**Impacts of coastal hypoxia on fishes, food webs and ecosystems.**

Lead convener: Kim de Mutsert

Co-Convener: Stephen Brandt

**Long description**

Hypoxia (dissolved oxygen ≤ 2 mg L-1) is a widespread and expanding stressor across the world’s lakes, coasts and open-ocean ecosystems. Systems with high nutrient loading, high productivity, and stratification are particularly vulnerable to hypoxia. Management efforts to reduce nutrients must evaluate the potential ecosystem benefits or costs. Effects of hypoxia on fishes can be direct (e.g. fish kills, changes in spatial distribution, altered vital rates such as growth and consumption) or indirect (e.g. changes in spatial overlap of predator and prey, increased susceptibility to other stressors, changes in zooplankton/benthos abundances or distributions). Geographic, seasonal and climatic differences in temperature can dramatically impact the severity of hypoxia even at similar oxygen concentrations. Through trophic interactions and changes in spatial distribution, hypoxic stress on one functional group can have positive or negative effects on other functional groups in a food web. How well can we predict/forecast/assess how hypoxia-driven changes in habitat conditions will ultimately affect fish populations and ecosystems, or how changes in nutrient loadings or climatic conditions will alter hypoxic stress? Can we move beyond species-specific characterization to more unifying approaches or theory? This symposium will seek papers from a wide range of estuarine and coastal ecosystems as a basis for comparison on how well we understand the impacts of hypoxia in time and space on fishes, food webs and ecosystems. The session should be of interest to a diverse audience working in research, policy, education and/or resource management with an interest in effects of hypoxia on the coastal environment, and how nutrient or climate driven changes in the severity of hypoxia affect fishes, food webs and ecosystems.

**Short description**

Hypoxia is a widespread and expanding stressor across the world’s lakes, coasts and open-ocean ecosystems. Papers from a wide range of aquatic ecosystems will assess 1) how well we understand the impacts of hypoxia in time and space on fishes, food webs and ecosystems, 2) our ability to predict/forecast how hypoxia-driven changes in habitat conditions will ultimately affect fish populations and ecosystems, and 3) how changes in nutrient loadings or climate will alter hypoxic stress. The session should be of interest to a diverse audience working in research, policy, education and/or resource management.