

# Prognostic signs of hazardous atmospheric phenomena in geophysical fields

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The development of prognostic signs of a possible arrival of a hurricane or severe thunderstorm is an important task from the point of view of preventing the undesirable consequences of strong and, as a rule, dangerous atmospheric phenomena for humans, their activities and the infrastructure. It seems that one of the possible approaches to solving the problem is to study the peculiarities of variations of physical fields in the periods of time preceding the above-mentioned atmospheric phenomena. In this work, using the data of complex instrumental observations made at Mikhnevo Geophysical Observatory of IDG RAS, it was shown that hurricanes, squalls and strong thunderstorms are accompanied not only by an increase in wind speed, but also by an increase in the amplitude of microbaric variations and variations of the microseismic background and electric field intensity. It was also found that the considered strong atmospheric disturbances a few hours before the main event are preceded by increased amplitudes of microbaric variations in the frequency range of acoustic-gravity waves, as well as low-frequency variations of the electric field and variations of microseismic background in the frequency range of 0.008 - 20 Hz. In addition, during this period, changes in the spectra of microbaric variations and electric field variations are observed. Together with the meteorological parameters of the atmosphere, these effects can be viewed as a complex prognostic sign of an approaching hurricane or squall. The data obtained serve as the basis for conducting targeted research related to the formulation of criteria that can be used to predict hazardous atmospheric phenomena based on the analysis of physical fields.