

Drone helps icebreaker navigate treacherous Antarctic

December 23 2015



Australian Antarctic Division ice-breaker, the Aurora Australis, as seen from from a quadcopter drone on December 23, 2015

Australia's flagship icebreaker has for the first time used drone technology to navigate treacherous Antarctic waters, overcoming significant technical hurdles, officials said Wednesday.

The Aurora Australis is on an annual resupply voyage to Australia's Casey research station with images of sea-ice conditions from the quadcopter [drone](#) helping navigation decisions.

The Australian Antarctic Division said the [unmanned aerial vehicle](#) (UAV) was proving to be a valuable addition to the current suite of sea-ice navigation tools, which include satellite imagery and radar.

But it has not been plain sailing in the sub-zero conditions.

"The electronics do not like snow, the batteries do not like the cold, and the drone's compass did not like the ship's thousands of tonnes of steel," Australian UAV director James Rennie said.

"Because the compass couldn't calibrate on the ship and its need to work alongside the unit's GPS, there was potential for the UAV to behave unpredictably.

"We found that by disabling the GPS and flying the drone in full manual mode enabled the drone to operate successfully and deliver the required footage."



Australian UAV director James Rennie, seen with a quadcopter drone on the deck of the Australian Antarctic Division ice-breaker, the Aurora Australis, on December 23, 2015

The drone carried out five missions during the nine-day voyage to Casey, with a decision on its more permanent use for [navigation](#) to be made after a review of the inaugural flights.

Australia has four stations in the Antarctic wilderness and Aurora Australis has already made a resupply run to its Davis outpost. It is also scheduled to visit Mawson and Macquarie Island, delivering fuel, supplies and expeditioners for the year ahead.

© 2015 AFP

Citation: Drone helps icebreaker navigate treacherous Antarctic (2015, December 23) retrieved 20 April 2024 from <https://phys.org/news/2015-12-drone-icebreaker-treacherous-antarctic.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.