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News
Finding Nemo in a cruel sea

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Robot sub escapes giant eddy

FOR 10 days, Nemo, the robot submarine, was, like its animated namesake, swept helplessly along by the East Australian Current.

The $120,000 torpedo-shaped explorer, launched into the sea off Port Stephens by the Sydney Institute of Marine Science, was on its maiden voyage.

The plan called for the self-propelled "glider" to motor into one of the current's 300 kilometre-wide rotating ocean eddies, where it would hitch a lift. It would, said Iain **Suthers**, an institute scientist, be "like riding a merry-go-round".

During its adventure, Nemo would collect information while making about 370 dives to 200 metres. But almost as soon as it set out, it was snared by a previously unknown current and swept down the NSW coast.

Scientists, monitoring its progress via satellite, could only follow the plight of the 1.8-metre craft from land-based computers.

Then, near Jervis Bay, Nemo was unexpectedly snatched by another giant eddy. The scientists watched in dismay as their explorer was sucked into the eddy's core, where they feared it would be lost as its 28-day battery power dwindled.

"We were sweating it," Professor **Suthers** said. But as the eddy pushed further south it began rotating faster until it "flung" its mechanical passenger to the edge of the swirling water mass.

Nemo's navigator, CSIRO oceanographer Dr Dave Grifiin, wrote new computerised orders for Nemo to propel itself out of the eddy, beamed via satellite from Hobart to the struggling robot.

It worked. After three days stuck in the eddy, Nemo escaped. On December 10, having travelled 989 kilometres, it was plucked from the sea off Jervis Bay.

"We were ecstatic," said Professor **Suthers**. "We were high-fiving it. There were grins all round."

Scientists hope Nemo's findings will help unravel the secrets of the East Australian Current. This is vital because the current carries heat from the Coral Sea towards Antarctica, fuelling storms and beach erosion, which are expected to intensify with global warming.

Professor **Suthers** said as global warming heats the ocean, the current's eddies would become bigger. He predicted robots like Nemo, and nine other "gliders" bought by the Federal Government's Integrated Marine Observing System, would revolutionise oceanography at a fraction of the cost of using ships.

The public can follow Nemo's second voyage, next month, via Dr Griffin's website.

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