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# Inside Wallops

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## Wallops Plays Key Role

### Life of TOPEX Altimeter System is Successfully Extended

Project engineers have successfully extended the life of the principal scientific instrument on the TOPEX/POSEIDON satellite with the activation of the back-up altimeter on board the spacecraft.

Commands were uploaded to the TOPEX/POSEIDON spacecraft, Feb. 9-11, 1999, to turn off Side A and turn on Side B of the NASA TOPEX Radar Altimeter. The commands were successful, and Side B was turned on for the first time since it was last tested prior to the spacecraft's launch in August 1992.

David Hancock III, Altimeter Instrument Scientists (Observational Science Branch) said, "Based on early analysis, Side B is deemed to be performing excellently, and the TOPEX/POSEIDON Project has decided that Side B will continue, pending any problems, to be used for TOPEX's data acquisition."

The Wallops Flight Facility Observational Science Branch (OSB), part of the Goddard Space Flight Center's Laboratory for Hydrospheric Processes, in conjunction with members of

GSFC's Applied Engineering and Technology Directorate, provided specifications for the TOPEX altimeter which was built by the Johns Hopkins Applied Physics Laboratory, Baltimore.



The Wallops TOPEX Team had incorporated a back-up fully-qualified radar altimeter into the TOPEX (Ocean TOPographic Experiment) design. The initial altimeter, designated as Side A, has been very successfully acquiring ocean topography (as well as land and ice sheet topography) measurements from its 830 miles (1336 km) orbiting altitude above the Earth.

Using Side A, the TOPEX altimeter has to date collected literally billions of precision (approximately 1 inch (2 cm)) measurements of Earth topography during its more than six years of operation. A team of international scientists has used the data to study climate changes and such phenomena as El Nino and La Nina. Side A is still operable but has slightly degraded from its earlier mission performance. It is expected that Side B will be used for the next several years, but Side A can be turned back on if desired, according to Hancock.

Over the last six years, the Wallops TOPEX Team has continually monitored the performance of the Side-A altimeter. Hancock said, following recommendations of the Wallops team, the TOPEX/POSEIDON Project Management at the Jet Propulsion Laboratory (JPL), Pasadena, Ca., approved the testing of Side B. Command sequences for the turn on of Side B were designed by the Wallops team. The commands to be uploaded to the spacecraft were generated at JPL and verified by Wallops team members. The actual uploading of the commands at JPL was closely monitored real-time by the Wallops team, according to Hancock.

Side-B began tracking the Earth's surface at 10:30 a.m. EST on Feb. 11, 1999. Based on quick-look analysis, Side B measurement performance appears as good as, and perhaps even better than, the original Side A performance, Hancock said.

The Wallops TOPEX team presented detailed analysis of Side B performance on Feb. 17 to a review team involving engineers and managers at JPL and at CNES, the French Space Agency. Based primarily on the Wallops information, the consensus of the meeting was to keep Side B on for further calibration/validation.

The Wallops TOPEX team includes Hancock and George Hayne (OSB) and Dennis Lockwood, Jeff Lee, Carol Purdy, Lisa Brittingham and Ron Brooks (Raytheon). Craig Purdy (Suborbital Projects and Operations Directorate) assisted with monitoring and analysis of the Side B performance and Barton Bull (Guidance, Navigation and Control Systems Engineering Branch) assisted in retrieving pertinent engineering information.

## ISO 9000 Report

This past Monday (Feb. 22) we received the verbal report from our ISO Pre-assessment Audit by DNV. I would like to share with you that I think that we did well in the audit both from the standpoint of organizationally supporting the audit, and in the audit results themselves.

Indeed, DNV did find some "major" nonconformances in the implementation of some systems, but that was expected. After all, some of our systems are quite new and just being implemented. The good news is that the DNV Auditors said that they found no major flaws that could not be readily fixed in the QMS itself, the GPG's were judged to be in good shape in meeting the ISO requirements, the workforce was cooperative and management was supportive.

They told us what we already knew and that is that we were behind schedule for an April Registration Audit. I see this as a result of the very ambitious registration schedule that we set up for ourselves right after the Center Reorganization. I have made a decision to allow us to gain more operating time on an in-place QMS before we go for the actual registration. The plan, therefore, is as follows:

- We will continue to work to have all elements (process, documentation and training) in place by mid-April.
- We will then operate a completely functioning QMS (including of course internal audits) for three months, gather data, review and react to that data as appropriate and;
- Go for the Registration Audit around July 15.

This means that we will continue for now just as if we were actually going for the registration audit in April. To that end, we are moving out on finishing the PG's and WI's as soon as possible, completing training and start reporting metrics on how well we are actually doing.

I am going to ask that each Director of start reporting personally every Monday on the progress of the QMS implementation within each Directorate so that we can more accurately track our progress to our full-up QMS implementation in mid-April. Meanwhile, thanks for a job well done.

Keep up the good work.

Al Diaz

## Federal Women's Program Manager



Digital Photo by Rick Huey.

Effective Jan. 22, 1999, Patricia Pruitt, (above) Facilities Management Branch, was named Federal Women's Program Manager for Wallops. In this position, Pruitt will advise management on issues affecting women at Wallops, oversee the Women's Advisory Committee and provide advise to women on employment concerns.

Pruitt brings both governmental and private sector experiences to her new role. She has worked in such diverse organizations as the Social Security Administration, Talbot County government and Academy of Arts in Easton. Since coming to NASA Wallops in 1995, Pruitt has developed a strong knowledge of the Wallops facility by having worked in the Office of Human Resources, the Resources Management Office, and the Aircraft Office and currently in the Facilities Management Branch. She has been an active participant in the women's program by contributing to the success of the last two Secretarial and Clerical Receptions and led the Women's Equality Day initiative this past year.

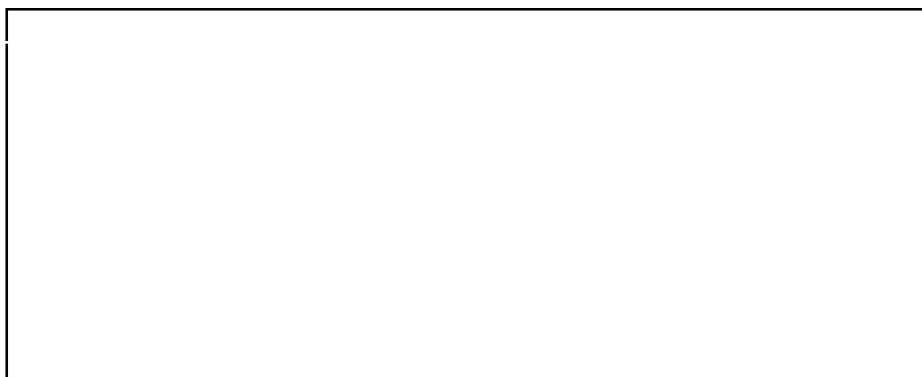
### Engineer's Week Events

Wallops employees participated in events at local schools during Engineer's Week to help create an interest in engineering, math and science. Although additional programs have been scheduled in the coming weeks, the following is a list of activities held Feb. 22 to Feb. 25.

· **Tony Goodyear**, Public Affairs Office, visited 40 Algebra and Physics students at Crisfield High School on Feb. 23.

· On Feb. 24, **Tom Wilson**, Facilities Management Branch, spoke to 34 Broadwater Academy students in Physical Science, Physics and Chemistry classes. **Jack Vieira**, Range and Mission Management Office, and **Doug Vandemark**, Observational Science Branch did presentations for 95 Physics and Earth Science students at Pocomoke Middle School. **Felipie Arroyo**, Electrical Systems Branch, taught a Calculus class of 35 students at Stephen Decatur High School, and **Doug Young**, Range and Mission Management Office, participated in the Career Orientation class at Central Middle School.

· **Chuck Brodell**, Carrier Systems Branch, did presentations for 100 students in Physics and Principles of Technology classes at James M. Bennett High School on Feb. 25.



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### Wallops Shorts.....

#### Rocket Launch

A Terrier-Black Brant sounding rocket was successfully launched from the White Sands Missile Range, NM on Feb. 20. The experiment was to measure how dust reflects and absorbs light at different wavelengths, to determine the size, shape and composition of dust in the region. The principal investigator was Dr. Supriya Chakrabarti, Boston University, and the payload manager was **Jan Neville**, Carrier Systems Branch. The payload was recovered.

#### Guest Speaker

**Keith Koehler**, Public Affairs Office, was a guest speaker for the Cub Scout Banquet, Laurel, DE., on Feb. 21.

#### Career Day

**Karon Eichelberger**, Enterprise Advisory Services, Inc.; **Scott Webb**, Information Services Branch; and **Betty Flowers**, Public Affairs Office, participated in a Career Day event at Northampton High School (NHS) on Feb. 24 for approximately 800 students from NHS and Broadwater Academy.

#### Fire Department

The Wallops Fire Department responded with a tanker to a structure fire in Wattsville on Feb. 24. The mutual aid request came from Accomack County 911.

### Women's History Month

Since 1987, March has been recognized nationally as Women's History Month to honor women's contributions in all fields and endeavors. Each year, programs and activities abound in schools, workplaces and communities to communicate often untold stories of the many contributions made by women.

Throughout March, the Wallops Federal Women's Program will sponsor a number of activities, including a presentation to Girl Scout Troop 1446 on the value of Women's History. The girls will receive Internet training following the presentation. Other activities during the month will include a luncheon speaker, a brown-bag lunch, and a display in the Cafeteria.

### Visitor Center Events

The Visitor Center will open for the season on March 4. In addition to special programs scheduled during the month, the Visitor Center conducts tours of Wallops for school and civic groups.

#### March 6 : "Model Rocket Launch"

A model rocket launch will be held at 1 p.m. Models of various rockets will be launched. Model rocketeers are invited to bring their own rockets and launch them. The launch will be canceled if it is raining or winds exceed 18 mph.

#### "Puppets in Space"

"Puppets in Space", a 10-minute puppet show, will be presented at 11 a.m. on Saturdays and Sundays. Puppet astronauts and Sam the monkey will explore space flight, including the space suit. An eight-minute version of the film "Astrosmiles" follows the puppet show.

#### "Space Ace"

Children ages 5 to 10 can earn a "Space Ace" certificate and a lithograph during their Visitor Center experience by completing an activity sheet.

#### Sundays: "Humans in Space"

"Humans in space" is the subject of a 1 p.m. program for children of all ages. The 30-minute program looks at living and working in space, including a review of the astronauts' culinary delights and their wardrobe. The program is followed by a hands-on children's activity during which children have the opportunity to create their own "space helmet."

The Visitor Center is open Thursday through Monday from 10 a.m. to 4 p.m. and is closed on Tuesday and Wednesday. For further information or to schedule a tour, call Chris Hunt, x2298.

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