

---

# NON-NSF FUNDING AT NCAR IN FY 2004

---

## **Report to the University Relations Committee**

---

---

# NON-NSF FUNDING AT NCAR IN FY 2004

## Report to the University Relations Committee

September 12, 2005

### Introduction

This report summarizes NCAR's expenditures of non-NSF funding in FY 2004 and the preceding four years. In FY 2004, total NCAR spending for science and facilities amounted to \$154.7 million; NSF funds amounted to \$103.5 million or 67% of the total while non-NSF sources accounted for the remaining \$51.2 million or 33%. That portion of NCAR expenditures supported by non-NSF funds is described below in the three project categories used in past reports: "major," "facilities," and "scientific." The definitions of these categories can be found on page 8.

### Criteria for Approval of Non-NSF Funding

Beginning in mid-FY 1993, UCAR began using a more specific and extensive set of criteria for assessing proposals seeking additional non-NSF funding for the National Center. These criteria are intended to ensure that non-NSF funded activities are appropriate to the mission of NCAR, and that such funding is not obtained through unfair competition with universities.

The criteria have been incorporated into internal policies and procedures for the development of NCAR proposals. These policies, procedures, and guidelines regarding NCAR proposals for non-ATM funding reflect requirements of the NSF/UCAR Cooperative Agreement, improvements recommended by the University Relations Committee (URC), and internal refinements. The final criteria, approved by all reviewers, including NSF-ATM and the URC, are listed below.

---

## Criteria for Proposals for Non-NSF Funded Activities

The first two criteria **must** be met in all cases.

1. Explain why the proposed activity is appropriate for the University Corporation for Atmospheric Research and supports its mission and research objectives. This means that it must support the research, facilities, education and/or leadership objectives of UCAR and be supportive of and complementary to the university atmospheric and related scientific community. Describe the reasons for seeking outside funds.
2. Explain why the activity does not compete unfairly with the universities. An example of unfair competition would be a proposal that takes advantage of NCAR's facilities in a way that is not available, at NCAR or elsewhere, to the typical university investigator.

At least one of the next two criteria **must** be met in all cases.

3. Explain how the proposed activity would involve significant and meaningful collaboration involving NCAR and university colleagues, and/or provides direct support for students, visitors, education-related activities, or community workshops. (If the proposed activity does not involve collaboration with universities, explain why not.)
4. Explain how the proposed activity would contribute to the development or support of community facilities, community models, or other community projects (such as field programs), or would provide a transfer of NCAR-developed technology or expertise to the community, and as such would have demonstrable benefit to the community.

The next criterion must be met and described to justify proposed cosponsorship.

5. Explain how the activity would support and enhance the regular NSF-sponsored UCAR program, thereby leveraging regular NSF resources. Describe the impact the activity will have in the NSF-sponsored program and UCAR computing and/or observational facilities. Describe and justify any NSF-cosponsorship and be specific and cosponsorship of facilities. Remember incremental facility use, specific to the proposal, will be charged to the funding agency, unless the proposed activity directly supports an ATM area and ATM approves full or partial cosponsorship.

The recent review panel for UCAR found these criteria to be an excellent means for evaluating non-NSF projects.

## URC Review of Proposals to Non-NSF Funding Sources

Beginning in 1993, a URC subcommittee was appointed to conduct a bi-annual review of documentation for all NCAR Non-NSF proposals submitted within the previous six months. This review process has continued and provides a method by which the URC verifies NCAR's compliance with the criteria. To date, various concerns have been voiced, but ultimately most proposals have been found to be compliant with the criteria. In 2000, the URC subcommittee agreed to review only those proposals over \$50,000 and in 2001, the URC subcommittee reduced oversight to an audit of randomly selected proposals. In 2004, the subcommittee restricted review to proposals over \$100,000.

### Trends in Non-NSF Funding at NCAR

Table 1 and Graph 1 demonstrate trends in NSF and non-NSF funding at NCAR from FY 2000 through FY 2004 and FY 1978 through FY 2004 respectively. Note that all dollar amounts are based on expenditures, rather than funds received. Expenditures are a better measure of the amount of non-NSF work being carried out by NCAR because funds received vary significantly from year to year due to different periods of performance and award terms. The data reveal that the percentage of non-NSF expenditures to total NCAR expenditures has remained close to the five-year average of 31%.

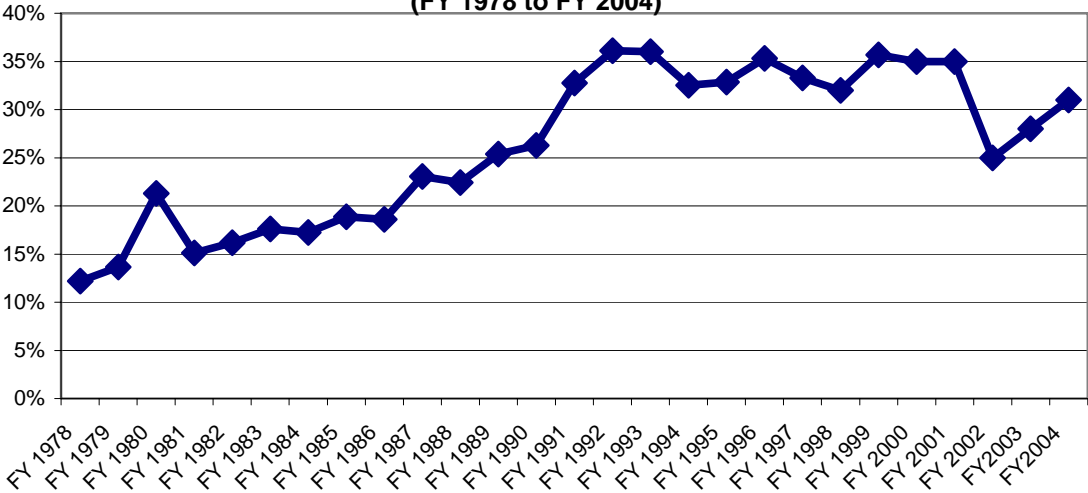
**Table 1.**  
**Actual Non-NSF Funds as Percent of NCAR Funding**  
**FY 2000 to FY 2004**

<b>Fiscal Year</b>	<b>Total Non-NSF Expenditures</b>	<b>NSF Expenditures</b>	<b>Percent Expenditures Non-NSF</b>
<b>2000</b>	\$37,452.0	\$69,558.0	35.0%
<b>2001</b>	\$36,278.3	\$67,266.5	35.0%
<b>2002</b>	\$40,044.9	\$117,577.2	25.0%
<b>2003</b>	\$41,537.2	\$107,012.8	28.0%
<b>2004</b>	\$40,527.5	\$88,887.0	31.0%
<b>Five-Year Average</b>	\$39,168.0	\$90,060.3	31.0%

Expenditures for the new HIAPER aircraft greatly increased NSF expenditures on a short-time basis in FY 2002 and FY 2003, drastically dropping the percentage of Non-NSF expenditures as a portion of all NCAR expenditures. It is expected that in FY 2005 this figure will

continue to come back to around 35%. In FY 2002, the percentage of Non-NSF expenditures would have been 34% if HIAPER expenditures are not included. In FY 2003, the percentage would have been 30.6%. Non-NSF expenditures have remained consistently around 35% of all NCAR expenditures since FY 1991.

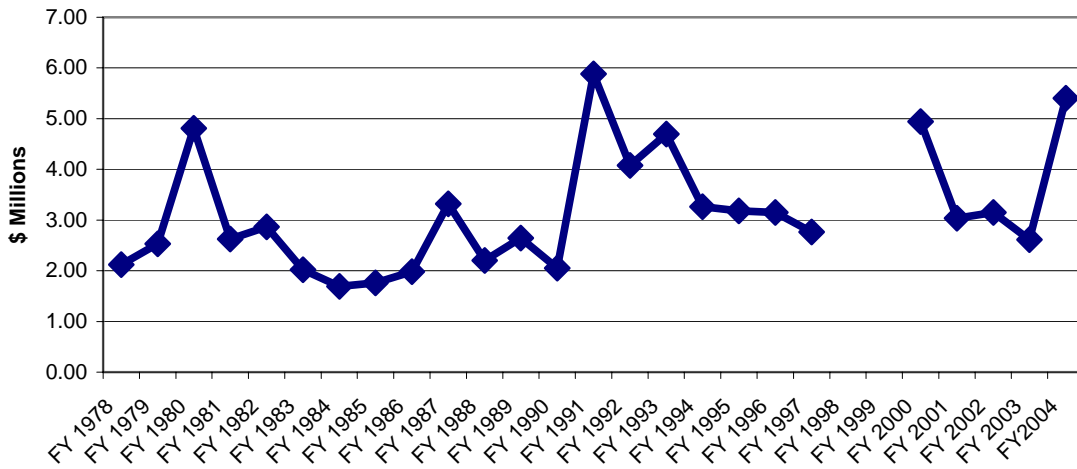
**Graph 1. Non-NSF Expenditures as a Percentage of All NCAR Expenditures (FY 1978 to FY 2004)**



University Collaborations

A portion of these expenditures are not spent at NCAR, but are passed on to university subcontractors. In FY 2004, over \$5 million was passed along to universities as a result of cooperative proposals. Since FY 1978, well over \$78 million have passed through NCAR en route to university researchers.

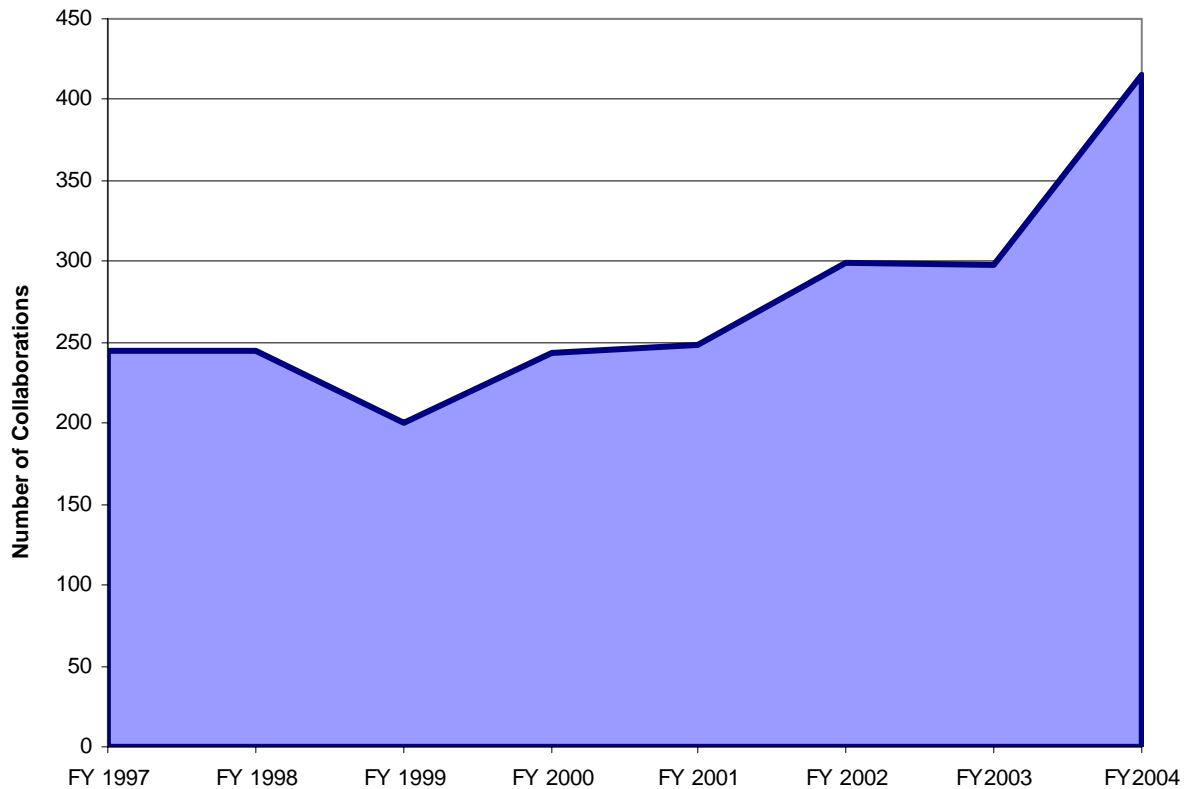
**Graph 2. NCAR Non-NSF Funding Flowing to Universities**



Unfortunately, an accounting change makes the figures for FY 1998 and FY 1999 unavailable, so these are not included. Because these pass through funds are project-specific, they are liable to fluctuate as projects (particularly major projects) begin and end. NCAR provided funding to universities as varied as the University of Quebec at Montreal, the University of Oklahoma and the University of Colorado at Denver.

Beginning in 2001, NCAR experienced a slight drop in pass-through funding, largely as a result of Federal policy discouraging such arrangements in favor of collaborative proposals. In FY2004, 76% of all NCAR proposals submitted were collaborative in nature, meaning that NCAR submitted a proposal in parallel with a University and that neither was a subcontractor or subawardee. It seems reasonable that we will see this continue in the future as federal agencies have found this to be a way of reducing overhead.

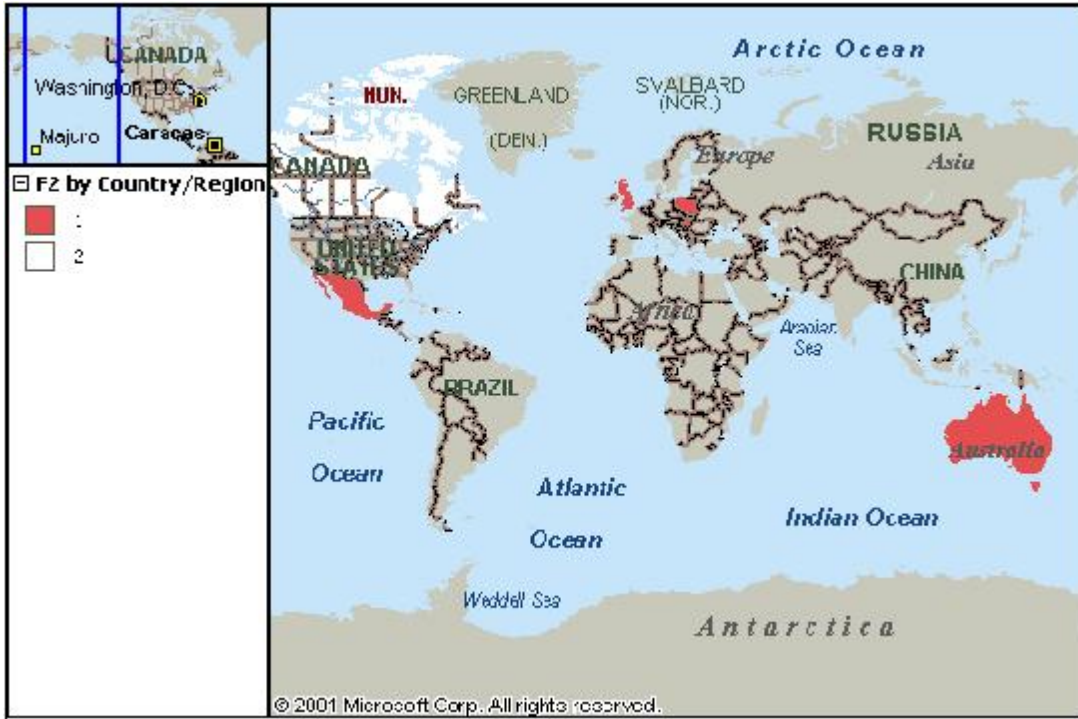
**Graph 3. University Collaborations**



NCAR saw a large increase in the number of verified university collaborations this year, up 39% to 415. NCAR has maintained a high level of university collaborations over the last five years, approaching 250 university collaborations on non-NSF proposals in every year except FY1999. Over the past six years, the geographic spread of these collaborations is diverse, reaching 47 states and Puerto Rico. (NCAR did not have a documented collaboration in Arkansas and West Virginia). NCAR collaborates most frequently with universities in Colorado, California and Massachusetts. In addition to geographic diversity, NCAR seeks opportunities to reach out to ethnically diverse universities as well; NCAR has collaborated with three Historically Black Colleges and Universities (HBCU) and a Latino Serving Institution (LSI).



**Map 2. NCAR's International University Collaborations by Country for FY 2004**



country	Collaborations
Australia	1
Canada	2
Hungary	1
Mexico	1
Poland	1
UK	1

Classification of NCAR Non-NSF Funds

Table 2 and Graph 4 show trends in non-NSF funds based on the three classifications of "major," "facilities," and "scientific" projects. This classification permits more direct comparison with university programs and consideration of issues concerning support of the community or unfair competition.

In FY 2004, 51% of non-NSF expenditures were for major projects. These projects involve large field efforts or the development of major hardware such as satellite instrumentation or other large group efforts. Examples of major projects are the Research Application Laboratory's FAA Juneau, Alaska airport project and construction of a new hangar for the HIAPER aircraft.

In FY 2004, 10% of non-NSF expenditures were for facility projects. These are projects directed toward the development, acquisition, or deployment of community facilities - either observational or computational. Examples of this include large-scale facility upgrades like the Earth Observing Laboratory's Nexrad project, as well as development of the S-Pol radar and an investigation into workflow in digital libraries at the Scientific Computing Division.

In FY 2004, 39% of non-NSF expenditures were for scientific projects. These projects typically involve smaller efforts, often directed toward specific scientific questions or approaches. The projects augment the Base Program of NCAR and NSF through support staff, visitors, and equipment and support the community through participation in community field programs and community model development and validation.

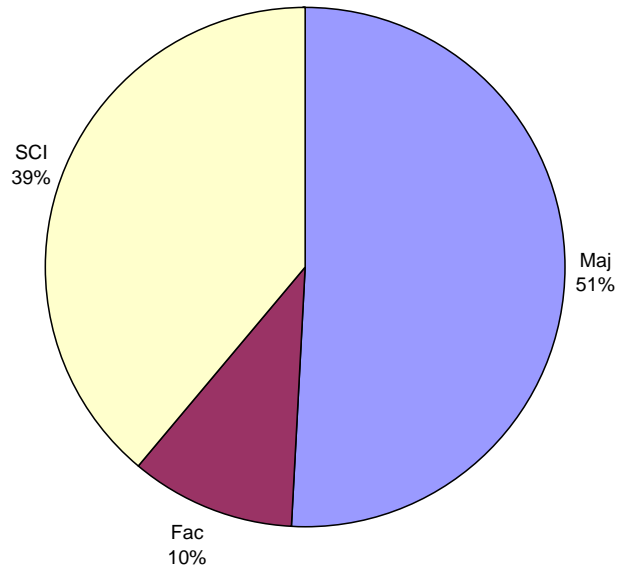
**Table 2.**  
**Non-NSF Core Expenditures by Type (\$Thousands)**  
**FY 2003 and FY 2004**

<b>Type</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>Change</b>	<b>% Increase</b>
<b>Major Initiatives</b>	\$32,542	\$26,865	(\$5,677)	-17.5%
<b>Facility</b>	\$2,894	\$5,453	\$2,559	88.4%
<b>Science</b>	\$17,591	\$20,547	\$2,956	16.8%

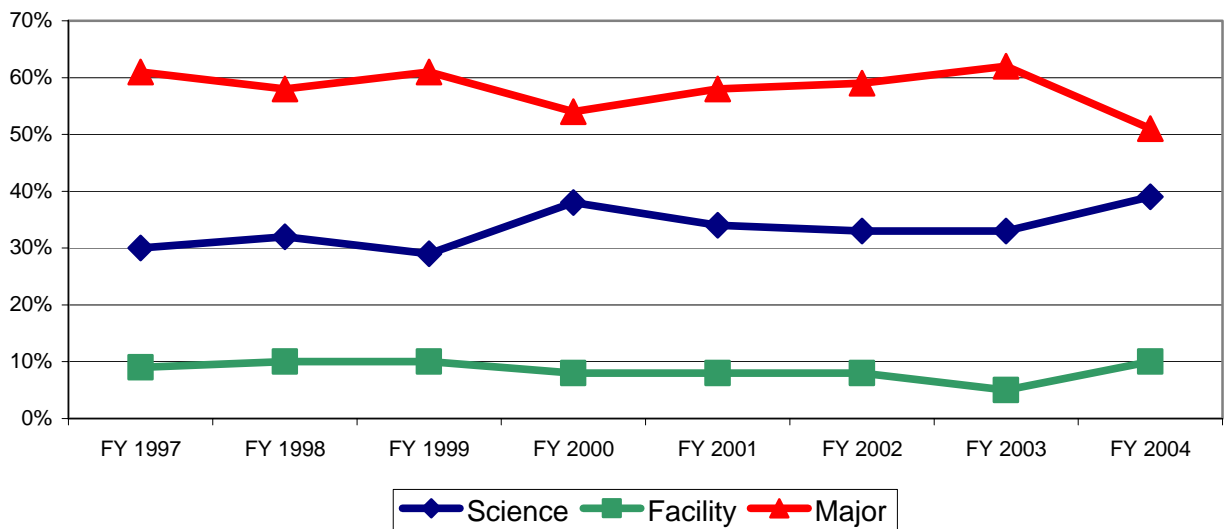
Expenditures for Major Initiatives were greater in FY03 because of the purchase of the HIAPER Airframe.

Graph 4.

### Expenditures by Type FY 2004



Graph 5. NCAR Non-NSF Expenditures by Project Type



Non-NSF funds augment the NCAR's research and facility programs and enable extensive university collaborations. Frequently these non-NSF projects involve other federal agencies on work that is already part of NCAR's research agenda and at other times these projects allow NCAR scientists to engage in new, related areas of interest.