



Metocean Awareness Course

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

Wednesday 16 – Thursday 17 November 2016

BP Helios Plaza, 201 Helios Way, Houston, TX, 77079

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

Registration

The cost of the Metocean Awareness Course has been reduced by \$250 for both members and non-members in view of the current challenges the oil and gas industry is facing.

IMarEST/SUT Member Reduced Cost: **\$1,250**

Non-Member Reduced Cost: **\$1,500**

Payment Information:

Payments are made by credit card. SUT Houston accepts all major credit cards.

Register online at www.southouston.com

Email: communications@southouston.com

To Become an SUT Member or IMarEST Member please go to:

<http://www.southouston.com/Become-a-Member>

or <http://www.imarest.org/Membership.aspx>

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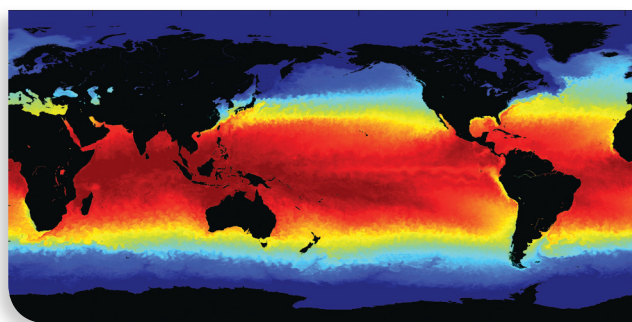
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WHY WILL THIS COURSE BENEFIT YOU?

For 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). Delegates will receive a comprehensive course manual on attendance.



WHO SHOULD ATTEND?

This course is essential for Project Managers and Engineers in the offshore oil and gas 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.

EXPANDED LEARNING OUTCOMES FOR INDIVIDUAL PARTS

PART I: 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.

COURSE SCHEDULE

DAY 1

- 08.30** Registration and refreshments
Welcome
- 08.45** Introductions and objectives of the course
- 09.15** **PART I: Requirements for metocean criteria and statistics – the application**
 - ▶ Why metocean is important
 - ▶ What exactly is metocean
 - ▶ Requirements for metocean at each stage of the project cycle
 - ▶ How metocean meets those needs
- 10.15** Refreshments
- 10.30** **PART II: Metocean parameters and processes**
Metocean parameters and processes
 - ▶ Atmospheric and ocean circulation
 - ▶ Winds
- 12.30** Lunch
- 13.30** Metocean parameters and processes (continued)
 - ▶ Waves
 - ▶ Currents
 - ▶ Water level (tides, surges, tsunami)
 - ▶ Ice
- 14.30** Refreshments
- 14.45** **PART III: Metocean data sources, data quality control, archiving and climate variability**
 - ▶ Data sources – measured and modelled
 - ▶ Data sources – satellite
 - ▶ Data QC/archiving
 - ▶ Climate change
- 17.30** Questions and Close

DAY 2

- 08.30** Refreshments
- 08.45** **PART IV: Metocean conditions around the world**

PART II and IV: 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;
- ▶ be able to converse more knowledgeably about climate change

Metocean conditions around the world

- ▶ Temperate climates (eg North Sea)
- ▶ Tropical climates (eg Gulf of Mexico, SE Asia, West Africa)
- ▶ Arctic type climates (eg Sakhalin, North Caspian)

10.15 Refreshments

10.30 **PART V: Weather forecasting**

Generation of weather forecasts

- ▶ Scenarios – when to use, what to ask for, probability forecasts, site-specific forecasts
- ▶ Weather forecast distribution (websites, video, dedicated forecaster)

12.00 Lunch

13.00 **PART VI: Operational statistics and design criteria**

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

14.30 Refreshments

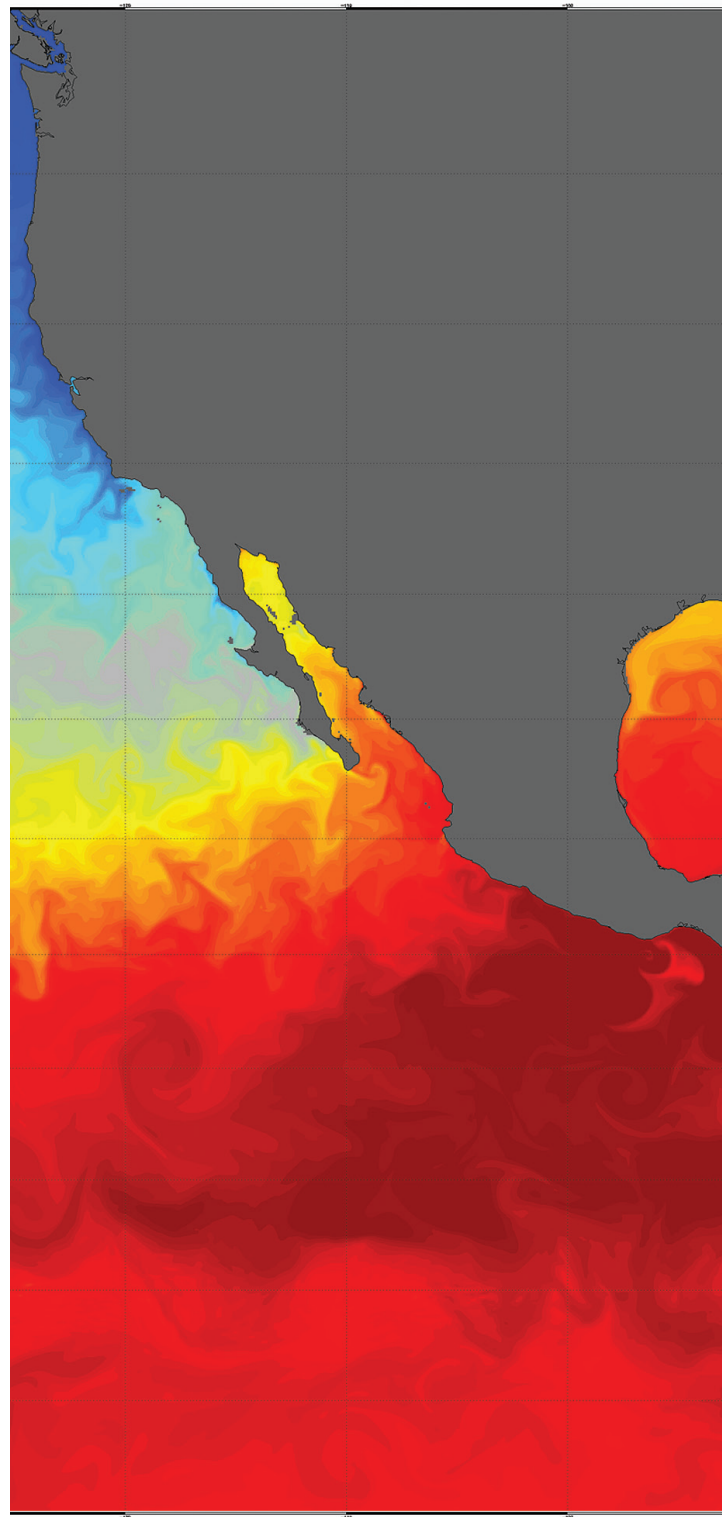
14.45 Metocean criteria for design

- ▶ How to derive 100 year extreme values
- ▶ How to produce final design criteria
- ▶ Typical design criteria products and presentations
- ▶ Differing requirements for fixed versus floating installations
- ▶ Independent criteria versus response based design
- ▶ Uncertainties, reliability and impact of climate variability

16.15 Sum-up, future and conclusions

- ▶ What we have learnt
- ▶ What are we going to do differently
- ▶ Future developments

16.45 End of course



PART III: 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;
- ▶ know from where they can obtain more relevant information and advice;
- ▶ be able to describe the process of numerical modelling of winds, waves and currents; the limitations and accuracy of results.

PART V: 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 VI: 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.