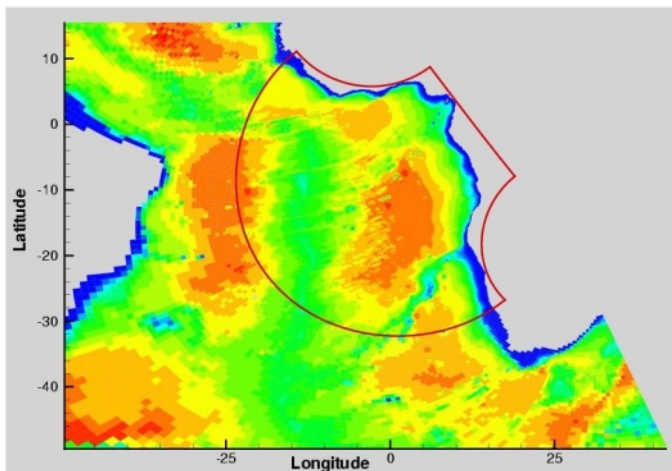


Ocean Numerics carried out the numerical current modelling for WANE (West Africa Normals and Extremes).

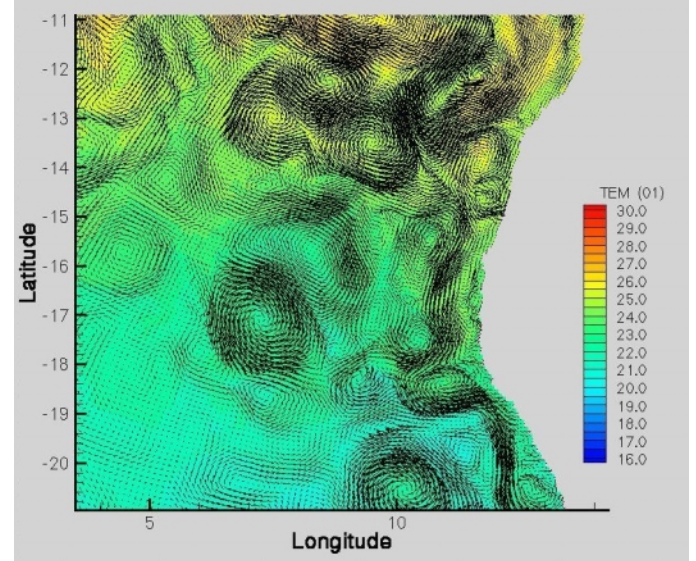
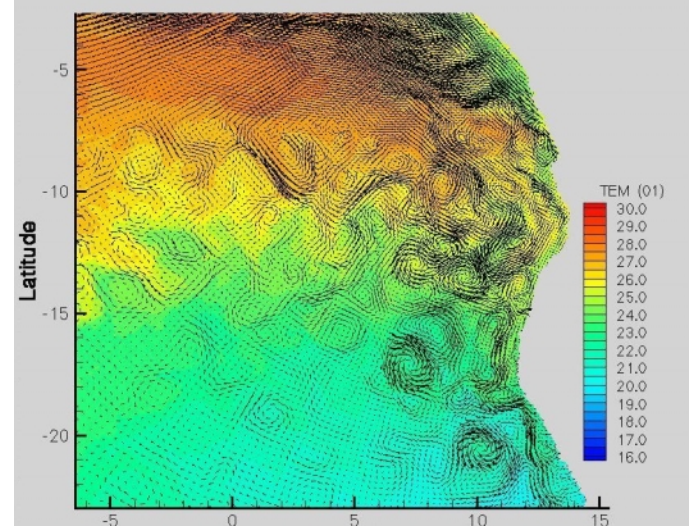
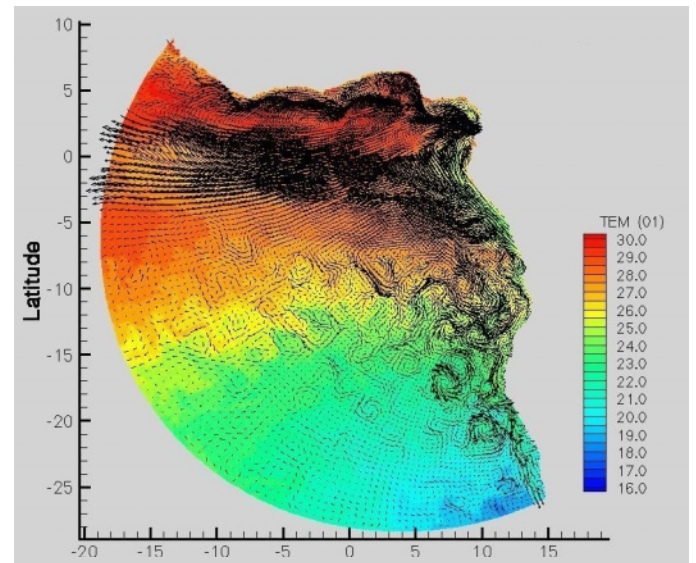
WANE, an Oceanweather product, is a South Atlantic wind, wave and current database of model-generated time series data. It comprises a continuous, 10-year (18 years for the wind and wave data) hindcast study, as well as summary reports and statistics.



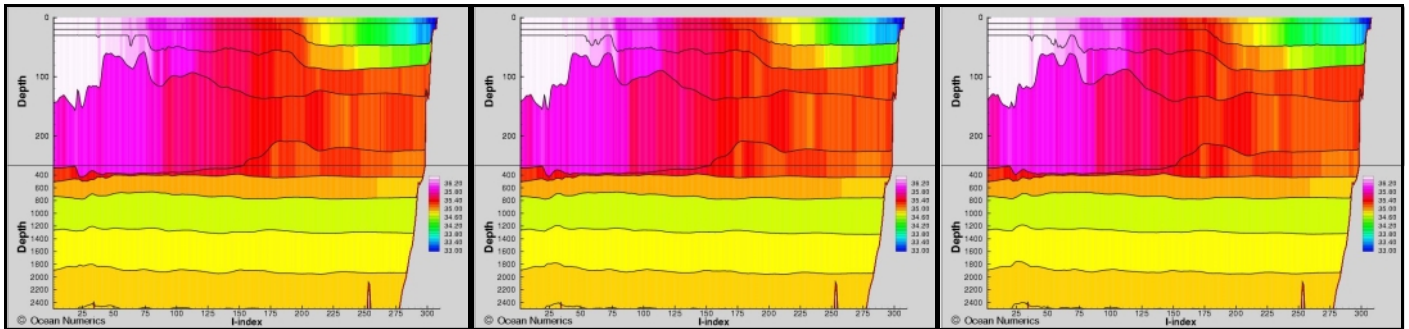
WANE Model Domain (Source: Ocean Numerics)

The numerical current modelling built upon two previous West Africa Extreme (WAX and WAX2) hindcast studies by Oceanweather in the 1990s. One of the greatest improvements was the use of the next generation of numerical model (HYCOM), rather than the MICOM model used in WAX. This allowed:

- Double the resolution compared to the WAX studies.
- A new vertical co-ordinate system, which allowed high vertical resolution in the ocean mixed layer and a better representation of upper ocean processes.
- Inclusion of tides, bi-harmonic horizontal friction and wind-dependent drag.
- Changes to the treatment of the mixed layer and surface boundary layer which made the model more responsive to high frequency variations in the surface wind (as in storms).
- Inclusion of tides and parameters that effect vertical mixing, such as shear instability, double diffusion and boundary layers.



WANE SST and Currents (Source: Ocean Numerics)

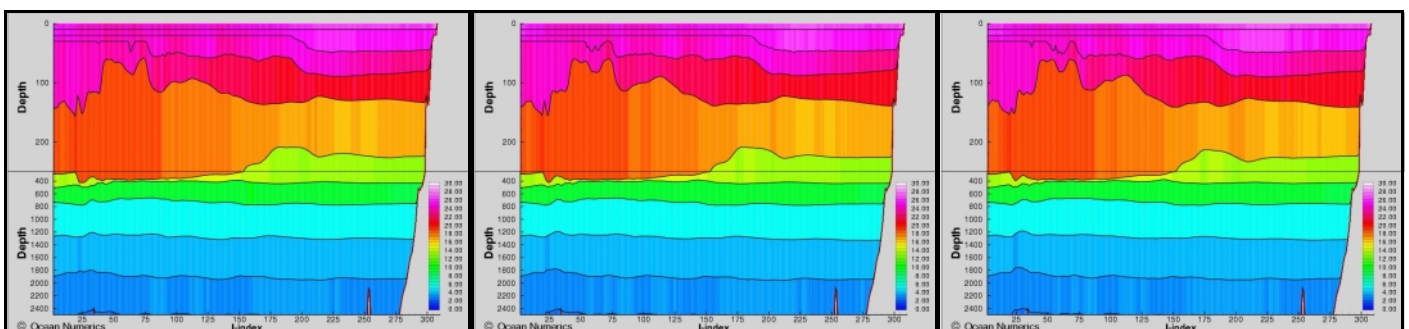


WANE Consecutive Weekly Salinity Cross-Sections (Source: Ocean Numerics)

The HYCOM model was initialized using the results of the previous WAX2 project and run for 15 years to reproduce an updated, three-dimensional, current hindcast data set for the coast of West Africa. The model was driven using synoptic atmospheric thermodynamic forcing fields and Ocean Weather's wind fields.

Modelled time series of currents, temperature and salinity were stored for grid points with a resolution of about 5km. These cover an area along the coast of West Africa north of 20 S between the 200-metre and 2500-metre isobaths.

For further information, please contact us at an address below.



WANE Consecutive Weekly Temperature Cross-Sections (Source: Ocean Numerics)

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