

Project target is research of parameterized prediction models and methods for detection of significant meteorological events (rain, fog, low cloud cover).

Intense rainfall detected by radar – possibility of flood, real-time localized fog prediction with visibility under 500 or 200 meters – dangerous for air and road traffic, amount of low clouds with more than $\frac{1}{2}$ of the sky covered – limits the landing of aircrafts. The ability to predict beginning and end times of fog occurrences is useful for air traffic control centers. The detection and prediction methods are based on statistical and climatological methods combined with knowledge discovery – data mining of meteorological data (SYNOP, METAR messages, weather radar imagery, “raw” meteorological data from stations, satellite imagery and results of common meteorological prediction models).