



## **Visual Eddy Analysis for the Agulhas Stream Using ICON Climate Simulation Data**

Felix Raith (1), Gerik Scheuermann (1), and Niklas Röber (2)

(1) Institute of Computer Science, Leipzig University, Germany (felix.raith@icloud.com), (2) DKRZ Hamburg, Germany

The new ICON model is a much finer climate simulation than previous models. It is based on an unstructured triangular grid. It consists of an atmospheric and an oceanic component allowing very different analyses. In this presentation, we focus on a small part of the oceanic component around africa and present our results of eddy tracking for the Agulhas stream.

Large eddies in the ocean can transport substantial amount of heat and salt over larger distances. This may have an effect on ocean currents due to heating or changing salinity. Based on the ICON climate simulation data, it is possible to track eddies in the ocean over larger distances. The Agulhas stream transports warm and saltic water from the equatorial region of the indian ocean towards south africa and the south atlantic before it makes a strong turn back into the indian ocean just south of africa. Some eddies associated with this stream do not follow this turn back into the indian ocean, but travel north-west deep into the atlantic ocean.

We show how such eddies can be tracked in the ICON model and how far some of these eddies travel over the course of one year. We also indicate which types of eddies follow these paths and give a visual analysis of eddy properties like volume, temperature and salinity.