NIWA
Taihoro Nukurangi

The resilience of deep-sea benthic communities to the effects of sedimentation

Tēnā tātou katoa, whakatōrea te pūtaiao, kia kimihia ai e te rangahau tika!

Victoria University of Wellington Te Herenga Waka | Waikato Te Whare Wānanga o Waikato

BY LEE RAUHINA-AUGUST, MALCOLM CLARK, DI TRACEY

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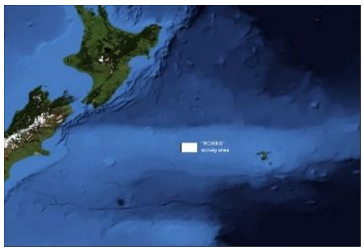
Te Haerenga Whakamutunga o ROBES

The opportunity to join the final Chatham Rise ROBES voyage on *Tangaroa* was taken up by NIWA's Pou Ārahi – Māori Development Leader, Lee Rauhina-August.



Survey area 2020

Part of the ROBES team since 2017, Lee's primary role has been **engagement with tangata whenua** and providing continuity to the partnership.

Lee and Malcolm Clark have met with Ngāi Tahu and have made several trips to Wharekauri/Rēkohu to discuss this Programme. Along with other members of the team, they have regularly shared information about the research that informs ROBES. As the partnerships with tangata whenua has strengthened, the team have been able to discuss issues within the project and potential solutions.

NIWA has also taken the opportunity to discuss other projects and initiatives with our partners on Wharekauri/Rēkohu.

Ngā mihi atu ki ngā mangai katoa o Wharekauri / Rēkohu otira me Ngāi Tahu, nei rā te mihi i to taituarā nui o tēnei kaupapa mo ngā taonga me ngā tamariki o Kiwa o Hinemoana hoki.

Several information flyers have been produced for tangata whenua to ensure that all partners are kept well informed.

In 2019, tangata whenua Apirana Daymond and Cassidy Solomon partcipated in the 2nd ROBES voyage working alongside the science team. That interaction taught them the research and allowed the NIWA team to learn more about tangata whenua practices and language.

The final 2020 voyage with Lee's involvement again highlighted that Te Ao Māori concepts, as valuable additions to research, need to be woven into NIWA projects.

Lee taking filtered water samples from the Conductivity-Temperature-Depth (CTD) rosette system for molecular analysis (eDNA). This work was carried out on behalf of Te Tini o Hākuturi who continue to work with NIWA on various projects.

The notion of mahitahi, working to bring two research systems together; that of traditional knowledge and western science, will continue to strengthen the research outcomes and aspirations for tangata whenua.

The 2020 voyage has continued to use *in situ* observations, to provide information on the concentrations and distances over which impacts of suspended sediment on faunal communities become 'ecologically significant'.

DTIS image of ocean floor and deep-sea invertebrates

Working as part of the science team, Lee was on the midnight to midday swing carrying out many science roles including; securing camera and video information collected from the DTIS (Deep Towed Imaging System), sieving mud for macro invertebrates, and collecting deep ocean water samples. This enabled Lee to understand firsthand how NIWA science is carried out at sea and the importance of good planning, communication, and working as a team.

Lee's favourite find, a benthic Isopod *Acutiserolis*

Nō reira, e hoa mā, ina te ora o te tangata!

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