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Director's Report

Unidata Policy Committee Meeting

16 July 2007

Boulder, CO

Mohan Ramamurthy
Unidata Program Center
UCAR Office of Programs
Boulder, CO



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23rd Anniversary of the Submission of the Proposal to Fund Unidata



UCAR

University Corporation for Atmospheric Research
P.O. Box 3000, Boulder, CO 80307
Tel: (303) 497-1996

16 July 1984

Dr. Richard E. Greenfield
Atmospheric Sciences Division
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Dear Dick,

Enclosed are eight copies of our revised UNIDATA proposal, and also a memorandum from Stan Ruttenberg explaining how the reviewers' comments were used in the revision. If you think it would serve a useful purpose to send this explanation to your reviewers, feel free to do so.

Murino describes Unidata as "a totally different kind of concept that allows the universities to exploit much of the hardware and software that comes out of NCAR's research and facilities programs."



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Staffing Changes

Departure:

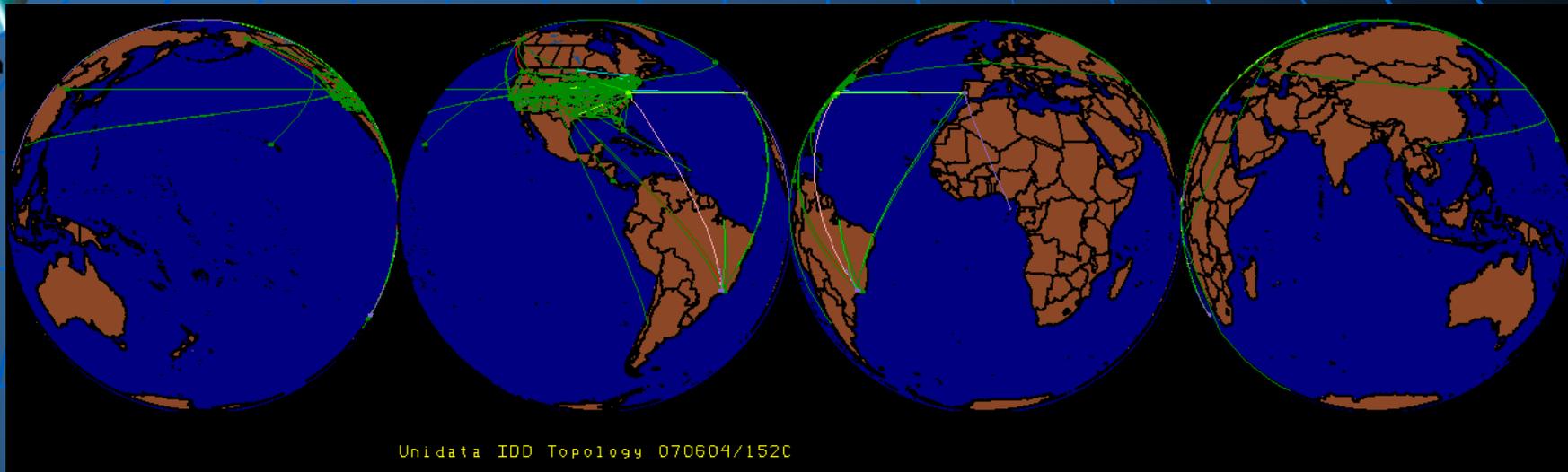
- Sandra Petrie, Administrative Assistant left Unidata at the end of March to start her own business

Newest staff member:

- Tina Campbell, Administrative Assistant, Workshop Coordinator and Fiscal Assistant joined Unidata in early May.
- Tina has hit the ground running in coordinating the logistics for the upcoming Training workshops.



Data Flows

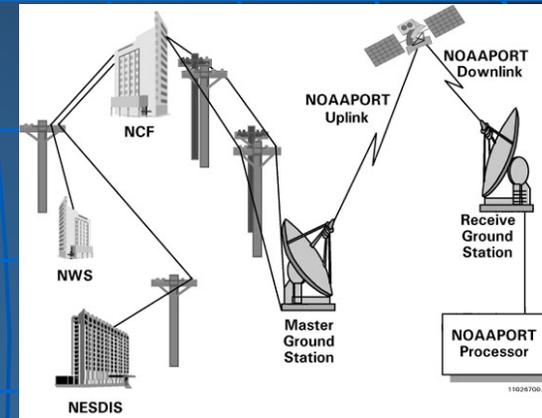


- ❖ The number of sites participating in the IDD continues its steady growth. As of 15 July, 454 hosts in 236 unique network domains were running LDM-6 and reporting real time statistics.
- ❖ The average volume of data flowing through the IDD has remained steady over the last several months, except for TIGGE and CONDUIT.
- ❖ TIGGE data volume is about 12-13 GB/hour, but in bursts up to 23 GB/hour. Data now flowing to and from CMA, Beijing, and from CPTEC, Brazil.
- ❖ We are in discussions with COSMIC to distribute their GPS data to the community in real-time, via the LDM. There are some data policy issues to work through before that can happen.

NOAAPort-related Meeting with NWS



- Recently, Linda and I met with a group from NWS to see if NWS will implement an LDM-based terrestrial back up for NOAAPort.
- A draft letter from Unidata and the Users Committee was presented to NWS.
- We are generating a white paper that will include requirements, data volumes and possible approaches for distributing the data to the community.
- There is considerable interest in using a CRAFT/Radar Level II type arrangement to distribute other NWS data to all sectors, augmenting the Family of Services. Discussions are underway with NCEP and others in the NWS as well as University of Oklahoma.
- A meeting of the principals and interested users is planned during the next AMS Annual Meeting in New Orleans in January 2008.

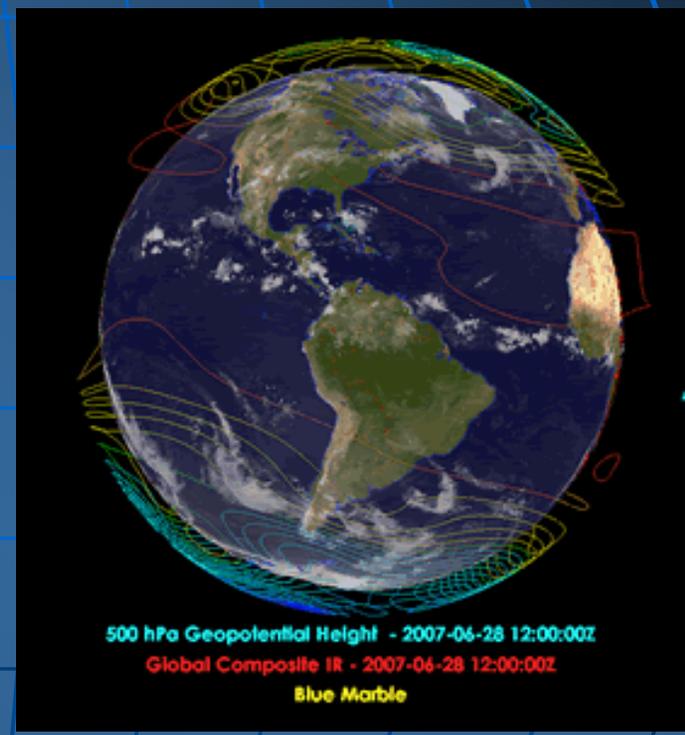




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Integrated Data Viewer

- ❖ IDV use continues to increase.
- ❖ IDV Version 2.2 was released on 11 May, 2007.
 - ❖ For some data types, data can now be saved in a bundle.
 - ❖ There are new charting capabilities and support for meteorograms.
- ❖ An IDV Developer's training workshop is scheduled for August. This was suggested by the Policy Committee last year.

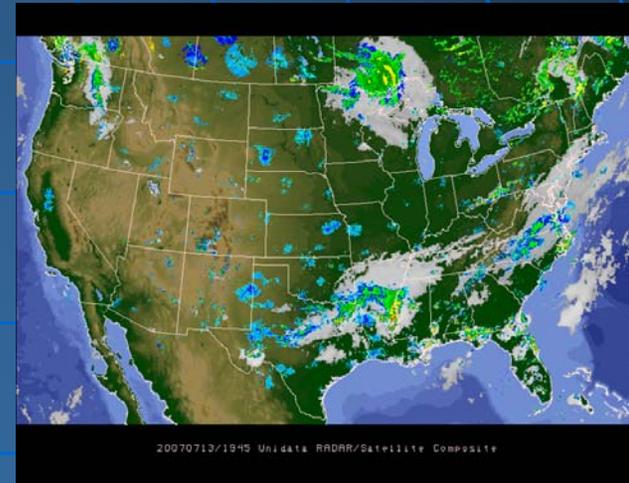




GEMPAK & McIDAS

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- ❖ GEMPAK continues to be Unidata's most popular analysis and visualization tool.
- ❖ Between October 2005 and July 2007, 1735 unique users downloaded GEMPAK from the UPC.
- ❖ NWS/NCEP is migrating GEMPAK, a.k.a. N-AWIPS, toward a service-oriented architecture and integrating it into AWIPS-II. In the short term, this will not impact the Unidata community, but in the long term the migration to AWIPS-II has implications for Unidata. [There is additional information in the NWS report from Leroy Spayd]
- ❖ Meanwhile, McIDAS use is decreasing:
 - As of March 23, 2007 **50** sites have downloaded Unidata McIDAS 2006.
 - For a historical comparison, **102** sites downloaded version 2004 and approx. 60 downloaded v2005.
 - The majority of new interest in Unidata McIDAS is coming from sites outside of the US.





NetCDF-4

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NetCDF-4, the next major upgrade to the netCDF standard, was released in beta in April 2007.

While supporting full backward compatibility, it allows users to read and write HDF files with the netCDF API, including support for groups, user-defined types, per-variable compression, and parallel I/O.

NetCDF-4 depends on HDF-5 version 1.8.0, which is currently in beta release.

The NetCDF for Developers and Data Providers training workshop next week has attracted the largest attendees of all sessions in the 2007 Unidata Training Workshop.

A new C++ API is under development by Shanna Shaye Forbes, a returning SOARS protégé.



This spring Shanna received her B.S.E.E. degree from the University of Texas at Austin.

She is heading off to grad school at UC-Berkeley in the fall.

2007 Training Workshops

- ❖ The 2007 Training workshops will be held 20 July – 10 August.
- ❖ 75 participants have registered so far, 41 from academic and research communities, 28 from government organizations.
- ❖ There are 10 International participants. They come from China (5), Germany (2), Panama (2) and Portugal (1).
- ❖ For the first time, a session on Advanced IDV is offered. NetCDF for Developers has attracted 38 participants.



| Register Online | |
|------------------------------------|-------------|
| netCDF for developers | July 20 |
| GEMPAK | July 23-25 |
| LDM | July 26-27 |
| THREDDS Data Server Administration | July 30-31 |
| Introductory IDV | August 1-2 |
| Advanced IDV | August 3-4 |
| netCDF JAVA | August 6 |
| McIDAS | August 7-10 |

[Event Details](#)



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Unidata Regional Workshop

- The University of Oklahoma will host a Unidata Regional Workshop, September 10-12, 2007.
- The purpose of this workshop is to provide training in the use of Unidata's Integrated Data Viewer (IDV).
- Sessions on THREDDS and LEAD are included.
- Participants will present posters on the use of Unidata applications in a "Unidata in the Community" session of the workshop.



2004 Regional Workshop
@ Millersville University



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2007 Community Equipment Awards

- ❖ A solicitation was issued to the community in January and advertised at the AMS Annual Meeting.
- ❖ Thirteen proposals were submitted.
- ❖ A total of \$100K (with UCAR overhead) was available for 2007 awards; Total requested funding (with UCAR OH) was \$276K.
- ❖ **This year's themes:**
 - **Furthering the use of the IDV in education settings**
 - **Increasing the use of Unidata systems and tools in other geoscience disciplines like hydrology and oceanography**
- The review panel met in May to rank and recommend awards; Six proposals were funded at varying levels.
- Award notifications were made in early June.



2007 Community Equipment Awards

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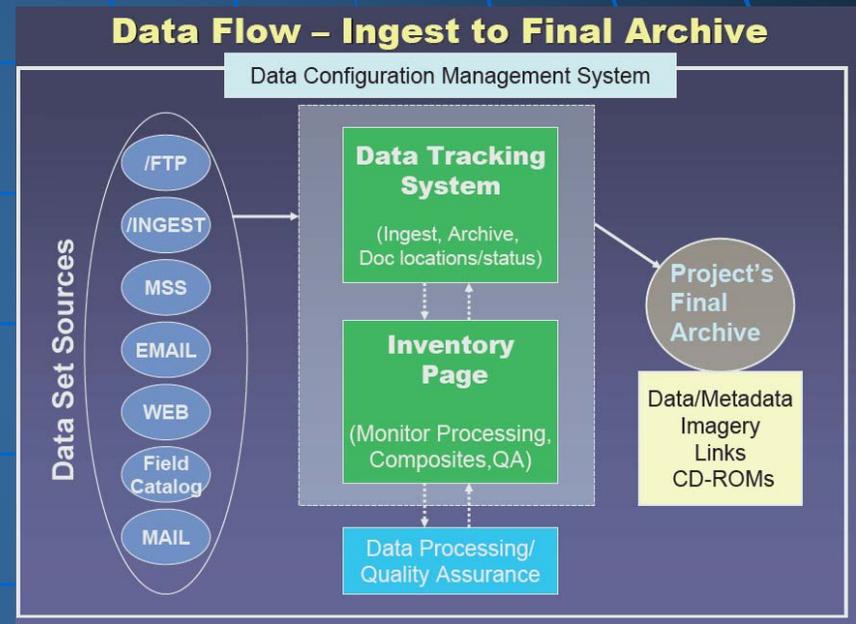
1. **Central Michigan University, Dr. Martin Baxter** - "Enhancing the Use of IDV and GEMPAK in Undergraduate Research and Education at Central Michigan University"
2. **Florida Institute of Technology, Dr. Steven M. Lazarus** - "A Multidisciplinary Computer Lab for Meteorological and Oceanographic Applications at the Florida Institute of Technology"
3. **University of Missouri-Columbia, Patrick S. Market, Anthony R. Lupo and Neil I. Fox** - "Increasing Use of the Integrated Data Viewer (IDV) in the Atmospheric Science Curriculum at the University of Missouri-Columbia"
4. **Plymouth State University, Brendon Hoch** - "Enhancement of Meteorology Technology at PSU"
5. **San Francisco State University, Dr. Dave Dempsey** - "Upgrading SFSU's Weather Graphics and Simulation Laboratory"
6. **University of Utah, Dr. John Horel** - "Enhancing Use of Surface Observations in IDV"

Users Committee Action Item: Unidata should explore seeking additional equipment awards funding from other NSF GEO divisions, due to the broadening efforts and collaborations



Joint Unidata-EOL Seminars

- Unidata and EOL have had two joint seminars over the past three months.
 - Writing NetCDF Files: Best Practices by John Caron and Russ Rew, Unidata
 - Current Data Formats at EOL by Steve Williams,
 - Using Databases in Aeros by Chris Webster
 - Data Access for Remote Sensing Platforms: FORAY by Dennis Flanigan



Linda,

You're a hero! We use netCDF a lot here, even at the undergraduate level, so being able to teach the best practices is a high priority with me.

Thanks,
George (S. Young, Penn. State)



EGU ESSI Division

The screenshot shows the website for the European Geosciences Union (EGU) General Assembly 2007. The header includes the EGU logo, the text "European Geosciences Union General Assembly 2007 Vienna, Austria, 15 – 20 April 2007", and logos for the Austria Center Vienna and Vienna. A navigation menu on the left lists "Home", "Information", "Programme", "Abstract Management", and "Guidelines". A "Special Services" menu on the right includes "Printer-friendly Version", "Bookmark", "Tell a Friend", and "Download Acrobat Reader". A "News" section is also visible. The main content area displays the event title and a photograph of the Austria Center Vienna building with many flags flying in front.

The 2007 General Assembly drew 8037 participants from 90 countries

- ❖ A proposal to start a new ESSI Division within EGU was favorably received. EGU recently approved a standalone program for the EGU 2008 meeting. At least 10 sessions are being proposed on a range of cyberinfrastructure topics.
- ❖ Proposers: Stefano Nativi, Peter Fox, Mike Jackson, Mohan Ramamurthy, Bernard Ritschel, and Charles Barton



LEAD Deployment: Weather Challenge and NOAA Hazardous Weather Test Bed

A limited number of students at 10 universities used the LEAD system during the National Collegiate Forecast Contest (now called the Weather Challenge) in a pilot project this Spring. The goal of this pilot project was to make available LEAD technology to users and enable them to use a high resolution WRF model as a tool in preparing forecast for WxChallenge.

- We learned a great deal from this experience and the LEAD Gateway team has already begun to incorporate user suggestions (and bug discoveries) into the next release of the Gateway.

LEAD was also used by NOAA/Storm Prediction Center to create...

- 10-member ensemble CONUS forecast at 4 km grid spacing
- 2 km CONUS forecast at 2 km grid spacing
- 2 km forecasts launched automatically over tornado watches
- 2 km regional forecasts launched by forecasters on demand



LEAD PIs are planning a visit to NSF on 30 August to discuss the future funding for the project. The PIs will meet with officials in ATM, OCI and CISE. An invited seminar on the project's impact on atmospheric science research and education is scheduled.

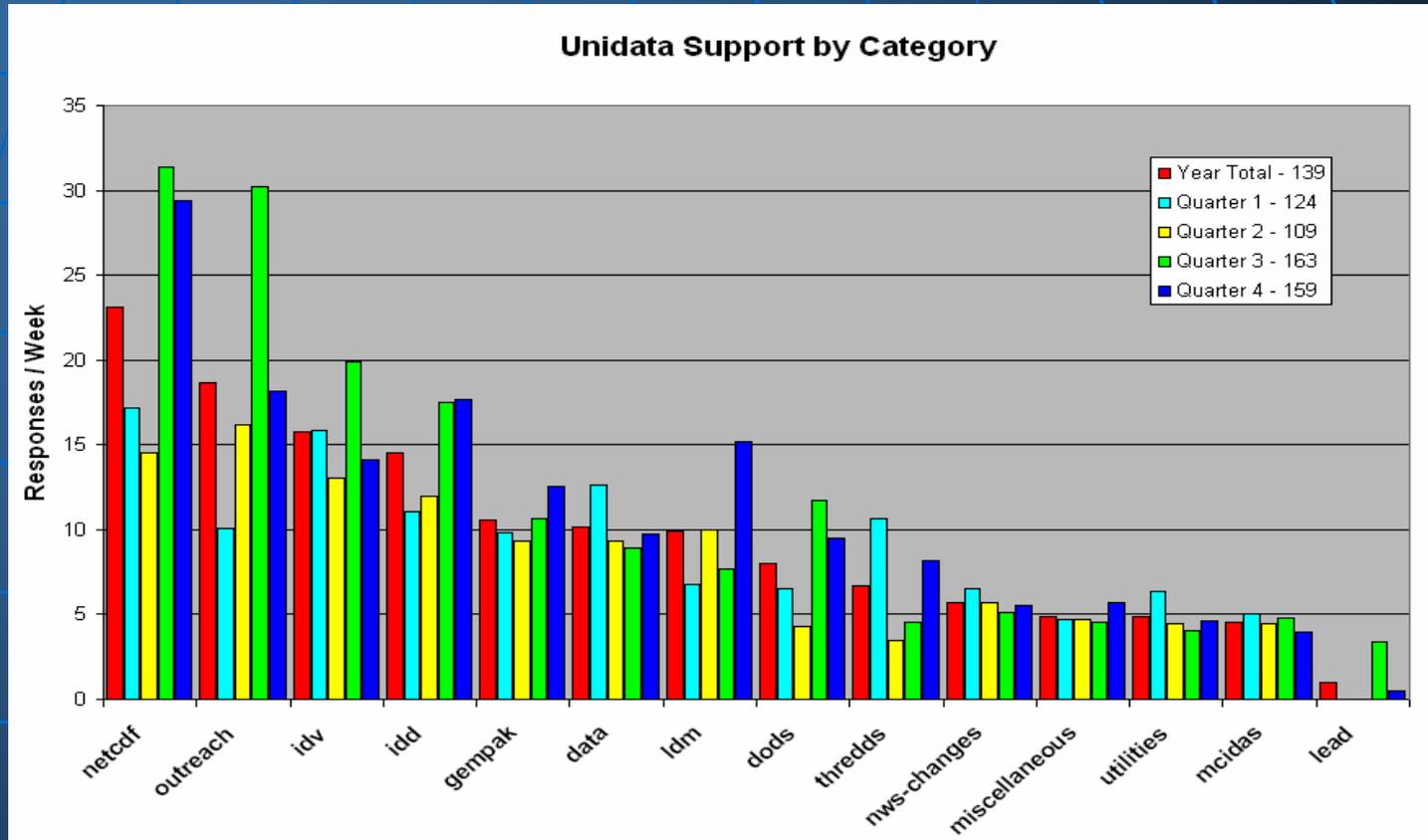
Kelvin Droegemeier and I met with CISL and NCAR management to discuss potential partnerships in the next phase. Specifics details of the collaboration are yet to be worked out.

Tim Killeen: "Please consider NCAR as a supporting center in LEAD's future"



Email Support

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- The total support load at the UPC is high and has grown in the last two quarters.
- Since 26 January 2006, over 7700 user support inquiries (new and follow-ups) were processed through the Unidata inquiry tracking system. The system allows non-UPC experts to assist other community users.



Recent Proposal Activity

1. UPC staff collaborated on two proposals submitted to NSF's Software Development for Cyberinfrastructure solicitation (Domenico and Rew, Co-PIs). It looks like one of those two proposals is likely to be funded. (Still waiting for the "official" word).
 1. Integration of OPeNDAP's software and Data Access Protocol (DAP) with Unidata's netCDF library.
 2. By sharing the Common Data Model, both DAP and netCDF will have interoperable data models.
2. Virtual Operations Center proposal resubmitted to NSF, Murray, Co-PI)
3. NSF NSDL Geosciences Pathway proposal "Bringing Inquiry and Data into Geosciences (BRIDGE) was submitted by ESIP, with Ben as a Co-PI.



FY07 Projected Funding and Expenditures

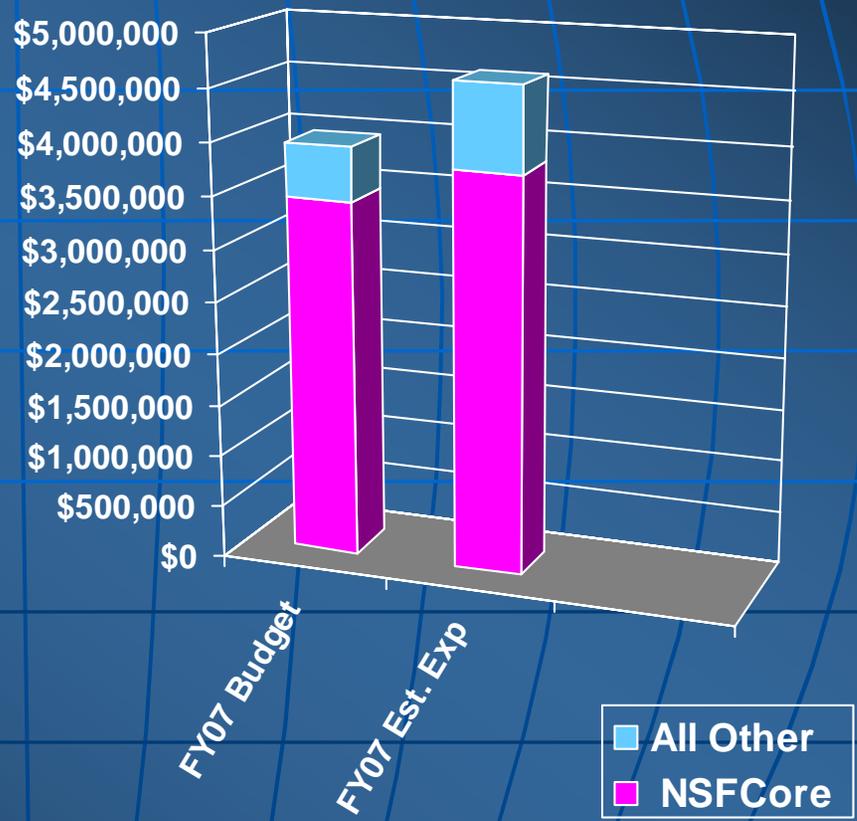
New Funding for 2007

Core: \$3.431M*
Other: \$513K
Total: \$3.944M

Total Expenditures

Core: \$3.807M
Other: \$808K
Total: \$4.615M

*Core funding increase of 4%

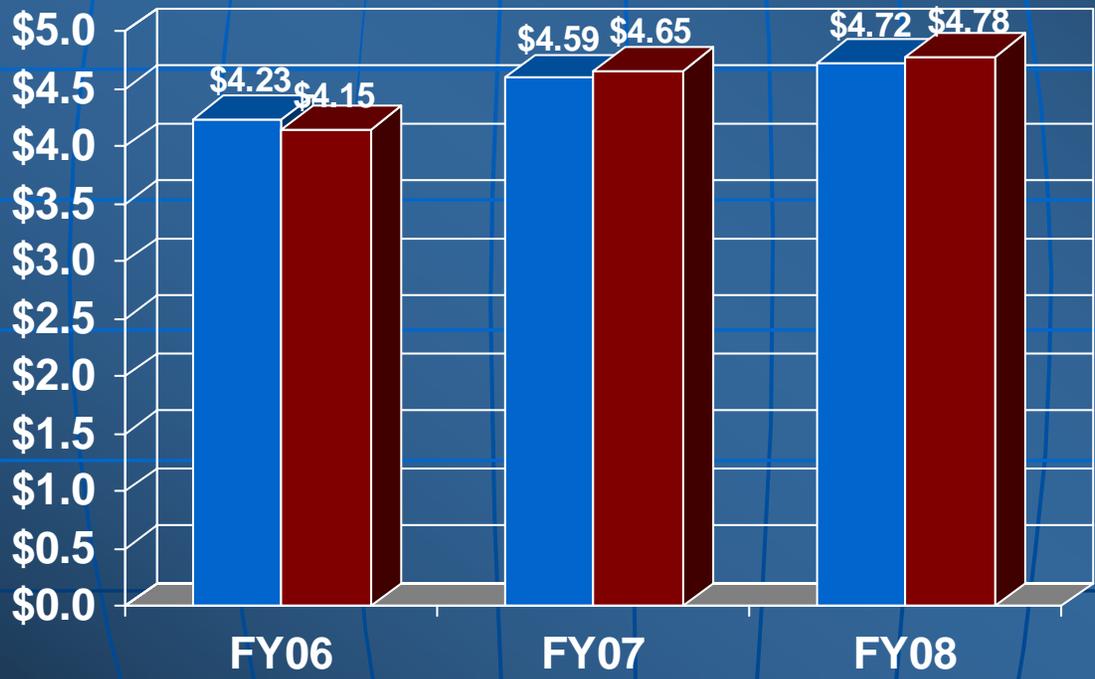




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FY06 – FY08 Budget: Income vs. Expenditures

Millions



Income

Expenditures



Take Away Message

- We ended FY06 close to our projected marks and with a surplus of funds due to some FY07 funding being received late in the fiscal year
- Despite a favorable revision in the new cash management policy, we'll have to continue to spend wisely and stay on top of any outstanding receivables
- A glimpse at FY08 shows that with hopefully an increase in core funding, we should be in a pretty good position to make it through the majority of the award period, which ends 09/30/08, before possibly having to tap into our reserve
- With the current LEAD ITR funding ending in FY08, both our budget and staffing figures will be greatly impacted as we look ahead to FY09
- Another modest increase in FY08 core funding would establish a favorable baseline going into the new award period beginning in FY09



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State of the Program: A Snapshot

- Community relations : Green
- Data flows : Green
- Software development : Green
- Partnerships : Green
- Staffing : Yellow
- Support : Green
- Finances : Yellow

Questions?