

**SAVING THE GREAT BARRIER REEF:
RECENT RESEARCH BREAKTHROUGHS**

Human activity causes a great damage to marine ecosystem of Western Australia's coast. The importance of Great Barrier Reef is very high, because it's the largest coral reef ecosystem on our planet. Even if we manage to stop the planet warming beyond 1.5°C this century, scientists predict up to 90 % of tropical coral reefs will be severely damaged. But it is believed that there's a chance the Great Barrier Reef can still survive. In 2020, the federal government announced the Reef Restoration and Adaptation Program, which aims to help coral reefs adapt to the effects of warming oceans. Now, three years into the effort, a number of breakthroughs is seen that bring us renewed hope for the reef's future.

Why The Great Barrier Reef is so important? First of all, Reefs protect coastlines. Coral reefs form barriers for coastlines, acting as a buffer from the waves and storms that come in from the open ocean. Secondly, they provide essential habitats. One of the most well-known features of coral reef is the incredible diversity of life which it contains. Thirdly, most corals are filter feeders, taking the impurities from the sea and leaving behind clear, healthier waters. Without them, the seas would be a murky place, with sediment and particles clouding the environment.

The main problems the Great Barrier Reef is facing today are coral bleaching, farm pollution, ship traffic and overfishing. Coral bleaching – this happens due to climate change, it is mainly because of warm temperatures of the water in summer, ocean acidification, and much more. Here the corals lose nutrients and turn white. The Great Barrier Reef, and coral reefs around the world need global leaders to rapidly accelerate measures to tackle climate change. Without this, the chances of saving coral reefs are slim. But there is hope. If people can drastically and rapidly cut the global emissions driving climate change, plus help reefs adapt to the warming already locked into the system, there is a good chance of achieving the desired future. It won't be easy, but the research breakthroughs required to help reefs adapt to climate change are happening right now. As a result of the study, we

can say that people are now on the right path to solving the problems of the Great Barrier reef and if the progress of work continues for several years, the chances of saving the reef will only increase.

People are hopeful for an alternative vision for the future of the world's reefs. It's one in which the amazing beauty and diversity, and the huge global economic benefits, are intact and thriving well into the next century. The difference between these two possible futures depends on choices people make right now. To save the reefs, people must simultaneously mitigate global warming and adapt to impacts already locked in. Neither alone will be enough.