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Imaging project shows ocean weather

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News > Dunedin



An image of the Dunedin coastline taken from the European Space Agency satellite Sentinel-2. Photos: Supplied

Fisherman would be reaching for their rods and salivating if they could get photos like this on the same day they jump into their boats.

The image, taken from the European Space Agency satellite Sentinel-2, shows ocean weather - specifically, what are known as "sub-mesoscale eddies".

The small ocean storms are important because they concentrate nutrients in the region just east of Blueskin Bay, and this helps phytoplankton to grow, which in turn, everything else eats - like fish.

The image was created by Oregon State University associate professor Nick Tuffillaro, using a new ocean colour processor created by Quinten Vanhellemont, of the Royal Belgian Institute of Natural Sciences.

Prof Tuffillaro plays a major role in the space programme, helping to build measurement instruments for the International Space Station and satellites.

The Sentinel-2 image, and others taken by the satellite, are being used by Prof Tuffillaro and University of Otago researchers Tim Molteno (physics), Rob Smith (marine science) and Peter Russell (marine science) to study physical oceanography and biological productivity around the Otago Peninsula.

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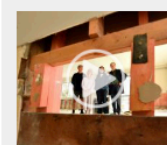
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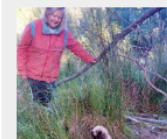
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Sentinel-2

"So we are studying how these small eddies enhance biological productivity, and also change turbidity in the region," Prof Tuffiaro said.

Dr Molteno said the eddies corresponded with the upwelling of chlorophyll, which was a good area in which to go fishing.

Unfortunately, this image may or may not be any use to local fishermen because it was taken at 10.37am, on July 17 last year, and the eddies may now be elsewhere, Dr Molteno said.

The images take time to generate, and are part of the Sentinel-2 Earth observation mission from the European Union Copernicus Programme that systematically acquires optical imagery at high spatial resolution (10m to 60m) over land and coastal waters.

The mission supports a broad range of services and applications such as agricultural monitoring, emergencies management, land cover classification or water quality.

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