



National Aeronautics and Space Administration
Goddard Space Flight Center

Wallops Flight Facility, Wallops Island, Virginia

Inside Wallops

Volume XIX-98

Number 12

March 30, 1998

NASA Mission Set to Study the Sun's Turbulent Upper Atmosphere

NASA's Transition Region and Coronal Explorer (TRACE) mission, scheduled for launch no earlier than April 1, will greatly improve understanding of events in the Sun's atmosphere, including intense storms and flares, which can have an impact on power and communications systems on Earth.

TRACE, the fourth Small Explorer Program (SMEX) mission, will join a fleet of spacecraft studying the Sun during a critical period when solar activity is beginning its rise to a peak early in the new millennium.

study the detailed connections between the fine-scale surface features and the overlying, changing atmospheric structures of hot, ionized gas, called plasma. The surface features and atmospheric structures are linked by fine-scale solar magnetic fields.

The power of the TRACE telescope to do detailed studies of the solar atmosphere makes this observatory unique among the current group of spacecraft studying the Sun.

"The spacecraft has roughly ten times the temporal resolution and five times the spatial resolution of previously

Wallops Shorts..... Launch

The eighth in a series of eleven sounding rockets in the Coqui Dos Campaign was successfully launched at 9:45 p.m. Atlantic Standard Time, March 24 from Tortuguero, Puerto Rico. The single-stage Black Brant sounding rocket carried a payload to provide in situ measurements of the neutral density in and around the Sporadic E layers. Dr. Robert Pfaff, NASA Goddard Space Flight Center was the principal investigator, and Steve Skees, Code 571, was the Wallops Payload Manager.

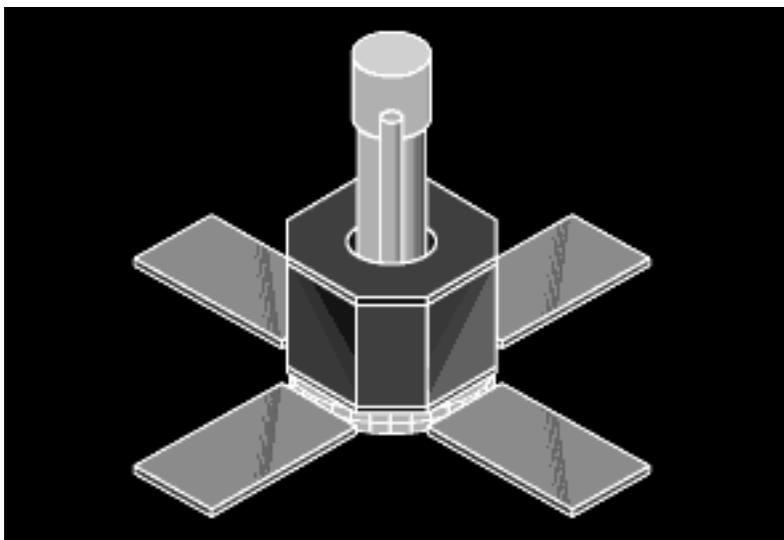
Blame El Nino for a Longer Day

El Nino temporarily caused the day to grow longer by slowing down the Earth's rotation. The increase was slight, about 0.6 milliseconds (6/10,000 of a second) at its peak and required extraordinarily sensitive measurements from the Very Long Baseline Interferometry (VLBI) network, a global array of radio telescopes, to detect. El Nino increased the speed of the atmosphere, which slowed the Earth's spin.

The sum of the extra day lengths over the entire El Nino cycle to date is approximately 1/10 of a second, about the period of an eye blink. The peak in day length occurred around Feb. 5, 1998. The extra day length has decreased slowly as El Nino has diminished in intensity; currently, it is at 0.4 milliseconds.

The VLBI network, coordinated at Goddard, determines the Earth's rotation speed from differences in the arrival time of radio signals from quasars. Because the radio telescopes are widely separated, the radio signal from a given quasar reaches some telescopes before others. As the Earth speeds up or slows down, this timing difference changes by a minuscule amount.

Measurements of the Earth's orientation and rotation are essential for satellite navigation, and for communication with deep space satellites. The Global Positioning System requires Earth orientation measurements to provide precise measurements of longitude.



The fourth Small Explorer (SMEX) Program mission, TRACE will be launched no earlier than April 1.

The Sun goes through an 11-year cycle from a period of numerous intense storms and sunspots to a period of relative calm and then back again. The coming months in the Sun's cycle will provide solar scientists with periods of strong solar activity interspersed with periods when the Sun is relatively passive and quiet. This will give TRACE the chance to study the full range of solar conditions, even in its relatively short planned lifetime.

TRACE will train its powerful telescope on the dynamic so-called 'transition region' of the Sun's atmosphere, between the relatively cool surface and lower atmosphere of the Sun where temperatures are about 6,000 degrees Fahrenheit, and the extremely hot upper atmosphere called the corona, where temperatures are up to 16 million degrees Fahrenheit.

Using instruments sensitive to extreme-ultraviolet and ultraviolet wavelengths of light, TRACE will

launched solar spacecraft. Its findings are eagerly awaited by the solar science community," said Dr. Alan Title, TRACE principal investigator from the Stanford Lockheed Institute for Scientific Research in Palo Alto, CA.

TRACE will be launched on an Orbital Sciences Corporation, Pegasus-XL rocket released from an L-1011 jet aircraft at the Vandenberg Air Force Base, CA. The launch window is only open for 10 minutes.

TRACE will be the first space science mission with an open data policy. All data obtained by TRACE will be available to other scientists, students and the general public shortly after the information becomes available to the primary science team.

Further information about the TRACE mission can be found on the Internet at: <http://sunland.gsfc.nasa.gov/smex/trace>

Spring Ahead

Daylight Savings Time begins April 5. Move clocks ahead one hour.



April is National Cancer Control Month

by Dianne Hargrove, R.N.

The American Cancer Society recommends a cancer-related checkup every three years if you are under 40 years of age and every year if you are over 40. The checkup should include examinations for cancers of the thyroid, mouth, skin and lymph nodes, and an examination of the testicles for men and ovaries for women.

The following guidelines are for the early detection of cancer for people without symptoms.

WOMEN

Women 40 years of age and older should have an annual mammogram and an annual clinical breast exam performed by a health care professional and a monthly breast self-examination.

Women 20 - 39 years of age should have a clinical breast exam performed by a health care professional every three years and a monthly breast self-examination.

All women who are or have been sexually active or who are over 18 years of age should have an annual Pap test and pelvic examination. After three or more consecutive satisfactory examinations with normal findings, the Pap test may be performed less frequently. Discuss this matter with your health care professional.

Women at high risk for endometrial cancer of the uterus should have a sample of endometrial tissue examined when menopause begins.

MEN

Men 50 years of age and older should talk with their health care professional about beginning a digital rectal exam of the prostate gland and a prostate-specific antigen (PSA) blood test every year. Factors to consider include overall health and life expectancy.

Men who are at high risk for getting prostate cancer (African-Americans or men who have a history of prostate cancer in close family members) should consider beginning these tests at a younger age.

MEN AND WOMEN

Men and women 50 years of age and older should follow **ONE** of the examination schedules below:

A fecal occult blood test every year and a flexible sigmoidoscopy plus a digital rectal exam every five years.

Or a colonoscopy and a digital rectal exam every 10 years.

Or a double-contrast barium enema plus a digital rectal exam every five to ten years.

A digital rectal exam should be done as the same time as sigmoidoscopy, colonoscopy or double-contrast barium enema.

People who are at moderate or high risk for colorectal cancer should talk with a doctor about a different testing schedule.

Henrietta Pitts Retires



Henrietta Pitts retired March 3 from the Wallops Fiscal Office as an accounting technician after completing more than 20 years of service to NASA.

Pitts began her government career in 1964 working in Wallops Mail and File before moving to the Range Support Branch. After 2-1/2 years, she took a temporary break to raise her children. Pitts returned to Wallops in 1971 and worked for Computer Sciences Corporation. In 1979, she accepted a position with NASA in the Wallops Fiscal Operations Section, where she remained until retirement.

In the Fiscal Office, Pitts was responsible for obligating and disbursing purchase orders and contracts. She also has been an active and willing worker with the Wallops Federal Women's Program. Pitts received a Bachelor of Science in Business Administration in 1984 and a Bachelor of Science in Accounting in 1995.

Retirement plans include travel and spending time with her family. Although her smile will be missed, friends and co-workers wish her a long and happy retirement.



Easter Egg Hunt

April 4

Rain date is April 11

10 a.m. to 1 p.m.

Children ages 10 and under

Snacks, games, prizes

Fun for all

Children must be pre-registered and accompanied by an adult. Call Bev Hall, x1714 or Gerry McIntire, x1889.



Retirement Planning Workshop

A Retirement Planning Workshop will be offered at Wallops on April 6, 7 and 8. The class will be held in Bldg. F-3, starting at 9 a.m. each day

This 24-hour class is intended for civil servants under any retirement system who are considering retiring within the next five years. The workshop assists participants in deciding when or whether to retire. Workshop topics include: mid-life role changes and transitions, retirement system benefits, life and health insurance, Social Security and Medicare, financial planning, legal and estate planning, financial planning for long-term care and planning a healthy retirement.

The workshop is Center-funded (no cost to the Directorates). Training requests from Code 800 should be routed through Sherry Kleckner, Code 800. Anyone interested in seeing the agenda, should call Sherry, x1204. If space is available, spouses can attend the classes, but they must share materials. They will not receive a copy.

Non-NASA Federal employees may register by submitting a copy of their Training Request and a prepared Purchase Order to Laura Potler, Code 114. For further information, contact Laura Potler at 301-286-4853 or Tracey Roberts at 301-286-5378.

Upcoming Course System Requirements



Dates: April 19-24, 1998

Location: Hagerstown, Md.

Purpose: The ideas, concepts, models, approaches, techniques and principles for systems specification are presented.

Audience: Personnel who are responsible for generating requirements, such as engineers, managers and procurement analysts.

Information Contact: Sharon Guffey (TADCORPS) 202-554-8677 ext. 29 or email: sguffey@tadcorps.com

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees.

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Printing Management Office