Overview of World Meteorological Organization (WMO) Activities in Marine Meteorology and Fisheries

The WMO CAgM/JCOMM Task Team

The World Meteorological Organisation (WMO) Commission for Agricultural Meteorology (CAgM) and the WMO-Intergovernmental Oceanographic Commission (IOC) Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) in 2013 established a Joint Task Team on Weather Climate and Fisheries (TT-WCF)

Primary Objective

Assess the likely impacts of climate variability and change on oceanic fisheries as a pathway to assisting in the improved management of these resources

Key Tasks

1) Review current data collection by JCOMM and others, to assess how these data meet the current needs of ecosystem-based approaches to fisheries management (EBFM) as appropriate,
2) work with other JCOMM expert teams to develop climate services for fisheries;
3) encourage and assist fisheries management organizations in making and reporting relevant marine meteorological and ocean observations

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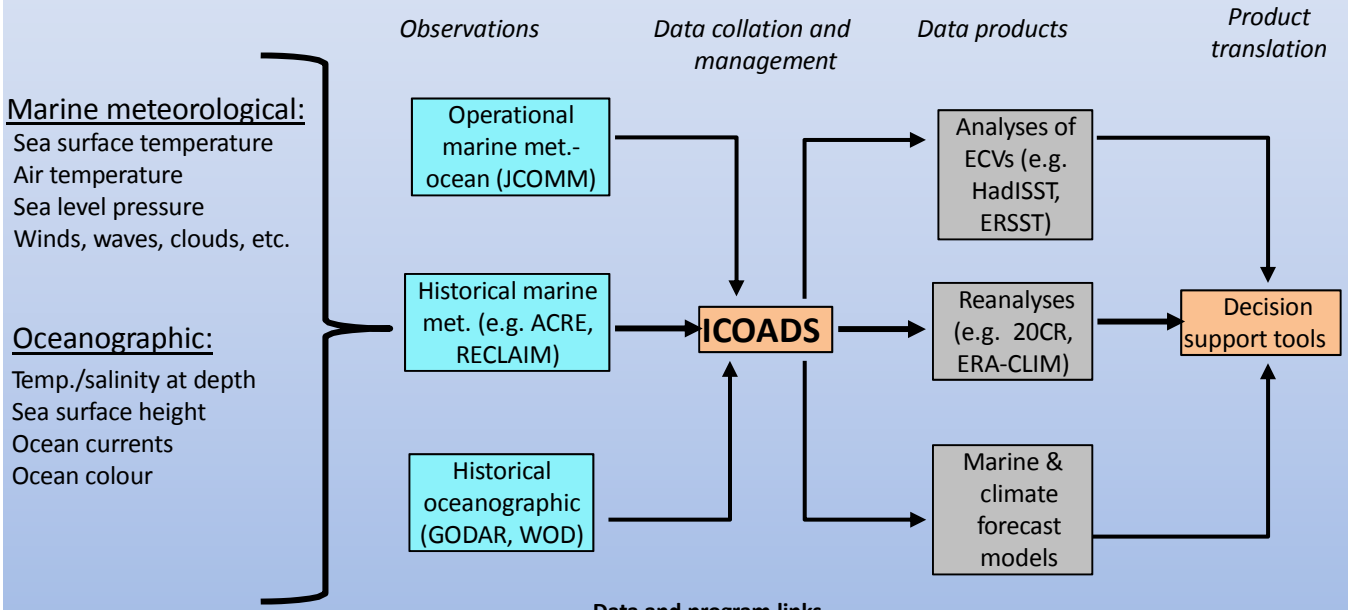
JCOMM and ICOADS surface marine data of relevance and example pathways for delivery to fisheries, fishery management and management of marine protected areas



Data and program links

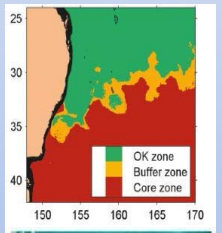
JCOMM: www.jcomm.info
ACRE:www.met-acre.org
RECLAIM: www.icoads.noaa.gov/reclaim
GODAR & WOD: www.nodc.noaa.gov/General/NODC-dataexch/NODC-godar.html
HadISST : www.metoffice.gov.uk/hadobs/hadisst

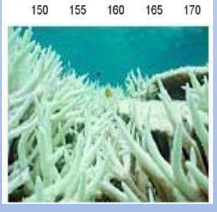
ICOADS: www.icoads.noaa.gov
ERSST: www.ncdc.noaa.gov/ersst
20CR: www.esrl.noaa.gov/psd/data/gridded/data.20thC_Reav2.html
ERA-CLIM: www.era-clim.eu

Climatological data used in fisheries and marine protected area management

Fishers, fisheries scientists and marine ecologists utilise a range of climatological data, and derived products, for a number of operational users including

- Seasonal forecasts of temperature, rainfall, cyclones and ENSO for freshwater aquaculture operations for developing proactive management responses
- Ocean reanalysis data coupled with species habitat models for spatial zoning of quota fishing operations to reduce bycatch
- Seasonal forecasts of sea surface temperature anomalies for predicting /monitoring coral bleaching events – required for informing Marine Protection Area (MPA) selection/managing other stressors





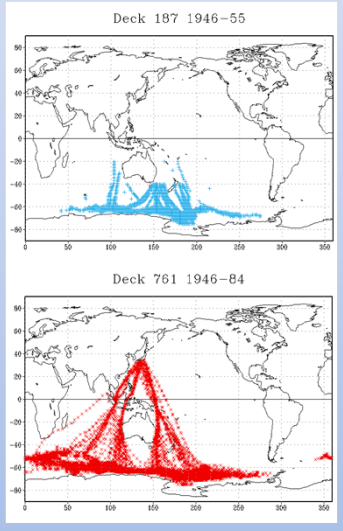
Climatology and fisheries programs /Pacific Ocean MPAs

www.poama.bom.gov.au/marine_mw/prawn_project www.cmar.csiro.au/gab-forecasts/index www.bom.gov.au/oceanography/oceantemp/GBR_SST
www.papahanaumokuakea.gov
www.gbrmpa.gov.au www.pimrisportal.org/mpas

Extending observation networks via fisheries and marine protected area involvement – avenues to pursue

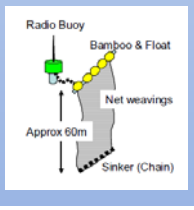
1. Continued work mining historical surface and sub-surface records – e.g. whaling records, fishery observer records, records from early scientific explorations
2. Discussion with national fishery agencies and regional fisheries management agencies for further access to national and regional fishery observer records
3. Coordination with the International Council for the Exploration of the Sea (ICES) Working Group on the History of Fish and Fisheries (WGHIST) to leverage data mining and analysis efforts
4. Discussion with fishing companies for access to further observations collected via instrumented artificial fishing aggregation devices (FADs), fishing vessels, factory ships
5. Develop education and outreach strategy to substantially reduce damage through vandalism or interference with ocean data buoys

Japanese Whaling Ship data in ICOADS from two separate source "decks"



Moored artificial FAD (www.sailorsforthesea.org)

Drifting artificial FAD (Kawamoto et al. (2012)



Papahanaumokuakea National Monument