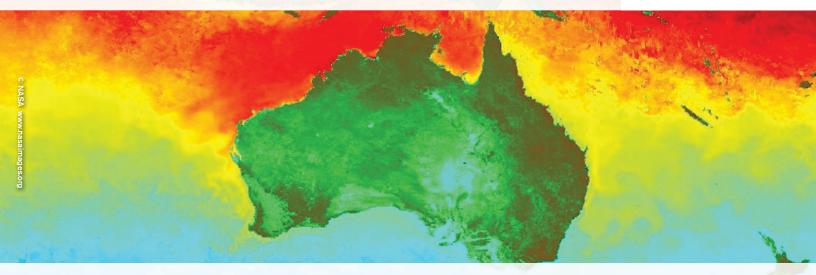




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*see back page for details



Metocean Awareness Course

An essential course providing a greater understanding of metocean and its implications for offshore design and operations

Wednesday 4 - Friday 6 March 2015

Parmelia Hilton: Mill Street, Perth, Australia, 6000

Metocean is a discipline covering meteorology and physical oceanography, and is concerned with quantifying the impact and effect of weather and sea conditions on a wide range of activities in the offshore oil & gas and renewables.

This is an essential course providing a greater understanding of Metocean and how the application of Metocean information can benefit your organisation particularly with respect to:

- Improved safety
- ► Better decision-making and planning
- Reduced costs

Comments from delegates who attended previous courses:

- If the presenters were excellent in sharing their experience and input to issues faced by participants in their work
- Gained a good knowledge of metocean in such a short time

This course is eligible for CPD Continuing Professional



For further details contact: Jennifer Maninin

Tel: + 61 8 9446 9903

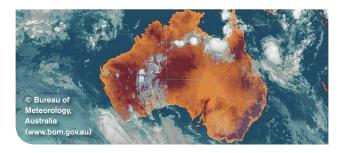
Email: j.maninin@sut.org

WHY WILL THIS COURSE BENEFIT YOU?

or all offshore industries, the effects of meteorology and oceanography (metocean) have a major impact on design and operations. If users of metocean information are not aware of the implications that the weather, waves, currents and water levels can have on their operations or design work, then things can go wrong with serious health and safety and economic consequences.

The **Metocean Awareness Course** is aimed at those who need to have a greater understanding of metocean conditions worldwide and how they might impact the effectiveness of their work.

The course format will include a mixture of short presentations presented by expert speakers in this field (see back page) and **interactive workshop sessions** including a **group case study exercise.** Delegates will receive a comprehensive course manual on attendance.



WHO SHOULD ATTEND?

This course is essential for Project Managers and Engineers in the offshore and renewables industries, involved in operations or design, from new entrants to the industry to those with many years experience. The course will enable delegates to interact with expert speakers and other delegates from various backgrounds who use or provide metocean data.

COURSE SCHEDULE

DAY 1

08.30 Registration and refreshments

Welcome

08.45 Introductions and objectives of the course

Offshore industry requirements for metocean criteria and statistics – the application

- **09.15** Why metocean is important
 - What exactly is metocean?
- **09.45** War Stories from participants and speakers: Kolskaya and Key Biscayne Jackup disasters and why it is always easier to blame metocean
- **10.15** Refreshments
- **10.30** War stories from participants and speakers (contd) Offshore engineering applications:
 - Requirements for metocean information at each stage of the project cycle
 - How metocean meets those needs
- **11.45** Kick-off: Group case study exercise
- **12.30** Lunch

Metocean data acquisition

- **13.30** Measured proprietry, national and global
 - Modelled
- **15.15** Refreshments
- **15.30** Satellite data
 - Data QC
 - National databases/data archiving
- 16.30 Data trends/climate variability
- **17.30** Drinks reception

EXPANDED LEARNING OUTCOMES FOR INDIVIDUAL PARTS

Part 1: Oil and gas industry requirements for metocean criteria and statistics – the application

After completion of the course, participants will:

- have an understanding of how and why metocean is important to the offshore oil and gas and marine renewables industries for safe and economic operations, through each phase of field development/operation from initial acreage acquisition to field abandonment;
- be able to engage internal and external stakeholders about metocean matters and their impact.

Part II: Metocean data sources, data quality control, archiving and climate variability

After completion of the course, participants will:

- be able to describe the various methods of acquiring metocean data, the issues involved, the indicative costs and trends for the future;
- be aware of safety guidelines (OGP) and the inherent risks of in-field data collection;
- be aware of vessel requirements to undertake instrument deployment;
- have an understanding of data processing, quality control and data archiving;
- be able to describe the process of numerical modelling of winds, waves and currents; the limitations and accuracy of results.

DAY 2

08.30 Refreshments

Metocean parameters and processes

- **08.45** Atmospheric and ocean circulation
 - Winds and waves
- **10.15** Refreshments
- **10.30** Ocean circulation
 - Currents
 - Water level (tides, surges, tsunami) and ice
- **12.00** Group case study exercise (contd)
- **12.30** Lunch
- 13.30 Metocean conditions around the world
- 14.30 Weather and ocean forecasting
 - How weather and ocean forecasts are generated
 - Presentation of weather forecasts
- **15.15** Refreshments
- **15.30** Weather forecast exercise
- **16.45** Group case study exercise (contd)
- **17.30** Close
- **18.00** Course dinner

DAY 3

08.30 Refreshments

Developing metocean operational statistics

- **08.45** Metocean statistics for operational planning:
 - Scenarios when to use, what to ask for
 - Operability weather windows: seismic, drilling, pipelaying, installations, heavy lifts, tows, float-overs, decommissioning, etc
 - Aviation and marine logistics: helicopters, marine crew change, etc
 - Operational statistics exercise
- **10.30** Refreshments

Developing metocean design criteria

- **10.45** Metocean criteria for design:
 - ▶ Key elements of design ISO 19901-1
 - Developing metocean criteria for range of engineering applications; response-based design
 - Uncertainties
 - Extreme value analysis exercise
- **12.30** Lunch
- **13.30** Metocean effects on pipelines geotechnics and metocean the seabed interface
- **14.00** Finalise group case study exercise Group presentations and award of prize
- **15.45** Refreshments

Wrap-up/feedback

- **16.00** Wrap-up/feedback discussion:
 - Future developments
 - What we have learnt
 - What are we going to do differently?

Feedback questionnaire

17.00 Close

Part III: Metocean parameters and processes and metocean conditions around the world

After completion of the course, participants will:

- have a broad understanding of the key meteorological and oceanographic parameters impacting offshore design and operations;
- be able to describe the metocean conditions in the various regions around the world where the offshore oil and gas industry and marine renewables industry operates;
- know from where they can obtain more metocean information and advice.

Part IV: Weather forecasting

After completion of the course, participants will:

- have an understanding of how weather and ocean forecasts are derived, their accuracy and how they are presented;
- know from where they can obtain more relevant information and advice.

Part V: Operational statistics and design criteria

After completion of the course, participants will:

- know how metocean conditions are presented statistically and are used for design in various scenarios;
- be able to specify the process for undertaking design criteria studies and for preparing operational planning statistics reports;
- know from where they can obtain more relevant information and advice.

MEET YOUR SPEAKERS

Steve Buchan is General Manager of RPS MetOcean Pty Ltd, a physical oceanographic consultancy which initiated in Perth in 1974. He joined in January 1979, and (probably uniquely) has been involved in the development of operational and/or design metocean criteria for every operational Offshore Oil & Gas facility (and related coastal facilities) on the NW Shelf and in the Timor Sea. He is a Member of The Institution of Engineers Australia and of the Society for Underwater Technology. He has over 30 years of experience in Physical Oceanography, and in Coastal and Ocean Engineering.

Dr Gregory Bush has over 20 years of experience in commercial oceanography for the offshore oil and gas industry. Early work experience focused on field work offshore, through to project management then company management. His highest level of education was a doctorate in physics using acoustics to measure sea ice thickness in Antarctica. Areas of special interest include mooring design and oceanographic survey, particularly current measurements. He has worked around the world including 3 years based in the UK, and 9 years based in Singapore. He is currently the general manager for RPS MetOcean in Perth

Jan Flynn is a senior metocean engineer with Shell Development Australia Pty Ltd. She graduated from Southampton University with an MSc in Oceanography in 1987 since when she has worked in applied oceanography, primarily for the oil and gas, and water industries. She has undertaken studies in a wide variety of ocean environments in Europe, Middle East, Africa and SE Asia, including extensive field measurements, data analysis and interpretation. She is presently supporting the development of the world's first Floating LNG processing plant, to be installed off the coast of Western Australia.

Ron Hille has been working for the Bureau of Meteorology since 1984, and spent the last 21 years working in the Commercial Weather Services (CWS) section of the Bureau of Meteorology in Australia. CWS specialise in providing detailed tailored weather services to the Oil & Gas Industry operating in Australia and offshore waters (NW Shelf, Timor Sea, Bass Strait and Southern Ocean). He has worked for many years as the marketing manager for CWS and is currently under contract as a senior meteorologist with the CWS team. He has experience working on offshore drilling rigs/drilling ships/barges and platforms during weather sensitive operations, and has made numerous visits to offshore facilities providing pre cyclone season briefings. In more recent years he has been one of the main facilitators in weather training seminars and workshops provided by CWS for the Oil & Gas Industry.

Scott Noreika is the Consultancy Manager and a Senior Oceanographer at RPS MetOcean Pty Ltd (RPS), a physical meteorological and oceanographic consultancy firm in Perth (since 1974) and he's been with the company since 1991. He graduated from the United States Naval Academy with a BSc in Physical Oceanography/Naval Science in 1984. He then spent 6 years as a US Naval Officer working at sea (Pacific and Indian Oceans) and onshore (Hawaii) in roles including management of personnel and operating systems and in provision of metocean services/support to the Pacific Fleet. He moved to Western Australia in 1991, where he took up his position with RPS. In his 21 years at RPS, he has been involved in the development of operational and/or design metocean criteria for most of the operational Offshore Oil & Gas developments (and related coastal facilities) on the NW Shelf and in the Timor Sea. He also has extensive experience in conducting metocean studies for global offshore sites in the Southern Ocean, in the South China Sea, in the Indonesian Seas, off East and West Africa, off Brazil, and in the South and North Western Pacific Ocean.

Professor David White is the Shell EMI Professor of Offshore Engineering at the University of Western Australia in Perth. He has been at UWA since 2006, having previously held a lectureship at Cambridge University in the UK. His research encompasses many aspects of offshore geotechnics and fluid-soil-structure interaction. The work combines physical modelling, particularly using the UWA centrifuge and O-tube facilities, with numerical analysis and field observations. David has authored book chapters on piled foundations and pipeline geotechnics, and his >180 career publications have won 5 prizes. He was awarded the 2010 Anton Hales Medal by the Australian Academy of Science and the 2011 Western Australia Tall Poppy Science Award. He was the 2011 Western Australian Early Career Scientist of the Year.

Application Form – Metocean Awareness Course

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Instructions: Please print clearly or attach business card and photocopy this form for further delegates.

Personal Information

IMarEST/SUT Membership No	umber
Full name	
Job title	
Organisation/company	
Address	
(City
County	Postcode
Telephone	
Email	
Signature	
Metocean Awareness (Course fees: (please tick)
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Start date	Issue number (if applicable)
	e back of your card)

☐ Vegetarian/special dietary meals	Access requirements
(please specify)	

You will receive a confirmation email, an invoice or GST receipt and further information on receipt of your application form. Please contact us if you do not receive confirmation.

Registration Information

For further information, please contact Jennifer Maninin at j.maninin@sut.org or + 61 8 9446 9903.

To simply register please email your completed registration form to **perthevents@sut.org** or fax to: **+61 8 9446 9905** or post to: 5/5 Hasler Road, Osborne Park, WA, 6017.