

# METOCEAN CONDITIONS COSTA CONCORDIA

## FOR SALVAGE OPERATIONS

The cruise ship Costa Concordia ran aground and capsized on January 13, 2012 in the Tyrrhenian Sea just off the coast of the island of Isola del Giglio, located on the west coast of Italy. For the salvage operations, Svašek Hydraulics conducted a metocean study for this location at the request of Rina Services SpA.

The Metocean report describes data collection, transformation of the sea state from deep water to the location of the Costa Concordia using SWAN numerical modelling and derived operational and extreme statistical results.

Time series (3 hourly) of 10-year period generated by ECMWF numerical wave modelling are used as boundary conditions for SWAN modelling.

The following statistics of wind and wave conditions at the location of the Costa Concordia are presented:

- Annual wave climate in the form of Hs/Tp scatter diagrams
- Directional wave climate
- Duration of storms statistics

- Extreme annual and seasonal values for return periods of 1, 2, 3, 5 and 10 years
- Maximum wave height
- Swell wave height

CLIENT

Rina Group

LOCATION

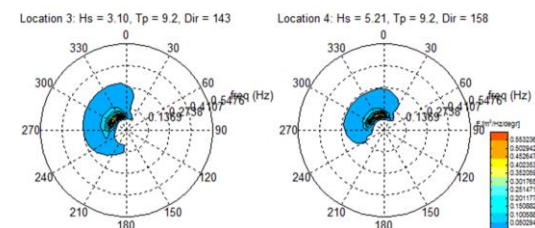
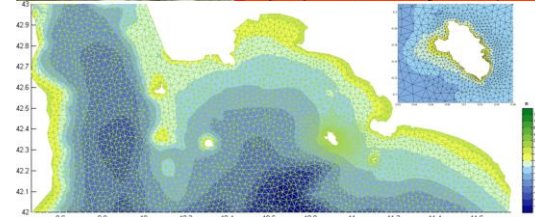
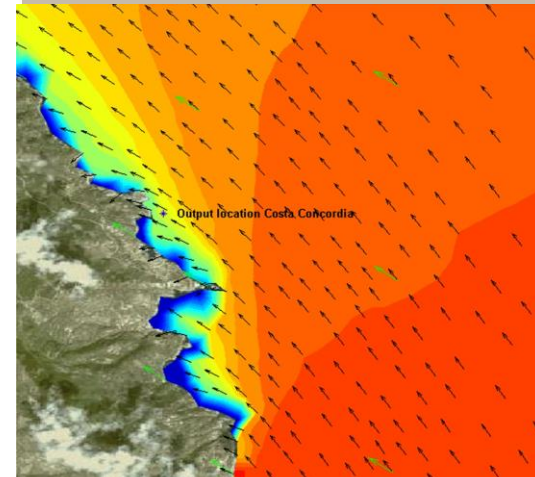
Isola del Giglio, Italy

DATE

2012

SERVICES

Operational sea state conditions, extreme sea state conditions, high quality time series, extreme statistics.



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