NEW GROUP OF SCIENTISTS BEGIN FIELD WORK WHILE IPF TEAM PREPARES FOR ARRIVAL OF CARGO SHIP



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To the coast!

Last Saturday Eric Rignot From UC Irvine and his team from the NISAR project left for the coast 200 km from PEA with Alain Hubert, Tim Grosrenaud and mountain field guide Daniel Mercier in Prinoth tractors towing several sledges (scientific equipment and caboose) and a caterpillar-equipped Toyota Hilux. One container equipped with a kitchen, wifi and communications infrastructure will be the living quarters for Eric and his scientific team for the next several weeks as they camp out on the coast.

Eric and his team will spend the next several weeks studying the thickness of ice at different distances from the grounding line to the edge of the King Baudouin Ice Shelf to see how much of it is melting underneath. In addition, they will install a GNS antenna to measure movement of the ice with the tides and ice shelf melting, conduct seismic transects and use a sledge hammer to get insights on the ice structure and thickness. Finally, they will be using a hot water drill to bore through the ice and deploy CTD sensors in the water

beneath the ice shelf. Alain and Tim will remain in the vicinity to install a 3-metre tall automatic weather station (AWS) that Simon Steffen prepared before leaving for the PEACE project.

Cargo ship arrival

Alain and Tim will soon meet with Yann Perillot, Jacques Belley and Siméon Polet left PEA have left with a train of sledges and a container in prevision of the cargo ship arrival foreseen in a few days depending on the ice conditions in the area at the time of berth along the King Baudouin Ice Shelf.

One reefer container (set at -25°C) that has all of the surface ice and ice core samples taken by the scientists from the FROID project along with meteorite sediments collected by the scientists from the ULTIMO project will be loaded onto the cargo ship to be transported back to Belgium, where scientists will do their respective analyses in the labs of their universities.

Being unloaded from the ship and going back to the station will be many containers containing frozen food necessary for the coming seasons as well as all the pieces of a new hangar that will be build at the Winter Park next season. The ship will also bring fuel for the vehicles the BELARE team and scientists use as well as the planes that transport people to and from the station, or for the teams that spend some time at PEA using it as a base of operations, as is the case with AWI's Polar 6 aircraft. Other aircraft also sometimes use PEA as a refuelling station to reach their destination on their trans-Antarctic journey from one base to another.

The loading and unloading of the cargo ship is a task that takes several days and a crew of at least five people. The ship is only staying in the area for a short time before moving on to resupply other stations, so the team has to work non-stop for the entire time the ship is there to make sure the job is completed as quickly as possible.

Serious snow studies

Separately on Friday Paula Lampreapineda from Ghent University, who is working for the BELSPO-funded PASPARTOUT project, and Sergi Gonzalez from the EPFL in Lausanne, who is working on the CRYOS project, left for the Princess Ragnhild Coast in a caterpillar equipped Toyota Hilux with their field guide Manu Poudelet.

During their five-day trip, Paula will dig trenches to take snow samples to study atmospheric particles and deposits at different depth of the trench. Alain and Tim, who are nearby, will stop by while waiting for the ship to collect the snow samples the automatic snow sampler has been gathering since Paula's colleague Sibille Boxho installed it last season. Sergi will take snow samples and photogrammetric measurements along the transect they take to the coast to recreate the relief of the snow surface digitally as a way to determine potential albedo of the studied area.

The microscopic world

Meanwhile, Björn Tytgat and Quentin Vanhellemont from Ghent University and the RBINS respectively, who are working on the BELSPO-funded EXPOSOILS project, have been taking day trips to the several locations around PEA they and their colleagues before them have studied for many years.

As the project is tracking how climate change is affecting microbial communities in the vicinity of the Princess Elisabeth Antarctica, they will take samples of microorganisms such as collembola and mites around and inside open-top chambers (OTC) installed in the field to locally mimic climate change. OTC's and control plots are also equipped with data loggers that measures temperature and humidity. Study areas

are equipped with time lapse cameras to assess how much of it is snow-covered from one season to the other and how precipitation affects the local conditions throughout the year.