

Observations of glaciers and climate in Suntar-Khayata Range, Eastern Siberia

Shuhei Takahashi[1]

[1] Kitami Institute of Technology

1. IGY and IPY in Suntar-Khayata

In the period of IGY (International Geophysical Years: 1956/57), Russian Academy has made glaciological researches extensively in Suntar-Khayata Range in Eastern Siberia, in which about 180 glaciers were numbered. Especially No. 31 Glacier was precisely studied, where a meteorological station was constructed and lots of glaciological data were acquired through whole three years. After the IGY, almost no observation was done in this area except getting aerial-photo and satellite images.

After 50 years, meteorological observations were done in this area as an activity of IPY (International Polar Year) in 2004-2005. Meteorological instruments were installed at the same place of the former station at the terminus of Glacier No. 31 in Suntar-Khayata Range and at several points in Oimiyakon area.

2. 2004 Activities

In July to August, 2004, our field trip was as below:

- 1) Yakutsuk to Ust'Nera by airplane
- 2) Ust'Nera to Oimiyakon by boats
- 3) Oimiyakon to/from Tomtor by cars
- 4) Oimiyakon to No.31 Glacier by helicopter
- 5) No.31 Glacier to Yakutsuk by helicopter

Along a road from Oimiyakon to Tomtor, Meteorological instruments (temperature, wind speed, wind direction, solar radiation) were installed at Oimiyakon, and No. 31 Glacier in Suntar Khayata.

3. 2005 Activities

The meteorological instruments installed in 2004 were recovered in September 2005. almost all instruments were survived, although several thermometers along a road between Oimiyakon and Tomtor were lost.

The minimum temperature in a year was -59 C at Oimiyakon (about 680 m a.s.l.), which is called 'Pole of Cold', and -45C at Glacier No. 31 (about 2050 m a.s.l.) , which suggests there was strong temperature-inversion in this area in the period of Siberia high pressure in winter.

Snow depth was observed by 3-hour interval digital images of snow stakes, by which the variation of snow accumulation was obtained . By the data, snow accumulation period was 2004/09/03- 2005/06/27 and the maximum snow accumulation was 72 cm on 2005/05/11 .

Aerial photos of glaciers were taken from a helicopter from the Southern and Northern Massif in Suntar- Khayata Range, which will be compared with satellite images and contributed to IPY data.

