

NASA AWARDS UNIVERSITY CONCEPT STUDIES FOR EARTH SCIENCE PROJECTS

Of the twenty-four proposals submitted, NASA's Office of Earth Sciences will fund four innovative Earth system science investigation concepts for future development as complete spaceflight missions or secondary payload instruments through the University Earth System Science (UnESS) Project.

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"The UnESS program was established to foster the development of the next generation of Earth system scientists, engineers, managers, educators, and entrepreneurs through significant and meaningful hands-on student involvement in Earth observation space missions at the university level," said Dr. Ghassem Asrar, Associate Administrator for Earth Sciences.

"NASA's Earth Science enterprise and the aerospace industry will benefit from having these experienced scientists and engineers graduating through this program that provides hands-on experience," Asrar said.

"Funding for these extended mission concepts during a study phase of nine months will be approximately \$300,000 each. At the end of this phase, we will select two missions and one back-up for final implementation. The two primary missions will be funded at \$15 million each," Asrar stated.

The hands-on student involvement in these mission concepts ranges from helping prepare the proposals to analysis and distribution of data to the science community. Final selection of the missions for development will give equal weight to the scientific and student/applications involvement aspects of the proposals.

The four concepts chosen for further development are:

The "SPACE" mission, proposed by Columbia University, New York, NY, would examine, from aboard the International Space Station, the scattering properties of clouds and aerosols over a two-year period.

The THOR mission, proposed by the University of Alabama in Huntsville, hopes to examine in unprecedented detail the growth and decay of thunderstorms through continuous observations of lightning over the Americas and adjacent oceans. By placing a lightning-monitoring sensor on a weather satellite, the THOR team hopes to gain radical new insight into the formation and evolution of thunderstorms.

The Coral Reef Ecosystem Spectro-Photometric Observatory, proposed by the University of Hawaii, Kaneohe, would look at the health of coral reefs around the world. By using spaceborne spectral observations of the reefs, scientists hope to determine how climate change may be affecting these vital contributors to Earth's health.

CIRRUS, proposed by the University of Wisconsin, Madison, would be an instrument flying aboard the International Space Station to look at clouds and, in particular, cloud ice. Understanding cloud ice will greatly enhance our understanding of clouds and their role in the global climate system.

In addition to these four proposals, NASA will consider two other meritorious proposals in the area of ocean height and wind speed and direction, using highly

innovative technologies. The originators of those two proposals, from the University of Texas at Austin and the University of Colorado, Boulder, will be encouraged to work together to combine their mission concepts for NASA consideration during the final selection process.

NASA's Office of Earth Sciences sponsors these missions in an effort dedicated to studying the long-term effects of natural and human-induced changes on the Earth's global environment.

The University Class Projects Office at the Goddard Space Flight Center's Wallops Flight Facility manages the UnESS Project for NASA.