

# **ARM Aerial Vehicles Program Current Status March, 2007**

**Jim Mather, Interim Technical Director**



# ARM Aerial Vehicles Program (AVP) Objectives

- ARM AVP is an integral measurement capability of the ARM Climate Research Facility
- Building from the ARM UAV Program to provide key climate measurements using aerial platforms
- Science driven aerial missions will provide in situ and remote sensing measurements for campaigns and extended routine flights
- Enhance the utility and information content of long term measurements of the climate<sup>[1]</sup>
- Improvement of ground based measurements
  - Retrievals
  - Spatial Representation
  - Testing and Evaluation of Models



[1] McFarquhar, G. 2006. The Development of a Routine Observational Program with Piloted and Unpiloted Aerospace Vehicles: New Directions for ARM UAV

<http://www.atmos.uiuc.edu/~mcfarq/avpp.whitepaperoverview.pdf>

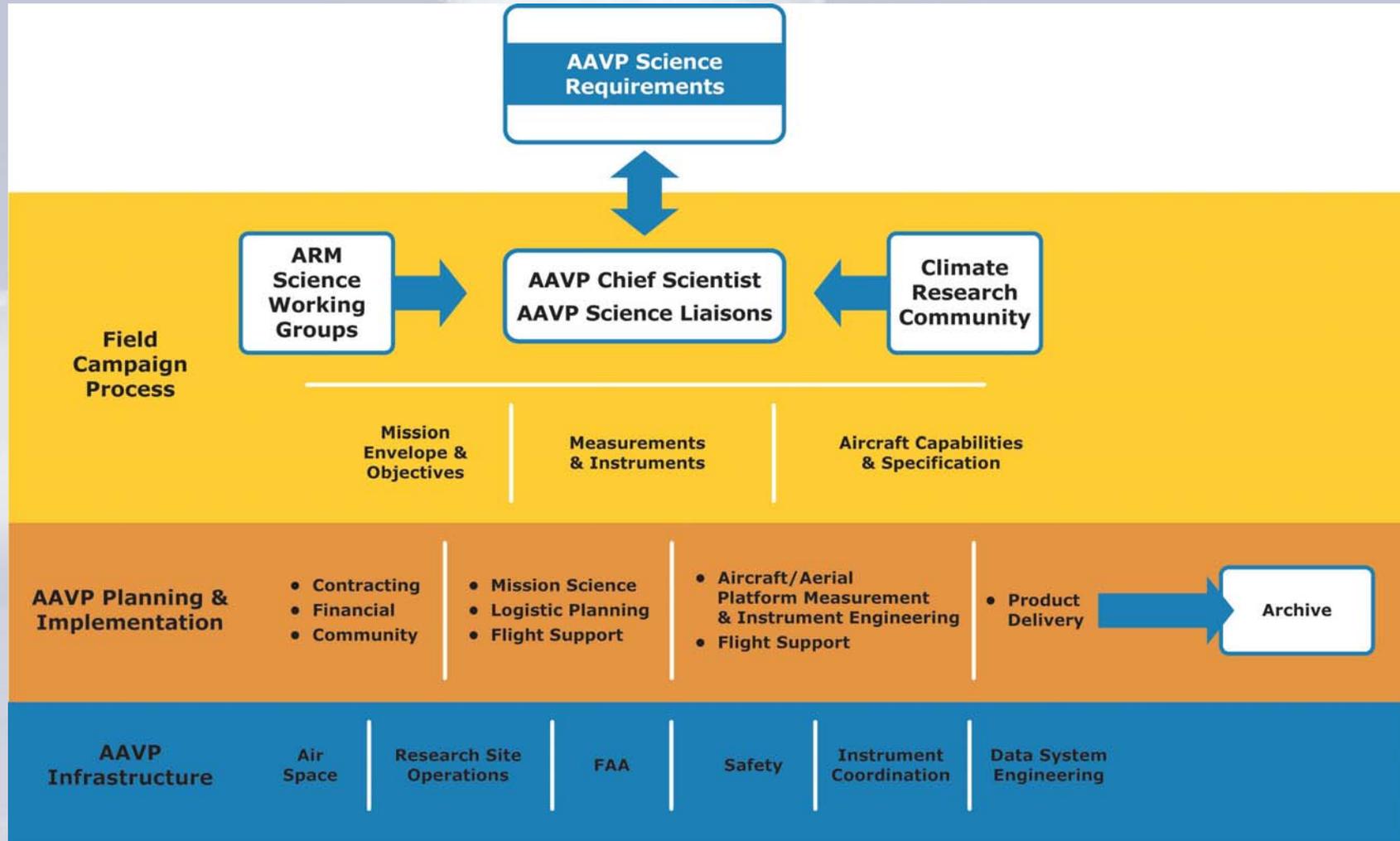
# What is AVP?

- AVP does not own an aircraft. Contracts are arranged for aircraft to meet diverse ARM requirements.
- AVP is the team that coordinates aircraft operations for ARM.
- AVP does own a set of instruments that may be used to augment a suite of instruments in a given campaign.

# AVP Contacts

- Rick Petty Program Manager
- Jim Mather Interim Technical Director
- Greg McFarquhar Chief Scientist
- Beat Schmid Science Liaison

# AVP Program Integration

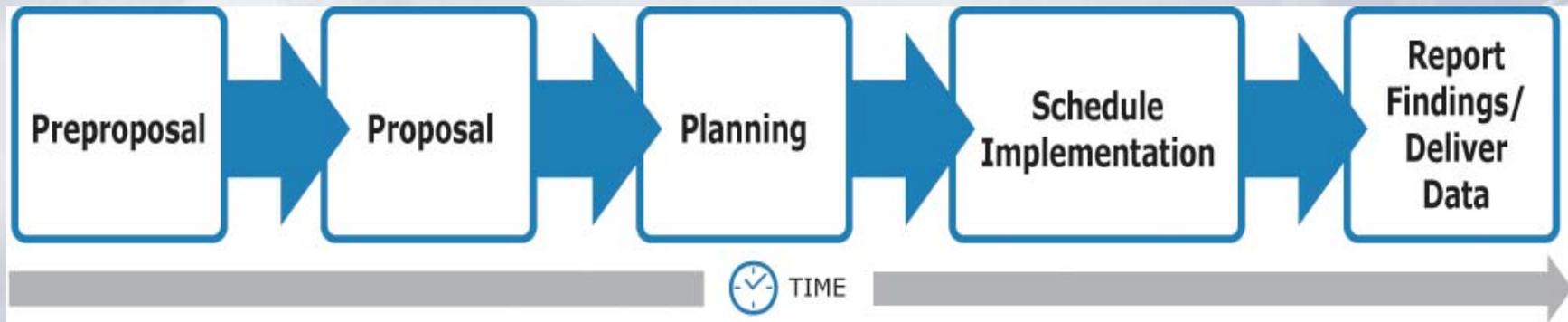


# Mission Planning-Coarse Steps

- Mission Requirements
- Measurement and Aircraft Specifications
- Cost Analysis
- Instrument, Aircraft and Integration Options
- Contracts and Acquisitions
- Experiment Planning (Mission Profiles, Safety and Meteorology)
- Flight Mission and Ground Support
- Flight Mission Report
- Data Product Review, Analysis, Quality Assurance, and Archival

# AVP Mission Requests

Use existing ACRF Field Campaign and Intensive Operational Period Processes



*“[www.arm.gov/science/fc.stm](http://www.arm.gov/science/fc.stm)”*

# Program Planning-Immediate Goals

- Organize FY2007 AVP Plan; Program, Science and Infrastructure
- Support FY2007 Flight Mission (CLASIC)
- Support FY2008 Flight Mission(s) (ISDAC)
- Coordinate and Integrate with ACRF Activities
- Evaluate proposed missions for FY2009

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# CLASIC

## Cloud Land Surface Interaction Campaign

- June 9-30, 2007, at the SGP site
- 7 aircraft
  - **ACRF/AVP**; ER-2, CIRPAS Twin Otter, Cessna 206
  - **ASP**; G-1, King Air (Hostetler)
  - **NASA**; Bell Helicopter, Twin Otter
- Flight science planning meeting, February (Beat Schmid lead)
- Flight mission coordination meeting, May



# ISDAC

## NSA Indirect and Semi-indirect Aerosol Campaign

- April 2008, North Slope of Alaska
- Planning collaboration with Environment Canada to use the National Research Council Canada Convair 580



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- **Coordinate and Integrate with ACRF Activities**
- **Evaluate proposed missions for FY2009**

Thank you !

<http://www.arm.gov/sites/avp.stm>