



# POSITION DESCRIPTION

<b>Position Title:</b>	Undersea Environment Prediction and Assessment Scientist
<b>Position Reference Number:</b>	ECRMD014b
<b>Division</b>	Maritime Division
<b>Position Classification:</b>	S&T3 / 4
<b>Position Location:</b>	DST Edinburgh
<b>Security Level:</b>	NV1
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## Academic Disciplines

Aerospace/ Aeronautical Engineering, Naval Architecture	Chemical, Radiological, Biological, Food sciences	Materials Science
Computer Sciences, IT, Software Engineering, Telecommunications	Mathematics and physics	Psychology and Social Sciences
Mechanical and Mechatronic Engineering (including robotics)	Electronic/ Electrical Engineering	Other (Meteorology, Oceanography or Environmental Sciences)

## Position Overview

Undersea warfare operations are affected by ocean environmental conditions that can change dramatically over time and space similar to atmospheric weather patterns. Understanding and being able to forecast these changing ocean conditions can significantly improve the employment of Australian Naval platforms and sensor systems such as sonar. You will join a small team of enthusiastic scientists to help increase our knowledge of the undersea environment and develop methods which will exploit changing environmental conditions to improve undersea sensing and naval mission planning.

The role will include developing techniques to assess and characterise the ocean environment and its variability; study how the ocean environment affects sensing systems such as sonar; and ultimately develop undersea warfare mission planning tools. The role includes engaging with a number of external subject matter expert organisations in the area of ocean modelling and forecasting, along with engaging with Defence personnel on sonar and other sensing systems. The role will require you to have, or develop, a wide variety of skills and knowledge in physics, underwater acoustics, oceanography, signal processing, software development, scientific analysis, and verbal and written communication. Extensive on the job training will be available to help develop these skills.

## Position Duties

Under guidance and as part of a small team the Undersea Environment Prediction and Assessment Scientist will:

- Contribute to an improved understanding of the ocean environment and how it affects undersea sensing systems;
- Conduct computer simulation analysis of the effects that the ocean environment has on undersea sensing systems;
- Liaise with subject matter experts in ocean modelling to identify potential improvements in ocean models for predicting conditions critical to undersea sensing;
- Engage with the military community to understand their requirements and priorities for ocean environmental tools that will improve undersea sensing capabilities;
- Work with a team and take the initiative to conceive and develop new approaches and tools which will aid mission and route planning, and provide a tactical advantage in undersea warfare;
- Provide advice to military on optimising undersea sensor performance in different environmental conditions;
- Communicate, document and report on technical outcomes to DST, Defence clients and other stakeholders.

## Other Requirements

The position will involve interstate travel to engage with ocean modelling experts, and may also involve opportunities to gather data at sea onboard Navy ships.