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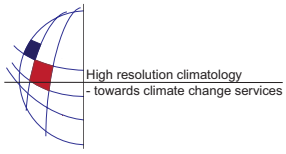

The system of meteorological observations based on high-altitude meteorological mast in Obninsk

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This paper presents the system of collecting, processing, controlling and archiving data on climatic measurements, carried out on the 300 m high-altitude meteorological mast (AMM) situated in Obninsk, Russia. Climatic measurements have been carried out in a continuous mode since 1964. In contrast to the aerological methods of atmospheric sounding (as well as aircraft, balloon etc.),which do not fully satisfy the stationary conditions, the mast measurements are carried out on the strictly fixed levels, at exact time and practically under any weather conditions. These measurements are carried out simultaneously in the surface layer, and at heights of 25, 73, 120, 217 and 300 m, they are characterized by high accuracy, frequency, temporal and height resolution. Besides, hourly are performed visual observations, during which is determined the total cloud amount, the clouds type and visibility. Weather phenomena (fog, precipitation, ice, storms, etc.) are observed continuously. The report presents generalized results of some climate observations. The archive of some data files is presented at the website http://typhoon-tower.obninsk.org. The current measurements at different levels of AMM are also given in this site. Three-dimensional sodar MFAS with RASS from «Scintec», located near the mast is being used during the last few years for the measuring. The report compares the sodar data and data of AMM sensor measurements. The temperature profiles obtained by platinum thermometers on the mast and RASS are also compared.
The system of meteorological observations at the AMM in Obninsk in recent years is being continuously upgraded and updated. Two- and three-dimensional acoustic anemometers from Gill, Young and those developed by “SPA”Typhoon” are used for wind measurements; mechanical anemometers from Young are applied for average wind measurements.