



IS THERE A FUTURE FOR CORAL REEFS IN A HIGH-CO₂ WORLD?

Winthrop Professor Malcolm McCulloch

**UWA Oceans Institute and School of Earth and Environment
University of Western Australia**

Meet and Greet refreshments provided at 6.30 pm and after presentation

MEMBERS AND PUBLIC ALL WELCOME

Registration at Eventbrite. Queries: secretary@rswa.org.au

General admission \$15.00, Members \$10.00, Students \$5.00

Abstract

Coral reefs are arguably among the most sensitive marine ecosystems to climate change, being impacted by both unusual warming events as well as the ongoing effects of CO₂ driven ocean acidification. For reasons that are still poorly understood, corals live close to upper temperature tolerances and are highly susceptible to bleaching or loss of their algal symbionts. Furthermore, because they precipitate calcium carbonate skeletons they are thought to be at great risk to the growing effects of ocean acidification. The latter process is of increasing concern since atmospheric concentrations of CO₂ are already above the pre-anthropogenic baseline of ~280 ppm, and likely to reach ~1000 ppm by end of this century. This talk will address how coral reefs have so-far responded in our current climate change era, and the still significant uncertainties in predicting their future in a high CO₂ World.

Biography

Winthrop Professor Malcolm McCulloch is a WA Premier's Research Fellow and coral reef expert at The UWA Oceans Institute and School of Earth and Environment. He has an extensive background in utilising isotope geochemistry to unravel the origin and evolution of the Earth. His current research addresses important contemporary issues such as the impacts of climate change and direct human activities on coral reefs, and he has developed innovative new indicators of climate change and ocean acidification preserved in coral skeletons. Professor McCulloch is leading the UWA node of ARC Centre of Excellence in Coral Reef Studies and is undertaking a major new program examining the impact of climate change on Western Australia's unique coral reefs from the Kimberley, to those at Rottnest Island offshore Perth.

Prof McCulloch has received a number of prestigious awards. He has been elected Fellow of The Royal Society (London), the Australian Academy of Science, the American Geophysical Union, the Geochemical Society, and the Geological Society of Australia. He was awarded the Jaeger Medal for career excellence in the earth sciences from the Australian Academy of Sciences, an Honorary Doctorate from Curtin University, and was recently awarded a prestigious ARC Laureate Fellowship.