

RINA/IMarEST Technical Presentation

Characterising the Southern Ocean and Ross Sea Wave Climate

Presenters

Sally Garrett
Defence Technology Agency
New Zealand Defence Force

Date

Wednesday 5 May 2021

Time

6:30 pm AEST

Meeting

This presentation will be held as a video-conference webinar using Zoom software hosted by RINA.
Registration for the presentation is required (see below).

The waves of the Southern Ocean and the Ross Sea are largely unstudied. The New Zealand Defence Force (NZDF) routinely operates in these areas and is currently engaged in a shipbuilding program which requires a detailed understanding of the wave climate for sea-keeping analysis and ice-belt design. Unlike other areas, the Southern Ocean and the Ross Sea have limited ship traffic and therefore limited wave observations from volunteer observing ships. Moreover, due to the difficult conditions and remote locations, limited scientific measurements of waves have been completed. In 2017, the NZDF deployed the first wave buoy in the open ocean south of 47°S anywhere in the world. In addition, 21 free-floating buoys were also deployed between 42°S and 67°S. This array has provided an understanding of wave characteristics across the Southern Ocean and the Ross Sea.

The data from these platforms have been used to optimise the WaveWatch III wave forecast model. The optimised setup is then used to create a 24-year hind-cast wave atlas for the ice-free areas south of 31°S.

In the presentation, this previously unpublished wave atlas for the Southern Ocean and Ross Sea will be presented. A limited comparison will also be made between the wave statistics from both wave-buoy observations and the wave atlas in these regions with the bivariate frequency wave height-period occurrence tables recommended for the North Atlantic by the International Association of Classification Societies.

Registration Registration for this presentation may be completed at

<https://forms.gle/Upf8gJ1qtQiNRVVo7>

Registrations close at 12:00 noon on Tuesday 4 May. Those registered will receive a weblink and password via email on the afternoon/evening of Tuesday 4 May before the presentation. Register and put this date in your diary now, and we look forward to you joining the presentation.

Jason Steward
Secretary
RINA NSW Section