

The School of Life Sciences

invites you to a seminar entitled:

Physical oceanography off the KZN coast, with an emphasis on the KZN Bight and Durban Eddy

presented by

Lisa Guastella

(Environmental Planning and Climate Protection
Department, eThekweni Municipality)

When

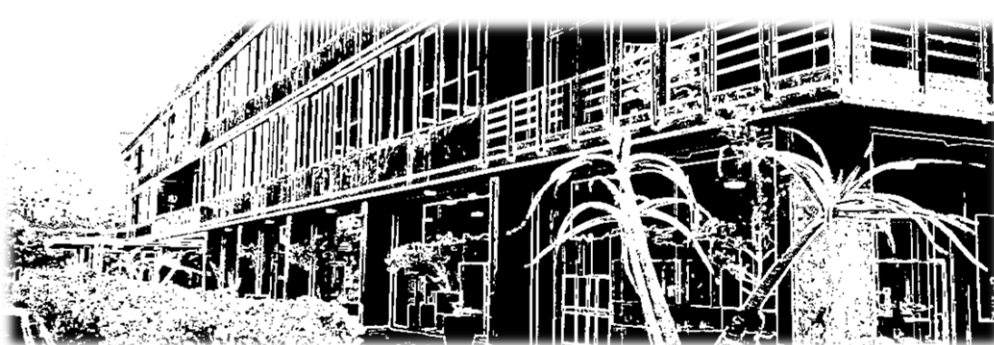
- Wednesday, 04 March 2015
- 12:20

Where

- Seminar Rooms
- Life Sciences Building, South Ring Rd, Westville Campus
- Coordinates: -29.817482,30.940305

Enquiries

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Lisa Guastella (04 March 2015)

Physical oceanography off the KZN coast, with an emphasis on the KZN Bight and Durban Eddy

The seminar

The ocean off the KZN coast is characterised by the warm waters of the Indian Ocean, with the Agulhas Current flowing in a south-westward direction, transporting warm water polewards. The Agulhas Current is the strongest western boundary current in the world, however the water is oligotrophic, i.e. high in dissolved oxygen and low in nutrients, which means that the open ocean waters do not sustain an abundance of marine life. However, closer to the coast various upwelling mechanisms bring cooler, nutrient-rich water from depth onto the shelf, which is important for sustaining marine life. Topographically induced upwelling occurs south of Cape St Lucia off Richards Bay, while south of Durban a small, semi-permanent cyclonic eddy, known as the Durban Eddy, which is caused by the Agulhas Current leaving the shelf edge at the southern end of an area known as the KZN Bight, also advects nutrient-rich water onto the shelf. The eddy detaches from the Durban area and propagates south-westwards, inshore of the Agulhas Current, transporting the nutrients with it, which helps to sustain the marine ecosystem along the KZN south coast. While the flow of the Agulhas Current is fairly stable, there are also occasional, irregular meanders which form the Natal Pulse, which similarly propagates south-westward along the coast, growing in amplitude as it does. A further important source of nutrients to the KZN Bight area is the Tugela River, which transports riverine sediments and nutrients offshore.

Presenter Biography

Lisa's qualifications include a BSc Geography, BSc (hons) Atmospheric Science and MSc in Oceanography, all from the hallowed ground of UCT. She has previously worked in recreational fisheries at ORI, including loggerhead turtle research and has practiced as a meteorologist and air pollution consultant, later broadening into the field of EIAs and environmental compliance monitoring, while trying to write up a PhD in oceanography; not an easy task! She is currently working in local government at eThekweni Municipality as a Climate Protection Scientist in the Environmental Planning and Climate Protection Department.