

Objective 11: Monitoring and Assessment Discussion: *Set up and improve monitoring systems for assessing the impact of observations and sharing results with associated partners. Increase use of these systems by operational centres.*

Short-term:

- Routine reporting of observation impacts (DCC Atlas, CoastPredict Atlas) – regardless of the method employed (e.g. DFS, OSE, FSOI, etc). A good example in NWP is JCSDA (<https://www.jcsda.org/jcsda-project-ios>).
- An easy diagnostic would be to report which observations are rejected by each system – could point to problems with observing system components and/or QC.
- Provide guidance on interpretation of impacts (i.e. clarify that not all observations should be expected to have a positive impact - statistically some obs will have little or a negative impact, even though the obs themselves are fine, and realizing there is synergy between different observing platforms (it's *not* a linear problem – “borrowing support”)).
- **Critically** important to demonstrate the importance of the Argo (regular, BGC, deep) program (for global and regional systems) in the current funding climate.
- Explore the role of AI/ML emulators and emulator-based tools for quantifying observation impacts (cross-cutting AI-TT, OS Eval-TT, DA-TT – others?).
- Draw on the experience in operational NWP (e.g. JWGFVR, WMO NWP workshops on observation impacts in Earth system models).

Longer-term:

- Coordinated effort to develop FSOI tools (Var or ensemble) for all current systems. Perhaps OceanPredict could submit a proposal (e.g. ESA or some other agency) for project targeting the impact of satellite remote sensing systems. Some of these tools may already be in community frameworks like OOPS, JEDI,...
- Development of a common nature run for the ocean for OSSE and other applications.



JCSDA IOS

Forecast Sensitivity - Observation Impact

Help Selecting Dates

CYCLES

☒ 00

☐ 06

☐ 12

☐ 18

NORM

(1) both

CENTERS

(7) EMC, GMAO, NRL, JMA_adj, JMA_ens, MET, MeteoFr

PLATFORMS

(58) AHI, AIRS, AMSR, AMSUA, ASCAT Wind, ATMS, AVHRR Wind, Ai

Submit

All

Center Comparisons

EMC Only

GMAO Only

NRL Only

JMA Only

MET Only

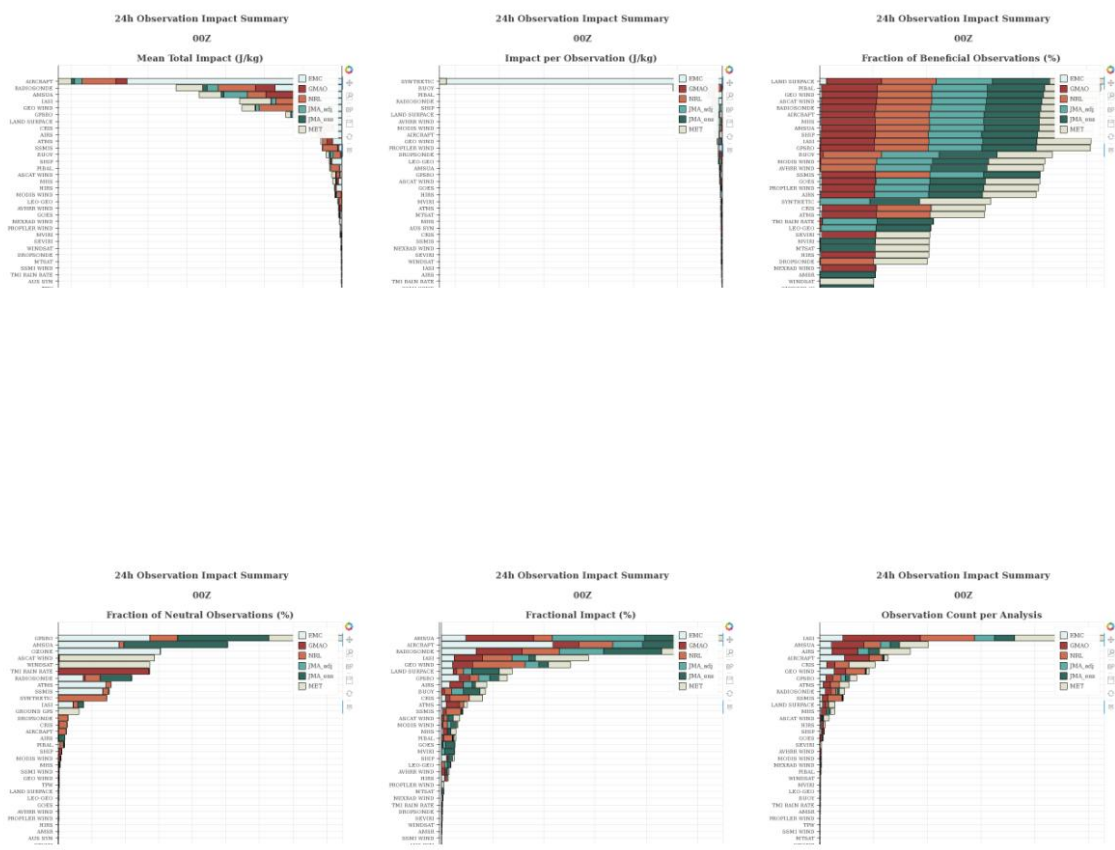
TotImp Only

ImpPerOb Only

FracBenObs Only

FracNeuObs Only

FracImp Only



24h Observation Impact Summary

00Z

Fraction of Beneficial Observations (%)

