

Climate change leadership needed to save Great Barrier Reef

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Coral is threatened by rising sea temperatures

(Phys.org) —A decision by G20 leaders to discuss climate change at their meeting in Brisbane this week is good news for the Great Barrier Reef, researchers say.

The University of Queensland's Dr Juan Ortiz, lead author on a study of the reef released today, said the research was the most detailed to date and the first to show definitively that the reef could be preserved if emissions were reduced, with visible benefits within 20 years.

"We were heartened to find that a healthy future is possible if the global community takes stringent action on greenhouse gas emissions," Dr Ortiz said.

"The prognosis of reefs under [climate change](#) is often so dire that some people give up hope," he said.

"Our research shows that we could see the benefits of concerted action to reduce [greenhouse gas emissions](#) within our lifetime.

"It is possible to secure the reef's future if we continue to invest in local controls of pollution and start taking serious action against climate change."

The research showed that continuation of a 'business-as-usual' approach would overwhelm reef recovery mechanisms by 2050, leaving little living coral, which is threatened by rising sea temperatures.

"The reef future looks dire if we do not take greater action on climate change," Dr Ortiz said.

"However we point out that we assume that the response of corals to future warming does not change from that observed in the last few decades. It is possible that coral adaptation could lessen the impacts we predict under business-as-usual conditions."

The study used more than 40 scientific publications and Australian Institute of Marine Science monitoring data from 18 Australian reefs to build and validate a model to forecast the reef's future under different conditions.

Study co-author Professor Peter Mumby said the reef's fate was not sealed and there was still time to save it.

Professor Mumby said the research was good news for Australia as a healthy [reef](#) was of immense environmental importance and worth at least \$6 billion per year to the nation's economy.

More information: "Benthic coral reef calcium carbonate dissolution in an acidifying ocean." *Nature Climate Change* 4, 969–976 (2014) [DOI: 10.1038/nclimate2380](#)

Provided by University of Queensland

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