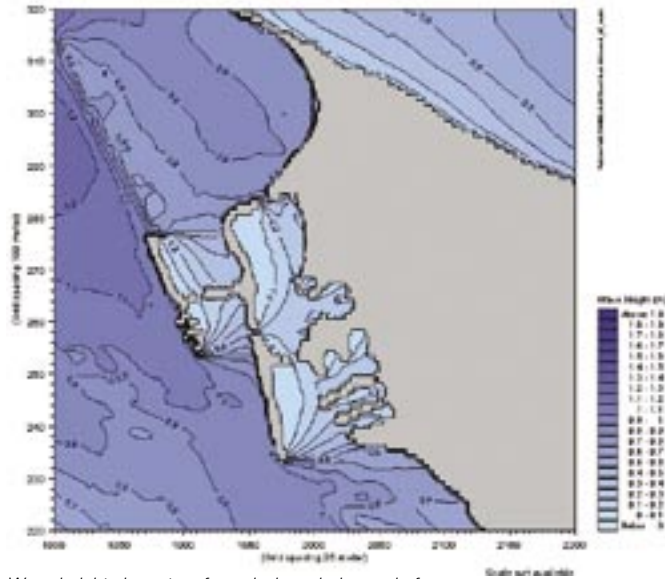


# Durrah Development, Bahrain

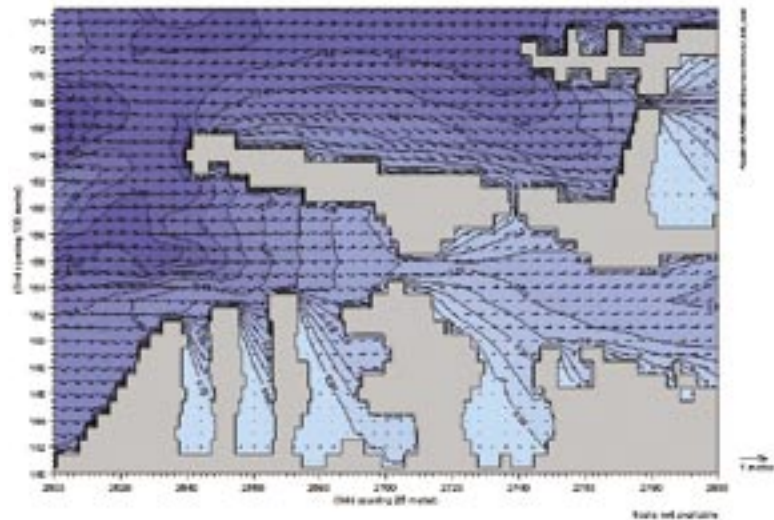
The project covered tender design and detailed design of recreational islands off the southeast coast of Bahrain. The bathymetry in the area is very complex with many reefs and channels requiring detailed wave modelling to derive extreme wave conditions to be used in the design of the marine structures.

The Nearshore Spectral Wave model, MIKE21 NSW, was deployed for simulating the waves propagating from offshore to the site. The model includes wave transformation due to the effect of wind, refraction and wave breaking.

Analysis of the extreme wind conditions in the area was used as input to the wave modelling covering a large area of the waters around Bahrain and Qatar. The results of the detailed wave modelling were analysed with respect to the extreme wave conditions to be applied in the design of gravel beaches and rock revetments.



Wave heights in metres for a design wind speed of 18m/s from SE.



Wave heights in metres inside the developed area for a design wind speed of 19m/s from NNE.

## Services:

- Analysis of extreme wind conditions
- Wave modelling
- Extreme wave conditions
- Design of beaches
- Design of rock revetments

Project period: 2000 - 2002

Client: Archirodon Construction (overseas) Co. S.A. Dubai