DECLASSIFICATION

Panel of Scientists Helps Open Lid on Secret Images

Antarctic pictures are the latest in a series of releases shepherded by the low-profile but high-impact Medea Committee

Scott Borg's eyes flit between a photograph and a geological map of Antarctica's Dry Valleys unfolded on his desk. "Look, that island is a peninsula in the photo, and there's a finger that's no longer visible," he exclaims, comparing two images of Lake Bonney. He looks at the photo again, jabbing at a land feature, and then blurts out, "Boy, I'd really like to measure how wide that is the next time I'm down there."

As program manager for Antarctic geology and geophysics at the National Science Foundation (NSF), Borg helps scientists venture into one of Earth's most inaccessible and stark terrains, the McMurdo Dry Valleys region. The largest relatively ice-free area in Antarctica, this cold desert ecosystem houses one of 21 sites in NSF's Long-Term Ecological Research (LTER) network and is extremely sensitive to global climate change. Last month, those scientists also benefited from the world's changing geopolitical climate.

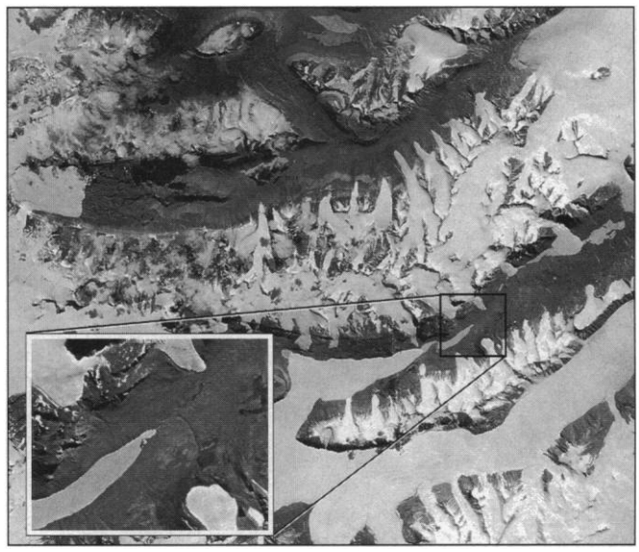
On 15 September, during a visit to NSF's Antarctic staging offices in Christchurch, New Zealand, President Clinton announced the release of a clutch of previously classified photographs that will help researchers establish baseline data on the environment there (www.nsf.gov/od/opp/antarctic/imageset/satellite/start.htm). The seven pictures, taken in 1975 and 1980, offer sufficiently good resolution and digital elevation data, for example, to track the apparent rise in the levels of glacier-fed lakes in the Dry Valleys region. The images are the latest declassified images taken by billions of dollars worth of intelligence assets—satellites, planes, ships, and other sources (*Science*, 3 March 1995, p. 1260). The effort has been championed by Vice President Al Gore, who as a U.S. senator set the bureaucratic wheels in motion. But an unsung panel of scientists called the Medea Committee has done most of the heavy lifting.

The group meets regularly with the federal intelligence community to discuss how such disclosures can make important contributions to knowledge without jeopardizing the nation's security. "All of their instincts are to be secret, and all of our instincts are to be open," says Harvard atmospheric scientist Michael McElroy, who chairs the committee. "There has to be someone at the table to persuade them that [disclosure] is worth considering." The scientists' security clearances let them "look behind the window," adds remote-sensing specialist Linda Zall, technical director of the Central Intelligence Agency's (CIA's) 3-year-old environmental center. "It's the only environmental science group that has access to both worlds."

Medea is modeled after the Jasons, a group of scientists who for decades have advised the government on issues relating to nuclear weapons technology. Its members receive security clearances that allow them to view the fruits of intelligence gathering from the Cold War era. Gore got the ball rolling in 1990 by asking if the CIA had archival data that might shed light on a range of current environmental issues, from biodiversity to natural disasters. In 1992, some 70 scientists attended the first meeting of what was then called the Environmental Task Force, discussing what types of data might be most useful. That led to a report outlining more than a dozen possible experiments, which members later shopped around to various federal research agencies.

Committee member William Schlesinger, a soil chemist at Duke University, studied the changing vegetation in Sudan, using satellite and aircraft pictures going back to 1940. Concluding that aerial photos could track changes in the distribution of large plants, he then requested historical pictures of an LTER site, the Jornada Experimental Range in southern New Mexico, for which he is the principal investigator (PI). The idea was backed by NSF director and Medea member Rita Colwell and later approved by the National Imagery and Mapping Agency. This fall, the government will release 37 pictures going back to the 1960s that Schlesinger hopes will help his team monitor the encroachment of mesquite into a grasslands region at Jornada, on the northern tip of the Chihuahuan desert, as a marker for a changing climate. "We're pretty excited," he says. "This will allow us to document the rate and pattern of change for a particular parcel, including the soil chemistry, going back before we started working there in 1981."

McElroy says more than a year of "intense negotiations" preceded the release of images from the Antarctic and New Mexico LTER sites. Medea has also been successful in obtaining more recent records. Last month, the government declassified 57 pictures of the site surrounding the 1997–98 SHEBA (Surface Heat Budget of the Arctic Ocean) experiment, in which a Canadian icebreaker was frozen in drifting pack ice for a year. "I put in the request to acquire imagery from SHEBA long before the experiment began," explains atmospheric scientist Norbert Untersteiner, professor emeritus at the University of Washington, Seattle, and a co-PI of SHEBA. "This was a unique opportunity, since there would be people on the ground at the same time."



Historic view. Spy-satellite images of Antarctica's Dry Valleys will help researchers track 20 years of environmental change in the region.

Medea scientists foresee the release of several more caches of photographs. McElroy says that a half-dozen subgroups are exploring new potential targets, but the budget to do additional studies is tight. Despite limited resources, most Medea members seem pleased with the results of their work to date. "It's easier for them [government officials] to just say no and have no regrets," says Schlesinger. "But it's clear that Gore's original view that there are national assets valuable to science has proven to be absolutely correct." —JEFFREY MERVIS

CREDITS: NATIONAL IMAGERY AND MAPPING AGENCY