

## **Kazan Meteorological School (KMS)**

KMS exists since the first meteorological experiments in Kazan University has started (**I.I. Zapolsky**, 1805), following with the establishment of *meteorological observatory* (1812) and the publication of first scientific works on climate of Kazan and some regions near Ural (**F.K. Bronner**, 1815-16; **A.J. Kupfer**, **N.I. Lobachevsky**, 1829, 1831). For the first time in Russia, there was published an article: “About temperature differences between South and North hemisphere” (**I.M. Simonov**, 1825). Since 1830s studies of natural phenomena and climate conditions in the territory of the Volga region, Caucasus, Ural and Siberia were conducted (**E.A. Knorr**, **A.S. Saveliev**). Due to this, *meteorology* originated as a science under Kazan University.

**The Association of natural scientists** at Kazan University (1869) played a special role in the development of meteorological research. **I.A. Boltsany** was the pioneer of aerological research, who in 1870s was observing pressure, temperature and air humidity measurements at different heights with the help of a captive balloon designed by him. The monograph of **I.N. Smirnov** “About weather predictability and spring storms in Russia” (1870) became the scientific basis for weather forecast methods and as a result – of synoptic meteorology. In 1880-s actinometrical and gradient research was started by **R.A. Kolly**, **F.M. Tsomakion**.

Thanks to **N.P. Sluginov** and **D.A. Goldammer**, “Works of East Russia meteorological net” started publishing at the end of 19 century. At the beginning of 20 century, the number of works on regional climate was done (**A.I. Kartikovskiy**, **D. Kushnikov**, **N.F. Pushkin**) at the department of geophysics at Kazan University (nowadays – the department of meteorology, climatology and atmosphere ecology). In 1930 with the help of KMS representatives Tatarstan hydrometeorological service was organized. In 1930-1960 **P.T. Smolyakov**, **O.A. Drozdov**, **N.V. Kolobov**, **E.D. Fedotova**, etc. significantly contributed to the development of research in atmosphere circulation, climate, meteorological and hydrological regime of water storage reservoirs, agroclimatic resources of the republic.

Since 1970-s the problems of monitoring, modeling and forecasting of climate, general circulation, energetics, and atmosphere pollution parameters has been thoroughly studied (**J.P. Perevedentsev**, **M.A. Veretschagin**, **R.R. Khairullin**, **E.P. Naumov**, **K.M. Shantalinsky**, etc.). In last years, regional peculiarities of modern global climate warming in troposphere of Atlantic-European region are also being under detailed analysis. Several monographs have been published on Middle Volga, Tatarstan, Kazan climate, dynamics and energetics of global

atmosphere processes, cyclonic activity, renewable energy sources, atmosphere ecology. Scientific seminars and conferences at regional, Russian and international levels were held.