



National Aeronautics and Space Administration
Goddard Space Flight Center

Wallops Flight Facility, Wallops Island, Virginia

Inside Wallops

Volume XX-00

Number: 25

June 12, 2000

Prototype Balloon Passes 30-Hour Test Flight

NASA has successfully launched and demonstrated a prototype Ultra Long-Duration Balloon (ULDB), a revolutionary research balloon that may ultimately open a new era in scientific research by carrying telescopes and experiments weighing several tons to the brink of space for 100 days or more. The ULDB offers a flight duration lasting much longer, at a cost considerably less than a rocket flight and allows the payload to be retrieved and launched again.

The recent flight from Ft. Sumner, N.M., lasted more than 30 hours and tested the durability and functionality of the scientific balloon's unique pumpkin-shaped design and its novel material, a lightweight polyethylene film developed by Raven Industries, Inc., Sioux Falls, S.D., especially for the project. The new material is a co-extruded polyethylene film, about the thickness of ordinary plastic food wrap,



PSL Digital Photo.

Release of the ULDB test flight.

with a high-density layer for strength and stiffness sandwiched between two linear low-density layers that provide toughness.

"The test flight was a resounding and unmitigated success," said Steve Smith, ULDB Project Manager, at NASA Wallops Flight Facility. "By chance, during the test flight the balloon flew over a very bad thunder storm at night, the worst-case condition in terms of cold temperatures and tricky winds. Yet we maintained a stable altitude for the duration of the flight." The new ULDB was developed by Physical Science Laboratory (PSL), Las Cruces, N.M., and Raven Industries under the direction of NASA Goddard Space Flight Center's Wallops Flight Facility. The test flight demonstrated the capabilities of the balloon vehicle and

recovery systems and was the largest single-cell, super-pressure (fully sealed) balloon ever flown, Smith said. The Commendable Apex Package, developed by PSL, allowed for pressure monitoring and control of the balloon. This along with the redesign of a new subsystem by PSL and Raven were crucial to the success of this recent mission allowing the ULDB team to move forward with plans for a full-scale, global balloon test flight this winter from Australia.

The ULDB differs from conventional scientific balloons now being flown because it is completely sealed, so gas is not vented to relieve pressure. Smith said the new balloon material is strong enough to maintain pressure differences; secure enough to resist leaking; durable enough to hold up to prolonged UV radiation in the high atmosphere; and tough enough to survive high winds and fast-flying dust particles. The test flight, in fact, remained at a constant altitude for the entire flight despite drastic temperature changes. The first fully operational ULDB flight with a scientific payload is currently scheduled for December 2001 from New Zealand.

The ULDB was highlighted in the National Research Council's decadal survey, "Astronomy and Astrophysics in the New Millennium," and has an important role in providing inexpensive access to a near-space environment.

For more information and images, refer to: <http://www.wff.nasa.gov/~uldb>

Wallops Shorts -----

Balloon Launches

Two NASA scientific balloons were recently launched from Ft. Sumner, N.M. The first, a 39.57 million cubic foot balloon was successfully launched on June 3 and carried a cosmic and heliospheric physics experiment. Dr. Dietrich Muller, University of Chicago, was the principal investigator. The reflight of the Muller experiment, following an earlier flight failure, had a flight time of 25 hours, 29 minutes.

A test flight of the new Ultra Long Duration Balloon to demonstrate the balloon vehicle and recovery system was successfully conducted June 4. The .07 million cubic foot pumpkin shaped balloon had a flight time of more than 30 hours. Henry Cathey, Physical Science Laboratory, was the principal investigator.

Bill Krabill Receives Peer Award

Bill Krabill, Observational Science Branch (OSB), recently received the Laboratory for Hydrospheric Processes Year 2000 Peer Award for Outstanding Publication. Krabill was the primary author of the article, "Rapid Thinning of Parts of the Southern Greenland Ice Sheet" that was published in the March 5, 1999 issue of Science magazine.

Also receiving awards were co-authors, Wayne Wright, OSB, and EG&G support personnel, Earl Frederick, Serdar Manizade, Chreston Martin, John Sonntag, Robert Swift, Robert Thomas, and James Yungel.

The paper provided the first comprehensive assessment of the state of balance of the Greenland ice sheet.

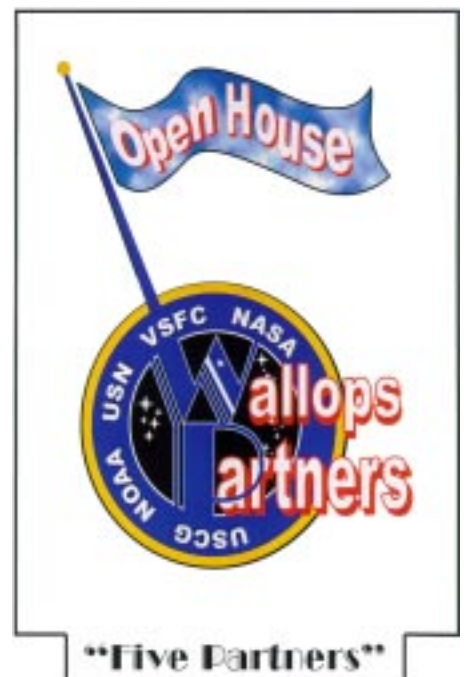
Data from 1993 and 1998 surveys were analyzed to compute the first large-scale mass balance estimates for the most sensitive portions of the Greenland ice sheet, where little or nothing was known.

The paper also identified an especially dynamic region of rapid thinning in the steeply sloped southeastern region. These are pioneering surveys and the scientific findings provide a substantial contribution to understanding the Greenland ice sheet and its potential impact on rising sea level, and is a prominent contribution to NASA's efforts to assess climate change.

From Sea to Space Wallops Open House

June 24

9 a.m. to 5 p.m.



Roadblocks on Wallops Island

by Arnold Torres, Director of SSOP

A busy launch season is planned for Wallops Flight Facility during the upcoming summer and fall months. With the additional launch activities, more hazardous operations will be performed on Wallops Island, with some during normal work hours.

All personnel who require access to Wallops Island must be aware of, and compliant with, the rules, regulations and procedures associated with launch area roadblocks.

Crossbars and/or sawhorses, placed across the road at specified locations, define the physical boundary of the ground hazard area.

The Wallops Test Director has the responsibility and authority for all project hazard areas and hazardous operations.

The project's Launch Pad Supervisor or the Operational Safety Supervisor is responsible for establishing the ground hazard area and verifying that the area remains clear.

Once the ground hazard area and roadblocks are established, access into or through the area is prohibited unless explicitly authorized by the Test Director. Permission to pass through the roadblock must be obtained for each occurrence by contacting the Test Director on x1094 or x2224 or by contacting the Wallops Range Control, on x2242.

Ground hazard area requirements are dependent upon the nature of the hazardous operation but are defined to ensure that the operation is performed safely. It is absolutely imperative that all personnel observe the posted roadblocks and abide by the defined rules and regulations. Violation of roadblock procedures will result in appropriate disciplinary action.



PAO Digital Photo.

Charlie Lipsett, (second from the right) Carrier Systems Branch, helps students from Washington University in St. Louis integrate their Get-Away-Special (GAS) experiment that will fly on Space Shuttle STS-92 currently scheduled for September 2000.

Wallops Island Chief Petty Officers Association

Skeeter Chase 5K Fun Run and 1 Mile Walk (Rain or Shine)

**8 a.m.
June 24**

Awards will be presented to:
Fastest time for the 5K Run
Top three in ages 20-29, 30-39, 40-49, and 50-59
Top two in ages 11-14, 15-19, and 60 +
Fastest age 10 and below
Top two in Athena group (150 lbs +)
Top two in Clydesdale group (190 lbs +)

Special recognition for first time runners and walkers. Random drawings for prizes will be held. Timing will be provided by the Seagull Road Runners. For information or to register call Brian Chopp, (757) 824-7101 or Bob DeSouter (757) 824-7178.

WBC Welterweight Championship

**"Golden Boy" Oscar De La Hoya
vs
"Sugar" Shane Mosley
On The Big Screen**

**June 17
8 p.m.
Bldg. F3**

**For more information call Bob
Tittle, x1244.**

Upcoming Training

Oral Presentation Strategies

Wallops Flight Facility
June 19-21, 2000
Contact: Matt Jarvis, x66-4126
<http://ohr.gsfc.nasa.gov/DevGuide/Comm/11.htm>

Space Systems I

Wallops Flight Facility
June 26-30, 2000
Contact: Kathy Fontaine, x66-3093
<http://ohr.gsfc.nasa.gov/DevGuide/Sci/18.htm>

Payload Safety Review and Analysis

Wallops Flight Facility
July 18 - 21, 2000
8 a.m. to 4 p.m.
This course is offered at no cost to NASA and Contractor employees. Employees need to fill out the course registration form that requires their supervisors signature. Additional information and a course registration form can be found at: http://www.wff.nasa.gov/~code803/pdf/payload_safety_review.pdf

Machinery and Machine Guarding

Wallops Flight Facility
August 1 - 3, 2000
8 a.m. to 4 p.m.
This course is offered at no cost to all NASA and Contractor employees. Employees need to fill out the course registration form that requires their supervisors signature. Additional information and a course registration form can be found at: http://www.wff.nasa.gov/~code803/pdf/machine_guarding.pdf

**2000 Savings Bond Campaign
"Create a New Century of Savings"
June 12 - 23, 2000**

House for rent

Two bedrooms, one bath, \$350.00 monthly, security deposit, 20 minutes from Wallops. Call: (757) 665-4761

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.

Editor Betty Flowers
Printing Printing Management Office

<http://www.wff.nasa.gov>