A swirling oasis of life

February 14 2012, by Jason Major

A 150-km (93-mile) - wide eddy in the southern Indian Ocean. Credit: NASA/Terra-MODIS

A serpentine eddy swirls in the southern Indian Ocean several hundred kilometers off the coast of South Africa in this natural-color image, acquired by NASA's Terra satellite on December 26, 2011.

The blue color is created by blooms of phytoplankton, fertilized by the nutrient-rich deep water drawn up by the 150-km-wide eddy.

The counter-clockwise anticyclonic structure of the eddy may resemble a hurricane or typhoon, but unlike those violent storms eddies bring nourishment rather than destruction.

“Eddies are the internal weather of the sea,” said Dennis McGillicuddy, an oceanographer at the Woods Hole Oceanographic Institution in Massachusetts.

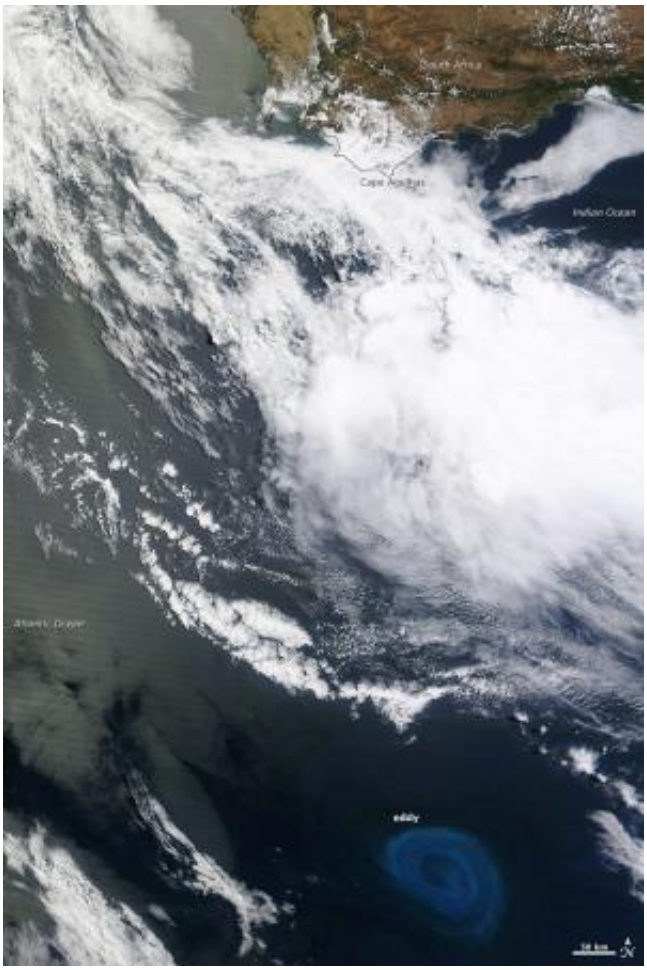
And also unlike atmospheric storms, ocean eddies can last for months, even up to a year. The largest ones can contain up to 1,200 cubic miles (5,000 cubic kilometers) of water.

The nutrient-drawing power of eddies can supply the relatively barren waters of the open ocean with nutrients, creating “oases in the oceanic desert,” according to McGillicuddy.

Read more about the WHOI study of eddies here.

The eddy imaged here likely peeled off from the Agulhas Current, which flows along the southeastern coast of Africa and around the tip of South Africa. Agulhas eddies tend to be among the largest in the world.

The image below shows the eddy in context with the surrounding area:



Eddy off the coast of South Africa. December 26, 2011. Credit: NASA/Terra-MODIS

MODIS (or Moderate Resolution Imaging Spectroradiometer) is a key instrument aboard NASA's Terra (EOS AM) satellite. Terra MODIS views the entire Earth's surface every 1 to 2 days, acquiring data in 36 spectral bands. These data improve our understanding of global dynamics and processes occurring on the land, in the ocean, and in the lower atmosphere.

Source: Universe Today