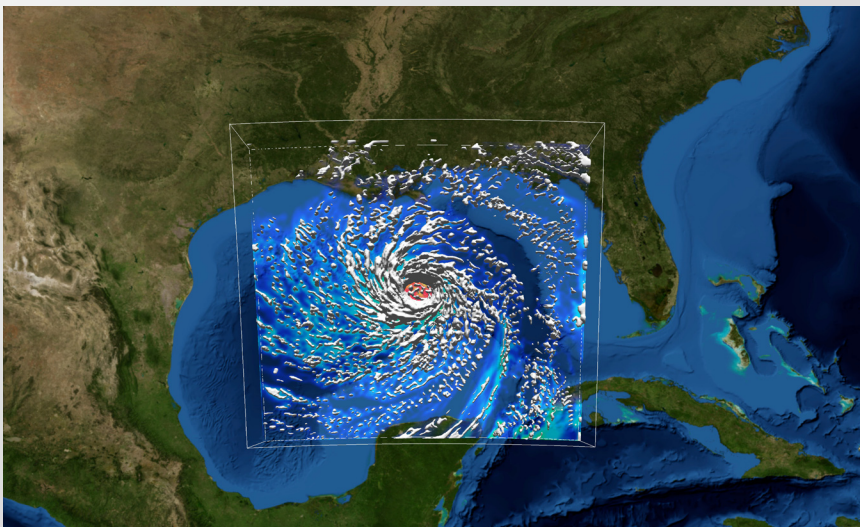


THE UNIVERSITY OF TEXAS AT AUSTIN  
**TEXAS ADVANCED COMPUTING CENTER** **TACC**

# High-Performance Computing At The Center Of The Storm



*Above is a simulation of Hurricane Ike on TACC's Ranger supercomputer shortly before the storm made landfall in Galveston, Texas, on Sept. 13, 2008.*

As Hurricane Ike barreled towards the Texas coast, National Oceanic and Atmospheric Administration (NOAA) scientists and university collaborators flew bravely into the center of the storm, hunkered down at operations centers, and managed the massive supercomputers that enable storm prediction and evacuation monitoring.

Throughout the 2008 hurricane season TACC was an active participant in a NOAA research effort to develop next-generation hurricane models. Teams of scientists relied on TACC's Ranger system to test high-resolution ensemble hurricane models, and to track evacuation routes from data streams on the ground and from space.

As TACC cleared nodes on Ranger, NOAA ensured that the data from the airplanes was made available to the researchers. Using up to 40,000 processing cores at once, researchers simulated both global and regional weather models and received ondemand access to some of the most powerful hardware in the world.

Hurricane scientists live for these moments when they can put their knowledge, expertise and research to work saving lives, homes and communities. Together, these projects and the real-time data they provided made it possible for state and national leaders to prepare for Hurricane Ike's landfall and to create even better models for future hurricanes.

**“TACC played a key role in helping us take the first step in developing real-time, on-demand forecast guidance. TACC really came through for us with the bandwidth, HPC computing power, software, and system engineering talent that we needed to put all of these pieces together.”**

*Frank Marks, Director, NOAA American Oceanographic and Meteorological Laboratory*

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