

A02-P01

SOURCES OF METEOROLOGICAL DATA FOR THE AREA OF NOVAYA ZEMLYA IN THE EARLY INSTRUMENTAL PERIOD

Przemysław Wyszynski (*Nicolaus Copernicus University, Faculty of Earth Sciences, Department of Meteorology and Climatology, Poland*)

Rajmund Przybylak (*Nicolaus Copernicus University, Faculty of Earth Sciences, Department of Meteorology and Climatology, Poland*)

Tomasz Strzyzewski (*Nicolaus Copernicus University, Faculty of Earth Sciences, Department of Meteorology and Climatology, Poland*)

Przemyslaw.Wyszynski@umk.pl

Our knowledge of recent climate changes in Novaya Zemlya (over the last 60–65 years) is, relatively speaking, fairly well developed. However, regular instrumental observations, extending back to the end of the 19th century, have only been carried out at Malye Karmakuly since 1896.

The oldest series of meteorological data for Novaya Zemlya come from scientific overwintering expeditions of Pakstusov at Kamenka Bay in 1832/33, Pakstusov and Civolka at Matochkin Shar in 1834/35, Civolka and Moyseyev at Melkaya Bay 1838/39, and Tobiesen in Sajazkie Insel in 1872/73. In the 1870s, a series of measurements at Malye Karmakuly were commenced under the leaderships of Bjerkan (1876/77), Tyagin (1878/79), Andreyev (1882/83), and Jona (1891/1892). High-quality observations were also conducted during the Sedov expedition in Foka Bay in 1912/1913.

All available meteorological data (air temperature, atmospheric pressure, wind direction and speed, humidity, weather phenomena, etc.) with sub-daily, daily or monthly resolutions were transcribed from Lenz 1886, Golicyn 1900, Edlund 1928, and Wiese 1931. In order to avoid errors, data were extracted manually into a digital format. In this way, a verified database of a uniform structure was established and temporarily named *Land Early Instrumental Dataset for the Russian Arctic (LEIDRA)*.

The main objective of the present paper is to roughly describe the meteorological conditions in Novaya Zemlya from 1832 to 1913, on the basis of all available early instrumental data gathered during scientific expeditions. Having obtained this information, the results will be compared with contemporary climatic conditions (1981-2010), to estimate the range of their changes between historical and present times.

References:

- Edlund O. 1928. Meteorologische und aerologische beobachtungen der Norwegischen Nowaja Semlja Expedition im Sommer 1921. pp. 55 [in:] Report of the Scientific Results of the Norwegian Expedition to Novaya Zemlya 1921. No. 39, Det Norske Videnskaps. Akademi i Oslo, Oslo, 1928.
- Golicyn K. B. 1900. Mémoires de L'académie Impériale des Sciences de St.-Pétersbourg. VIII Série. Classe Physico-Mathématique. Volume IX. N. 3.
- Lenz R. (ed.) 1886. Beobachtungen der Russischen Polarstation auf Nowaya Semlja. Expedition der Kaiserl. Russischen Geographischen Gesellschaft. II. Theil. Meteorologische Beobachtungen bearbeitet von K. Andrejef. St. Petersburg: Imperial Russian Geographical Society.
- Wiese W. 1931. Meteorological observations of the Sedov Polar Expedition, vol. 1, Observations at Foka-Bay Novaya Zemlya 1912-1913 [in:] Materials for the study of the Arctic, No. 1. USSR Arctic Institute, Leningrad.