

The Weather Company, an IBM Business, and UCAR Collaborate to Advance Weather Science Globally Through New Global Model Powered by IBM Supercomputing

First rapidly-updating, global storm-scale model to improve local forecasts everywhere

FRANKFURT, Germany, June 21, 2017 /PRNewswire/ -- At the International Supercomputing Conference in Frankfurt, The Weather Company, an IBM Business (NYSE: [IBM](#)), today announced a plan to help improve weather prediction globally via a new collaboration with the University Corporation for Atmospheric Research ([UCAR](#)) and the National Center for Atmospheric Research (NCAR), a federally funded research and development center for the atmosphere and Earth's geospace systems.

The alliance will aim to develop cutting-edge models that will run on next-generation IBM supercomputing technology by bringing together world-class meteorological science from The Weather Company, high performance computing expertise from IBM Research, OpenPOWER-based supercomputing systems, and NCAR's community weather model.

This effort will also capitalize on advanced science and technology to work towards the creation of the first rapidly-updating, storm-scale model that can help predict weather events at local scales. Today's operational global forecast models predict weather patterns down to regional-scale weather events, such as snowstorms and hurricanes. The new model could improve weather and climate forecasting by better accounting for the small-scale phenomena, such as thunderstorms, that can impact the weather.

This new model aspires to run at a high space and time resolution, making it the first model to cover the entire globe - providing forecasts to areas of the world that have previously been underserved by existing regional weather models. This new weather model will push the current boundaries of the possible and give a glimpse into the future of meteorological science.

Supercomputing Power

Supercomputers run weather models, or foundational algorithms, that can drive nearly all forecasts today. As two leaders in the weather enterprise, The Weather Company and UCAR will join forces to help improve weather models and the supercomputers that they run on.

To help enable this new weather modeling capability, IBM and UCAR will engage in system co-design using IBM Power Systems and OpenPOWER technologies to bring unprecedented computational power to bear on advanced weather modeling. This solution will be optimized to run on IBM's next generation POWER9-based systems scheduled to be delivered to first customers at the end of this year.

"IBM is one of only a few organizations in the world that has the capability to develop a model to run at this global, granular scale," said Mary Glackin, head of weather science and operations for The Weather Company, an IBM Business. "As advocates for science, we embrace strong public-private collaborations that understand the value science brings to society, such as our continued efforts with UCAR to advance atmospheric and computational sciences."

A model built for cloud scale

One of the first endeavors under this program will be to adapt NCAR's Model for Prediction Across Scales (MPAS) community model to run more efficiently on next-generation computers. While regional models have been run at scales that predict thunderstorms for over a decade, the enormity of global models have made this challenging on a global scale. Enabling "convection-allowing models" on a global scale will not only enable short-term thunderstorm forecasts, but also lead to more accurate long-range forecasts days, weeks and months in advance.¹

The UCAR/NCAR teams involved include the Computational Information System Laboratory and the Mesoscale & Microscale

Meteorology Laboratory.

"This is a major public-private collaboration that aims to advance weather prediction and generate significant benefits for businesses making critical decisions based on weather forecasts," said UCAR President Antonio J. Busalacchi. "We are gratified that taxpayer investments in the development of weather models are now helping U.S. industries compete in the global marketplace."

The Weather Company, an IBM Business

The Weather Company, an IBM Business, helps people make informed decisions and take action in the face of weather. The company offers the most accurate, personalized, and actionable weather data and insights to millions of consumers, as well as thousands of marketers and businesses via Weather's API, its business solutions division, and its own digital products from The Weather Channel (weather.com) and Weather Underground (wunderground.com).

The company delivers tens of billions of forecasts daily. Its products include a top weather app on all major mobile platforms globally, a network of 250,000 personal weather stations, a top-20 U.S. website, one of the world's largest IoT data platforms, and industry-leading business solutions.

Weather Means Business™. The world's biggest brands in aviation, energy, insurance, media, and government rely on The Weather Company for data, technology platforms and services to help improve decision-making and respond to weather's impact on business. For more, visit theweathercompany.com.

About NCAR & UCAR

The National Center for Atmospheric Research (NCAR) is a federally funded research and development center sponsored by the National Science Foundation and devoted to service, research and education in the atmospheric and related sciences. Significant additional support is provided by other U.S. government agencies, other national governments, and the private sector. NCAR is managed by the nonprofit University Corporation for Atmospheric Research, a consortium of 110 universities focused on research and training in the atmospheric and related Earth system sciences. UCAR provides additional resources through the UCAR Community Programs.

¹ National Weather Association, <http://nwas.org/convection-allowing-models-changed-world/>

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