



GODDARD NEWS

Greenbelt, Maryland/Wallops Island, Virginia

The Goddard News is published weekly by the Office of Public Affairs, Goddard Space Flight Center, Greenbelt, MD 20771

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Safety – Our Number One Value

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Goddard Tackles the Y2K Problem

NASA's most important core value is safety -- safety of the public, safety of our workforce and safety of our high tech equipment and property. Towards this end, Goddard has made great strides in identifying and correcting Y2K (Year 2000) problems before they occur. Goddard identified more than 100 mission and non-mission critical systems to determine whether they would be affected by the Y2K problem.



According to William Duffy, Goddard's Y2K Project Manager, this examination included flight operations projects for which Goddard is responsible, other mission and non-mission-critical systems, business systems, facilities, institutional infrastructure, networks and the telephone system.

The Y2K problem, also known as the Millennium Bug, refers to the inability of many computers to process certain dates, especially those whose digits end in "00."

During the early days of computers, memory and disk space were scarce and expensive, so programmers substituted a two-digit number in lieu of a four-digit number for year dates (i.e., 1999 became 99 and so on). The same shortcut also was used in numerous computer hardware and software systems that control electronic devices, automobiles, elevators and alarm systems.

Unfortunately, this practice continued long after the need for conserving space ended. When Jan. 1, 2000 arrives, programs coded with two-digit years may not be able to distinguish between the year 2000 and 1900 and unpredictable results may occur.

Goddard has formally certified all operational mission critical systems, facilities and critical infrastructures as being Y2K compliant. The few remaining non-critical systems should complete certification by October. Two of the Center's legacy business systems, Fiscal and BAS, are scheduled to complete implementation in October. NASA's Sounding Rocket Program and the Extreme Ultraviolet Explorer data processing system at the University of California at Berkeley are both scheduled to complete implementation prior to Oct. 1.

New systems being developed also are designed for Y2K compliance and all new and existing contracts have been revised to expressly require the delivery of Y2K compliant products.

To ensure continuity of operations when the new millennium arrives, the Center has established Y2K contingency plans. Operational priorities for the plans are consistent with Goddard's existing priorities, which are protection of human health and safety, system safety of on-orbit and high-value assets, mission success and returning facilities and systems to normal operations.

"Goddard has been working diligently since 1996 to ensure that our missions are Y2K ready," Duffy remarked. "We have conducted extensive analyses and installed critical upgrades to our internal systems, are performing rigorous tests to correct the problem and will have contingencies in place by Jan. 1, 2000. Our commitment is to ensure our systems and processes will continue to function in the new millennium as they do today."

During the Y2K transition, Goddard Emergency Management personnel, Facilities Management

personnel and Y2K personnel will staff a Center-level Y2K Command Center located in Building 3/14. An Agency-level Y2K Communications Center at Goddard also will be staffed to monitor and communicate Agency-wide status during the Y2K transition.

A Y2K Information Coordination Center (ICC) will be established at the White House to collect information on any Y2K problems. All federal agencies have been instructed to report their status directly to personnel at the ICC.

NASA's Outsourcing Desktop Initiative (ODIN) contract, which went into effect at Goddard in December, also has taken actions to ensure a smooth transition into the new millennium.

ODIN is working to ensure all existing hardware, software and firmware is Y2K compliant for seats signed up by Dec. 1, 1998. For some machines, this involved updating the basic input/output system, for others it involved updating the software, and others were replaced. ODIN completed this effort earlier this spring. In addition to existing systems serviced by ODIN, all new products being installed by the contractor are required to be Y2K compliant.

If you want to know whether your ODIN system is Y2K compliant, call Bob Freitas at extension 6-8461.

The following Goddard representatives are available to address employees' concerns about Y2K issues:

GSFC Y2K Project Manager, William Duffy	Code 450, Tony Maione (Networks and Mission Services)
Code 200, Sheila Fry (Business Systems)	Code 500, Bonnie Seaton
Code 205, Phillip Nessler (Emergency Management)	Code 600, Robert McGuire
Code 220, Charles Sanders (Facilities)	Code 700, Cecilia Czarnecki
Code 300, Louis Thomas	Code 800, Clifford D. Leitao
Code 400, Diane Bittner	Code 900, Gary N. Wolford

A center announcement providing more details about Goddard's Y2K transition plans will be issued in September to employees.

There is a wealth of information regarding Y2K issues on the Internet and Web. General information about Goddard's Y2K Program is available at: <http://gsfc-aphrodite.gsfc.nasa.gov/pmt/y2k/y2k.html>

Employees can access the NASA Y2K public and internal web sites from this web page.

Individuals who have personal computers at home should check with the vendor to see if their make/model/basic input/output system is Y2K compliant. Computer owners can download free software to test for Y2K compliance at: <http://www.nstl.com>

The Federal Emergency Management Agency has overall responsibility for emergency services. Their web site is at: <http://www.fema.gov/>

A host of local government web sites are already set up to provide Y2K information. Just a sampling of these include:

The Maryland Y2K Program Management Office at: <http://www.y2kmdok.org/>

American Red Cross at: <http://www.redcross.org>

Frederick Co. at: <http://www.co.frederick.md.us/Y2K/>

Howard Co. at: <http://co.ho.md.us/Y2K/y2k-1.html>

Montgomery Co. at: <http://www.co.mo.md.us/Year2000/>

Arlington Co. at: <http://www.co.arlington.va.us/y2k/index.htm>

Fairfax Co. at: <http://www.co.fairfax.va.us/y2k/default.htm>

Loudoun Co. at: <http://www.state.va.us/loudoun/g-y2kcom.htm>

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Speed Humps to Be Installed

On July 26, Management Council approved the installation of seven speed humps on Center as addressed in the fact sheet on speed humps. The speed humps will be installed this week. For more information, go to:

<http://gsfc-artemis.gsfc.nasa.gov/220/fact-spdhmp.htm>

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OMNI Project Helps Children View the Eclipse

On Wednesday, Aug. 11, the last total eclipse of the 20th century occurred in the Northern Hemisphere. Live coverage of the solar eclipse was performed by the Operating Missions as Nodes on the Internet (OMNI) project at Goddard. The live audio and video was provided from the OMNI "spacecraft" prototype which was located on a cruise ship in the Black Sea.



The solar eclipse coverage was part of an educational outreach activity organized by NASA's Sun Earth Connection Education Forum and supported by Goddard's Education Office. The educational activities involved sleepovers at museums by children across the country, who used web browsers connected to the Internet to view live solar eclipse images. The children were able to ask questions to Goddard employee and former astronaut Ron Parise via the Internet, and receive answers to those questions. For 15 minutes, the children at the museum were able to use web browsers to control a pan/tilt camera on the OMNI "spacecraft" showing scenes on the ship's deck.

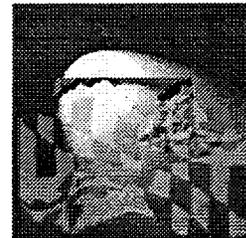
NASA's eclipse 99 website at: <http://eclipse99.nasa.gov> will archive the actual event to be used as a tool for teaching students about the relationship of the Sun, Moon, Earth and eclipses. The website will continue to grow during the summer as information and images are added becoming an effective tool for science, mathematics and social studies classrooms.

The OMNI project team designed and built the prototype "spacecraft" in only six months. This prototype Internet-based mission represents a new concept in space/Earth communications. The instruments on board the ship provided wind direction, temperature, light intensity, and barometric pressure. The OMNI "spacecraft" sent data through the Tracking Data Relay Satellite System located 22,300 miles above the earth. The data was relayed to the White Sands Ground Station located in Las Cruces N.M., which in turn sent the data to Goddard via the regular Internet. To find out more info about the OMNI project, view the OMNI home page at <http://ssp.nascom.nasa.gov>

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Drought Continues, Conserve When You Can

Restrictions on water usage throughout the state remain in place due to the drought. Let's all do our part and help the state conserve on water usage. Identify any water leaks by calling the Facilities Management Division Service Desk at 6-5555. The Center's chilled water distribution system is the primary source of cool air for our building interiors. The system is also our largest source of water consumption.



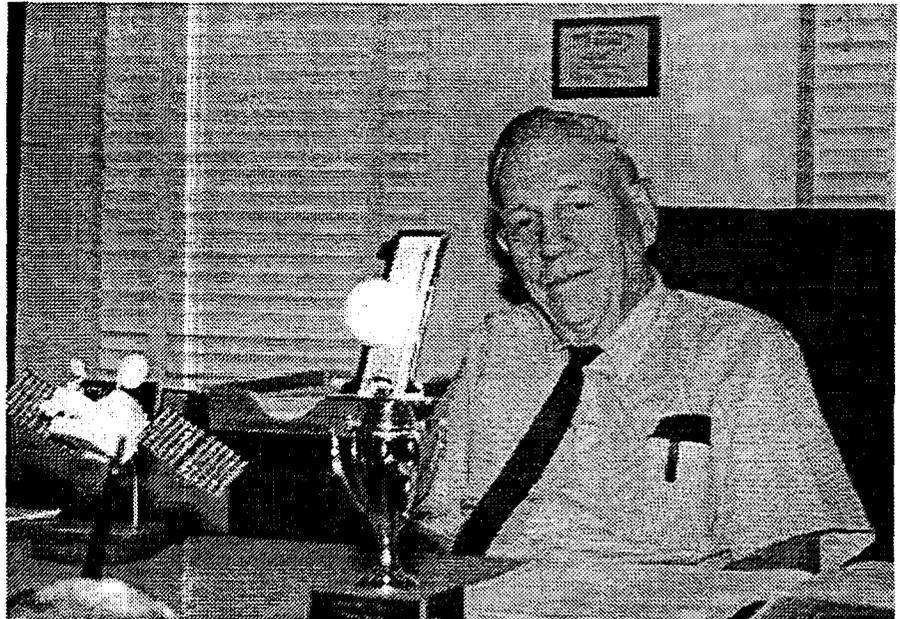
Reducing the interior temperatures by other means lessens the demand on the chilled water distribution system and conserves water. Employees can reduce interior temperatures by turning off heat producing items such as lights, monitors, printers, copiers, etc. when not in use.

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Another Goddard Icon Retires

When he began his full-time career in federal service, America was in the midst of the Korean Conflict, and when he began his career at Goddard, America was at the height of the Vietnam War.

"After nearly 47 years of federal service, the last 32 at NASA, I've decided to retire," said Thiele Thiele, Head of the Tropical Rainfall Measuring Mission (TRMM) spacecraft Office. "I always said I wanted to see TRMM launched and stay on perhaps a year after. TRMM has been operating extremely well now for nearly two years and I think it's time." Thiele will retire Oct. 1.



Thiele joined the Merchant Marines in 1944 on his 17th birthday and five years later, left active duty in that service to begin his education at the University of Texas in Austin. A year later, however, having a reserve commission in the Navy, he was called to active duty for the Korean War - serving as a navigator, gunnery officer and eventually executive officer aboard U.S. Navy ships.

After the war though, it was back to school for Thiele. "Coincidentally, it was at that time that they (the University of Texas-Austin) started a complete curriculum in meteorology, and it was a very fortuitous time for me," he said.

During his senior year in 1955, Thiele began working for the local National Weather Service weather bureau in Austin. "That really started my 'civil service' career," he said.

After school, with a bachelors in meteorology, he began working there full-time and was eventually promoted to general forecaster. But Thiele was always looking to learn and in 1957 he heard about the U.S. Army's Atmospheric Sciences Laboratory at White Sands, N.M. and transferred there.

During his civilian tour with the army, he spent a lot of time in Canada over a three-year-period starting in 1957 with the International Geophysical year and ending with his initiation of an International Meteorological Rocket Network site at Fort Churchill, Canada, in 1959. There, he met his wife, Betty, née McKenzie, a school teacher from Winnipeg, Manitoba, who was teaching at the Canadian Army's elementary school at Fort Churchill.

Thiele's first connection with NASA was in 1959 when he traveled from White Sands to Wallops to provide training in the launch of small meteorological rockets. In 1967, he transferred to NASA (Goddard which ran all of the manned spaceflight tracking operations) as Director of NASA's Apollo

tracking ship, USNS Vanguard based in Port Canaveral, Fla., providing tracking between Bermuda and Africa for all of the Apollo missions and subsequently Skylab missions while based in Argentina. Marine support for the Vanguard was provided by the U.S. Navy's civilian Military Sealift Command.

But it was in 1974 that Thiele was contacted about an opening in the meteorological program office at Goddard, accepted, and moved to Maryland that same year.

Thiele considers his work on TRMM to be his most significant accomplishment at Goddard. "I became aware of the lack of any specific planning for the space measurement of precipitation research," he said, "so in 1979, I began pushing for the development of a specific precipitation mission which could obtain badly needed measurements over ocean areas, especially in the tropics, and eventually TRMM resulted."

TRMM has been a very successful mission. Launched on Nov. 27, 1997, by Japan's National Space Development Agency at their Tanegashima Space Center, the TRMM spacecraft has produced continuous data since Dec. 8, 1997. Tropical rainfall -- that which falls within 35 degrees north and 35 degrees south of the equator -- comprises more than two-thirds of the rainfall on Earth. Changes in wind patterns generated by these tropical systems spread across the globe to impact weather patterns everywhere.

TRMM, a joint U.S.-Japanese mission -- is exceeding expectations for accuracy and resolution, and the spacecraft is providing unprecedented insights into rainfall producing cloud systems over tropical land masses and oceans. Before TRMM, it was not possible to gather reliable precipitation data over the oceans and TRMM has changed all that with the first precipitation radar in space. TRMM is NASA's first mission dedicated to observing and understanding tropical rainfall and how it affects the global climate.

The TRMM Office, which Thiele head's, is the focal point for planning and implementing a TRMM supporting research program. This includes rainfall measurement technology research and organizing a global validation program including field experiments in the U.S., South China Sea, Brazil, and Kwajalein Atoll in the Pacific.

At 72, Thiele says he is looking forward to retirement, but does have one regret. "Although I am looking forward to retirement, my greatest regret will be in departing from the close contact with the 70 or so outstanding scientists of the TRMM science team and the many people I've come to work so closely with during my time here at Goddard," he said.

Thiele enjoys golfing and for the past 15 years, has been active in golfing with the Goddard Golf League. He also enjoys gardening, playing guitar with friends, spending time with his six grandchildren, and from time to time, fishing.

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Wildlife Management Seeking Comments

Aug. 13 is the deadline for comments about Goddard's Wildlife Management Policy. For more details check out the following web address:
<http://gsfc-artemis.gsfc.nasa.gov/205/wildlife.htm>

This site is designed to supplement the Center Announcement No. 99-29 and answer some employee questions.



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Seawinds Radar Instrument Captures Fury of Typhoon Olga

NASA's newly launched ocean-viewing radar instrument, SeaWinds, has been able to capture the fury of Typhoon Olga as it grew in intensity last week in the China Sea packing high winds of more than 50 knots (57 miles per hour) and delivering torrential rains to South Korea, North Korea and other coastal communities of south Asia. Newly released animated data from the radar instrument, which is flying onboard the recently launched

QuikScat spacecraft, captured Typhoon Olga in its infancy, measuring daily wind speeds and direction as it progressed from a tropical depression on July 28, east of the Philippines to a raging typhoon. Olga flooded farmlands, shut down highways and railways and forced at least 15,000 people in Seoul, South Korea, to flee their homes last week. Images of the Atlantic and Pacific oceans, showing the locations of these storms, are available at: <http://photojournal.jpl.nasa.gov> or at: <http://winds.jpl.nasa.gov/news/newsindex.html>

The orbiting SeaWinds radar instrument is managed by the Jet Propulsion Laboratory, which also built the SeaWinds radar instrument and is providing ground science processing systems. Goddard managed development of the satellite, designed and built by Ball Aerospace & Technologies Corp., Boulder, Colo.

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NASA CIO, Security Chief to Give More Presentations Aug. 30

NASA's Chief Information Officer Lee Holcomb and NASA Security Officer Mark Borsi will return to Goddard Aug. 30 to discuss physical security and information technology security.

Both presentations are very informative and extremely relevant to our day-to-day lives at Goddard. Those who missed the talks last time will have a chance to attend the presentation on that date.

The security presentations will be held on Monday, Aug. 30, in the Building 8 auditorium starting at 1 p.m. and are open to the entire Goddard workforce.

The presentations are available through the GSFC Internal Home Page at: <http://internal.gsfc.nasa.gov>

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Lunar Prospector Magnetic Data Supports Popular Theory of Unique Moon Formation



New data from the Lunar Prospector spacecraft supports mounting evidence that the moon formed in a way unique to this solar system.

This latest report comes from scientists who measured the Earth's magnetic field near the moon using instruments mounted on Lunar Prospector. Their results strengthen the theory that the moon has a metal core that is much smaller than cores of the inner planets of the solar system.

The new data agrees with Apollo mission seismic and sample-return evidence that suggests the moon is partly made of the same stuff as the Earth's upper crust, or mantle. And their findings agree with results released earlier this year by Jet Propulsion Lab scientists who used Lunar Prospector to make a gravity map of the moon and who also conclude that the moon has a small, partially molten core.

Lon L. Hood of the University of Arizona in Tucson and collaborators detail the results of their magnetic measurements in the Aug. 1 issue of the American Geophysical Union's Geophysical Research Letters. Hood and his colleagues on the Lunar Prospector magnetometer team estimate that the moon's metal core is roughly 420 miles (680 kilometers) across -- plus or minus 112 miles (180 kilometers). This makes it only one to three percent of the moon's total mass. By contrast, the Earth's core constitutes one-third of its mass. Collaborators with Hood on this research included Goddard's Dr. Mario Acuna, a co-investigator on the magnetometer team.

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EEO Workshop Scheduled for August

The Equal Opportunity Program Office at Goddard is sponsoring a workshop called "Leading from the Inside Out" Aug. 25 and 26 at Montpelier Mansion in Laurel, Md. By using a variety of processes and interactions, the workshop fosters risk-taking and develops compassionate interactions in order to help each participant make more satisfying and meaningful contributions in work and life.

If you are interested in attending the workshop, send an e-mail message to: Tracey.Roberts@gsfc.nasa.gov or call her at extension 6-5378.

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Goddard Approaching ISO Registration Dates

The official dates for ISO 9001 registration are August 23 to August 27 for Goddard and the Wallops Flight Facility. Members of the committee will be at Goddard on August 23 and 24, Wallops on August 25 and 26, and will return to Goddard on August 27th. Are you ready? For the latest on the ISO 9001 registration status, check out the web site at: <http://arioch.gsfc.nasa.gov/iso9000/index.htm>

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Flight Projects Organizational Chart

Last week Goddard News provided the URL for the new Code 400 organizational chart. Not all information provided was complete. To reach the chart, click on the following URL: <http://fpd.gsfc.nasa.gov/main/projects-main-orgchart.html>

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Press Releases from the past week can be found here: [Hot Topics](#)

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Mission Success Starts With Safety

If you would like to make comments or ask questions concerning the content of the Goddard News for this week please address your email comment to: James.Sahli.1@gsfc.nasa.gov

If you would like to make comments or ask questions regarding the HTML (on-line) version of Goddard News for this week please address your email comment to: Lynn.A.Jenner.1@gsfc.nasa.gov