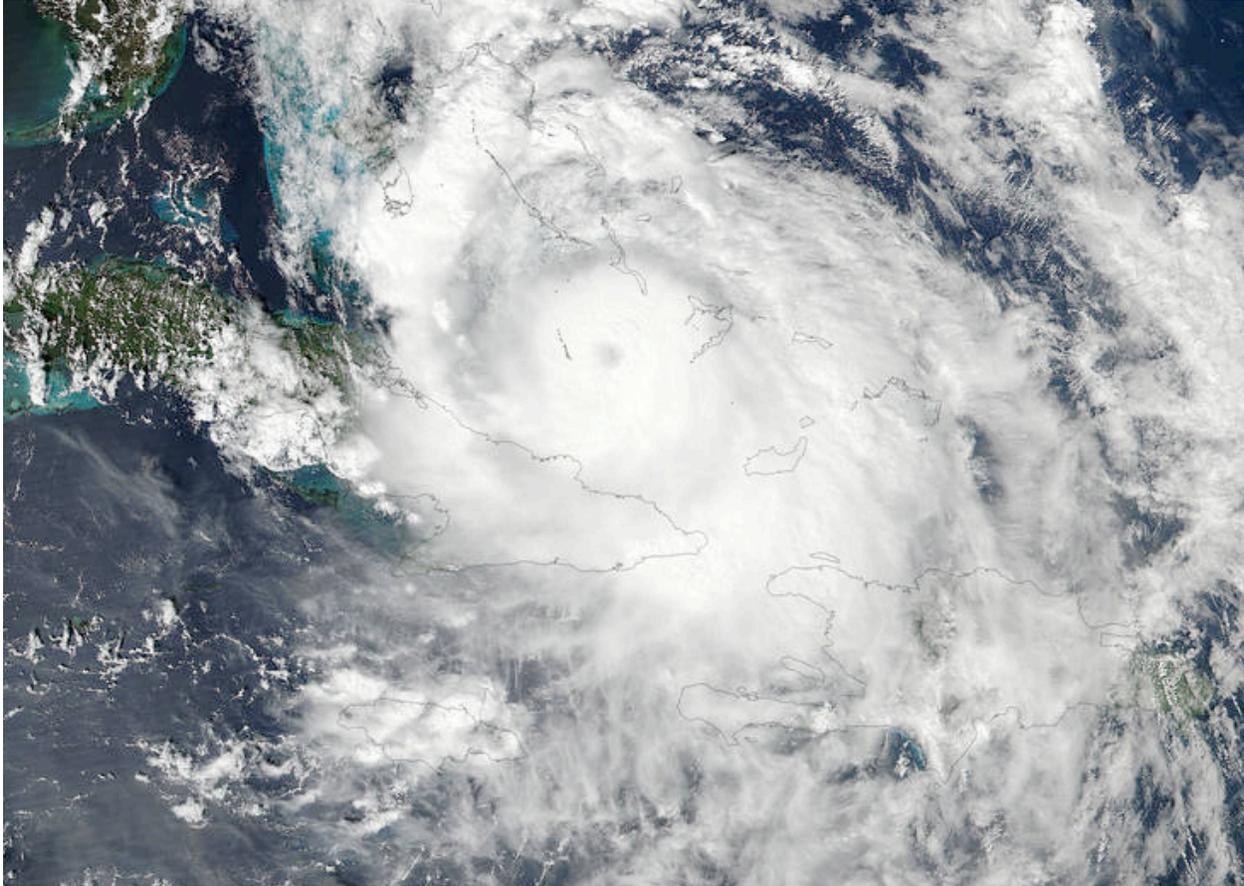


Could the pressure of a nuclear explosion disrupt a hurricane?

November 1, 2016



The eye of a hurricane is typically only a few miles across and at relatively low pressure. Would an above-ground, large nuclear blast in the center overpressure the eye and “blow” the circulation apart? Can this be computer modeled?

You have asked a most interesting question, one that I have pondered myself.

Computer simulations of weather have gotten much better in recent years, as you might be able to tell from the improved weather forecasts. Still, weather is almost unpredictable on a large scale. The National Hurricane Center developed a half-dozen computer predictions of the path of October’s Hurricane Matthew. One predicted route kept it out in the Atlantic while another suggested it would rip up Florida’s west coast. That’s hardly precise.

The science of the structure of a hurricane’s vortex is progressing, but I think it is still more of a theoretical study than an applied science. Could a supercomputer model a

nuclear warhead exploding in the eye of a hurricane? Perhaps, but the model would probably be pretty crude.

Hurricanes are enormous! Hydrogen bombs instantly cause vast areas of devastation, but nowhere near as much damage as hurricanes can produce. I suspect a hurricane would shake off even the most powerful nuclear explosion as if it were no more than an annoyance. Besides that, in the 1960s all the parties who were testing nuclear weapons agreed that they would no longer test these weapons in the atmosphere or space. So no one will try your experiment anytime soon. Finally, nuclear weapons have their own drawbacks (such as radioactive fallout), as you are undoubtedly aware.

Come to think of it, maybe it is a good thing no one has figured out how to use nuclear blasts to control hurricanes.

Gordon McDonough, Science evangelist

Occasionally questions are sent in to edu-bsm@lanl.gov or are left in our feedback box in the Museum.

We work to provide answers to these questions on [our blog](#) and the site where we list our [favorite questions and answers](#).



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