

A Vision for EOL's Research Aviation Facility

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Vision Statement:

EOL's Research Aviation Facility serves as a national resource for the advancement of airborne research in the geosciences. It fulfills this role by:

- Supporting the mission of NCAR and its Earth Observing Laboratory.
- Conducting fundamental airborne measurements of broad interest to the geosciences community.
- Leading the development and improvement of our nation's airborne measurement capabilities in the geosciences.
- Supporting the specialized needs of the NSF lower atmospheric research programs.
- Leading the development of safety standards for airborne research operations in unusual flight weather conditions.
- Providing unique educational opportunities in observational geosciences.

Background: the context for the vision and mission of the Research Aviation Facility.

The Research Aviation Facility was formed in 1964 in response to a National Aircraft Facility Survey¹. This survey concluded that such a facility must (a) satisfy the strong need for a centralized source of information, advice, liaison, and training concerning aircraft for atmospheric research and (b) it must also fulfill the operational function of instrumenting and flying aircraft in support of atmospheric research. The facility acquired its first aircraft, a Beechcraft Queen Air (N303D) in August 1964 for a cooperative program between NCAR's Laboratory for Atmospheric Science and the University of Wisconsin. It was named the Research Aviation Facility in the fall of 1965 and established a base at Jefferson County airport in the same year. The present old RAF hangar was acquired in December of 1970. The original mission of the Research Aviation Facility was to provide:

1. An operating flight group designed to support the internal needs of NCAR programs and the expanding needs of the general scientific community.

¹ An Aviation Research Facility for the Atmospheric Sciences, Report of the NCAR National Aircraft Facility Survey Group, Robert A. Ragotzkie, Chairman, NCAR Technical Note 64-1.

2. A systematic exchange of information within the scientific community concerning the aircraft and instrumentation being used in atmospheric research, and assistance in arranging for the cooperative use of available aircraft flight time and payload space.
3. Technical assistance to the community in developing aircraft instrumentation and data recording/reduction systems.
4. Liaison between the community and federal regulatory bodies—such as the FAA and the FCC—emphasizing the needs of scientists in a time of growing restrictions on airspace and frequency assignments.
5. Cooperative training programs providing a locale and facilities for summer programs in which graduate students in the atmospheric sciences may participate.

In the 40+ years since its formation, the Research Aviation Facility has been true to its original mission, which remains surprisingly relevant to the needs of today's scientific enterprise. In fulfilling that mission, the facility became a leading center for such areas as the airborne measurement of turbulence and the installation of sophisticated instrumentation, such as the ELDORA radar, on research aircraft. These accomplishments have played, and continue to play, a critical role in the atmospheric sciences. Literally thousands of students have flown on NCAR aircraft and many of them have established their scientific careers based on data acquired from NCAR aircraft.

Because of the acquisition of the HIAPER aircraft, the recent reductions in the national research aircraft fleet, and a severe lack of observationally trained scientists, today there is an even greater need for a national center such as EOL's Research Aviation Facility. The new vision statement recognizes this leadership role in areas that have traditionally been the strengths of the Facility. By reference to geosciences rather than just atmospheric sciences, we recognize the commitment of the Earth Observing Laboratory to the NCAR goals of studying the earth as a system through multidisciplinary scientific collaborations.