

# AGU: Geophysical Research Letters

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## Editors' Highlight

### Forecasting hurricane intensity using supercomputers and data from Hurricane Katrina

Although hurricane track forecasts have been steadily improving over the past few decades, progress on hurricane intensity forecasts has been slow, mainly because most general circulation models (GCMs) lack sufficient resolution to simulate near-eye structure and other factors. Recent advances in the capabilities of high-end supercomputers have allowed a few GCMs, including the mesoscale-resolving finite volume GCM (fvGCM) developed by NASA, to overcome previous modeling failures. Using the fvGCM, Shen et al. (2006) modeled Hurricane Katrina, which in late August 2005 underwent two stages of rapid intensification, becoming the sixth most intense hurricane in modern history to have developed over the Atlantic Ocean. Six 5-day simulations of Hurricane Katrina at two different scale resolutions (0.125° and 0.25°) show that data modeled at fine spatial scales more accurately predict actual hurricane intensity, producing calculations of hurricane center pressure with a high degree of accuracy. The fine-scale runs also produce better near-eye wind distributions and a more realistic average intensification rate. The authors expect that such research in predicting hurricane intensity will aid in future disaster mitigation efforts.

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