

# Careers in Oceanography and Marine Science



Institute of  
Marine Engineering,  
Science & Technology

IMAREST

	EXAMPLE ACTIVITIES	KEY SKILLS AND EXPERIENCE
Metocean Consultant	<ul style="list-style-type: none"> <li>■ Metocean strategy for offshore and coastal developments</li> <li>■ New approaches to data analysis</li> <li>■ Technical report writing</li> <li>■ Data analysis</li> </ul>	<ul style="list-style-type: none"> <li>■ Applied oceanography</li> <li>■ Detailed understanding of specific metocean processes</li> <li>■ Knowledge of engineering design and operating codes/standards.</li> </ul>
Numerical modeller	<ul style="list-style-type: none"> <li>■ Deploy and support forecast and hindcast models</li> <li>■ Data analysis</li> <li>■ Data assimilation</li> <li>■ Coding</li> <li>■ Technical report writing</li> </ul>	<ul style="list-style-type: none"> <li>■ Applied maths</li> <li>■ Good understanding of meteorological and/or oceanographic processes</li> <li>■ Computational skills</li> </ul>
Physical modeller	<ul style="list-style-type: none"> <li>■ Scale model testing</li> <li>■ Model validation</li> <li>■ Technical report writing</li> </ul>	<ul style="list-style-type: none"> <li>■ Applied maths</li> <li>■ Good understanding of oceanographic processes</li> </ul>
Forecaster	<ul style="list-style-type: none"> <li>■ Weather forecasting</li> <li>■ Ocean forecasting</li> <li>■ Synoptic analysis</li> <li>■ Analysis and interpretation of measurements</li> <li>■ Offshore meteorology</li> </ul>	<ul style="list-style-type: none"> <li>■ Meteorology</li> <li>■ Oceanography</li> </ul>
Metocean Analyst	<ul style="list-style-type: none"> <li>■ Quality control</li> <li>■ Project management and review of numerical studies and metocean management campaigns</li> <li>■ Statistical data analysis</li> <li>■ Metocean process interpretation</li> <li>■ Technical report writing</li> </ul>	<ul style="list-style-type: none"> <li>■ Numerate</li> <li>■ Good grounding in meteorology and oceanography</li> <li>■ Statistics</li> <li>■ Extreme value analysis</li> <li>■ Critical thinking</li> <li>■ Understanding of end applications</li> </ul>
Sales/Business Development	<ul style="list-style-type: none"> <li>■ Business development</li> <li>■ Tendering</li> <li>■ Sales engineer</li> </ul>	<ul style="list-style-type: none"> <li>■ Outgoing personality</li> <li>■ Numerate, attention to detail</li> <li>■ Communication</li> </ul>
Technical Author	<ul style="list-style-type: none"> <li>■ Writing equipment user manuals</li> </ul>	<ul style="list-style-type: none"> <li>■ Good literary skills combined with technical knowledge</li> </ul>
Trainer	<ul style="list-style-type: none"> <li>■ Preparation and delivery of face-to-face or online training materials</li> </ul>	<ul style="list-style-type: none"> <li>■ Personable</li> <li>■ Patient</li> <li>■ Coaching and mentoring</li> </ul>

	EXAMPLE ACTIVITIES	KEY SKILLS AND EXPERIENCE
Research Scientist	<ul style="list-style-type: none"> <li>■ Novel data analysis or modelling.</li> <li>■ Development of new observation techniques</li> <li>■ Development &amp; testing of hypotheses</li> <li>■ Publication of results in peer-reviewed journals</li> </ul>	<ul style="list-style-type: none"> <li>■ Theory of meteorological and/or oceanographic processes</li> <li>■ Applied maths and statistics</li> <li>■ Curiosity</li> <li>■ Scientific writing skills</li> <li>■ Ability to obtain competitive funding</li> <li>■ Ability to be self-critical and accept criticism</li> <li>■ Fundamental understanding of coupled systems</li> </ul>
Field Oceanographer	<ul style="list-style-type: none"> <li>■ In-situ observations and sampling</li> <li>■ Deployment and recovery of instruments</li> <li>■ Working from ships or platforms</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical or chemical oceanography, applied physics, mathematics, understanding of mechanical and electronic systems</li> <li>■ Ability to work at sea</li> <li>■ Resourcefulness</li> </ul>
Software developer	<ul style="list-style-type: none"> <li>■ Web displays</li> <li>■ Data processing software</li> <li>■ Geospatial analysis</li> </ul>	<ul style="list-style-type: none"> <li>■ Computer science with focus on front end or back end</li> <li>■ Mathematics</li> <li>■ Signal processing</li> </ul>
Instrumentation engineer	<ul style="list-style-type: none"> <li>■ Product development</li> <li>■ Calibration and maintenance</li> <li>■ Deployment</li> </ul>	<ul style="list-style-type: none"> <li>■ Electronics design</li> <li>■ Practical</li> <li>■ Ability to work at sea</li> </ul>
Systems engineer	<ul style="list-style-type: none"> <li>■ Instrumentation integration</li> <li>■ Satellite systems</li> <li>■ Autonomous systems</li> <li>■ Using SCADA control system</li> </ul>	<ul style="list-style-type: none"> <li>■ Electronics, networking</li> <li>■ Systems engineering</li> </ul>
Project Manager	<ul style="list-style-type: none"> <li>■ Project planning and team coordination</li> <li>■ Logistics</li> <li>■ Budgeting and financial reporting</li> <li>■ Risk assessments</li> </ul>	<ul style="list-style-type: none"> <li>■ Organisational skills</li> <li>■ Good communication</li> <li>■ Leadership skills</li> <li>■ Negotiation</li> </ul>
Data Scientist	<ul style="list-style-type: none"> <li>■ Data management</li> <li>■ Application of big data and analytics</li> <li>■ Using SCADA control system and other data protocols</li> </ul>	<ul style="list-style-type: none"> <li>■ Data science, exposure to analytics and data cleansing</li> <li>■ Data visualisation</li> </ul>

## WHAT SKILLS DO EMPLOYERS WANT?

- Teamwork
- Communication (speaking, writing and listening)
- Negotiation skills
- Presentation skills
- General IT skills
- Critical thinking
- Pragmatic problem-solving skills
- Organisation and time management
- Demonstrating ability to learn quickly
- Ability to obtain competitive funding
- Technical writing skills

## PROFESSIONAL BODIES

Being involved with a professional body is greatly encouraged and is sure to impress employers. Particularly if your engagement extends beyond just being a member e.g. attending branch meetings, joining a special interest group, getting involved in Institute activities.

[www.imarest.org](http://www.imarest.org)

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