around the continent

PALMER

LTER cruise now under way

By Kerry Kells
Palmer correspondent

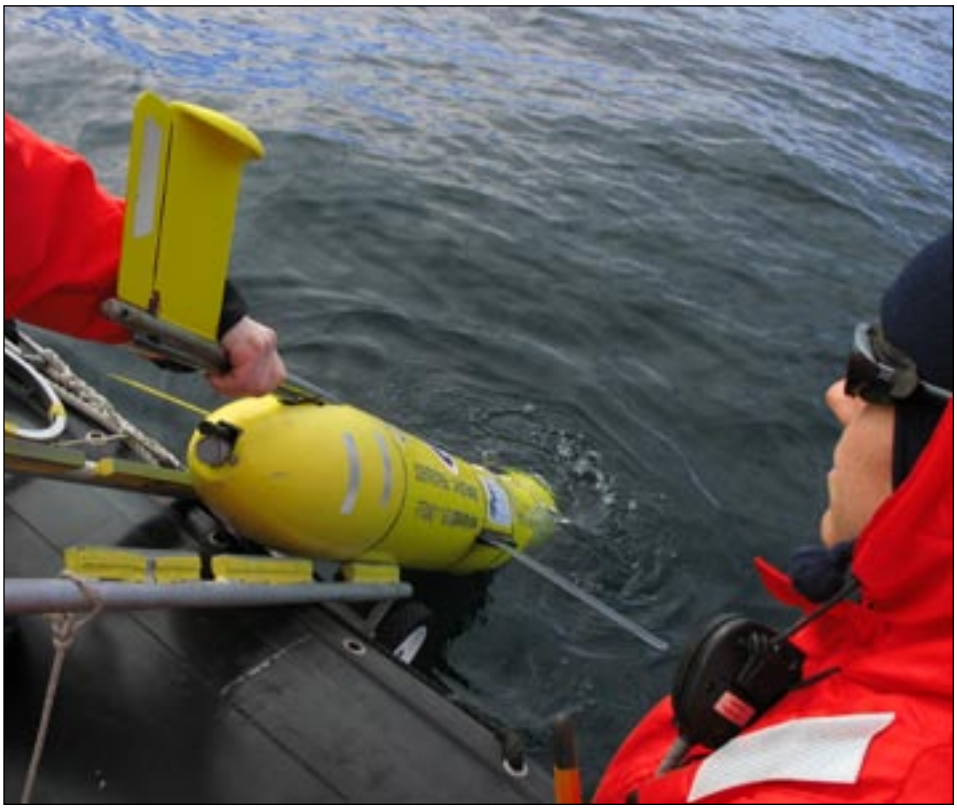
This past week, the research vessel *Laurence M. Gould* returned to Palmer Station with a change of personnel. Several scientists boarded the *LMG* for the Palmer Long Term Ecological Research (LTER) cruise. Palmer residents also welcomed two cruise ships, the *Rotterdam* and the *Corinthian II*, and the sailing yacht *Sarah W. Vorwerk*.

One of these arrivals is the entomology group led by Principal Investigator Richard Lee and Co-Principal Investigator David Denlinger. They are here to study the four insects that inhabit the Antarctic Peninsula – a wingless midge, a springtail, a mite and a tick.

The annual Palmer LTER science cruise will take a group of scientists along the peninsula south to Adelaide Island and Rothera Station, the British Antarctic Survey research station. The four components of the Palmer LTER project include microbial biogeochemistry (bacteria), phytoplankton, zooplankton (krill) and seabirds.

Hugh Ducklow is the chief scientist for the cruise. The cruise operation includes sampling at 70-plus stations on the water, which are along the same LTER grid transecting the peninsula. The key feature of the LTER cruise is to sample at the same stations the same way each year, and this is the 15th consecutive year of that sampling.

The cruise operation includes 140 net tows for krill, a seabird census, sampling at Marguerite Bay and stations along the southernmost line of the grid. Different groups will deploy near-shore CTDs (conductivity, temperature, depth) and study water column characteristics, weather, particle counts and conduct bird and mammal observations. A sediment trap deployed on last year's LTER cruise will be retrieved and replaced by another. Surface drifters that measure the currents in the grid area are also deployed.



Phil Spindler / Special to *The Antarctic Sun*

A science team lowers an autonomous underwater vehicle called a Slocum Glider into the water near Palmer Station. It will conduct oceanic measurements for 15 to 30 days.

New this year is the deployment of an AUV (autonomous underwater vehicle) called a Slocum Glider, operated by Rutgers University. It will measure depth, time, temperature, salinity, fluorometry and possibly take particle counts.

The glider will be deployed for 15 to 30 days. It is versatile, maneuverable and powered by alkaline batteries. The glider propels itself through the water by altering its buoyancy instead of using motors and has been used for oceanographic measurements all over the world. This will be its first deployment in Antarctic waters. While the *LMG* was at the Palmer pier, the glider was successfully tested, adjusted and deployed.

The seabird researchers spend much of their time on the *Gould* doing seabird survey observations from the bridge of the ship. They will track all the seabird species spotted on the grid.

In past years, this has included black-browed albatross, wandering albatross, white-chinned petrels, blue petrels, Antarctic prions, light mantled sooty albatross and Southern fulmar.

They will try to reach seven local islands near Renaud Island. There they will take penguin censuses and attach satellite transmitters to two males and two females (with chicks) to better understand Adélie

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the week in weather

McMurdo Station
High: 48 F / 9 C
Low: 25 F / -4 C
Min wind chill: 9 F / -13 C
Max sustained wind: 38 mph / 61 kph

Palmer Station
High: 45 F / 7 C
Low: 30 F / -1 C
Max sustained wind: 27 mph / 44 kph
Melted precipitation: 5 mm

South Pole Station
High: -12.1 F / -24.5 C
Low: -19.1 F / -28.4 C
Peak wind: 23 mph / 37 kph
Max. physio altitude: 3,168 m

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foraging patterns. They will also conduct censuses, study adult diet samples and collect other samples for lab analysis.

The birders will camp at Avian Island, a specially protected area that is home to a large Adélie penguin colony, as well as blue-eyed shags and giant petrels. The projects at Avian Island include censuses of Adélies, giant petrels and shags; the use of transmitters for the penguins; tracking chick weights; and obtaining adult diet samples. Researchers can then make geographic comparisons among the Palmer local islands, Renaud Island and Avian Island.

The *LMG* will not return to Palmer until after the LTER cruise in early February. Each LTER component retains one or two researchers on station who will periodically get assistance from the Palmer community. There are also now four seabird researchers at Palmer studying the growth of the Adélie chicks, and the hatching of giant petrel, brown skua and South Polar skua chicks.

SOUTH POLE

Preparing for winter

By Charles Redell
South Pole correspondent

The end of the austral summer season is nigh at the South Pole, and the attention of Polies has turned to all of the things that need to get done before a smaller winterover crew takes over.

Although time is running short to complete the season's projects at the bottom of the planet, folks are optimistic about getting it all done since the weather has cooperated all summer long, allowing crews to complete more sooner than expected.

Topping the list of ahead-of-schedule departments is cargo. The South Pole reached 200 flights before Christmas for the first time ever.

Even with a New Year's weekend devoid of flights due to bad weather in McMurdo, cargo is experiencing a comfortable cushion so far in 2007. The season's 261st flight was scheduled to land at Pole on Saturday, barring any adverse weather conditions.

The majority of the flights coming in during the year's first month are bringing fuel to the station to keep it heated during the upcoming winter.

At the same time, outgoing flights are full of items being sent for retrograde (retro) as the station's various departments are trying to get as much as possible off station and to McMurdo Station before the re-supply vessel leaves. Retro items heading north this month include the infrastructure for two old telescopes. The AST/RO telescope retro was completed earlier this month.

The VIPER telescope infrastructure is currently heading north. It is slated to end up in Berkeley, Calif., where the parts will be re-used in another telescope.

Earlier this week, the South Pole was visited by four helicopters, all of which were traveling between the North and South Poles. One team, made up of two helicopters, is an American-based private expedition. The second, also consisting of two helicopters, is based in Russia.

Even with all that is going on, recreation at the South Pole never takes a holiday, and this week was no exception. The season's second edition of James Brown bingo – hosted by none other than the station's executive chef, James Brown – was held on Saturday night. Polie Teresa Eddington won the big prize this time.

We also enjoyed an open house hosted by the meteorological department and a 30th birthday celebration for one of the station's general assistants.

SHIPS

NBP

Compiled from reports by Jim Dolan
Marine project coordinator

The R/V *Nathaniel B. Palmer* continued to operate near the Adare Trough this week. A science team on board is conducting a geological study of the seafloor.

One of the staff became ill, and the decision on Jan. 7 was made to transport the patient to a hospital.

The *NBP* proceeded to a rendezvous point at the fast ice edge near Italy's Mario Zucchelli Station at Terra Nova Bay, where it was met by a helicopter with onboard medical staff from McMurdo Station.

Mario Zucchelli Station provided the operation with logistical and communications support, and the patient was successfully transferred to McMurdo and on to Christchurch, New Zealand.

LMG

Complied from reports by Andrew Nunn
Marine projects coordinator

The R/V *Laurence M. Gould* arrived at Palmer Station on Jan. 5 and immediately commenced cargo operations. The next morning, an onboard science team deployed an autonomous underwater vehicle (AUV) called a Slocum Glider by Zodiac.

The ship then departed Palmer Station but received a transmission from the AUV the next morning indicating it had detected a leak.

The *LMG* returned to the AUV for testing and repairs, and the science team redeployed the instrument on Jan. 9, after which the *LMG* resumed normal operations.

Continental Drift — What is the best meal at your station?

"Thanksgiving was great, Thai food makes for a nice change, and the bread at dinner is always super!"

Michiel Gitzels
McMurdo Station
system administrator
Hope, Alaska
second season

"Crown roast of veal with mushroom duxelle stuffing and black truffle-studded madeira sauce."

Bob DeValentino
Palmer Station
cargoperson
St. Louis, Mo.
fifth season

"Grilled cheese and tomato soup."

Amnesty Kochanowski
South Pole
cargo handler
Grand Lake, Colo.
second season