

## Media Release

### Chiefs of Staff, News Directors

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## International volcano voyage to explore new submarine frontiers

When large pieces of pumice (solidified magma from a volcanic eruption) started washing up on Tasmanian beaches, University of Tasmania volcanologist, Dr Rebecca Carey (School of Earth Sciences and CODES), knew exactly where they were coming from: a huge underwater volcanic eruption about 1000km north of Auckland.

Dr Carey had been tracking the pumice, which had been travelling the ocean for more than a year.

And now Dr Carey will travel to the volcano that produced the pumice, aboard US ship Roger Revelle to find out more about the volcanic eruption.

Dr Carey is Co-Chief Scientist of the Mapping Exploration and Sampling at Havre (MESH) expedition. She will be joined by a team of researchers and PhD students from five different countries. She is one of two Australians aboard the trip.

Dr Carey said the team will use two robots to find out more about the Havre volcanic eruption: An autonomous underwater vehicle, "Sentry," and a remotely operated vehicle, "Jason."

Sentry is equipped with sonars and the ability to take digital photos of deep-sea terrain. Jason will allow scientists access to the seafloor without their having to leave the ship. It will collect samples of rock, sediment and marine life and transmit video and images.

Dr Carey said the voyage was the exploration of a new frontier- the sea floor.

"That is exciting in itself, but the Havre eruption is very interesting in that it challenges current controversies in submarine volcanism.

"For example, theory predicts eruptions of this magma type should not be explosive at about a 1000 metres below sea level. This eruption was sourced from multiple vents that extend maybe as deep at 1600 metres but as shallow as 900 metres- so this eruption is contradicting that theory."

Dr Carey said the team is also interested in the role of water in the volcano's eruptions.

“When the gas and pumice come out of the volcano’s vents, what is the role of water in transporting pumice to the sea surface? Or back down to the sea floor to form dense flows of pumice?” she said.

“We are also interested in how those pumice particles are transported once they leave the vent.”

Dr Carey said the one of the most satisfying components of the voyage, which is supported by the Bookend Trust, was its educational outreach aspect.

“We have a website (*link below*) which will report our activities and findings in real time, by posting photos of everyday life on the ship and videos of the footage the robots recover.

“School children are encouraged to follow our voyage online and they will be able to ask the scientists questions.”

Dr Carey said after the research voyage wraps up, there would be an educational program created around the trip and what it discovered, allowing school-aged classes to learn all about volcanology and global plate tectonics through exciting lesson plans.

The voyage is funded by the US National Science Foundation.

To find out more about the voyage, please visit: <http://web.who.edu/mesh/>

For more information about CODES, please visit: <http://www.utas.edu.au/codes/>

**Information released by:**

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