

### Unique research ship taking the pulse of Great Barrier Reef

**9 September 2016**

Rio Tinto, CSIRO and the Great Barrier Reef Foundation are extending a unique partnership to help preserve the Great Barrier Reef.

Future Reef 2.0 is the only research project monitoring ocean chemistry along the 2,300 km length of Australia's Great Barrier Reef Marine Park, allowing CSIRO scientists to run an advanced sensor system from a Rio Tinto vessel.

The project started in 2013 and is being extended with a further \$1 million, three year commitment.

CSIRO ocean carbon research scientist Dr Bronte Tilbrook said "This unique research is 'taking the pulse' of the Great Barrier Reef and without this partnership, and access to the Rio Tinto vessel, there would be no coverage along the entire length of the Reef.

"It allows us to gather high quality data to increase our understanding of how ocean acidity can influence the growth of corals and other marine organisms.

"The research is helping to identify which regions of the Great Barrier Reef are likely to be most vulnerable to ocean acidification change. The water chemistry measurements are also providing information that allows us to diagnose how the Reef is growing and we are working to translate this to an indicator of the state of health of different parts of the Reef.

"Our earlier work has found that the ocean chemistry remains positive for the growth of coral. This is important because it indicates that, at least in terms of water chemistry, the reefs can recover from short term events such as bleaching and cyclones.

"Ocean acidification occurs when increased quantities of carbon dioxide are absorbed by the ocean. This could have a significant impact on the overall health of the Great Barrier Reef by reducing coral growth and weakening reef ecosystems, so this monitoring program is providing invaluable data for the long term efforts to preserve the Reef."

The monitoring program uses advanced equipment onboard the Rio Tinto vessel RTM Wakmatha, that travels between bauxite mining operations in Weipa and alumina refineries in Gladstone.

The data captured is transmitted to a CSIRO research facility in Tasmania for analysis.

Rio Tinto managing director Australia Joanne Farrell said "This partnership with the Great Barrier Reef Foundation and CSIRO demonstrates Rio Tinto's commitment to helping preserve the Great Barrier Reef.

"Rio Tinto's shipping operations provide the perfect opportunity to collect vital data, by giving CSIRO's researchers a monitoring platform that makes round trips through the Reef in dedicated shipping channels.

"This is allowing the researchers to build up a unique picture of the health of Reef waters with recurring data from along its length over an extended period of time.

"Our ongoing collaboration with CSIRO and the Great Barrier Reef Foundation provides an important opportunity for Rio Tinto to assist with this critical area of climate-change research and is a great example of industry and science working together."

Rio Tinto has worked with the Great Barrier Reef Foundation and its partners since its inception in 2000, funding high priority Reef research.

In addition to continuing the ocean monitoring program, Future Reef 2.0 will enable more analysis and synthesis of the data by CSIRO with a view to producing models to predict the long term health of the Reef.

Great Barrier Reef Foundation Managing Director Anna Marsden said “The Future Reef project is a remarkable first for the Great Barrier Reef and we’re delighted to be extending this successful partnership for another three years.

“It means that scientists and Reef managers will be able to access vital information about the Reef’s water chemistry, which is critical particularly in light of the extra pressures created by the recent bleaching event.

“Scientists and managers are telling us that in the long term, ocean acidification is likely to be one of the most significant impacts of a changing climate on the Great Barrier Reef. Future Reef 2.0 will fill an important knowledge gap to help protect our Reef for future generations.

“For the Foundation, it’s always about making the science matter. So we’re also working with other research partners to combine the Future Reef data with other relevant scientific data and use it to develop powerful new visual tools that managers and policy makers can access to help inform long term management strategies that go to the heart of preserving our global treasure.”

# Rio Tinto

## **About Rio Tinto**

Rio Tinto is a leading global mining group that focuses on finding, mining and processing the Earth's mineral resources. Our goal is to deliver strong and sustainable shareholder returns from our portfolio of world-class assets and our compelling pipeline of projects. With headquarters in the UK, our Group comprises Rio Tinto plc – a London and New York Stock Exchange listed company, and Rio Tinto Limited – which is listed on the Australian Securities Exchange. We are strongly represented in Australia and North America, and also have significant businesses in Asia, Europe, Africa and South America.

Rio Tinto has more than 40 years of experience in shipping safely through the Great Barrier Reef. We fully understand the range of risk factors that need to be actively managed and are always looking at ways to continue our safety record.

## **About CSIRO**

CSIRO, the Commonwealth Scientific and Industrial Research Organisation, is Australia's national science agency and one of the largest and most diverse research agencies in the world. CSIRO's marine research – delivered through the Oceans and Atmosphere business unit – focuses on understanding our oceans and their biodiversity, resources and relationships with the climate system. The business unit delivers practical science that enables governments, industries and communities to make informed decisions about the sustainable management of marine and coastal resources. Taking a whole-of-system approach to marine science, CSIRO Oceans and Atmosphere contributes to national and international challenges where oceans play a central role.

## **About the Great Barrier Reef Foundation**

Established in 2000, the Great Barrier Reef Foundation is the only charity in the world dedicated exclusively to protecting the Great Barrier Reef through raising funds for scientific research. The Foundation leads the collaboration of business, science, government and philanthropy – groups who would not otherwise come together – for the benefit of the Reef. The Foundation funds projects with large scale impact – projects that fill gaps in knowledge, create new powerful tools, and go to the heart of saving the Reef and building its resilience in the face of major threats.

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