

Applied Forecasting

Weather forecasts and warnings about hazardous weather phenomena play an important role in a number of industries, including aviation (and other types of transport), agriculture, and energy. Dedicated forecasting allows companies to optimize weather-driven business operations, prepare for probable severe and extreme weather events, and to mitigate the consequences in the event of an emergency.



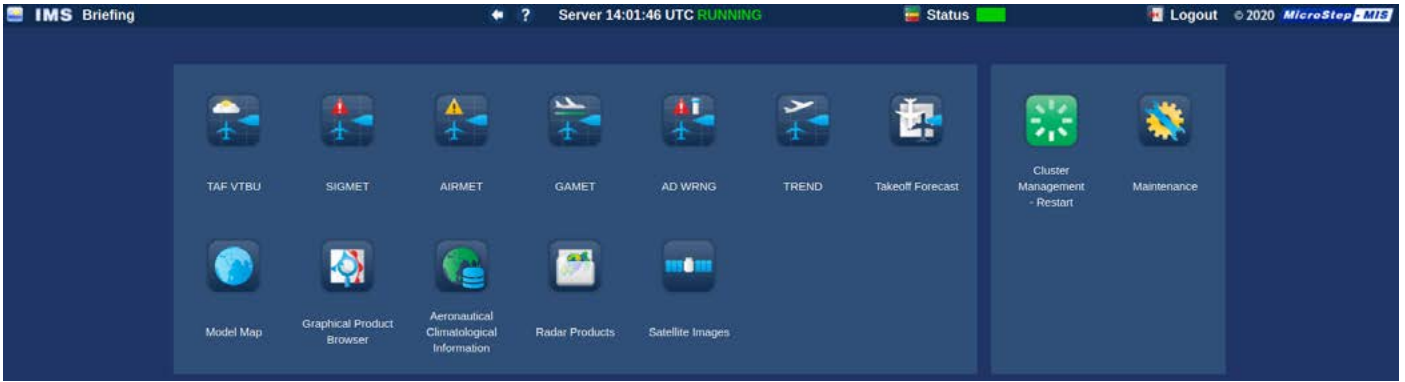
At the same time, different users have different requests for the form, content, and accuracy of the weather forecast. The MicroStep-MIS forecasting system adapts the numerical weather forecast products based on high-resolution models to the user's needs taking into account the types and criteria of weather phenomena that threaten his activities.

The weather forecast, adapted to the specific territory, includes not only general meteorological parameters but also specialized ones. For example, for aviation, this is the visibility on the airdrome's runways and the cloud base. The system can send hazardous weather warnings, including to mobile devices. The IMS4 forecast system is universal and applicable in all sectors of the economy. Its potential consumers are enterprises

of transport, energy, agriculture, construction industry and housing and communal services, the tourism sector, for which a high-quality and detailed weather report is important.

Forecasts for transport include IMS4 RWIS road/runway condition module for assessing and predicting weather-related emergencies, as well as fog and sandstorm forecasting models that cause problems for road and air traffic.

For aviation, in addition to detailed forecasts of meteorological conditions, the decision-making support system IMS4 AWDSS has been developed, which provides operational information for air traffic controllers and aviation meteorologists.



Aviation Briefing user panel

UTC	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
Temperature [°C]	6.4	7.0	7.4	7.8	8.1	8.3	8.3	8.1	7.8	7.5	6.8	5.2	3.2	1.6	0.0	-1.6	-3.2
Dew point [°C]	-1.5	-0.8	-0.3	0.4	1.4	2.7	4.0	5.3	6.4	7.4	8.1	8.5	8.5	8.0	7.0	5.4	3.8
Ball wind RWY 31 [kts]	8.8	9.8	10.8	11.8	12.8	13.8	14.8	15.8	16.8	17.8	18.8	19.8	20.8	21.8	22.8	23.8	24.8
Cross wind RWY 31 [kts]	7.8	7.1	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0	-0.5
Ball wind RWY 12 [kts]	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4
Cross wind RWY 12 [kts]	7.8	7.1	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0	-0.5
Ball wind RWY 22 [kts]	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6
Cross wind RWY 22 [kts]	8.8	8.1	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
Ball wind RWY 04 [kts]	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	-2
Cross wind RWY 04 [kts]	8.8	8.1	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5

AWDSS display

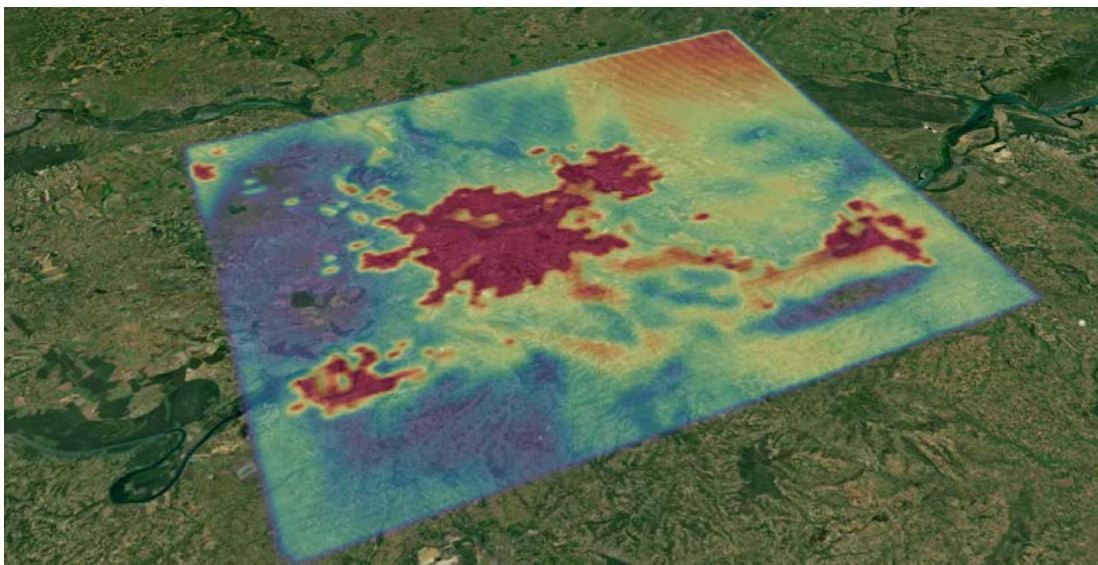


FIR global aviation display

In the agricultural industry, there is a high need for very local forecasts (down to a specific field). IMS4 Agro Center connects to automatic IMS4 Agro stations located in the fields, downloads measured data, processes them, and calculates agrometeorological parameters, such as accumulated precipitation, necessary for drought forecasts.

In the energy sector, companies working with renewable energy sources, need to predict the amount of energy they can and should produce on a given day, and this is highly dependent on weather conditions. A qualitative forecast ensures the functioning of critical infrastructure and the optimization of renewable energy production.

The IMS4 forecasting system makes it possible to integrate meteorological information into the operational activities of companies and the process of making managerial decisions with a significant economic effect.



Beograd Urban Heat Island



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