NOOS annual report
Exeter - 2015
Member report – Met Office

Oct 2015

Country	UK
Institution	UK Met Office
Observations **Status and new initiatives**	*In situ Observations* • MAWS *(Marine Automated Weather Stations)* – 8 offshore including 2 in Biscay. Three inshore, two off SW Wales and one in English Channel (E1). 5 Light Vessels on-shelf in English Channel. Spectral wave data now available from 6 buoys. • Data from North-Sea rigs and platforms received and transmitted on GTS. Met-ocean including waves and some SST. Of the order 110 presently operating. • Deployment of drifters (through E-SURFMAR) in the North Atlantic. Number of drifters ~110 in N Atlantic and Med, a number of which enter the NOOS region. • Voluntary Observing Fleet (VOF) of around 310 ships. Around 20% of UK Voluntary Observing Ships (VOS) observations are from the North Atlantic. • 48 vessels with Automatic Weather Stations (AWS), the majority of ship-of which are in the NOOS region. *Remote sensing observations* • The OSTIA system produces analyses of foundation SST and sea ice on a 1/20° global. • Met Office Space Programme have delegates on appropriate EUMETSAT, ESA and UK Space Agency meetings • Radsat and Autosat satellite data processing systems. The Radsat systems receive data from a large array of remote sensing instruments on the many low earth orbit satellites. These instruments include AMSU, MHS, HIRS, AVHRR, IASI and AIRS. The Autosat systems receive data from geostationary satellites including Meteosat-9, Meteosat-8, Meteosat-7, GOES-East, GOES-West and MTSAT-1R. • Participating in Sentinel 3 Validation Team and will be evaluating SLSTR SSTs within the OSTIA system *New Initiatives:* • The OSTIA analysis is being updated to use NEMOVAR to give improved feature representation • An OSTIA analysis giving the diurnal cycle is being produced
Modelling **Status and new initiatives**	*Operational:* • NOWMAPS project was funded to deliver AMM • baroclinic model (NEMO FOAM AMM7) nested into a regional open ocean model (FOAM NATL12) and CMEMS Baltic model, 6 day forecasts, 1 x daily, nested to ERSEM ecosystem model and including NEMOVAR SST data assimilation. Includes real-time ingestion of E-Hype data • NEMO FOAM ORCA025 global model with altimetry, SST, T&S profile assimilation • Global coupled ocean-atmosphere forecasts using 1/4 ^{o} NEMO • barotropic model (POLCOMS on C-grid) using 3 nest (a 12km shelf model (CS3X), a 1.2km Bristol Channel model and a 1.2km South Coast model). 4 x daily, 6 day forecasts. Model surge is combined with tides predicted at tide gauge sites. • WWW-III surface waves – European wave model at 8 km, 4x daily (hourly) 2 day forecast, 2x daily (3-hourly) forecast to day 5 . UK waters wave model at 4 km, 4x daily (hourly) two day forecast *Under development:* • Global coupled ocean, atmosphere and wave models using 1/4 ^{o} and 1/12^{o} resolutions • A 1.5 km ocean model for use in a coupled O-A-W system in the NOOS region • Altimetry and profile assimilation for shelf waters • An Environmental Prediction system on NWS (coupled air-land-hydrology-ocean incl. biogeochemistry) • A NEMO based surge model at 7 km to replace 12 km CS3X

	• Wave model on SMC grid (16-8-4 km Global, 2-1-0.5 NWS)

Dissemination
Status and new initiatives
	Status:
	• Model and OSTIA data viewable internet (http://data.ncof.co.uk/thredds/catalog.html)
	• FOAM AMM7, GLO coupled and OSTIA data available from MyOcean (servicedesk.cmems@mercator-ocean.eu or marine.copernicus.eu). Other ocean model data are available from http://www.ncof.co.uk/enquiry-form.htm or enquiries@metoffice.gov.uk
	• Wave model data available from the Data and Products Distribution Service (DPDS)
	• MAWS data available and viewable from (http://research.metoffice.gov.uk/research/ocean/goos/maws_pic.html)
	
	Additionally:
	• Marine physical data
	  • measured water levels and wave data on ftp server *(for NOOS members)*
	  • computed water levels and wave data on ftp server*(for NOOS members)*
	  • computed transports in North Sea and North Sea/Baltic transition area on ftp server *(for NOOS members)*
	• NOOS homepage
	  • Computed transport forecasts for the North Sea on NOOS-homepage
	  • Computed forecasts of currents in the North Sea on NOOS-homepage
	• Environment Agency flow and height data.

Relevant national projects	Public Weather Service (PWS) – funds OSTIA, wave and some ocean model developments Defence Oceanography Programme – funds ocean model developments DERTP – defence research funding – OSTIA diurnal work
Relevant International projects	Copernicus Marine Environment Monitoring Service EuroARGO: European contribution to a global ocean observatory IOC – IODE (Committee on International Oceanographic Data Exchange) Geo-Seas: EU-FP7 project: Pan-European infrastructure for management of marine and ocean geological and geophysical data JCOMM-OPS: provides coordination at the international level for oceanographic and marine observations from drifting buoys, moored buoys in the high seas, ships of opportunity and sub-surface profiling floats. ETOOFS: Expert Team on Operational Ocean Forecast Systems GODAE-OceanView Coastal and Shelf Seas Task Team: Coordinates internationally work on global model inputs to coastal modelling MyWave: Marine Core Service delivery of wave model data GlobWave: Marine Core Service delivery of wave observations
Additional information	