

Tropospheric Airborne Meteorological Data Reporting (TAMDAR) System

PROGRAM/PROJECT: Aviation Safety Program/Weather Accident Prevention Project
[http://awin.larc.nasa.gov/tamdar_abs1.htm]

LEAD AGENCY/COLLABORATING AGENCIES: National Aeronautics and Space Administration (NASA), Federal Aviation Administration (FAA), NOAA Forecast Systems Lab (FSL), NOAA National Centers for Environmental Prediction (NCEP), and NOAA National Weather Service (NWS).

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SERVICE AREA(S)/INITIATIVE (S)

- *National Aviation Weather Initiatives:*
3: 2, 5, 6 5: 4, 6, 9 7:1

FUNDING

- *Programmed/Planned (\$'s/FY):* \$500K/FY03 \$1.2M/FY04 \$400K/FY05

TYPE OF PROGRAM/APPLICATION:

R&D/Product Development

SCOPE OF PROGRAM/PROJECT

- *What's being developed, procured, etc:* A sensor package for aircraft flying below 25,000 feet to measure temperature, pressure altitude, relative humidity, wind speed and direction, turbulence, and ice accretion.
- *How will operations be changed/improved:* Data will be automatically transmitted to the ground for use in weather analyses and forecasts.

PROGRAM/PROJECT MANAGEMENT

- *Basic guidance document for this program:* NASA AvSP/WxAP/AWIN Level III Plan; NASA/FAA/NOAA Operational Concepts for Applications of Aircraft Derived Meteorological Information.
- *Program/Project verification process:* Weather Accident Prevention Project Reviews, NRC Review, Industry Review, NASA-FAA-NOAA Tri-Agency Coordination Team.
- *Method used for product validation:* Utilize ground test facilities and instrumented aircraft to conduct ground and flight tests for sensor verification.
- *Operational training for the user:* TBD

SCHEDULE/IMPLEMENTATION

- *Next major program milestone:* 2004 – In-Service Evaluation to test end-to-end system with regional airline in Great Lakes region; ingest data into RUC forecast model; use data to generate local forecasts.
- *Program becomes operational:* 2005 - AirDat to equip other regional airlines and package carriers.
- *Plans for further improvements:* Human Factors research for cockpit display of TAMDAR data