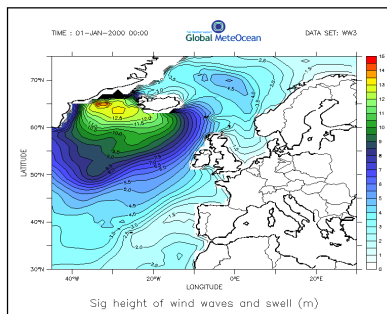


## Metocean parameters studies: Wave, current, tide, wind, etc.

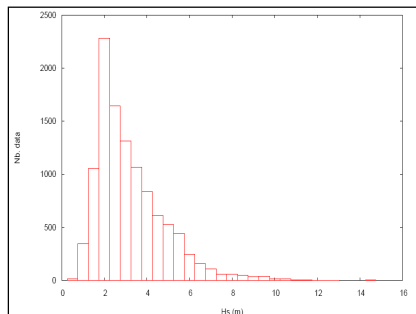
The combining use of meteorological and oceanographic measured data with model outputs enables to produce detailed studies of environmental specific parameters, in the view of operational use. Knowing precisely the environment will help to optimize decision making process for designing structures or preparing long term sensitive operations.

- **Downtime periods:** By taking into account the critical limits, the calculation results will highlight downtime probabilities.
- **Design criteria, climate studies:** Metocean parameters will be integrated into specific calculation or simulation to provide inputs to engineering processes. Each parameter such as wind, wave, current, water level etc. can be considered to produce detailed studies giving exploitable information (e.g. return periods, spectral parameters) for engineers.

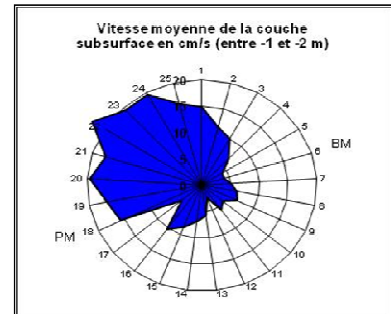
Archive of worldwide wave data from the WWIIII model



Graphical format showing Number of measured data versus Significant Height



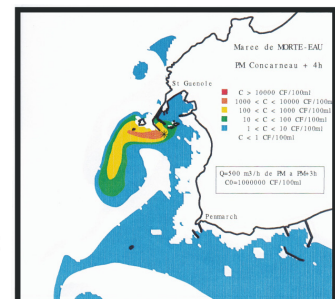
Current velocity along a column of water at given depths



## Regional Numerical Models and et Coastal Oceanic Dynamic processes:

- Consideration of coastal effects such as refraction, diffraction, shoaling, and friction
- Sea current, river plume, discharge dispersion
- Wave propagation in shallow water
- Sedimentary transfers
- Numerical Models: **WRF** (Weather Research Forecasting) for atmospheric parameters, **SWAN** (Simulation Waves Near shore) for wave studies, **MARS 2D-3D** for oceanic currents, water level, concentration of soluble elements

Coastal discharge



## Characterisation of past weather:

Detailed studies of extreme past meteorological and oceanic events such as Cyclones or storms. Global MeteOcean's engineers can access a comprehensive database from models, weather stations, and satellite measurements.