

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOTICE: 02-GSFC-01

National Environmental Policy Act; Ice, Cloud and Land Elevation Satellite (ICESat) Mission

AGENCY: NASA's Goddard Space Flight Center Earth Observing System Program

ACTION: Finding of no significant impact (FONSI)

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C 4321, *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508), and NASA policy and procedures (14 CFR part 1216 subpart 1216.3), NASA has made a finding of no significant impact (FONSI) with respect to the proposed ICESat mission. ICESat is a mission under NASA's Earth Science Enterprise/Earth Observing System (EOS) Program. The EOS Program objective is to provide information about the atmosphere, oceans, biosphere, land surface, and solid Earth systems. The ICESat primary objective is to retrieve globally distributed data to measure the precise elevation topography and long-term changes in the volume of the Greenland and Antarctic ice sheet. The mission would involve the development, fabrication, test, launch and on-orbit operation of the ICESat spacecraft. The ICESat spacecraft would be launched from Vandenberg Air Force Base, California, aboard a Delta II 7320-10 launch vehicle.

DATE: Comments in response to this notice must be made in writing to NASA within 30 days after publication of this notice.

ADDRESS: Written comments should be addressed to:

Mr. James Watzin
ICESat Project Manager
NASA Goddard Space Flight Center
Code 425
Greenbelt, Maryland 20771
or via email to
James.G.Watzin.1@gsfc.nasa.gov

The Environmental Assessment (EA) prepared for the mission, which supports this FONSI, may be viewed at:

(a) NASA Headquarters, Library, Room 1J20, 300 E Street SW,
Washington, DC 20546 (202-358-0167)

- (b) NASA, Goddard Space Flight Center, ICESat Program Office,
Greenbelt, MD 20771
(301-286-5102)
- (c) Lompoc Public Library, 501 East North Avenue, Lompoc, CA 93436-
3406
- (d) Santa Maria Public Library, 420 South Broadway, Santa Maria, CA
93454-5199
- (e) Santa Barbara Public Library, 40 East Anapamu Street, Santa
Barbara, CA 93101-2000
- (f) University of California, Santa Barbara Library, Government
Publications Department, Santa Barbara, CA 93106-9010

A limited number of copies of the EA are available by contacting Mr. James Watzin at the address or telephone number, or electronic mail address indicated herein.

FOR FURTHER INFORMATION CONTACT:

Mr. James Watzin, 301-286-5102, James.G.Watzin.1@gsfc.nasa.gov
Lizabeth R. Montgomery, 301-286-0469, Lizabeth.R.Montgomery.1@gsfc.nasa.gov

SUPPLEMENTAL INFORMATION:

NASA has reviewed the EA for the ICESat mission and has determined that it represents an adequate and accurate analysis of the scope and level of associated environmental impacts. The EA is hereby incorporated by reference in this FONSI.

NASA proposes to develop, fabricate, test, and launch the ICESat spacecraft into a low Earth orbit in order to gather information that would improve our understanding of Earth's global atmospheric processes and the predictive capabilities of climate change models. The ICESat spacecraft would be shipped to Vandenberg Air Force Base, California, where it would be processed and launched on a Delta II 7320-10 launch vehicle

The proposed mission and the No-Action Alternative were examined in the Environmental Assessment. The No-Action Alternative would delay development of technology that can aid in prediction of global climate change.

The environmental consequences of implementing all aspects of the ICESat mission were considered. The possible impacts that were considered, included, but were not limited to, air and water quality impacts, local land area contamination, adverse health and safety impacts, and adverse effects on land and biotic resources. The environmental impacts of the launch vehicle have been addressed in previous NASA environmental assessments. The areas of potential impact that were considered in this

assessment were Goddard Space Flight Center, Greenbelt, Maryland, Ball Aerospace Technology Company, Boulder Colorado, and Vandenberg Air Force Base, California.

All of the activities involved in this mission are within the normal scope and level of activities at the sites involved. The spacecraft and instrument flight hardware would be fabricated from materials normally encountered in the space industry. The spacecraft would not utilize radioactive materials. The ICESat instrument would utilize a lidar (Light Detection and Ranging) system to measure ice-sheet, atmospheric cloud, and land topography.

There would be no significant impact on the environment. Expected impacts to the environment for the mission arise almost entirely from launch activities. Air impacts from the launch of the Delta II would be short-term and not significant. Short-term water quality and noise impacts, as well as short-term effects on plants and animals, would occur only in the vicinity of the launch complex. There would be no significant impact on threatened or endangered species or critical habitat, cultural resources, wetlands or floodplains. Hazards associated with the ICESat mission have been analyzed and do not raise any environmental concerns. A laser safety analysis shows that there would be no adverse impacts or effects from the ground and on-orbit operation of the laser. A review of the ICESat laser from the Cheyenne Mountain Operations Center Laser Clearinghouse determined that the laser does not exceed the reference damage threshold to space systems and granted an unconditional waiver.

On the basis of the ICESat EA, NASA has determined that the environmental impacts associated with the mission would not have a significant impact on the quality of the human environment.

A. V. Diaz
Director
NASA Goddard Space Flight Center

Date