

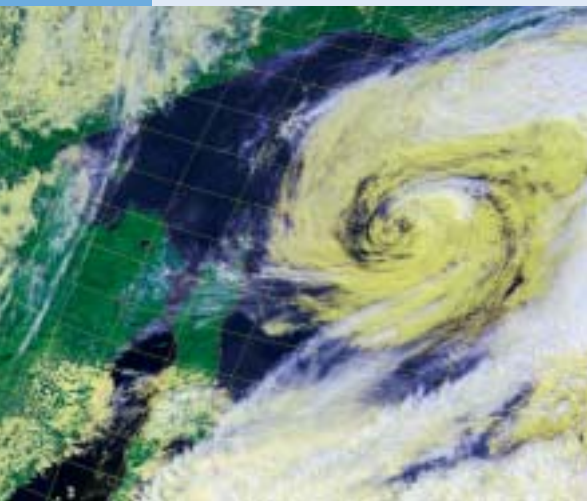
MeteoGamma[®]

satellite data processing software



ScanEx
RESEARCH AND DEVELOPMENT CENTER

clouds analysis and environmental monitoring

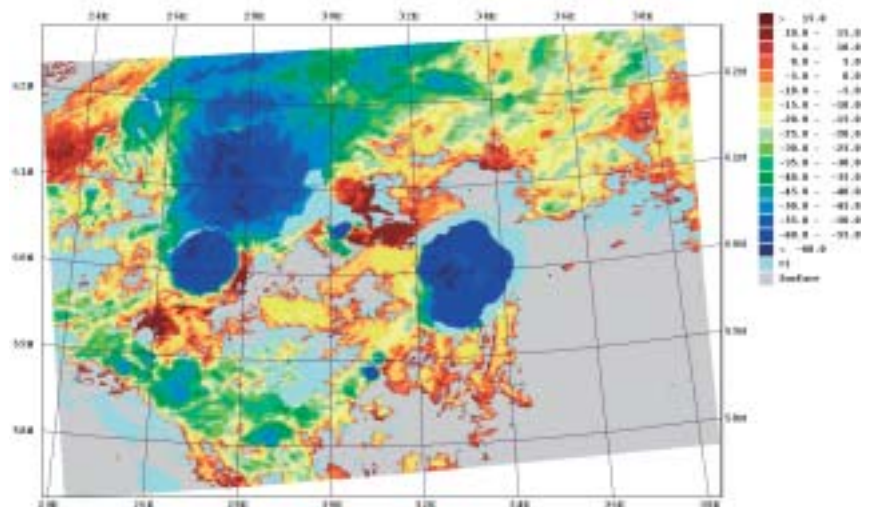


**Tropical Cyclone near Russia
Far-east Coast per NOAA-18 data.
05.09.2006.**

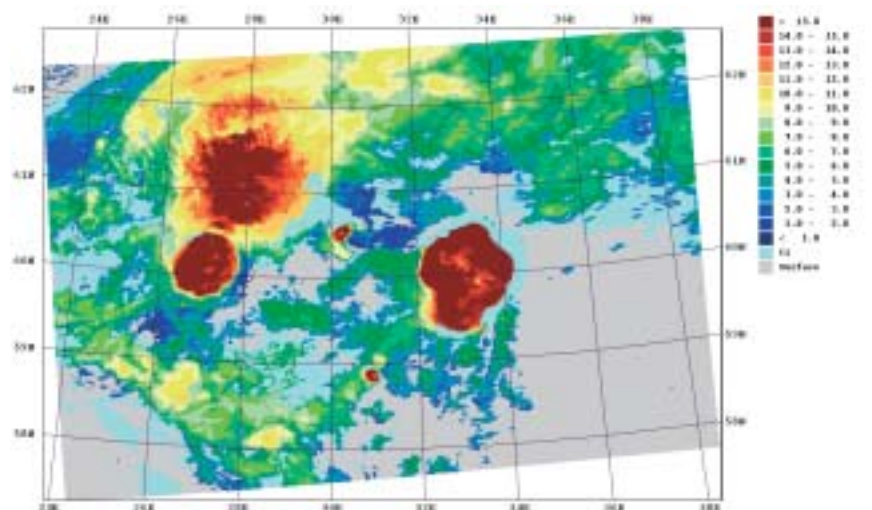
The specialized Windows-based application MeteoGamma® is designed for near real-time processing of data acquired by AVHRR radiometer from NOAA and METOP series polar orbiting satellites typically related to cloud analysis and environmental monitoring. The primary use of the application is diagnosing cloud cover in the course of operational synoptic practice. MeteoGamma® provides ample opportunities for visual analysis of received satellite data: cloud systems tracking (fronts, vortices, squall lines, individual clouds); detection and monitoring of development of mesoscale cloud types (cumulonimbus clouds). When processing data in mid-latitudes the focus is made to detection of clouds causing hazardous weather phenomena: thunderstorms, strong wind or fog.

Presently the application manages the following functions for the year's summer season: detection of various types of underlying surfaces; identification and classification of clouds by strata and morphological types; calculation of cloud hydrometeorological properties (cloud top temperature and height, water capacity and thickness).

**Cumulonimbus Cloud Top
Temperature in North-West Region
of the Russian Federation per data
acquired by NOAA-18.
22.08.2007 11:41 GMT**



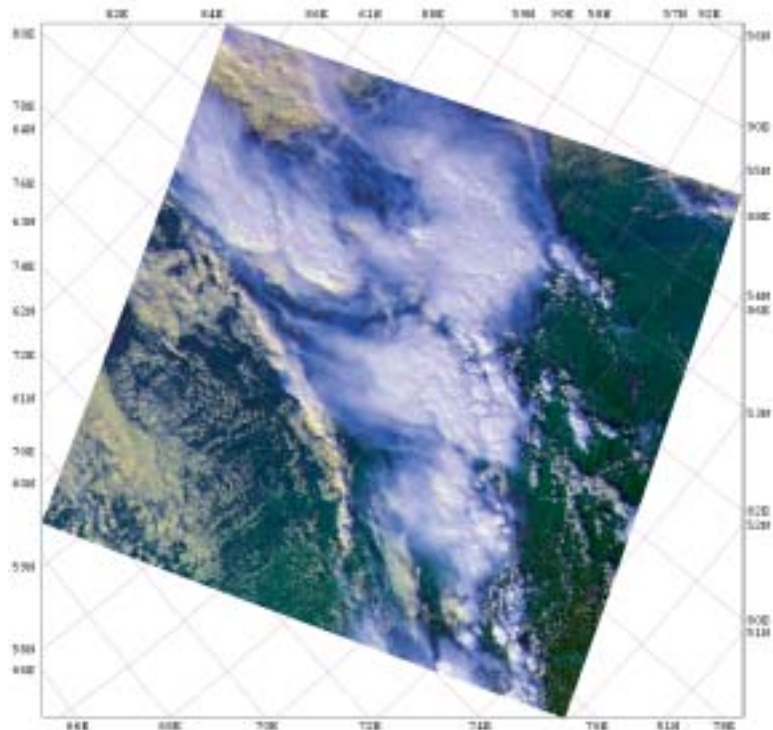
**Cumulonimbus Cloud Top Height
in North-West Region of the
Russian Federation per data
acquired by NOAA-18.
22.08.2007 11:41 GMT**



The following functions are implemented in MeteoGamma® application:

- viewing of source information;
- data preparation for thematic processing (calibration, geolocation, drawing of coastline, cutting out of fragments, plotting of cartographic projection);
- thematic processing of fragments;
- displaying of results in the form of raster images, animations and tables;
- preparation of processing results packages for remote users;
- export of images in a graphics format;
- sending of data to printer.

**Cold Thunderstorm Front over Western Siberia.
Image from NOAA-16 satellite.
17.06.2007 10:54 GMT**



Quantitative data on water surface temperature, cloud top height calculated by the application successfully passed validation procedures with on-site monitoring provided by hydrological stations, with upper air sounding and meteorological radar data in the North-West and Western Siberian regions of Russia respectively. Pursuant to the decision of the meteorological section of the Scientific Council of Meteorological Center of Russia, dated April 26, 2007, the satellite data processing technique being the basis for MeteoGamma® application is approved for use in hydrometeorology.