RDAC Update:
Canadian Meteorological Center

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CMC SST

- L4 0.2° CMC SST v2.0
  - Foundation SST and analysis error
  - Global 0.2° resolution, latitude/longitude grid
  - Update cycle - daily by 09:30 UTC for analysis of previous day.
  - Period available - reanalysis back to Sept. 1, 1991 (B. Brasnett)
  - Data access - PO.DAAC, Netcdf files, GDS2 format
- L4 0.1° CMC SST v3.0
  - Foundation SST and analysis error
  - Global 0.1° resolution, latitude/longitude grid
  - Update cycle - daily by 09:45 UTC for analysis of previous day.
  - Period available – June 6th 2015 – up to date
  - Data - Netcdf files, GDS2 format, currently awaiting operational implementation

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Input data sources

Data-set name	Data level	Source of data
NOAA18 AVHRR	L2p	NAVOCEANO
NOAA19 AVHRR	L2p	NAVOCEANO
MetopA AVHRR	L2p	NAVOCEANO
MetopB AVHRR	L2p	NAVOCEANO
AMSR2	L3	RSS
VIIRS-NPP	L2p	OSPO (ACSPO)
In situ	-	GTS
Sea-ice concentration	L4	CMC Operational Ice Analysis

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Systems using CMC SST analysis

- ***The Global and Regional Deterministic Prediction Systems (GDPS and RDPS)***

- ***The Global and Regional Ensemble Prediction Systems (GEPS and REPS)***

- ***3D Var Ice analysis***

- ***The Global Ice Ocean Prediction System (GIOPS)***

  - developed under CONCEPTS: Environment Canada, Fisheries and Oceans, National Defense and Mercator Ocean

- ***The Canadian Seasonal to Inter-annual Prediction System (CanSIPS)***

  - daily CMC SST analysis, daily 3Dvar ice analysis and daily 3D GIOPS temperature analysis are used to initialized the ensemble forecasts

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Global Ice-Ocean Prediction System

- **Produces daily ice-ocean analyses and 10day forecasts**
  - NEMO-CICE (~1/4°), < 15km in Arctic
- **Mercator Ocean Assimilation System (SAM2):**
  - Sea surface temperature
  - Temperature and salinity profiles
  - Sea level anomaly from satellite altimeters
- **3DVar Ice analysis:**
  - SSM/I, SSM/IS, CIS charts, Radarsat image analyses
- **Operational implementation (March 2014)**
- **Purpose:**
  - Boundary conditions for regional systems
  - Initialize seasonal forecasts
  - Emergency response
  - Global coupled forecasting
- **Output viewable using RPN/WMS**
  - E.g., www.meteocentre.com/plus

Smith et al., QJRMS, 2015

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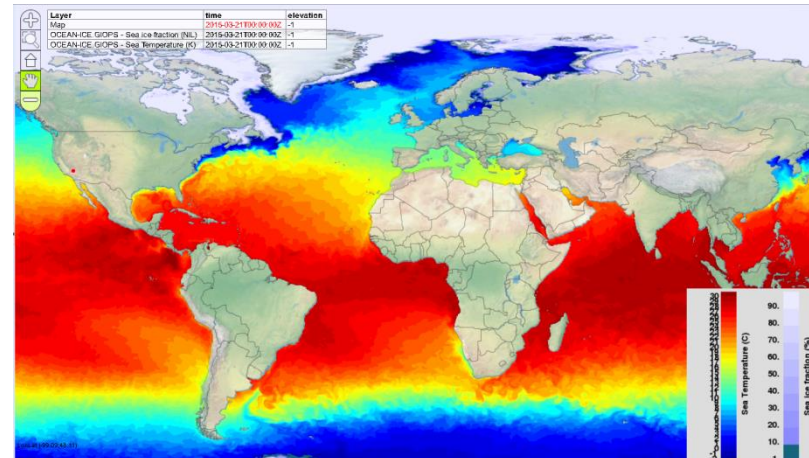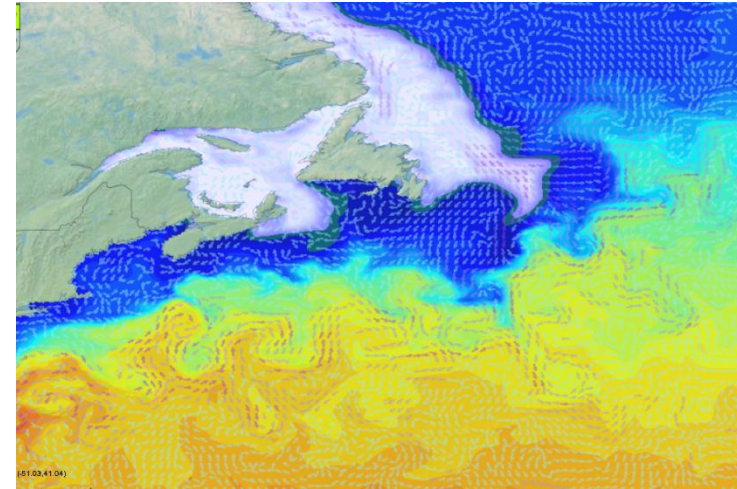
GODAE Oceanview Intercomparison

International near real-time evaluation of global ocean forecasting systems

Sea surface temperature (SST) — 2014 in review

Legend: FOAM, GIOPS, PSY3, PSY4, OMAPS, RTOFS
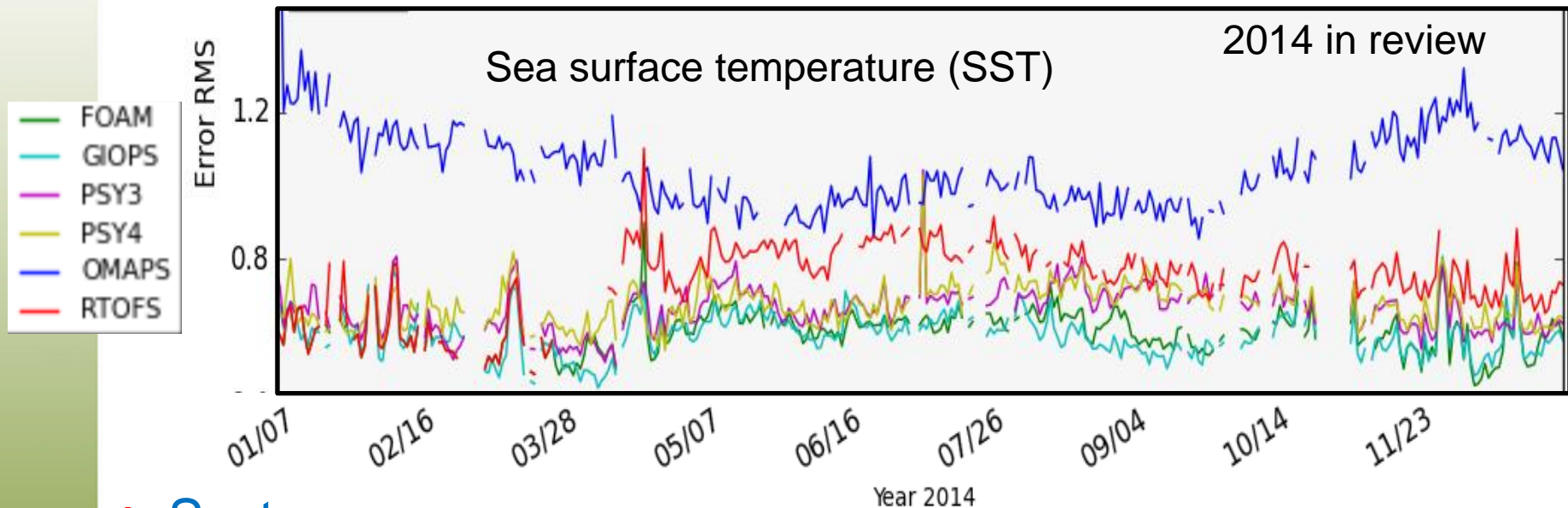
- Systems:
  - UK Metoffice (FOAM)
  - Mercator (PSY3, PSY4)
  - Env. Canada (GIOPS)
  - US Navy (RTOFS)
  - Australian BofM (OMAPS)

High quality SST critical for coupled forecasting

Jinshan Xu and Fraser Davidson

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Future plans

- The new analysis will be available soon on PO.DAAC – CMC v3.0

- Reprocessing of SST analysis v3.0 – ???

- GMPE product

- Use GIOPS forecast as background field – now the background field is the previous analysis

- Produce a surface temperature for the lakes

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