

over **80%** of **GLOBAL CARBON** is circulated through the ocean.

Our big blue backyard and its diverse coastal ecosystems is the world's greatest superhero in the fight against climate change. But our oceans are often overlooked in the area of climate change mitigation.

While the role rainforests play to mitigating climate change is well known, the equally important role of marine ecosystems has been ignored. It's time to unmask our blue superhero and create healthy oceans to heal our planet.

Every breath we take is connected to our oceans.

3 Ways Our Oceans Are Our Big Blue Superhero

2 Global Life Support System

Covering over 70% of the Earth and supplying half its oxygen, the ocean is our planet's life support system. Every breath we take is connected to our oceans. Our planet depends on healthy oceans to support and sustain it.

3 Weather Makers

The ocean influences our weather and climate by storing and distributing heat and moisture, driving our weather systems.

A healthy planet needs a healthy ocean, because when our oceans suffer, we all suffer, with dramatic changes in our weather systems.

Tropical storms draw energy from the ocean surface waters, and as more heat (energy) is stored through global warming, storms have a larger source of energy on which to draw. Over the past four decades, storms around the world have become stronger due to climate change. Rising sea levels also mean that storm surges are increasing in severity.

Weather patterns are driven largely by our oceans. If our ocean's currents were to slow or fail, regional temperatures would be more extreme— with increased heat at the equator and colder frigid zones toward the poles. This means much of Earth's land would be uninhabitable.

1 Blue Carbon

Blue carbon coastal ecosystems — such as mangroves, seagrass meadows and tidal wetlands — have an unmatched ability to absorb carbon pollution out of the atmosphere and store it in the ground below. By protecting and restoring these ecosystems we can draw down carbon and reduce our emissions.

Of all the biological carbon captured annually in the world, over half (55%) is captured by marine living organisms.

Despite being lifesaving blue carbon superheroes, coastal ecosystems are some of the most threatened on Earth, with an estimated 340,000 to 980,000 hectares being destroyed worldwide each year.

Great Barrier Reef's Hidden Super Power
Our very own Great Barrier Reef has been identified in a world-first study as one of Australia's blue carbon super sites. The Reef's seagrass meadows and mangrove forests store 111 million tonnes of carbon, or ten per cent of Australia's blue carbon stock. This is equivalent to the annual emissions of 87 million cars.

Blue carbon is the carbon stored in coastal and marine ecosystems.

Salt & Tidal Marshes.

They cover roughly 140 million hectares of Earth's surface.

Whales & plankton are crucial to ocean carbon absorption. Carbon is absorbed by phytoplankton and other tiny marine flora which our giant whales eat by the tonne.

Whales & Plankton.

Though tiny, phytoplankton capture an estimated 37 billion tonnes (40%) of all CO₂ produced. That's about the same amount captured by 1.7 trillion trees!

Whales then store the carbon as they grow, stockpiling literally tonnes of carbon. The research is still underway but it is estimated that each giant whale sequesters 33 tonnes of carbon - more carbon than a 690-acre forest in their lifetime.

Mangroves are critical fish nurseries and carbon sinks, and the first line of defence against storm surges.

Mangroves.

Seagrasses cover less than 0.2% of ocean floor, but store about 10% of the carbon buried in the oceans each year.

Seagrass Meadows.

Coral Reef.

Seabed.

Carbon dioxide is naturally stored as carbonate sediments on the seafloor.

Seagrass Meadows.

Kelp Forest.

Kelp forests are the 'biological engine' of our Great Southern Reef, which stretches around the southern half of Australia.

Warning

We must protect and restore our blue carbon coastal and marine ecosystems. Along with increased emissions, natural ecosystems are being degraded, reducing their ability to absorb carbon. When this occurs ecosystems emit the carbon they have stored for centuries into the atmosphere and become additional sources of greenhouse gases. We are losing our natural carbon sinks at a time when we need them the most.