

STWAVE modelling, Sual

- Main input data

- **Bathymetry**
(provided from oceanographic charts and own measurements)
- **Wind speed in model domain**
(1 year of wind-data (2009) extracted from measurements from Sual area **01** / en by **Namria**)
- **Wave height at ocean boundary**
(10 years of offshore wave data retrieved from www.buoyweather.com, and is extracted from hindcast data from a global WAM wave model.)
- **Wave energy spectrum**
(default by the model/ defined by user)

Slide 1

o11

Can you find reference on this, Patrick?

oyvind leikvin, 9/1/2010

STWAVE modelling, Sual - Model setup

- Resolution: 100 * 100 m (nesting also possible)
- o12 Whole Lingayen Gulf covered, an area of about 2000 km².
- Incoming wind and waves from the opening of Lingayen Gulf in the north

Slide 2

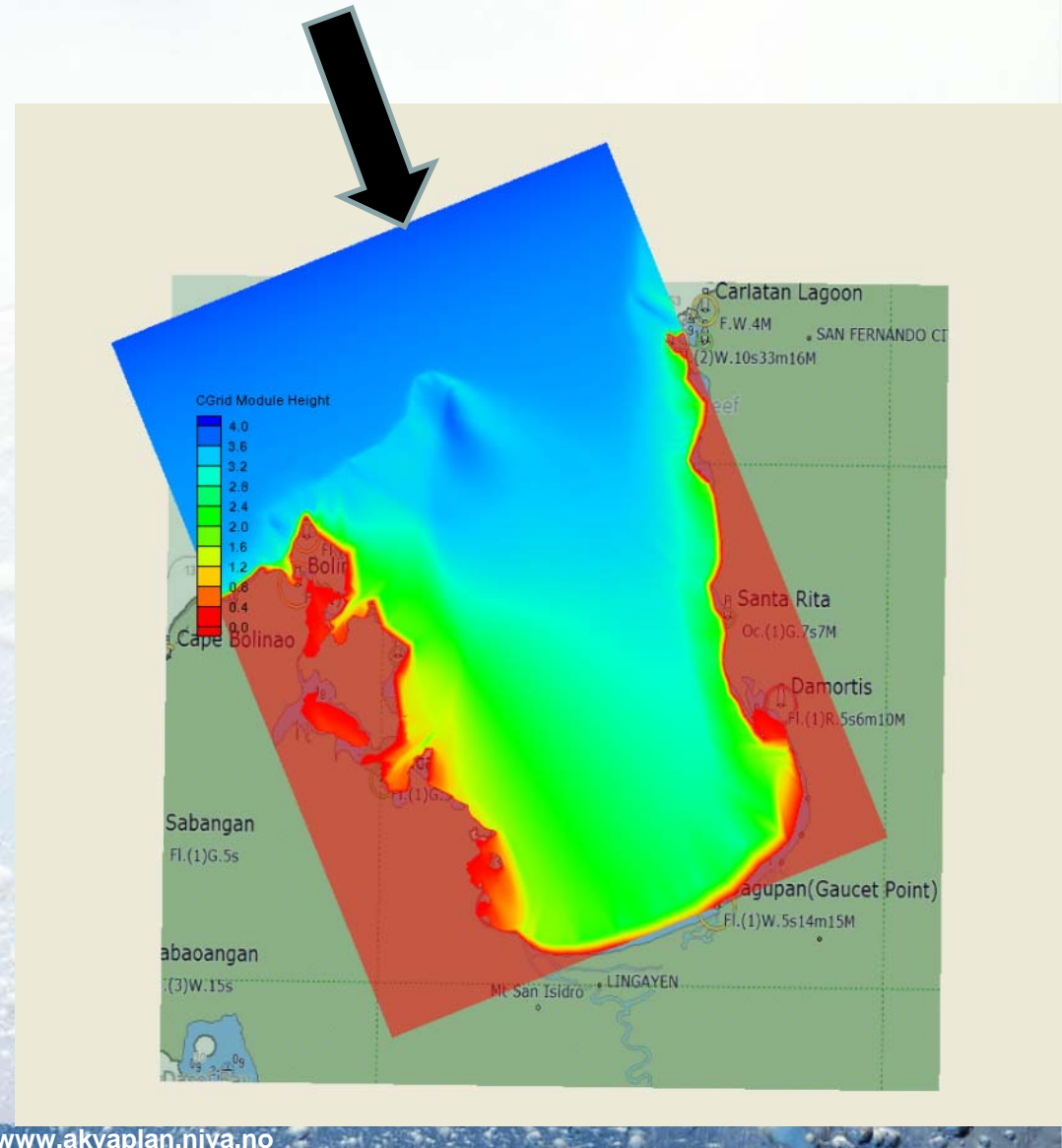
o12

Can you find reference on this, Patrick?

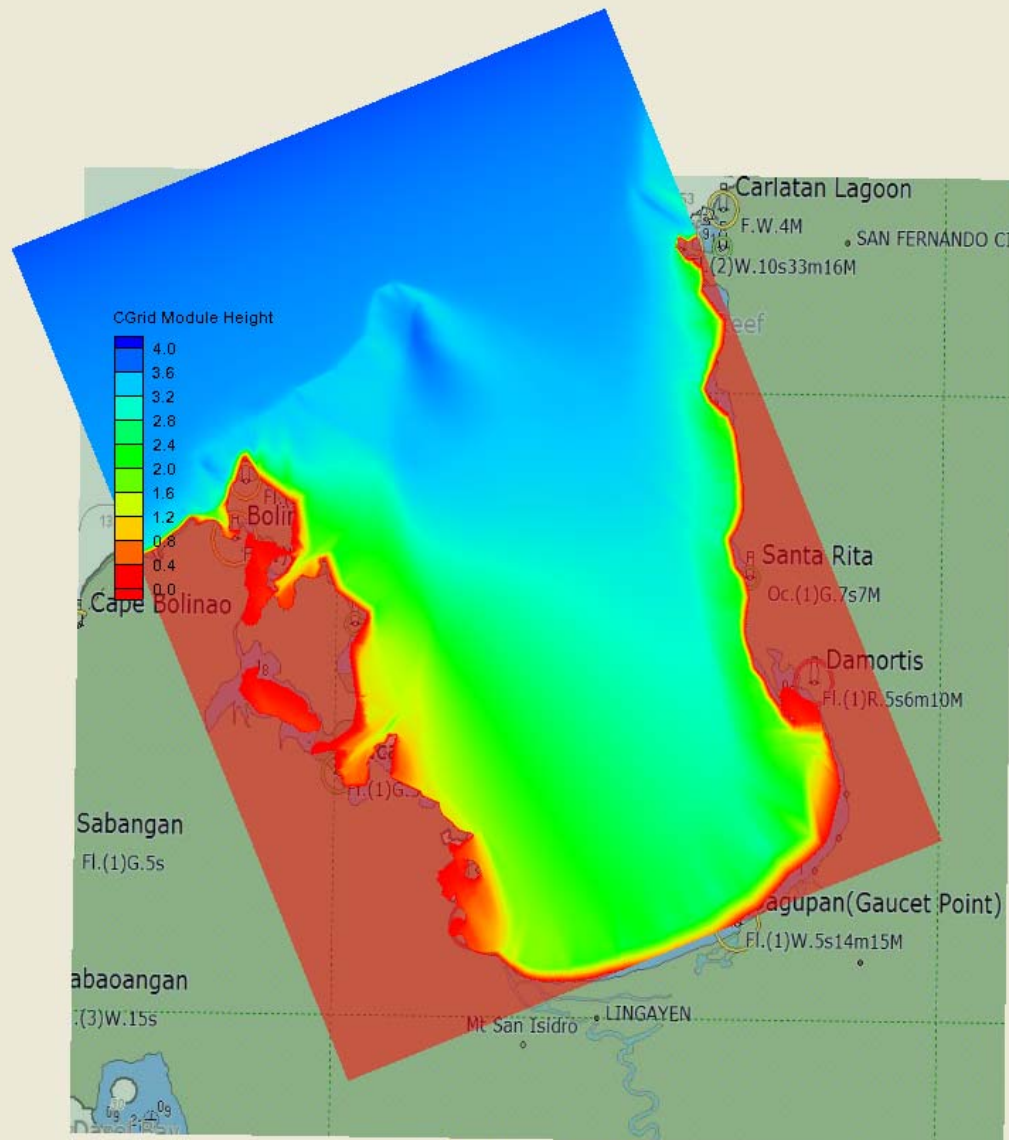
oyvind leikvin, 9/1/2010

Results, Sual

- A georeferenced picture/map may be placed as a background for the model plot
- A wave train is set up, entering the model domain from offshore.
- Typically the whole bay system and the boundary towards the open ocean will be covered

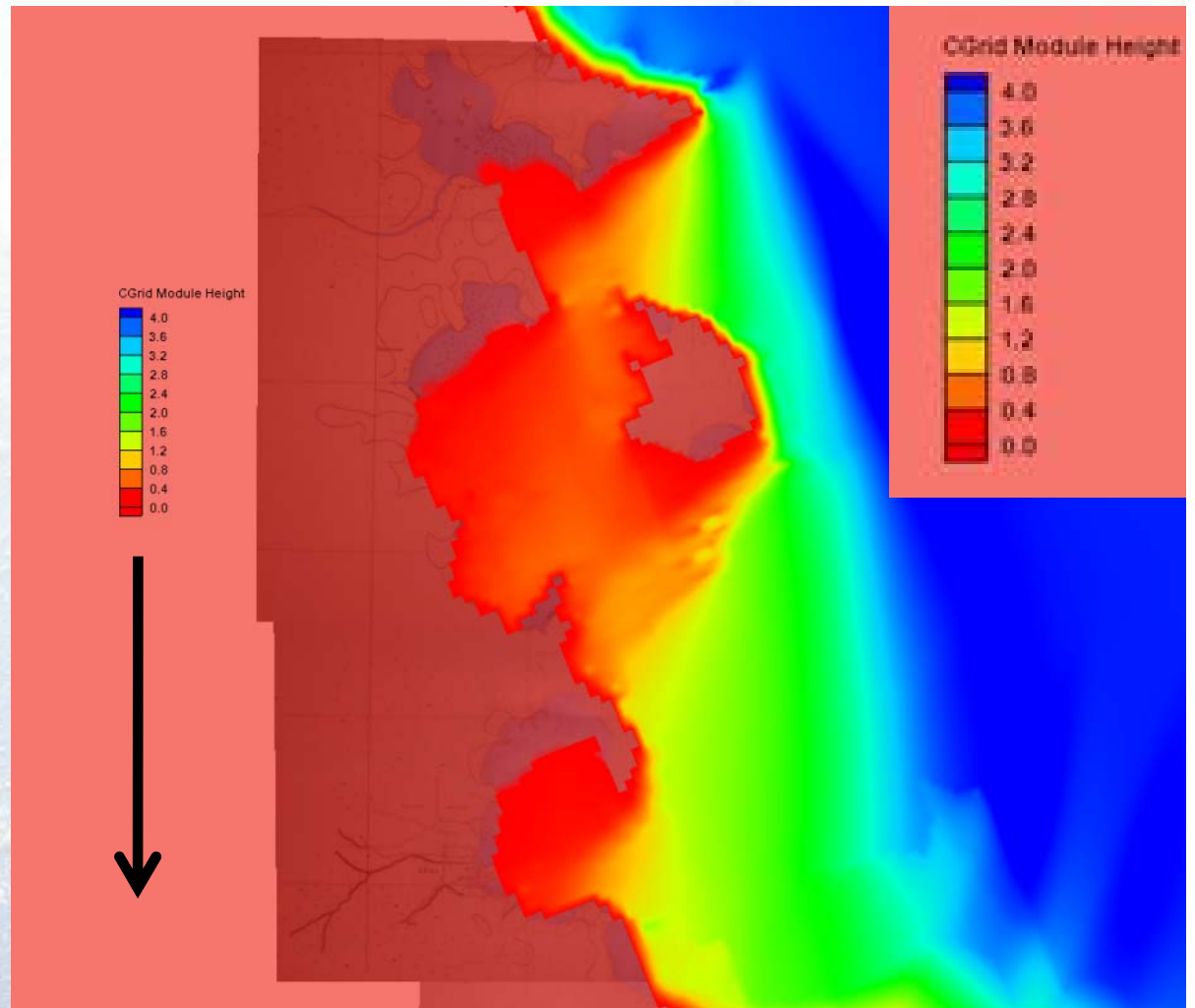


Overview of domain (Hs)

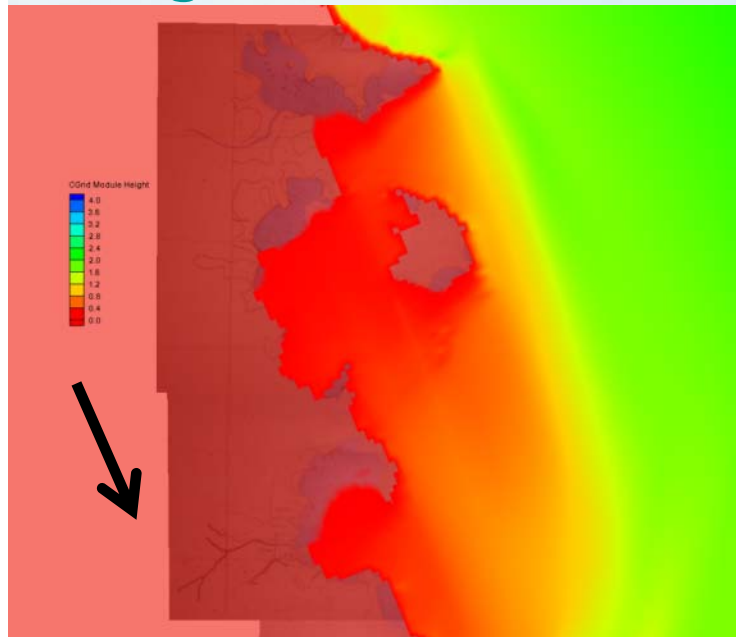


Significant wave height (Hs)

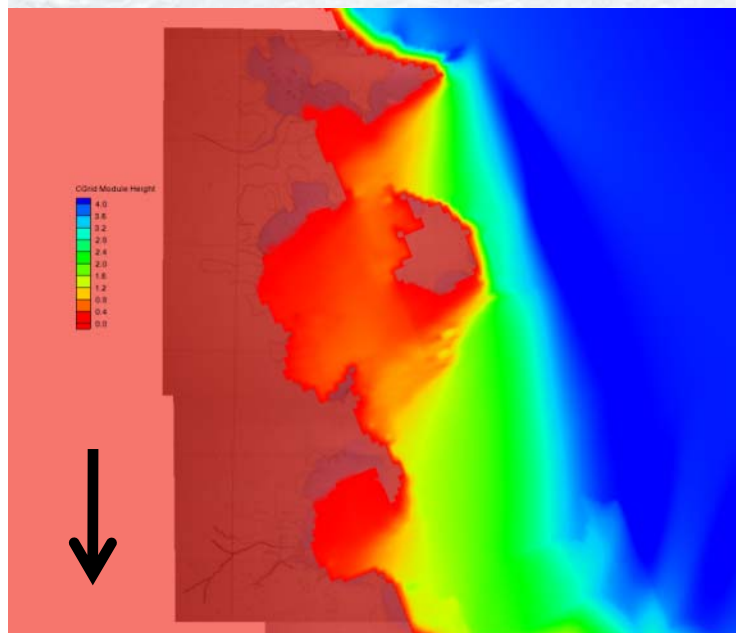
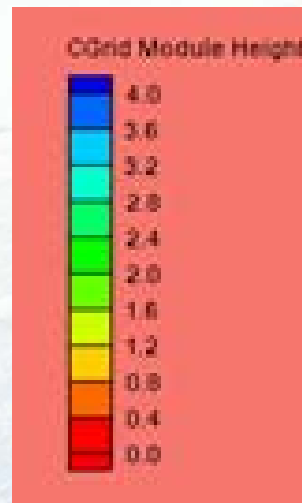
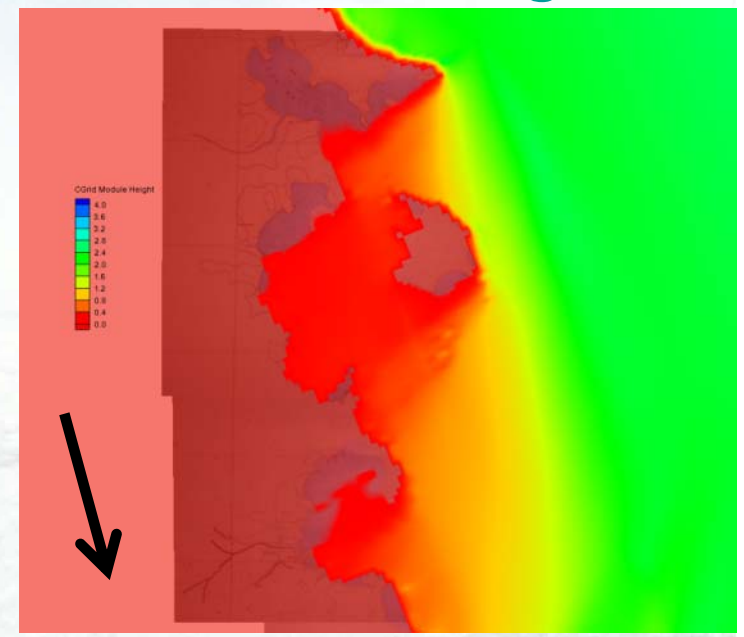
- Red areas: <0.5 m
- Blue areas: >4 m
(input wave at offshore: 8.5 m)
- Should look at winds and waves from all directions, as well as taking peak periods into account.
- Reveals possible places for aquaculture



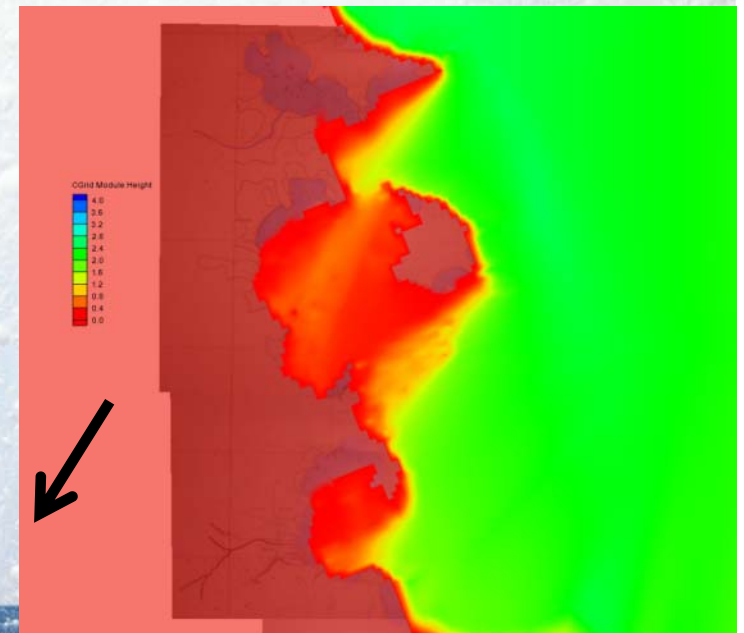
Significant wave height (H_s), from different angles



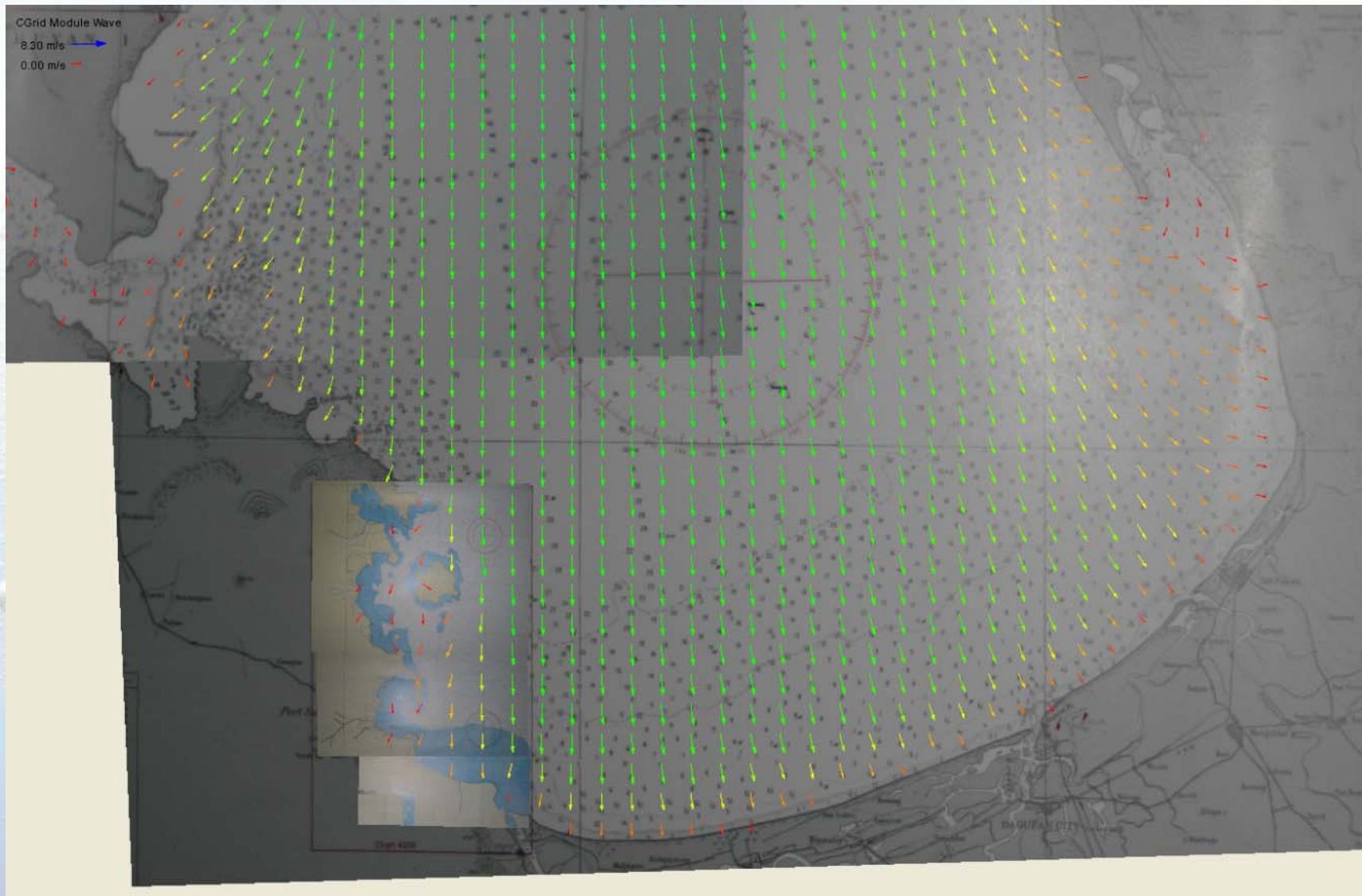
320 deg 340 deg



360 deg 40 deg



The STWAVE model also simulates the directional spreading of the waves into the bay:



The main purpose of STWAVE :

1. Finding new aquaculture sites