

Arne Biastoch | Helmholtz-Zentrum für Ozeanforschung Kiel

# SPACES Projects in Southern Africa



- Science Partnerships for the Assessment of Complex Earth System Processes in Southern Africa – SPACES
- BMBF Framework program, initiated by Prof. Ittekkot during a ministerial visit in South Africa 2008
- 9 proposals (11 Mill €) on Global Change, Resources and Sustainability, and System Earth
- Cooperation Partners in South Africa (ACCESS) and Namibia
- Start: mid-2013

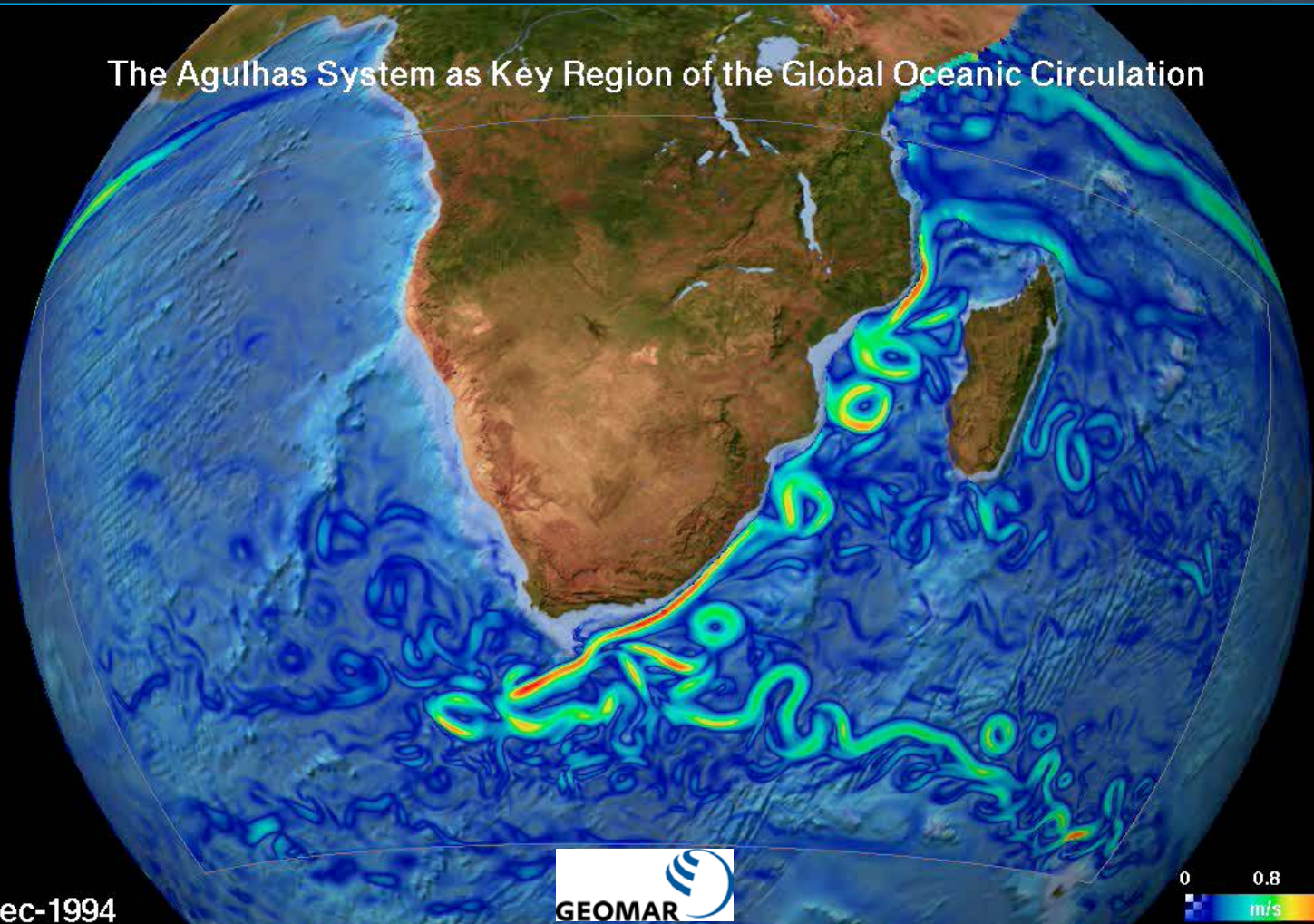


2012 | 2013

German-South African  
Year of Science  
Deutsch-Südafrikanisches  
Jahr der Wissenschaft

# The Variable Oceans around South Africa

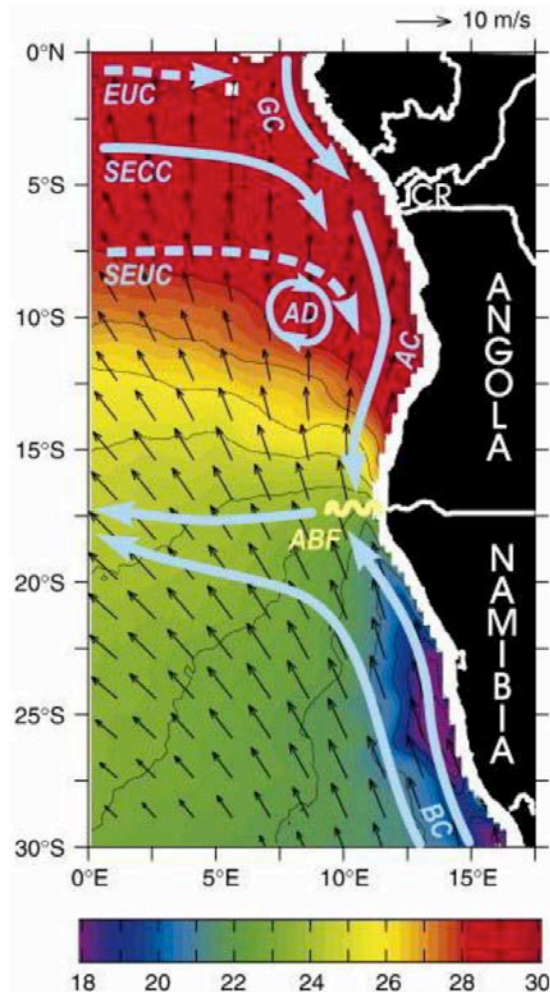
## The Agulhas System as Key Region of the Global Oceanic Circulation



31-Dec-1994



# Southwest African Coastal Upwelling System and Benguela Niños (SACUS)



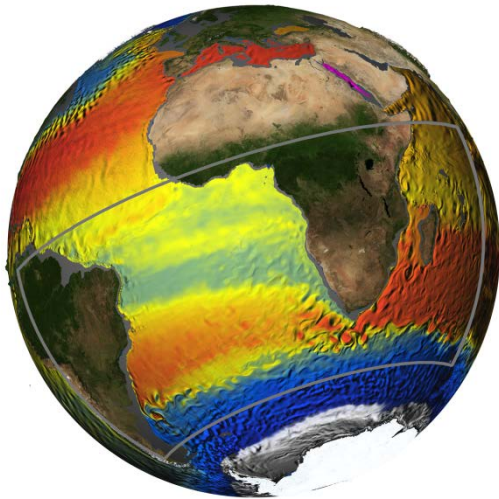
SP 1: Connectivity of the southeast Atlantic coastal upwelling system to the equatorial current system (GEOMAR)

SP 2: Variability of poleward transports in the eastern boundary current of the Southeast Atlantic (IOW)

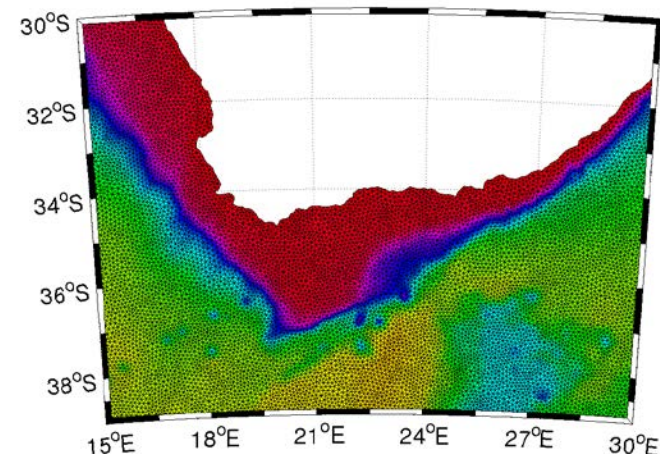
SP 3: Upwelling filaments near Lüderitz and their interaction with the South Atlantic eastern boundary circulation (Universität Hamburg)

SP 4: Tropical Atlantic climate and predictability (GEOMAR)

- Regional impacts of changes and variability in the Agulhas region
- Far-field causes and global impact of the Agulhas leakage
- Evaluation of the next generation of ocean models to be used for climate studies



NEMO (GEOMAR) 'state-of-the-art'  
high-resolution, nested model



FESOM (AWI) 'next generation'  
finite-element, regionally varying grid

- DAAD Stipends
  - 1<sup>st</sup> call: 13 MSc scholars in 2011
  - 2<sup>nd</sup> call: 7 PhD scholars, starting in 2013
  - 3<sup>rd</sup> call for PhD scholars just closed
- Individual hands-on, e.g. model analysis training for African students at GEOMAR (2-4 weeks)
- Summer schools on board RV MERIAN (2012), METEOR (2013) and SONNE (2014)

- “Summer school at sea”
  - Joint effort between GEOMAR (Chief Scientist Martin Visbeck), Hamburg and Bremen universities, ZMT Bremen
- German and African (South Africa, Namibia, Madagascar) students
- 42 applications from African candidates!

