



OceanMetriX Ltd provides:

Independent Meteorological & Oceanographic (Metrocean) Consultancy & Statistical Services to Governments and Industry Worldwide.



METOCEAN CONSULTANCY

- Advice
- Representation
- Contract Specification, Tendering & Management
- Regional Assessments
- Data and Forecast Verification Services

STATISTICAL SERVICES

- Metrocean Criteria
- Air gaps
- Operation and Fatigue Statistics

1 Kenilworth Close, Saint Margaret's Bay, Dover, Kent , CT156BY
Tel.:+44 (0) 208 123 1979, www.oceanmetrix.com

METOCEAN CONSULTANCY

Advice

OceanMetriX's consultants have decades of experience providing Metrocean related services to the Oil and Gas Industries and are well qualified to provide advice to support all phases of offshore and coastal developments.

Representation

OceanMetriX Ltd is based near Dover, UK, and maintains an office in Vigo, NW Spain. We have extensive experience both within Europe and overseas. We have a particularly strong track record in the Mediterranean , the Caspian, SE Asia, Sakhalin.



Locations of Projects, 2001 to 2010.

Our consultants are available to:

- Represent the regional metrocean interests of international companies;
- Assist our clients in liaising and consulting with government bodies, certification authorities and special interest groups; and
- Represent our clients in metrocean joint-industry fora.

Contract Specification & Management

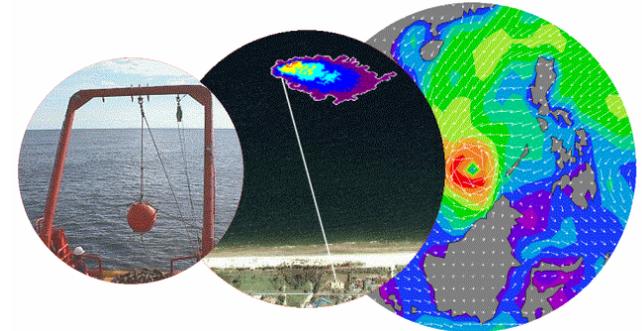
OceanMetriX's consultants are well qualified to assess the case for metrocean data gathering projects. Our independence allows us to prepare tender packages, assess bids, and manage the execution of work on behalf of our clients.

Data Collection:

Drawing on our extensive experience, we prepare concise specifications for data collection surveys which ensure that the data will be fit-for-purpose, are acquired in the most effective manner, and the work can be competitively tendered.

Data Modelling:

By concise specification, followed up by careful contractor management and quality control, we ensure timely delivery of fit-for-purpose data.



Real-time Monitoring:

We are experienced in specifying metrocean monitoring equipment and systems to meet the requirements of our clients.

Weather Forecasting:

Through specification of appropriate technology, forecasting practices and products, we tune services to our client's operational requirements.

Regional Assessments

OceanMetriX provides specialist Metocean Consultancy and Statistical Services for E&P planning and concept testing worldwide, both for onshore and offshore projects.

ONSHORE: We construct plots and tables of industry standard statistics and criteria using quality assured data from our archive of multi-decadal weather records from more than 16,000 stations worldwide. Recorded parameters include: winds, air temperatures, visibility, cloud height, precipitation and snow depth. Derived parameters include: relative humidity, effective temperatures and ice thickness. Statistics maybe presented for individual stations or the information pooled to improve confidence in estimates of extremes (eg Saharan sandstorms) or to spatially model conditions across a large area (eg Siberian pipelines routes).

OFFSHORE: We construct plots and tables of metocean statistics and preliminary design criteria from long-period (typically longer than 10-years) datasets from numerical models and offshore measurement systems. We verify, and if necessary adjust, these datasets with reference to data from independent, secondary sources, often drawn from our extensive in-house archives of VoF Ship Reports and satellite derived measurements. Available surface datasets include: waves, winds and meteorology; and datasets through ocean depths: currents and seawater temperature and salinity.

Regional Climate Overviews: Using information from scientific literature and data from our archives we construct Climate Overviews. These describe regional normal weather conditions and identify extreme weather events that will govern operations and design locally.

Strategies for Criteria Refinement: Cognisant of our clients' work plans, their sensitivities to the environment and the limitations of available metocean information, we may develop strategies to obtain further information and improve criteria confidence. These may involve data collection, modelling, purchase and re-analyses.

Verification Services

Measurements: Metocean data collection can be an expensive and risky business. Careful specification and planning of measurement programmes can mitigate, but never eliminate, the risk of data corruption or loss. Measured datasets need to be expertly examined to identify and tag periods of invalid data. This is important not only for the calculation of Contractor's payments, but also to ensure that corrupted, potentially misleading data are not used in operations planning and structural design studies.

OceanMetriX offers expert, independent assessment, data quality assurance and editing. Our services draw on more than two decades of experience of measurement systems, Metocean sciences and applied statistics, and are supported by data from our extensive, global archives. We are able not only to identify errors in datasets, but are often able to deduce the reason for the failures and recover data.

Numerical Models: Hindcast models offer long-period, high resolution wind, wave and current datasets which appear ideal for use in offshore operations planning studies and structural design. But how good are the data? Can errors be identified and systematically corrected? Are the datasets, once corrected, fit-for-purpose? **OceanMetriX** offers expert, independent verification services to answer these questions.

Over the last decade we have completed many hindcast verification studies and have worked with datasets from all the major numerical modelling institutions.

Weather Forecasts: **OceanMetriX's** weather forecast verification services demonstrate the strengths and weakness of our clients forecasts with reference to measured datasets. Furthermore, we may contrast the performance of our clients forecasts with rival services, public domain (web based) services and simple, minimal-skill predictions (climatology and persistence).

Our services ensure that our clients obtain weather forecasting service appropriate to their requirements and promote appropriate use of the forecast information.

STATISTICAL SERVICES

Design Criteria

OceanMetriX develops Metocean design criteria using ISO/ DNV compliant practices employing a blend of traditional and advanced statistical Extreme Value Analysis (EVA) techniques which make optimum use of the information available. Our EVA code and procedures have been extensively and publicly validated (they feature in the award winning OMAE2009-79466 Structures, Safety and Reliability paper), and include facilities to:

- i) exploit data from different sources (for example, measured, modelled and satellite datasets);
- ii) pool information from neighbouring locations (for example, to create criteria maps);
- iii) calculate combined directional forces (for example, to calculate drag on pipelines);
- iv) calculate joint probability (for example, to calculate risks for reliability based structural analysis);
- v) calculate conditional probability (for example, associated criteria distributions); and
- vi) predict the effects of non-stationary (for example, water-level rise or climate trends).

Air gaps

Air gaps are normally the most critical Metocean related design criteria for fixed offshore structures. Why: because if exceeded, waves will impact the platform deck (deck inundation) and loading levels increase dramatically. Such occurrences are neither conceptual nor inconsequential: the majority of platform failures in the Gulf of Mexico have been attributed to air gap exceedance. **OceanMetriX** has proven capabilities in the specification of platform air gaps world-wide.

Operations & Fatigue Statistics

OceanMetriX employs ISO/ DNV compliant methodologies to generate plots and tables of Metocean parameter distribution statistics for use in structural fatigue investigations and operations planning studies.

Please feel free to contact us for more information on any of the above-mentioned services:

Web Page: WWW.OCEANMETRIX.COM

E-mail: Enquiries@oceanmetrix.com