

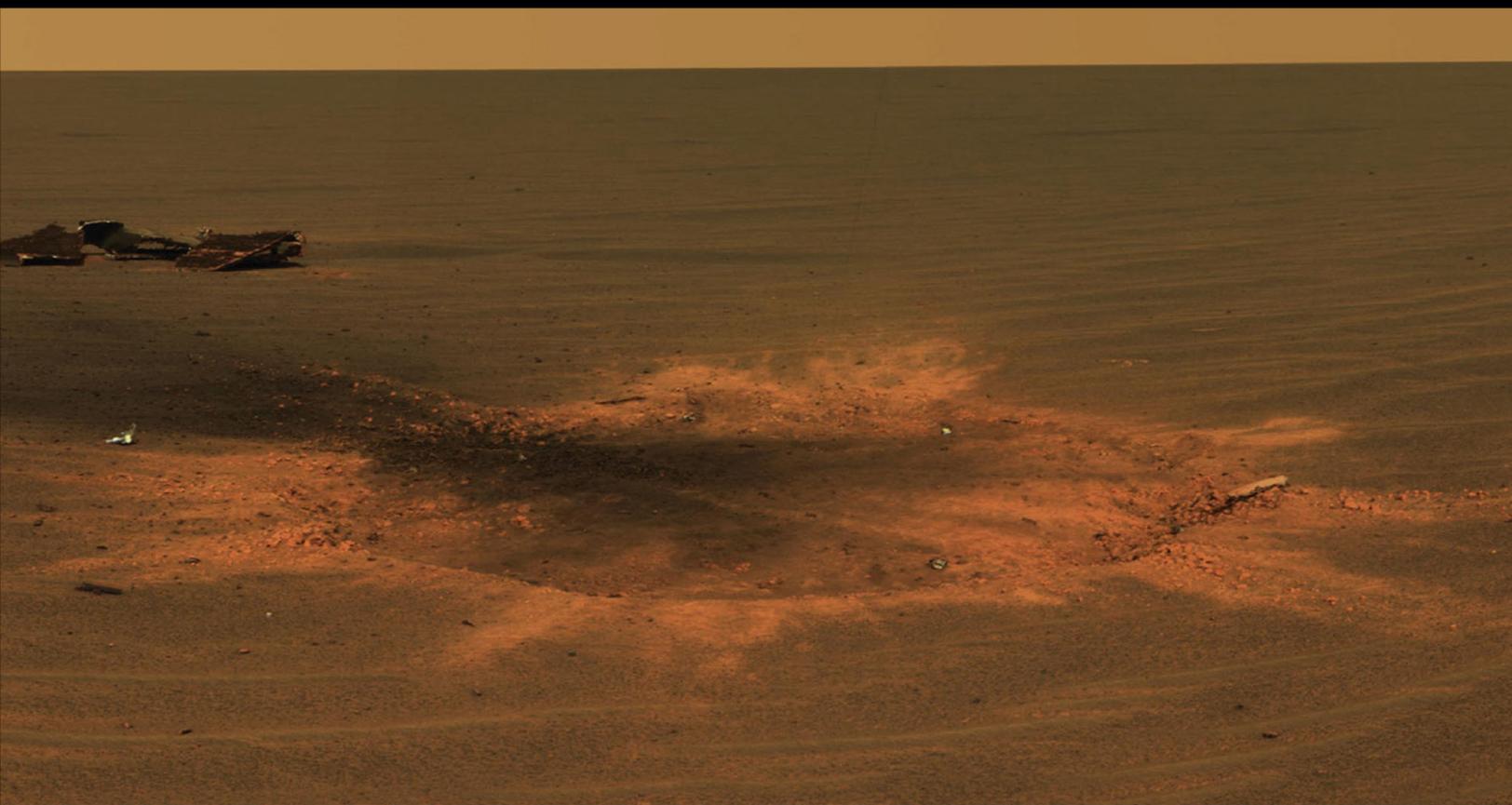


National Aeronautics and
Space Administration

NASA Tribal Colleges and Universities Program

Fiscal Year 2004 Annual Performance Report

NASA Awards to Tribal Colleges and Universities



NASA Tribal Colleges and
Universities Program

**Fiscal Year 2004
Annual Performance Report**

to the

**White House Initiative on
Tribal Colleges and Universities**

April 2005



National Aeronautics and Space Administration
Office of the Chief Education Officer

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Performance Report: Fiscal Year 2004

NASA Awards to Tribal Colleges and Universities

A. Executive Summary

Fiscal Year (FY) 2004 was a banner year in the history of the National Aeronautics and Space Administration's (NASA's) support for Tribal Colleges and Universities (TCUs). The Agency awarded a cooperative agreement worth \$7 million over five years to the American Indian Higher Education Consortium (AIHEC). Under this cooperative agreement, AIHEC will strengthen the delivery and management of NASA-sponsored science, technology, engineering, and mathematics programs (STEM), recruit participants for training opportunities, strengthen the capacity of TCUs to provide a quality learning environment, and increase opportunities for TCUs to participate in NASA and other Federal programs. A portion of this funding will facilitate TCUs in implementing engineering or pre-engineering degree-granting programs; no 4-year engineering degree-granting program existed at a TCU as of FY 2004.

Total NASA TCU funding for FY 2004 was \$3,636,371, which exceeded the Agency goal of \$3.5 million by more than \$100,000 and represented an increase of more than \$300,000 over the previous fiscal year. Another significant event for NASA's partnership with TCUs was a conference held at the NASA Jet Propulsion Laboratory (JPL) in Pasadena, California. Representatives from TCUs met with NASA Center personnel to discuss future opportunities. A TCU presidents' roundtable at that event gave NASA the opportunity to hear about TCU priorities directly from the leadership of those institutions.

Background

In January 2004, President George W. Bush unveiled a new vision for space exploration, calling on NASA to "gain a new foothold on the Moon and to prepare for new journeys to the worlds beyond our own." In a speech at NASA Headquarters in Washington, DC, the President said that the "new course for America's space program" would give NASA

a new focus and clear objectives for the future. “We do not know where this journey will end,” President Bush said, “yet we know this: Human beings are headed into the cosmos.”

To carry out the vision for space exploration, NASA has reorganized what were formerly Strategic Enterprises into four Mission Directorates: Exploration Systems, Space Operations, Science, and Aeronautics Research. The Exploration Systems Mission Directorate sets priorities and directs the identification, development, and validation of exploration systems and related technologies. Users and technologists work together to enable a balancing of factors between requirements, program schedules and costs. The Space Operations Mission Directorate provides many critical enabling capabilities that make possible much of the science, research, and exploration achievements of the reset of NASA. Its themes are the International Space Station, the Space Shuttle program, and Flight Support. The Science Mission Directorate focuses on the scientific exploration of the Earth, Moon, Mars, and beyond, seeking answers to questions about the evolution of planetary and biological systems, the search for Earth-like planets and habitable bodies around other stars, and the fundamental structures of the universe. The Aeronautics Research Mission Directorate reflects NASA's commitment to aviation research and aeronautics technologies for the Nation's civil and defense interests.

The space exploration vision offers an extraordinary opportunity to stimulate mathematics, science, and engineering excellence for America’s students and teachers—and to engage the public in a journey that will shape the course of human destiny. NASA’s Office of the Chief Education Officer is ready to take advantage of the uniquely inspirational teaching and learning opportunities created by the exploration vision “...as only NASA can.”

Education Strategy

As the NASA office charged with coordinating the Agency’s mission to inspire the next generation of explorers, the Office of the Chief Education Officer has developed a strategy to engage students, teachers, and researchers at all levels of our Nation’s educational system. The ultimate goal is to produce highly qualified professionals with the skills and imagination needed for the Agency’s bold mission of exploration. NASA depends upon people with the ingenuity to invent new tools, the passion to solve problems, and the courage to ask difficult questions. To inspire the next generation of scientists, technologists, engineers, and educators, NASA offers unique opportunities for research and educational growth. NASA partners with academic institutions, professional education associations, industry, and other Government agencies to provide teachers and faculty with the experiences that capitalize on the excitement of NASA’s discoveries to spark their students’ interest and involvement. NASA’s strategic approach involves attention to students at each stage of the education “pipeline” that leads from kindergarten to college and to employment and/or graduate studies.

A key aspect of NASA’s educational strategy is its commitment to diversity in its education programs, with the goal of creating a diverse workforce that can meet the

Agency's and the Nation's human capital needs in the aerospace fields. NASA complies with Executive Orders on TCUs, Historically Black Colleges and Universities, and Hispanic-Serving Institutions. NASA has a number of programs targeted at minority-serving institutions, including programs that reach out to underserved primary and secondary schoolchildren through minority-serving institutions.

TCU Performance Accomplishments

NASA had four objectives relating to TCUs for FY 2004:

1. Focus the Agency's attention on identifying and removing barriers to TCU participation in NASA programs that support STEM education and achievement.
2. Expand outreach activities to improve the relationships between TCUs and NASA, with particular attention paid to activities designed to increase TCU familiarity with the Agency.
3. Assist TCUs in the creation of courses leading to a pre-engineering or engineering degree.
4. Increase the amount of funding in support of TCUs by \$200,000 per year, so that during the 3-year period from FY 2004 to FY 2006, the amount of funding will increase by \$600,000 over the FY 2003 baseline of \$3.3 million.

Significant efforts toward **Objective 1** and **Objective 2** were made as NASA hosted a TCU conference and technical assistance workshop at JPL from May 18 to 21, 2004. Nine NASA Centers and 26 TCUs participated. The conference goal was to offer access to education, research, and professional development opportunities with Space- and Earth Science-related missions across the Agency. Conference workshops covered the following topics:

- Opportunity for Tribal Colleges to share current and future goals for education and research.
- Opportunity for NASA Centers to partner with a TCU or groups of TCUs to engage in research and support technical infrastructure building.
- Exposure to NASA education, research and technology.
- Proposal writing.

Two immediate outcomes occurred as a result of the conference:

1. As a result of the relationship developed at the conference, NASA Marshall Space Flight Center (MSFC) partnered with Sinte Gleska University to submit a successful proposal for an Earth Science grant.
2. United Tribes Technical College planned to follow up with NASA's education initiatives as it shapes its new Tribal Environmental Science degree program.

Additional contacts between NASA Center personnel and TCU administrators and faculty were made during the conference and are expected to lead to future cooperative efforts. Also, TCU personnel received technical training in the NASA grants application process that is expected to lead to an increase in successful grant applications from TCUs.

Also with regard to **Objective 1**, NASA organized and participated in a roundtable discussion with TCU Presidents as part of the JPL conference. This frank and productive discussion between college presidents and NASA officials centered on challenges faced by TCUs and specific actions that TCUs and NASA can take to increase cooperation.

A significant action related to **Objective 2** was a NASA corporate recruitment event held in conjunction with the American Indian Science and Engineering Society (AISES) conference in Albuquerque, New Mexico, held November 20-21, 2003. As a direct result of employment interviews with students attending the event, NASA hired four Native American students; hundreds more received informational materials about NASA programs and jobs or consulted with NASA personnel about future opportunities.

Another significant outreach activity under **Objective 2** was the hosting of 15 Native American college students as interns at NASA Goddard Space Flight Center (GSFC). These students from the North Dakota Association of Tribal Colleges and Universities and Salish Kootenai College spent the summer of 2004 at GSFC working on research projects with Center personnel. NASA also sponsored a group of students and their faculty advisers to make presentations at the annual meeting of the American Geophysical Union.

Regarding **Objective 3**, NASA is involved in an exciting initiative to create a Bachelor of Science in engineering pilot program at Salish Kootenai College. No TCU currently offers a full 4-year degree in engineering; the current pilot program is part of a broad-based effort that has drawn interest from 11 TCUs and support from organizations and institutions including the National Academy of Engineering, the University of Texas at El Paso, and the US Air Force Academy. A NASA employee, while on assignment to Salish Kootenai College, assisted with the pilot program. The 11 TCUs formed a working group and developed a Management Plan.

Regarding **Objective 4**, total NASA funding to TCUs in FY 2004 was \$3,636,371. This figure exceeds the goal of \$3.5 million by more than \$100,000 and demonstrates NASA's commitment to increasing the participation of TCUs in Agency programs. The major new TCU funding initiative in FY 2004 was the awarding of a \$7 million cooperative agreement to the American Indian Higher Education Consortium (AIHEC). This cooperative agreement will strengthen NASA-AIHEC outreach, expand opportunities for the future STEM workforce, and build STEM capacity and infrastructure at TCUs.

B. Summary of FY 2004 Agency Awards by Category to Tribal Colleges and Universities

1. **Agency/Organization:** National Aeronautics and Space Administration (NASA)
2. **Name, Title, Phone, Fax, and email address of Agency representative preparing report:**

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3. FY 2004 Total Funding for all Institutions of Higher Education (IHE)

CATEGORY	TOTAL AWARDS TO IHE	TOTAL AWARDS TO TCUs	% OF AWARDS TO TCUs
1. Research & Development	\$1,014,873,366		
2. Technology-related Activities		\$1,400	
3. Direct Institutional Subsidies			
4. Program Evaluation			
5. Training & Technical Assistance	\$23,330,422	\$2,655,515	11.4%
6. Facilities & Equipment			
7. Fellowships, Internships Recruitment, IPAs		\$395,183	
8. Student Tuition Assistance, Scholarships, and Other Aid			
9. Economic Development			
10. Administrative Infrastructure		\$325,000	
11. Third-Party Award			
12. Private-Sector Involvement		\$259,273	
13. Construction			
14. Other Activities	\$128,317,322		
Total	\$1,166,521,110	\$3,636,371	0.3%

Adena Williams Loston, Ph.D.,
 Chief Education Officer
 Agency Head or Representative

 Signature

 Date

C: Summary of FY 2004 Agency Awards to Individual Tribal Colleges and Universities

Agency: National Aeronautics and Space Administration (NASA)

Tribal Colleges and Universities	St.	Research & Development	Technology-Related Activities	Direct Institutional Subsidies	Program Evaluation	Training & Technical Assistance	Facilities & Equipment	Fellowships, Internships, Recruitment, IPAs	Student Tuition Assistance, Scholarships and Other Aid	Economic Development	Administrative Infrastructure	Third Party Awards	Private Sector Involvement	Construction	Other Activities	Grand Total
BAY MILLS COMMUNITY COLLEGE	MI															0
BLACKFEET COMMUNITY COLLEGE	MT		1,400													1,400
CANKDESKA CIKANA COMMUNITY COLLEGE	ND					100,000										100,000
CHIEF DULL KNIFE COLLEGE	MT															0
COLLEGE OF MENOMINEE NATION	WI															0
CROWNPOINT INSTITUTE OF TECHNOLOGY	NM					99,609										99,609
DINE COLLEGE	AZ					514										514
D-Q UNIVERSITY	CA															0
FOND DU LAC TRIBAL & COMMUNITY COLLEGE	MN															0
FORT BELKNAP COMMUNITY COLLEGE	MT															0
FORT BERTHOLD COMMUNITY COLLEGE	ND															0
FORT PECK COMMUNITY COLLEGE	MT															0
HASKELL INDIAN NATIONS UNIVERSITY	KS					14,250										14,250
INSTITUTE OF AMERICAN INDIAN ARTS	NM					100,000										100,000
KEWEENAW BAY OJIBWA COMMUNITY COLLEGE	MI															0
LAC COURTE OREILLES OJIBWA COMM. COLLEGE	WI															0
LEECH LAKE TRIBAL COLLEGE	MN															0
LITTLE BIG HORN COLLEGE	MT															0
LITTLE PRIEST TRIBAL COLLEGE	NE					6,520		1,500								8,020
NEBRASKA INDIAN COMMUNITY COLLEGE	NE							1,500								1,500
NORTHWEST INDIAN COLLEGE	WA					1,600		13,400								15,000
OGLALA LAKOTA COLLEGE	SD					125,000		3,428			325,000					453,428
SAGINAW CHIPPEWA TRIBAL COLLEGE	MI															0
SALISH KOOTENAI COLLEGE	MT					265,000		241,380								506,380
SI TANKA/HURON UNIVERSITY	SD															0
SINTE GLESKA UNIVERSITY	SD															0
SISSETON WAHPETON COMMUNITY COLLEGE	SD															0
SITTING BULL COLLEGE	ND					54,857										54,857
SOUTHWEST INDIAN POLYTECHNIC INSTITUTE	NM					265,000										265,000
STONE CHILD COLLEGE	MT					95,969										95,969
TOHONO O'ODHAM COMMUNITY COLLEGE	AZ															0
TURTLE MOUNTAIN COMMUNITY COLLEGE	ND					156,633										156,633
UNITED TRIBES TECHNICAL COLLEGE	ND															0
WHITE EARTH COMMUNITY COLLEGE	MN															0
North Dakota Association of Tribal Colleges	ND							85,000								85,000
AMERICAN INDIAN HIGHER ED. CONSORTIUM	VA					1,330,294										1,330,294
*American Indian Science and Engineering Society	NM							48,975								48,975
*EduTech Limited	MD												160,000			160,000
*Global Science and Technology	MD												99,273			99,273
*TCU Presidents' and Tech Asst. Conference at JPL	CA					40,269										40,269
Category Totals		\$0	\$1,400	\$0	\$0	\$2,655,515	\$0	\$395,183	\$0	\$0	\$325,000	\$0	\$259,273	\$0	\$0	\$3,636,371

Notes: *Funding directed at TCU outreach and technical assistance.

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About the cover

This image features the heat shield impact site of NASA's Mars Exploration Rover Opportunity. This is an approximately true-color mosaic of panoramic camera images taken on Dec. 28, 2004. That was shortly after Opportunity arrived to investigate the site where its heat shield hit the ground south of "Endurance Crater" on Jan. 24, 2004.

The successful missions of the Opportunity and Spirit rovers have provided spectacular data to scientists studying Mars, including discoveries that continue to enhance our understanding of the possibility that life may once have existed there. NASA's Vision for Space Exploration calls for human exploration of the Moon, Mars, and beyond. The Office of the Chief Education Officer seeks to use the excitement created by this vision to promote higher levels of science, technology, engineering, and mathematics achievement among our Nation's students. As an essential part of its education efforts, NASA works with Tribal Colleges and Universities (TCU) to continue to inspire a diverse population of students...as only NASA can.