



National Aeronautics and Space Administration

# GODDARD

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## NASA PLANS EARLY SERVICING MISSION TO HUBBLE SPACE TELESCOPE

NASA will launch a Space Shuttle mission to the Hubble Space Telescope in October so astronauts can replace portions of the spacecraft's pointing system that have begun to fail.

Hubble is operating normally and continuing to conduct its scientific observations, but only three of its six gyroscopes—which allow the telescope to point at stars, planets and other targets—are working properly. Two have failed and another is acting abnormally.

If fewer than three gyroscopes are operating, Hubble cannot continue its science mission and automatically places itself in a protective "safe mode."

"The Hubble Space Telescope is the crown jewel of NASA's space observatories, and we need to do everything within reason to maintain the scientific output of this national treasure," said **Dr. Edward Weiler**, Associate Administrator for the Office of Space Science at NASA Headquarters. "We appreciate the rapid response of the Space Shuttle community to this request."

"When Hubble reached the point of having no back-up gyros, our flight rules said we must look at what we term a 'call-up mission' to correct the situation," said **Dr. John H. Campbell**, HST Project Director at Goddard. "Since we are already involved in preparations for the scheduled third servicing mission next year, we essentially decided to divide the planned mission into two flights and reduce the workload on each."

In addition to replacing all six gyroscopes on the October flight, the crew will replace a guidance sensor and the spacecraft's computer.

The new computer will reduce the burden of flight software maintenance and significantly lower costs. A voltage/temperature kit will be installed to protect spacecraft batteries from overcharging and overheating when the spacecraft goes into safe mode.

A new transmitter will replace a failed spare currently aboard the spacecraft, and a spare solid state recorder will be installed to allow efficient handling of high-volume data.

Also during the flight, astronauts will replace telescope insulation that has degraded. The insulation is necessary to control the internal temperature on the Hubble.

NASA has named two veteran astronauts and a first-time flyer to the crew that will pay an early visit to the Hubble Space Telescope this October.

Four experienced space walkers already have been training for the mission, designated STS-103, a nine-day flight to service and maintain the Hubble Space Telescope. Commander Curtis L. Brown, Pilot Scott J. Kelly and European Space Agency (ESA) astronaut Jean-Francois Clervoy will join space walkers Steven L. Smith, C. Michael Foale, John M. Grunsfeld and ESA astronaut Claude Nicollier.

### Goddard Engineers Regain Control of WIRE Spacecraft

On the afternoon of March 11, Goddard's Small Explorers Project engineers regained attitude control of the Wide-Field Infrared Explorer (WIRE) spacecraft.

WIRE is now completely despun and under the control of the nominal attitude control system. Solar arrays are oriented towards the Sun and the battery has been fully recharged.

Personnel began a detailed check-out and evaluation of all onboard systems, which are scheduled to be completed within two weeks.

### Topex/Poseidon Oceanographic Satellite Gets New Lease On Life

Engineers have given the TOPEX/Poseidon oceanographic satellite a new lease on life by successfully switching the principal instrument onboard the ocean topography satellite to operate on a backup altimeter system. The backup altimeter will extend the spacecraft's already unprecedented lifetime of monitoring ocean circulation patterns worldwide.

The Observational Science Branch at Wallops Flight Facility worked with JPL's science and engineering team to provide specifications for the backup altimeter system. The team, in conjunction with members of Goddard's Applied Engineering and Technology Directorate, was responsible for designing the instrument, which was built by the Johns Hopkins Applied Physics Laboratory in Laurel, Md.

For the full text version of this release, go to: <http://pao.gsfc.nasa.gov/gsf/newsroom>

### "Rocket Boy" Homer Hickam Highlights Symposium

The public is invited to hear renowned panelists — including Homer Hickham, the subject of the new movie, "October Sky," — debating humanity's destiny in the cosmos, and see a controversial meteorite containing evidence of possible life on Mars at the "Space Exploration at the Millennium" symposium.

The symposium will take place at American University's Bender Arena in Washington, D.C., on March 24 from 8:30 a.m. - 9:40 p.m.

The event will include panel discussions and exhibits in remembrance of Carl Sagan, and as part of NASA's 40th anniversary celebration.

The event is free and open to the general public. On-line registration for the event is available at: <http://www.space2000org>

### Using EPA's Energy Star Feature Saves NASA Money

by *Barry Green, Goddard Energy Manager*

Did you know an Environmental Protection Agency Energy Star computer can save NASA money by going to sleep after a set period of inactivity?

Most computers and monitors purchased by Goddard have this feature, which periodically adds approximately five seconds to computer use, yet there is no change in functionality and performance.

Cost savings range from \$58 to \$88 annually for every computer that uses this feature. But users often disable this feature, which reduces savings to \$0 and increases NASA's operating costs.

You have the power! Use the Energy Star features on your office computer, fax and copiers.

Contact Barry Green, Energy Manager, at 6-7383 for more information on this energy saving topic.

Visit Goddard News on the web at <http://pao.gsfc.nasa.gov/gsf/gnews/gnews.htm>

## Upcoming Goddard Missions

Landsat-7	April 15
QuickSCAT/SeaWinds	April 27
TERRIERS	Under Review
GOES-L	May 22
FUSE	May 30

## NASA's Involvement in Beach Mapping Expands

by Cynthia O'Carroll, Office of Public Affairs

Goddard's **Bill Krabill** first began mapping beaches in 1994 as a spin-off activity for his annual Spring treks to Greenland. Krabill, who works for the Laboratory for hydrospheric Processes at Goddard, wanted to avoid taking possibly faulty instruments to Greenland, and needed a comparable site to run preliminary tests on his equipment.

He selected Assateague Island, Va. because of its comparable brightness to Greenland, as well as its convenient location to Wallops Flight Facility.

Once the National Park Service discovered his project, they enlisted him to help them with their research on beach erosion.

Krabill and his NASA Airborne Topographic Mapper are now heavily involved in mapping coastal areas for various government agencies and research organizations.

To better enable us to meet our customers' needs, Goddard is integrating the requirements of ISO 9001 in an orderly management control system, known as the Goddard QMS.

We are moving to a global marketplace where the Center deals with more ISO 9000-compliant international partners and domestic contractors/suppliers. Therefore, it benefits the Center by adopting an ISO 9001 standard for its QMS products and services. The standards and discipline of ISO 9001 will help us be more effective in serving NASA and our counterparts at Goddard, such as scientists and technologists.

### What is the Center hoping to gain from implementing ISO 9001?

The objective of ISO 9001 is to produce a more effective and efficient management system that satisfies our customer's needs. The science and technology products needed by our customers should be produced more effectively by using standardized practices and, in some cases, step-by-step work instructions for certain operations, like inspection and test activities or other Center procedures that are published, understood, and practiced with greater uniformity.

### What is the main message you have for Goddard employees?

The main message I have to share is that, as a Center, we should take advantage of change.

### What is the advantage to program, project and product managers and their staff in our current change-filled environment?

As I see it, there are optimum levels of standardization, uniformity and conformity. What we should do is take advantage of that opportunity to stress the activities and functions that make our programs, projects and products truly successful, such as end-to-end customer involvement and end-to-end system testing.

When we handle change in this manner, we take advantage of process flexibility to make the Center and the Agency more productive for ourself and our customers.

### Where can employees go for more information?

For information regarding ISO, employees can go to this web site <http://arioch.gsfc.nasa.gov/iso9000/index.htm> and they can refer to the following web sites regarding Program and Project Management:

<http://gdms.gsfc.nasa.gov/gdms/owa/masterlist.menu>

and: <http://nodis.hq.nasa.gov>

Program and Project Management studies and career development information can be found at: <http://pmi.hq.nasa.gov/>

## American Astronautical Society Memorial Symposium Set For March 17 & 18

Come join Center Director **Al Diaz**, Honorary Chair, and Associate Director **Mary Kicza**, General Chair, on March 17 and 18 for the 37th Goddard Memorial Symposium, which is sponsored by the American Astronautical Society.

"*Inspiration, Economics and Exploration of Space*" is the theme for this year's event, which will be held at the Greenbelt Marriott Hotel.

Goddard employees are invited to attend the technical sessions, which will be held both days. Registration is not required for the technical sessions.

## Program, Project Management As It Relates To ISO 9001

(Editor's Note: This is the fourth in a series of ISO 9000 articles. This week's interview features Richard Baker, Chief, Mission Integration Office, Flight Projects Directorate at Goddard.)

by Trusilla Steele, Office of Public Affairs

### What is the purpose of the Quality Management System (QMS) and project management with regard to ISO 9001?

Goddard programs and projects service the needs of space and Earth science and fosters the technology development that supports these sciences.

Our end objective is to produce science products created by Earth or space science investigations, or facilitate the development of technologies that enable our scientists and engineers to meet or exceed customer requirements.

## Commemorating 40 Years of excellence

Goddard's week-long 40th Anniversary celebration begins May 2.

Join us for exhibits, special events and speakers.

Want more info? Go to: <http://pao.gsfc.nasa.gov/>

## Vice President Gore Announces New On-Line Magazine

Last week Vice President Gore announced the creation of a new online magazine featuring stories about a rapidly growing electronic government. The new site, **Access America Online Magazine**, is found at <http://www.accessamerica.gov>

Vice President Gore's 1997 report, "Access America: Reengineering Through Information Technology," captured his vision of using information technology to deliver government services to Americans and to increase government productivity.

The new online magazine website, which began as a prototype last October, is organized around the 18 topics in the Access America report. Written in plain language - another Gore program - the new online magazine now has dozens of illustrated stories featuring federal, state, local and intergovernmental websites and telecommunication initiatives.

## ISO 9001

### Pre-assessment Audit Update

Goddard will continue to work to have all elements in place by mid-April;

We will then operate a completely functional QMS for three months; and

Plan for a Registration Audit around July 15.



Visit ISO at <http://arioch.gsfc.nasa.gov/iso9000/index.htm>

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