

Activities of the Russian Antarctic Expedition in the Larsemann Hills area undertaken for 2019/2020

Russia operates the Progress Station (69°21'57"S, 76°20'59"E), a compacted snow runway and associated facilities located in the Larsemann Hills, East Antarctica.

Personnel:

- wintering personnel, January 2020 – 25;
- seasonal personnel - 43, includes 9 researchers, 34 traverse and supporting staff.

Activities undertaken

1. Scientific studies

The following science activities were carried out during the former seasonal period:

- oceanography observations;
- coastal ice-hydrological observations;
- studies on geomagnetism;
- meteorological and solar radiation observations;
- monitoring of atmospheric circulation;
- medical monitoring;
- microbiological monitoring;
- monitoring of hydrobiota of local marine environment;
- permafrost monitoring;
- radar and microseismic observations over the surge of Dalk outlet glacier;
- glaciological and geophysical surveys with GPR technique and RPAS (remotely piloted aircraft system).

2. Logistical activity

Vessel operations

RV Akademik Tryoshnikov

From 07 to 15 December 2019

- partial change of wintering personal;
- 350 tons of general cargo (9 PistenBully, transport sledges, including 78,0 tons of food for Progress, Vostok and Molodezhnaya, etc.) unloading at Thala by two helicopters Ka-32 and PistenBully Polar 300;
- 520 tons of fuel by pumping in to temporary oil storage and traverse tanks located near Thala Fjord for on-ground delivery to the Progress station and '550 km', '1100 km' depots.

From 27 February to 9 March 2019

- wintering personnel changeover;
- 110 tons of general cargo;
- 1100 tons of fuel by pumping in to temporary oil storage and traverse tanks for on-ground delivery to the '550 km', '1100 km' depots.

Traverse operations

From 15 November to 13 March 2019

In total, seven cargo sled traverses (ST) were carried out during the 65th RAE seasonal period. They can be divided into three groups:

- A) The main cargo trip - these are ST-1 and ST-3, the main task of which is to provide Vostok station with fuels and lubricants, food, scientific equipment and household supplies. In the season of the 65th RAE, the equipment necessary for work under the Vostok rebuilding construction program was also delivered.
- B) Auxiliary trips ST-2, 4, 5, 6 provided fuel delivery to storage 550 and 1100 km depots along the route.
- C) Scientific ST. As part of the scientific program of the glacier-boring detachment, a trip to the area of the Dome B was carried out.

Flight operations

From November 2019 to February 2020 43 flights for RAE, DROMLAN program and including 27 for CHINARE program were carried out at Progress runway.

RPAS flights

RPAS fixed wing aircraft type (3) and quadcopters (9) were performed the 2019-2020 season in the area of Progress station responsibility.

In connection with such an intensive use of RPAS, dispatch support of these flights was started. Aircraft-type RPAS operators underwent special training in preparation for the expedition, they received certificates for the right to use this type of RPAS.

Work for modernizing the station infrastructure:

Current routine work.

3. Environmental protection

- routine waste management (collection, sorting and storage of wastes, incineration of combustible wastes in the high temperature incinerator, fuel drums compacting); and
- 12 tons of wastes were removed from the station by RV.

4. Meetings of Station Personnel

Celebrating holidays together and inviting each other to visit is traditional for neighbors in the Larsemann Hills.

Unfortunately, joint activities were suspended due to quarantine.