



Inside Wallops

National Aeronautics and Space Administration
Goddard Space Flight Center
Wallops Flight Facility, Wallops Island, Virginia

Volume XX-03

Number 40 November 3, 2003

NASA Exploring Potential of Small UAVs for Earth Studies

NASA is exploring the potential use of uninhabited aerial vehicles (UAV) that look like large radio controlled airplanes to conduct scientific studies of the Earth.

Long endurance UAVs have the potential to fill the gap between satellites and surface networks in the integrated global observing system.

That gap is filled by the use of traditional aircraft and limited by the endurance of the onboard pilot. UAVs give researchers a persistent but deployable observing presence, capable of focusing on Earth phenomena that require in-depth, in-situ measurements. UAV data are used in conjunction with the larger global datasets obtained from satellites.



The Aerosonde UAV

NASA has entered into a three-year cooperative agreement with Aerosonde North America, Inc., Denver.

Through the agreement, NASA is seeking to determine the feasibility of conducting Earth science research using small, long endurance UAVs.

The Aerosonde remotely controlled aircraft offers scientists the opportunity to conduct long duration missions by flying continuously for more than 30 hours.

The agreement calls for NASA and Aerosonde to establish a UAV facility at the NASA Wallops Flight Facility.

“Providing access to the Aerosonde long-endurance UAV technology provides a number of exciting opportunities for the environmental sciences community,” said Greg Holland, Aerosonde chief executive officer.

“NASA’s commitment to flight operations provides an immediate service, and planned developments will ensure the Aerosonde system evolves to suit the future needs and requirements of the science community,” he said.

To use UAVs to their full advantage, advanced technologies for small, autonomous sensors, much like satellite sensors, needs to be developed.

NASA will hold a workshop with Earth science researchers on Tuesday, November 4 at the University of Maryland Inn and Conference Center, College Park, Md. to discuss the initial focus of sensor development and missions.

The Aerosonde UAV will start flight tests at WFF in November and begin research flights in January 2004. The agreement also includes teaming between NASA and Aerosonde to support education programs.

Middle school to college students will use the Aerosonde UAV for research. Students will design and analyze their own specialized missions and participate in professional science missions.

One NASA Workshop

On November 19, Goddard Space Flight Center will host a One NASA Workshop to expand the knowledge of the NASA Vision and Mission.

The workshop will begin at 9 a.m. in the Building 8 Auditorium with a series of speakers including Bill Readdy, the Associate Administrator for the Office of Space Flight; Roy Bridges, Director of Langley Research Center; and Johnny Stephenson who chairs the One NASA Implementation Team.

They will outline accomplishments and future plans for their Enterprise and Center, and highlight how we contribute to Enterprise plans and to the Agency’s vision with examples of collaboration between Enterprises and Centers.

Breakout sessions will be held in the afternoon co-led by leaders from NASA Headquarters and members of GSFC’s senior management team.

Atmospheric Flight Test is Successful

A Terrier MK70 Orion 5A sounding rocket to conduct an atmospheric flight test of a scramjet surrogate payload was successfully launched from Wallops Island on October 18.



Photo by James Mason-Foley

The Terrier-Orion leaves the pad.

The flight was part of the development of a low-cost, atmospheric flight test technique for scramjet engines integrated into hypersonic vehicles.

The Terrier MK 70 Orion 5A provided a low-cost, reliable ferry designed to take the scramjet vehicle to its prescribed takeover flight conditions of 65,000 feet and mach 5.73.

Preliminary results indicate that all onboard systems and sensors designed and built by NASA Sounding Rocket Operations Contract (NSROC) functioned as planned.

This program is funded by the Defense Advanced Research Projects Agency (DARPA) and implemented by Allied Aerospace GASL Division.

Libby West, NASA Range and Mission Management Office was the project manager.

A second surrogate flight is planned later this year to further refine the launch trajectory.

The first fueled flight of a scramjet motor is planned from Wallops Island in the later part of 2004.

No One Wants a Chimney Fire

A chimney fire in action can be impressive. It has been described as creating:

- loud cracking and popping noises
- a lot of dense smoke, and
- an intense, hot smell

Chimney fires can burn explosively – noisy and dramatic enough to be detected by neighbors or passers-by. Flames or dense smoke may shoot from the top of the chimney.

Homeowners report being startled by a low rumbling sound that reminds them of a freight train or a low flying airplane. However, those are only the chimney fires you know about.

Slow-burning chimney fires don't get enough air or have enough fuel to be as dramatic or visible. The temperatures they reach are very high and can cause as much damage to the chimney structure – and nearby combustible parts of the house – as a full blown chimney fire.

Fireplaces and wood stoves are designed to safely contain wood-fueled fires, while providing heat.

Chimneys have the job of expelling the by-products of combustion, which includes smoke, water vapor, gases, unburned wood particles, hydrocarbon volatiles, and tar.

As these substances flow up into the relatively cooler chimney condensation occurs. The resulting residue, creosote, sticks to the inner walls of the chimney.

Creosote is black or brown in appearance and can be crusty and flaky...tar-like, drippy and sticky...or shiny and hardened. Often, all forms of creosote will occur in one chimney.

With proper chimney system care, chimney fires are entirely preventable.

Halloween Visitors



Photo by Gary Gibb

left to right: The Devil (Shanna Watson), Dorothy (Linda Layton), Commando (Rock Hilmo), Queen Mom (Debbie Watson) and Gabriella (Gabe Garde)

NASA's P-3 Aircraft Crew Recognized



Photo by Rich Rogers

John Campbell, (right), Wallops Senior Manager presented the quarterly aviation safety award to the NASA P3 crewmembers that participated in the Antarctic Sea Ice(AASI) mission flown from the Punta Arenas, Chile, airfield during August and September of 2003.

The crew are from left to right: Avionics Technician, Pete Peyton; Pilot, Willy Dykes; Pilot, Mike Singer; Flight Engineer, Brian Yates; Flight Engineer, John Doyle; and Pilot Chris Pali. Crewmembers not pictured were A&P Mechanics Sam Broyles and Jose Gonzalez.

Falling Down on the Job

by Stan Williams

Approximately 13 million injuries from slips, trips and falls occur every year often resulting in loss time, broken bones, permanent disability and even death.

Become a team player to help prevent slips, trips and falls on the job!

- Clean up or report spills
- Pick up stray tools and equipment from walkways
- Eliminate clutter
- Wear slip-resistant shoes
- Use adequate lighting
- Fall protection devices should be used when working from platforms, scaffolds, and ladders where provided
- Use ladders & stepstools correctly
- Makeshift ladders, chairs, boxes, and barrels should never be used as a substitute for a ladder
- Do not carry large objects that may obstruct your vision
- Use handrails – Avoid walking too fast or running
- Learn to recognize hazards on and off the job – Pay attention – Be sure you can see the path ahead
- Control hazards – Mark them clearly so others don't get hurt – Fix the problem or report it right away

For more information, contact the Wallops Safety Office on x2369.

Career Coach at Wallops

Career Coach, Cheryl Palmer, will be at Wallops on November 12 and 13 for private appointments with civil service employees.

To schedule a confidential appointment, contact Palmer on x66-5794 or Tracey White on x66-7823.

70s Party & Talent Show

Friday, November 7
6 p.m. - Until
Cropper Center



There will be a 50/50 raffle and prizes for the best costume and most talented. Tickets are \$5 each and may be purchased from Dave Smith, x1316; Rebecca Beach, x1559; or Sandra Banks, 2526

Open Season

The Federal Employee's Health Benefits (FEHB) and Flexible Spending Account (FSA) open seasons will be held from November 10 - December 8, 2003.

civil service employees can enroll, change plans or change status for health benefits by submitting a change through Employee Express by the SF-2809 or online: www.employeeexpress.gov A FSA for 2004 can be set up during this time at: www.fsafeds.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. Recent and past issues of *Inside Wallops* may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

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