

'Shocking images' reveal death of 10,000 hectares of mangroves across Northern Australia

By Kate Wild 11 Jul 2016 <http://www.abc.net.au/news/2016-07-10/unprecedented-10000-hectares-of-mangroves-die/7552968>



Photo: The scale of the mangrove death is considered unprecedented. (Bluebottle Films: James Sherwood)

Close to 10,000 hectares of mangroves have died across a stretch of coastline reaching from Queensland to the Northern Territory.

International mangroves expert Dr Norm Duke said he had no doubt the "dieback" was related to climate change.

"It's a world-first in terms of the scale of mangrove that have died," he told the ABC.

Dr Duke flew 200 kilometres between the mouths of the Roper and McArthur Rivers in the Northern

Territory last month to survey the extent of the dieback.

He described the scene as the most "dramatic, pronounced extreme level of dieback that I've ever observed".

Photo: Researchers flew over the affected area to gauge to scale of mangrove death. (Supplied: Norm Duke)

Dr Duke is a world expert in mangrove classification and ecosystems, based at James Cook University, and in May received photographs showing vast areas of dead mangroves in the Northern Territory section of the Gulf of Carpentaria.

Until that time he and other scientists had been focused on mangrove dieback around Karmuba, Queensland, at the opposite end of the Gulf.

"The images were compelling. They were really dramatic, showing severe dieback of mangrove shoreline fringing — areas just extending off into infinity," Dr Duke said.



"Certainly nothing in my experience had prepared me to see images like that."



Photo: Dr Duke described the dying off of mangroves as extreme. (Supplied: Norm Duke)

Dr Duke said he wanted to discover if the dieback in the two states was related.

"We're talking about 700 kilometres of distance between incidences at that early time," he said.

The area the Northern Territory photos were taken in was so remote the only way to confirm the extent and timing of the mangrove dieback was with specialist satellite imagery.

With careful analysis the imagery confirmed the mangrove dieback in both states had happened in the space of a month late last year, coincident with coral bleaching on the Great Barrier Reef.

"We're talking about 10,000 hectares of mangroves were lost across this whole 700 kilometre span," Dr Duke said.

"I have not seen such imagery anywhere before, from all over the world. I work in many places around the world and I look at damaged mangroves as part of my work all the time. These are the most shocking images of dieback I've ever seen."

Dr Duke flew to the Northern Territory in June to judge the physical extent of the mangroves' damage.

With the support of the NT Parks and Wildlife Commission he flew in a helicopter between the mouths of the Roper and McArthur Rivers.

Map: The 700km stretch hit by the mangrove dieback

Dr Duke said the cause of such extensive damage was not immediately evident.

"Like a large oil spill, like a cyclone or severe storm — none of those things had occurred in the region in recent times," he said.

"But in that mix of things that were going on at the same time we're starting to hear about coral bleaching ... [and] hot water on the east coast."



MAP: The 700km stretch hit by the mangrove dieback

The coincident timing of coral bleaching on the Great Barrier Reef and the dieback of mangroves in the north led Dr Duke to look at climatic factors.

"I started hearing that the wet season was missing from the Northern Territory over that time period," he said.

"The wet season was only one month long in the year before.

"Usually the wet season in the Northern Territory in that area is three or four months long."

He said he was convinced unusually low rainfall in the 2014 wet season and elevated temperatures led to the massive mangrove dieback.

He said a deadly lack of fresh water and increased water and atmospheric temperatures stressed the plants beyond their tolerance.

Satellite imagery pinpoints the damage to a period of around four weeks in September-October 2015.

Mangroves the 'ugly duckling'



Photo: Dr Duke said mangroves deaths do not attract as much attention as coral bleaching. (Bluebottle Films: Danielle Ryan)

Dr Duke said many people saw mangroves as ugly.

"They don't look as pretty as coral reefs, so they don't get that attention," he said.

But the health of mangroves has a significant impact on the commercial and amateur fishing industry in Australia.

Mangroves are essential breeding grounds for fish stock including prawns, crabs and, in the north of Australia, fin fish such as barramundi.

Dr Duke said he had heard anecdotal reports of lower-than-usual fish catches in the area of the Northern Territory he surveyed in June.