC facility followed. Storage Tek and SGI machines are now in place for TRMM support.

The Future

Jill Travers (DAAC) and Lucy Lee (ECS Liaison) gave an overview of the Release B status, including AM-1/SAGE III Science Software Integration & Test (SSI&T), and the B.0 and B.1 Releases. The Pre-Release B testbed (hardware now being installed) will be used at Langley this summer to support SSI&T and is planned to shut down at year-end. Its primary mission is to support AM-1 and SAGE III SSI&T. External interface testing will be performed on the mini-



DAAC at the ECS test facility.

Release B.0 will be coming out in the second half of the calendar year. Launch critical features will be demonstrated on a strict schedule. Release B.1 will be deployed to the DAACs for acceptance testing late summer 1998.

SPECIAL TOPIC - Metadata

Bruce Barkstrom gave a history of how the current data model was developed, and some of the problems that have resulted from this approach. Useful discussion was held, in particular on the issue of how to update metadata at the time of delivery, and a number of actions assigned to the ESDIS project as a result. Greg Hunolt accepted them on the Project's behalf. The intent of these actions is to clarify and simplify the issues needing resolution.

- **ACTION:** ESDIS project to determine what part of the metadata, if missing, would cause the system to break (i.e., its absence means PGEs won't run). Initial assessment needed in time for the metadata workshop, April 1-2, 1997.
- **ACTION:** ESDIS project to determine what part of the data, if missing, would cause a user to be unable to find the data (perhaps based on experience on what "things" users actually search on in existing data archives). Initial assessment needed in time for the metadata workshop, April 1-2, 1997.
- **ACTION:** ESDIS project to determine what part of the metadata is volatile (i.e., could be updated at time of distribution of data). Initial assessment needed in time for the metadata workshop, April 1-2, 1997.
- **ACTION:** ESDIS project to identify what part of metadata is federally mandated. Initial assessment needed in time for the metadata workshop, April 1-2, 1997.
- **ACTION:** ESDIS project to determine what part of metadata is required by the instrument teams. Initial assessment needed in time for the metadata workshop, April 1-2, 1997.

DAAC Status

1996 Statistics:

Bob Seals summarized the DAAC Usage statistics for 1996, as well as trends since it opened. Customers in 1996 came from 45 states and the District of Columbia, and 31 foreign countries. A few customers generally account for 90% of data distributed, while 90% of customers order small amounts of data. 65% are from academic or government institutions. Average last year was 80 customers per month. In 1996, 3721 orders were placed (this is somewhat inflated because on the WWW interface each granule is counted as a separate order) and 2429 GB were distributed (>3 times the DAAC's data holdings) to 641 customers. Discussion confirmed that the metrics shown are the proper ones to assess the DAAC. Citations in journal articles, while nice, are not really a measure of the success of a data center, whose job is to distribute data.

Dataset Activities:

Sue Sorlie summarized the activity since the last UWG meeting. Dataset population has slowed somewhat due to all other activities going on. Total volume is up to nearly 700 GB however. Over 200 GB of new data is planned to be added through September. ERBE and SAGE CDROMs are now available, while a CD about the DAAC is in development at Norfolk State U. The process of generating guides for datasets is also proceeding. A recent requirement that guides be available or the dataset would be removed was decided to be a dumb idea; however, some information does exist on every dataset and at least a minimal set (producer name and variable description at least) must be available to users.

- **ACTION:** LaRC DAAC (in conjunction with appropriate parties) to determine what constitutes a reasonable GUIDE for ground-based datasets, which are much more fluid than satellite experiments.

Future Datasets:

At least tentative nominations were made for 4 new datasets.

- IGBP-DIS Biomass burning/fire detection data
- Cloud observer data (e.g., Warren and Hahn)
- CAGEX data (just link to their page?)
- Atmospheric chemistry datasets (NCAR)

Discussion will take place via the UWG WWW page as information on each is received.

Valids Status:

Sue Sorlie presented a status of the Version 0 Valids Cleanup effort. This is an activity mapping DAAC specific parameter names to Global Change Master Directory (GCMD) variable names and terms for searching. GCMD has made some changes to accommodate the LaRC DAAC data, but issues still exist (examples: aliasing Hydrogen Peroxide to Trace Gases; Richardson Number to Convection; level of detail: Model -> ECMWF Model; Tunable Diode Laser -> Laser, etc.)

- **ACTION:** UWG members to provide input on the [Global Change Master Directory](#), either directly, through the UWG, or through Greg Hunolt.

Data Access from the Web:

John Olson gave a brief explanation of the various methods of web access to the data, and what is planned for the future. The sense of the group was that we would bet more on web access as a future means than any of the dedicated clients now being developed. Issues on how to present a search interface and present increasing detail as a user converged on what they need were brought out. The DAAC welcomes input on how to do this. It is currently evaluating a web interface developed by Oak Ridge National Lab. UWG members are invited to look at that interface and comment on it. <http://www-eosdis.ornl.gov/>

- **ACTION:** Greg Hunolt to reassemble a science advisory group for the V0 IMS and JEST.

UWG Web pages:

A brief discussion of the usefulness of the UWG web pages was held. It was agreed that a mechanism to notify UWG members of changes to the web page would be helpful. An asymptotic schedule was suggested, with more frequent notifications as the next meeting nears.

Outreach Activities:

Lin Chambers gave a summary of DAAC Outreach efforts that were initiated after the last meeting. About a dozen people are involved in an Outreach group at the DAAC, which works closely with a similar group started about the same time within the Atmospheric Sciences Division at Langley. So far the focus of these groups is public outreach, with some focus on K-12 education. Outreach to industry was suggested and a means to do this will have to be identified. Near term projects include a set of trading cards, a polyhedral globe cutout with DAAC datasets, and the hiring of three teachers on a part-time basis to help develop instructional materials. Upcoming events include Earth Day activities, several conferences, teacher workshops, and the Virginia and North Carolina State Fairs. Also included in outreach is the survey which was recently developed (<http://eosweb.larc.nasa.gov/HPDOCS/usersurvey.html>). If you haven't yet filled it out, please do so.

S'COOL Project:

The CERES S'COOL (Students' Cloud Observations On-Line) project is an idea developed in conjunction with a local

middle school teacher which seems to be taking off. It involves school children in making cloud observations at the time of a satellite overpass, to compare with the satellite's remote sensing retrievals. A website is in development at: <http://asd-www.larc.nasa.gov/SCOOL>. Prototype testing occurred in January. A national test is being planned for April. Contacts have been identified in about 30 states, and a letter of invitation will be mailed soon. Additional contacts (school teachers or parents) in other states are welcome, as are contributions of AVHRR data to provide comparisons in the interim until CERES launch. Suggestions made at the meeting included figuring out a way to involve retirees in this project, and ensuring feedback is given explaining discrepancies from what CERES reported.

Newsletter:

The first Langley DAAC Newsletter was mailed out recently. Sue Sorlie gave the group a summary of the topics, distribution, and audience for this first issue. She requested the groups's input for future issues. Suggestions made included a section on user contributions or tools users have developed to manipulate data they get from the DAAC. Additional distribution to atmospheric science departments, professional societies, institutions, and select industries was also suggested. A quarterly schedule seems reasonable. The newsletter will also be made available from the [DAAC homepage](#).

DAAC Programmatic Update:

Greg Hunolt kicked off this portion of the meeting with a summary of his views on recent events in the project, and suggested a need for satisfied DAAC users (if any were present) to communicate their satisfaction to funders (HQ, Congress, etc...). Some discussion on how to do this ensued, with no single answer. One excellent means, however, would be to develop a set of industrial customers who rely on the data for their business, and would be vocal in their support. Richard McGinnis then summarized a number of topics:

NRC recertification:

Two advance people have visited the DAAC to feel out what the NRC might do. Evaluation criteria and teams have not yet been chosen for this review. They should be soon, with site visits anticipated to begin in May.

CAN Status:

The DAAC is seeking partners for a type 2 (researchy) and 3 (eventually self- sustaining) Earth Science Information Partner (ESIP). The Cooperative Agreement Notice has not yet been released, but should clear the legal folks at HQ soon.

ESSP Status:

The DAAC is part of the PICASSO Earth System Science Platform (ESSP) proposal. A phase 2 proposal has been submitted. Winner(s) to be announced 3/18/97. (Update: this project was not selected at this time.)

IG Surveys:

Two surveys have been initiated: 1) Federation (is there adequate justification? Can EOSDIS budget support it? What impact would it have on operations?); 2) EOSDIS data distribution (do efforts meet MTPE goals? Are they cost effective?). Survey will be complete by mid-May, at which time IG will decide what to do next.

Work Plan Changes:

Little has changed, despite project upheaval. Rel A support became testbed support. LaTIS effort funded through re-allocation of personnel dollars already available. LaTIS hardware required new money, about 2/3 of which has been received. No problems are anticipated in receiving the rest.

Dates for next meeting:

The dates of the next UWG meeting have been set for September 11-12, 1997. A day and a half meeting is again anticipated. Major topics will be the progress of the LaTIS system, and input to the 1998 work plan.

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