



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Canada

Canadian Meteorological Center *report to GHRSSST*

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CMC Environnement Canada
CMC Environment Canada

Introduction

- **L4 0.2° CMC SST v1.0 (operational analysis)**
 - Global 0.2° resolution, latitude/longitude grid
 - AVHRR, in situ data, ice information
 - Available for internal users
 - CMC SST v1.0 is used by:
 - The Global Ice Ocean Prediction System (GIOPS -a) – as observations of SST
 - The Global and Regional Atmospheric Data Assimilation Systems – as boundary condition

- **L4 0.1° CMC SST v3.0 (experimental analysis – since sept 2015)**
 - Global 0.1° resolution, latitude/longitude grid
 - AVHRR, AMSR2, VIIRS, in situ data, ice information
 - Period : since January 1, 2016
 - Available from PO.DAAC and NOAA/NCEI in GDS2 format



Data input CMC SST 0.1°

DATA SET	DATA TYPE	PRODUCER / DATA ACCES
NOAA 18 AVHRR	L2P	NAVOCEANO / PO.DAAC
NOAA 19 AVHRR	L2P	NAVOCEANO / PO.DAAC
MetOp-A AVHRR	L2P	NAVOCEANO / PO.DAAC
MetOp-B AVHRR	L2P	NAVOCEANO / PO.DAAC
GCOM-W1 AMSR2	L3	RSS
Suomi NPP VIIRS	L3U	NOAA/NESDIS/OSPO / PO.DAAC
Buoys, Ships	TAC/BUFR	GTS
Ice concentration	L4	CMC ice analysis

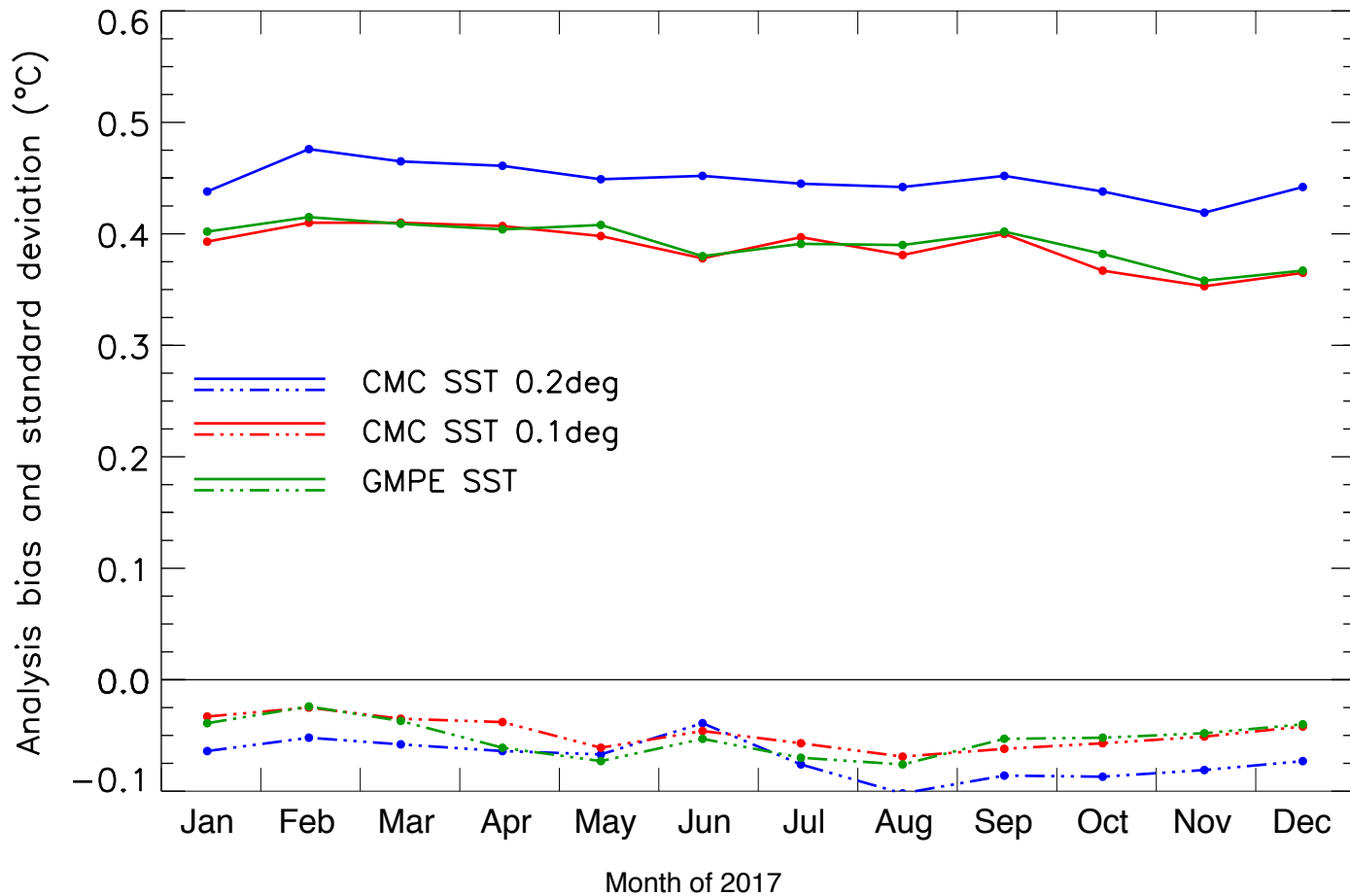


Main activities in 2017

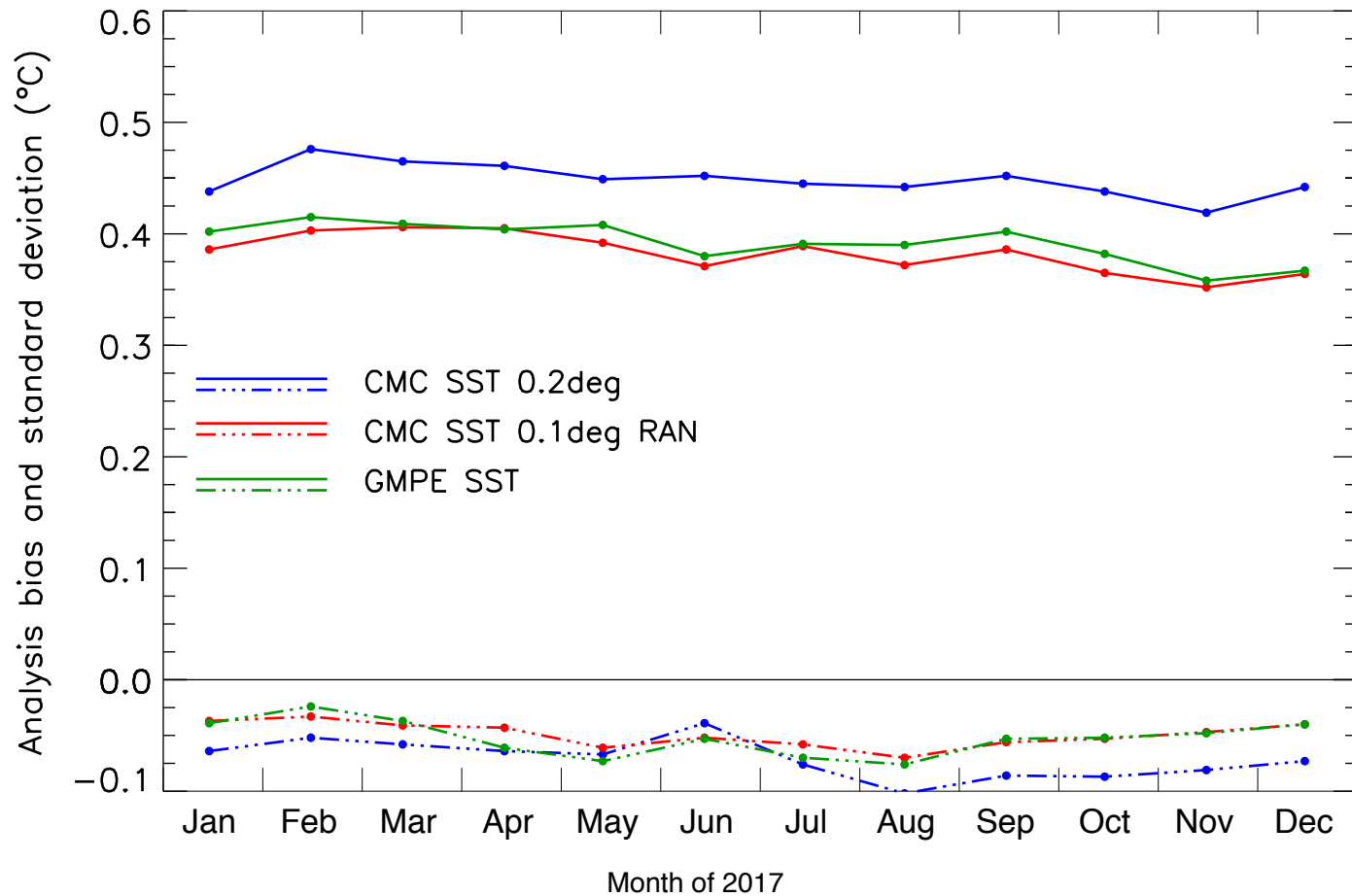
- Migration of the operational suites to new supercomputer (completed in September)
- Update the data acquisition system (new system operational in December)
- Reprocessed CMC SST 0.1° for 2015 – 2017
- CMC implemented in November the Coupled Global Deterministic Prediction System (atmosphere– ocean – ice)



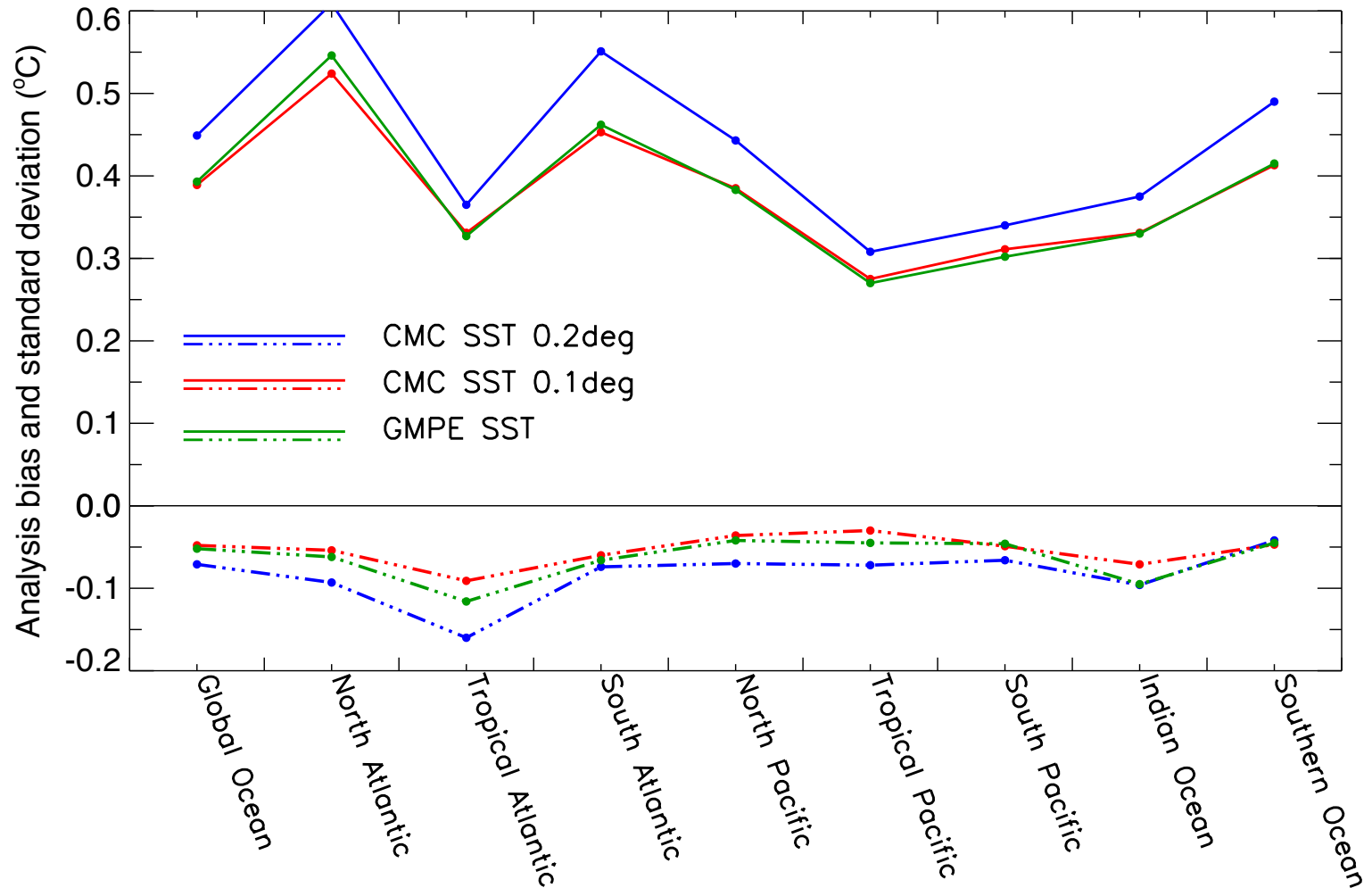
Performance of CMC SST



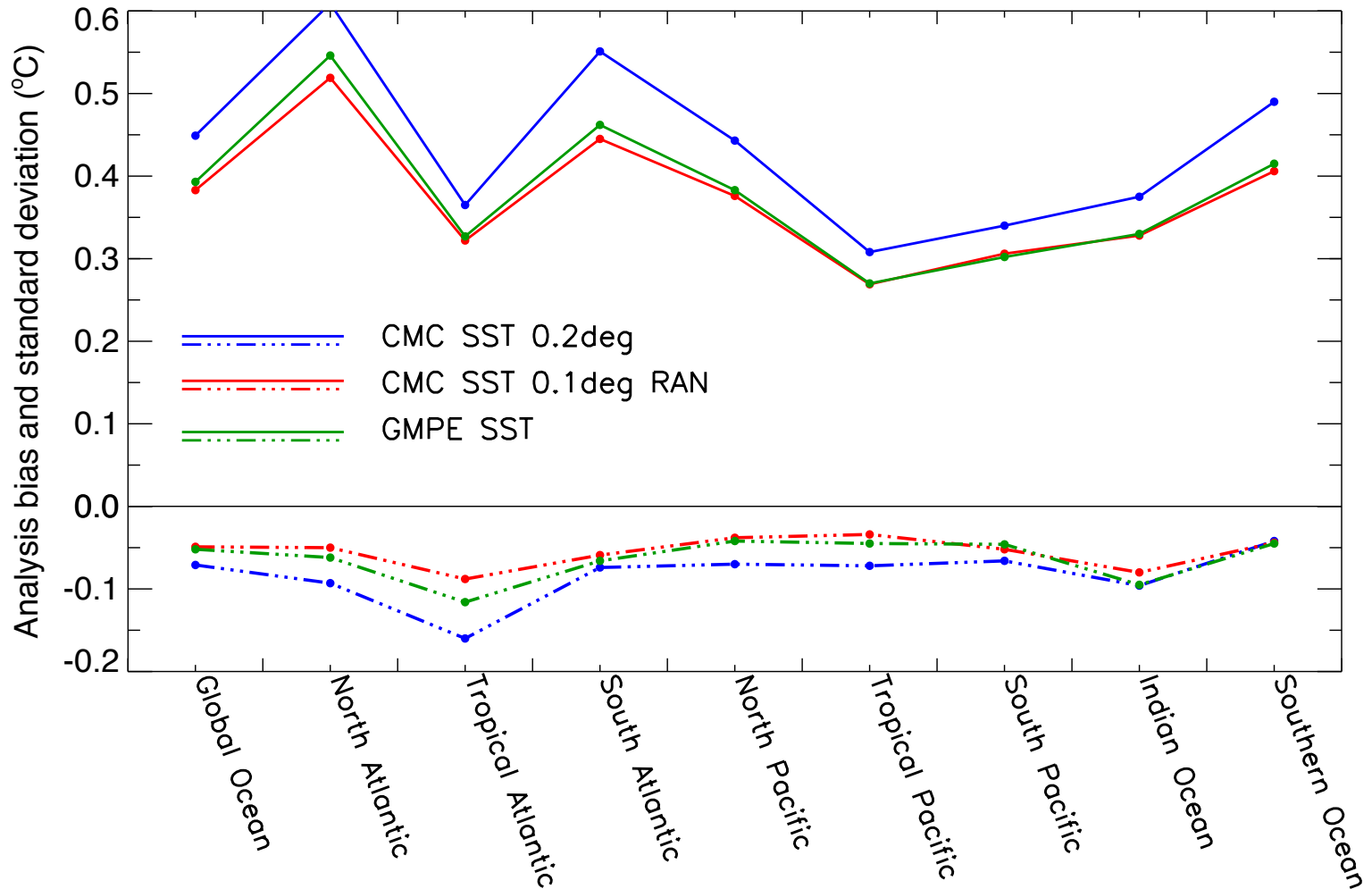
Performance of CMC SST



Performance of CMC SST



Performance of CMC SST



Future plans

- Implement CMC SST 0.1 deg. in the operational run
- Update the climatology for lakes – needed by the regional systems (for the atmosphere and surface)
- Produce 30 years reanalysis
- Assimilate new satellite data (Sentinel 3A, NOAA20/VIIRS)
- Started migrating SST and ice analyses into MIDAS (Modular and Integrated Data Assimilation System) - framework used for atmospheric 4D-EnVar → facilitate strongly coupled DA of atmosphere–ice–upper-ocean

