

# Remote-controlled craft performs well

By Charles F. Bostwick, Staff Writer

LAKE LOS ANGELES - A remotely piloted high-altitude aircraft operating out of an Antelope Valley airfield measured atmospheric substances over the Pacific Ocean, counted sea lions sunning on beaches and showed its ability to spot poachers' boats.

The General Atomics Aeronautical Systems Inc. Altair flew the missions for the National Oceanic and Atmospheric Administration and NASA, gathering ocean and atmospheric chemistry measurements, mapping low-tide coastal areas and working with Coast Guard and National Park Service personnel around the Channel Islands.

NASA and U.S. Forest Service officials are planning next summer to use the aircraft to spot and fight forest fires: They plan to have it patrol in 20-hour loops stretching from Southern California into Montana and back again, looking for fires that haven't been reported.

The plane will also be able to look through smoke to tell firefighters where flames are burning hottest and in what sort of terrain.

"We're doing things that have never been done before, at least never been done before in a nonmilitary context. The potential of these aircraft is starting to look like it is coming to fruition," said Chris Jennison, NASA Dryden Flight Research Center's project manager for the Altair missions.

The Altair is a one-of-a-kind high-altitude version of its San Diego-based maker's Predator unmanned reconnaissance plane, which has been in use by the U.S. military since the 1990s and has seen extensive service with the Air Force and the Army in Iraq.

A larger, higher-flying Predator B has now entered Air Force service, and one went on duty in September with the U.S. Customs and Border Protection Agency, watching the U.S. border in Arizona.

The border patrol plane flies mostly at night, keeping the border under observation and checking out alarms from border motion detectors.

"When something trips a sensor,

we go and investigate it," said John Porter, General Atomics Aeronautical Systems Inc.



An Altair unmanned aircraft flies over the California coast during a Nov. 16 test for the National Oceanic and Atmospheric Administration and NASA. (NASA)

manager of business development.

In summer 2004, on duty in Alaska with the Coast Guard, the Altair was used to check wild fires' proximity to the Alaskan oil pipeline.

With longer wings than the Predator, the Altair can fly at altitudes above 52,000 feet - or more than three miles higher than jetliners fly.

Like the Predators, the craft is controlled by operators on the ground, using a joystick, throttle and instruments like a conventional aircraft's and watching a video image from a camera in its nose.

The ocean flights and next summer's fire-watch flights will be flown out of General Atomic Aeronautical Systems Inc.'s Gray Butte airfield, a World War II training base and radar test facility east of Lake Los Angeles. The company reopened the facility in 2001 as an airfield for its unmanned aircraft.

NASA officials say unmanned research aircraft can fill the gap between the information that is collected through satellites and ground stations. The aircraft can provide longer looks at an area than an aircraft carrying a pilot, and can be directed to stay in a particular area, instead of passing overhead occasionally like a satellite.

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