Antarctic-IDD
Discussion

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[5]*University of Colorado (UC), Boulder, CO*

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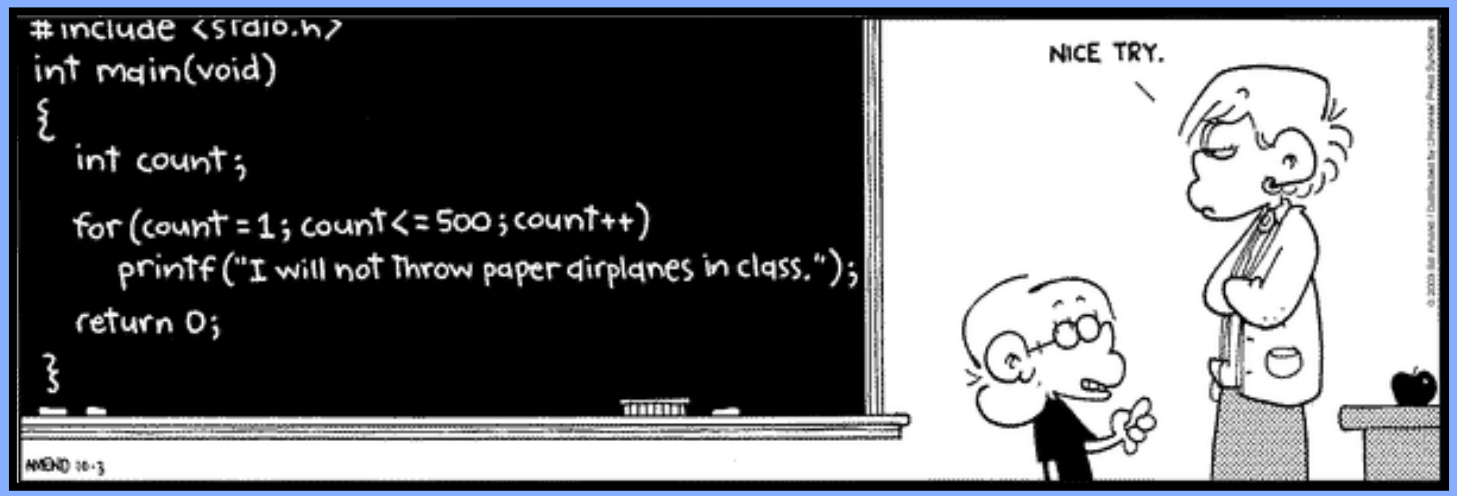
SPAWAR System Center, Charleston, SC

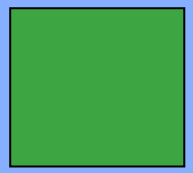
The Antarctic-IDD

- Brief Review
  - Where are we at?
- Topics of Discussion…
  - Outcomes:
    - Action list
    - Time line
  - **ALL** are welcome to join!
- *This is an open discussion - input welcome!*



What is the Antarctic-IDD?

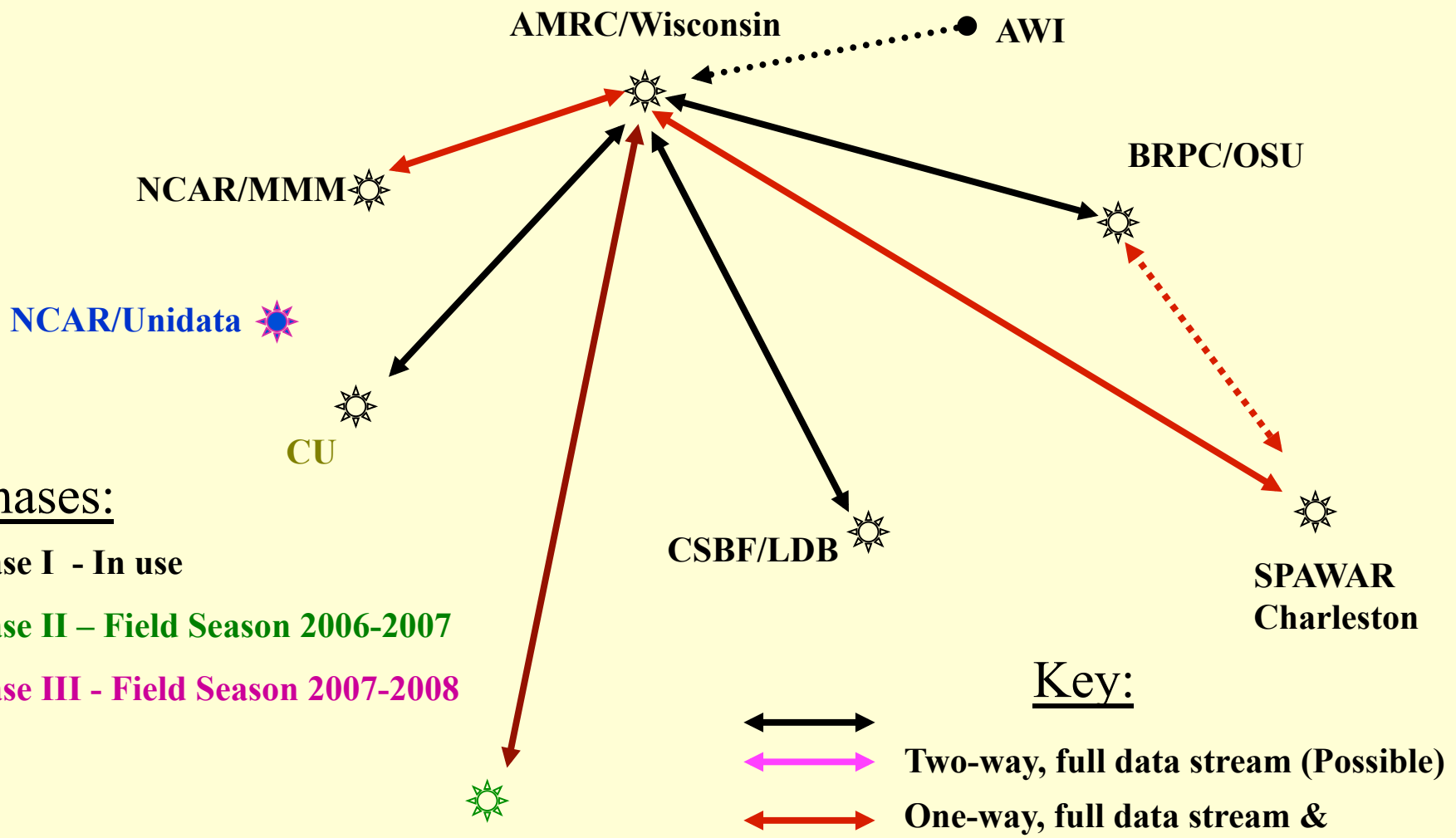
- Started in 2004
- A data exchange network:
  - Utilizing Unidata's Local Data Manager (LDM) software
- Improved method of exchange and availability of Antarctic meteorological data
  - *Redundancy* and *Reliability*
  - Throttling data selection
  - Unix environment
    - Data compression
    - Post data "arrival" jobs
- LDM Freely available
    - "The price is right"
    - Has long term support



- Participants:
  - AMRC
    - At McMurdo
    - At University of Wisconsin -Madison
  - University of Colorado
  - Ohio State/Byrd Polar Research Center
  - SPAWAR
    - At McMurdo
    - At Charleston
  - Columbia Scientific Balloon Facility (NASA)
- Partner:
  - Alfred Wagner Institute

Antarctic-IDD

Status of June 2007



Phases:

Phase I - In use

Phase II – Field Season 2006-2007

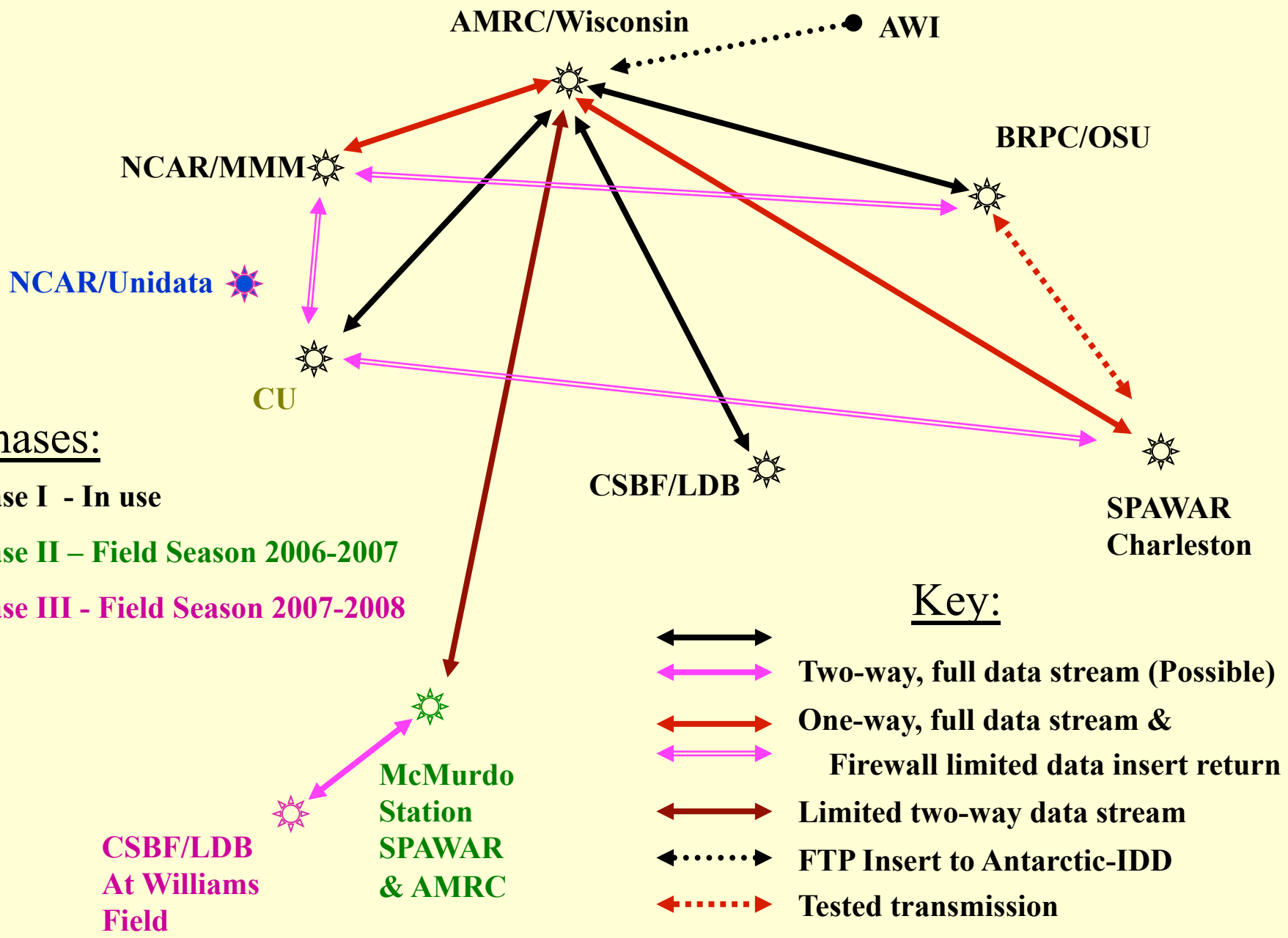
Phase III - Field Season 2007-2008

Key:

- **Two-way, full data stream (Possible)**
- **One-way, full data stream &**
  Firewall limited data insert return
- **Limited two-way data stream**
- **FTP Insert to Antarctic-IDD**
- **Tested transmission**

Antarctic-IDD

Objective 2007-2008



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Topics for Discussion

- Network Topology Robustness & Testing
  - Colorado and Ohio State to be key nodes?
  - CSBF - network improvements?
  - RPSC - added to network?
    - Denver ?
    - Christchurch
  - AMRC - adding Palmer Station by 2008
  - SPAWAR - adding Palmer Station?
  - Adding anyone else to the network?
- Satellite Transmission Format Discussion
  - AMRC still to use McIDAS/SDI format
  - Community usage of TDF still awaiting significant code work by Unidata (and others)
- Adding products to the stream?
- Archive of the data stream?
- Coordination between SPAWAR & AMRC
  - McMurdo: Feeding LDB at Willie Field
  - Palmer: ??

Acknowledgements

- National Science Foundation
  - Atmospheric Sciences (ATM)
  - Office Of Polar Programs (OPP) & US Antarctic Program (USAP)
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  - Grant #OPP-0229645
  - Grant #OPP-0537827
- German Antarctic Program
  - Ralf Brauner, Gert Koenig-Langlo, and Mathias Zoellner

Contact Matthew Lazzara if you wish to join the Antarctic-IDD:

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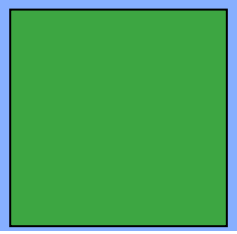
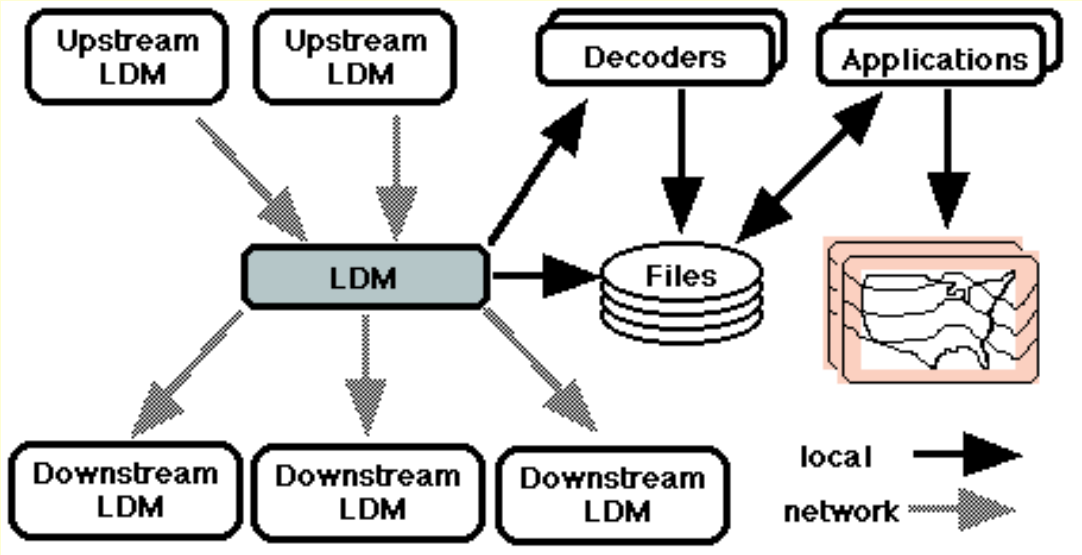


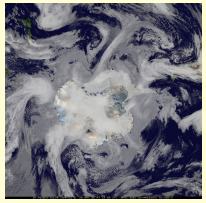
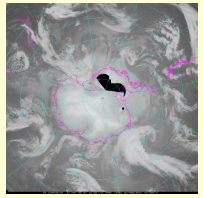
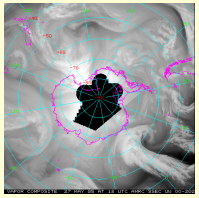
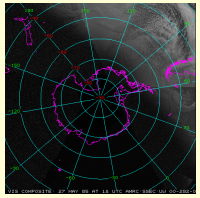
Backup Slides



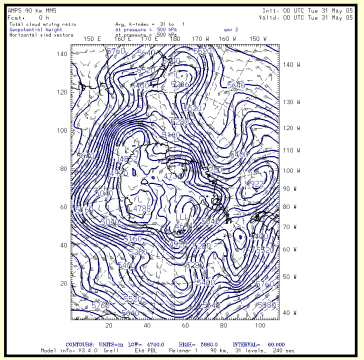
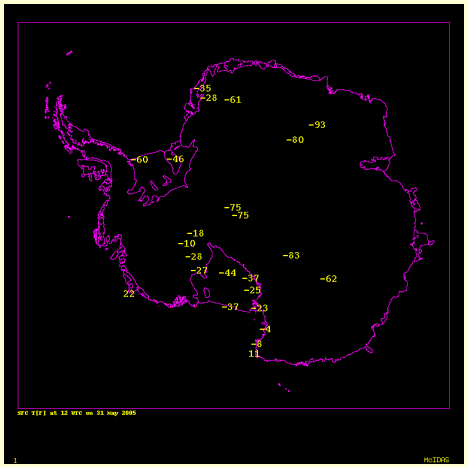
What is LDM?

- Get data from one or more upstream data sources
- Relay data to one or more downstream data sinks
- Store selected data products in local files
- Pass data through local decoder programs
- Freely available software
  - Used by the Unidata community
    - Internet Data Distribution (IDD)
  - Used in private sector, government & internationally

What data are we sharing?

- AMRC
  - Satellite Composites
    - Infrared, Water Vapor, Experimental Visible, and Pseudo-color
  - Automatic Weather Station (AWS) Observations
    - Received at Palmer, McMurdo, Gilmore Creek (AK), & Wallops Island (VA) ground stations
  - Miscellaneous Observations (mixed ASCII/McIDAS format)
    - Aircraft, METAR, Synoptic, Radiosonde, Ship/Buoy, etc.
- NCAR
  - Antarctic Mesoscale Prediction System (AMPS)
    - Hemispheric, Antarctic continental, South Pole, Ross Island, and McMurdo grid domains
- SPAWAR
  - AWS and McMurdo Area Wind Sensor networks
  - Terminal Aerodrome Forecasts
- AWI (Alfred Wegener Institute - Germany)
  - Via FTP to AMRC for insertion into the Antarctic-IDD
    - Radiosonde and Synoptic data from Neumayer Station

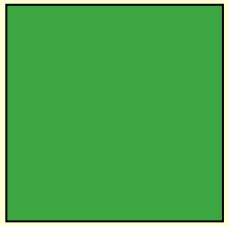



File Naming Convention

- Using the experimental (EXP) data feed in LDM
  - Issue with need to share feed with other data flows
- Hence file names are prefixed as:

  USAP.Center.Data.Day.Time.etc.etc.

  - USAP = Antarctic-IDD product prefix
  - Center = Originating group or source
    - e.g. AMRC, NCAR, SSCC, etc.
  - Data = Type of Data
    - e.g. AWS, Composite, GRIB, etc.
  - Day, time, model level, forecast hour, spectral band, etc.
- Test model for the Unidata community
- Least specific to most specific



"Scientific endeavor in Antarctica distinguishes itself from similar activities in other parts of the world by the auspicious development of friendly and fruitful international cooperation on a broad base… international understanding again and again has been an important stimulus as well as a fortunate by-product of scientific work of Antarctica.

May it continue to be so."

W. Schwerdtfeger, 1970

World Survey of Climatology