Inter-comparison of BASS and observation-based Salinity Products

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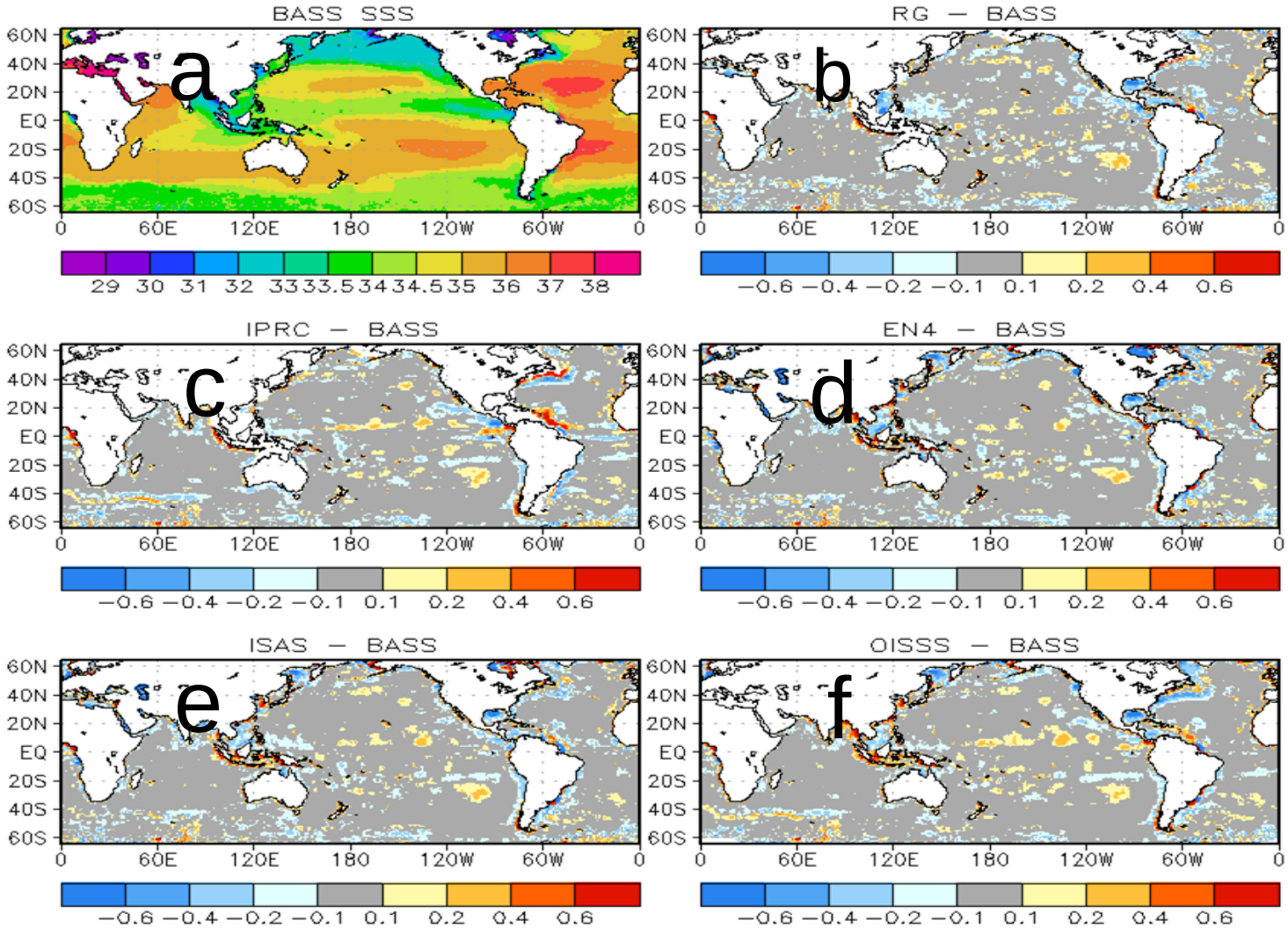
Data

Products	Spatial Resolution	Temporal Resolution	Temporal Coverage	Sources
IPRC	1 degree	Monthly	2005.1.1 to 2020.4	Argo only
RG (Scripps)	1 degree	monthly	2001.01.01 to present	Argo only
ISAS (LPO)	0.5 degree	Monthly	2015.10 to present	Argo + other in-situ
EN4 (Met)	1 degree	Monthly	1900.01.01 to present	Argo + other in-situ
OISSS	0.25 degree	7 days	2010.08 to 2021.03	SMOS, Aquarius and SMAP
BASS (NOAA/CPC)	1 degree	Monthly	2010.1. to present	In-situ, SMOS, Aquarius, and SMAP

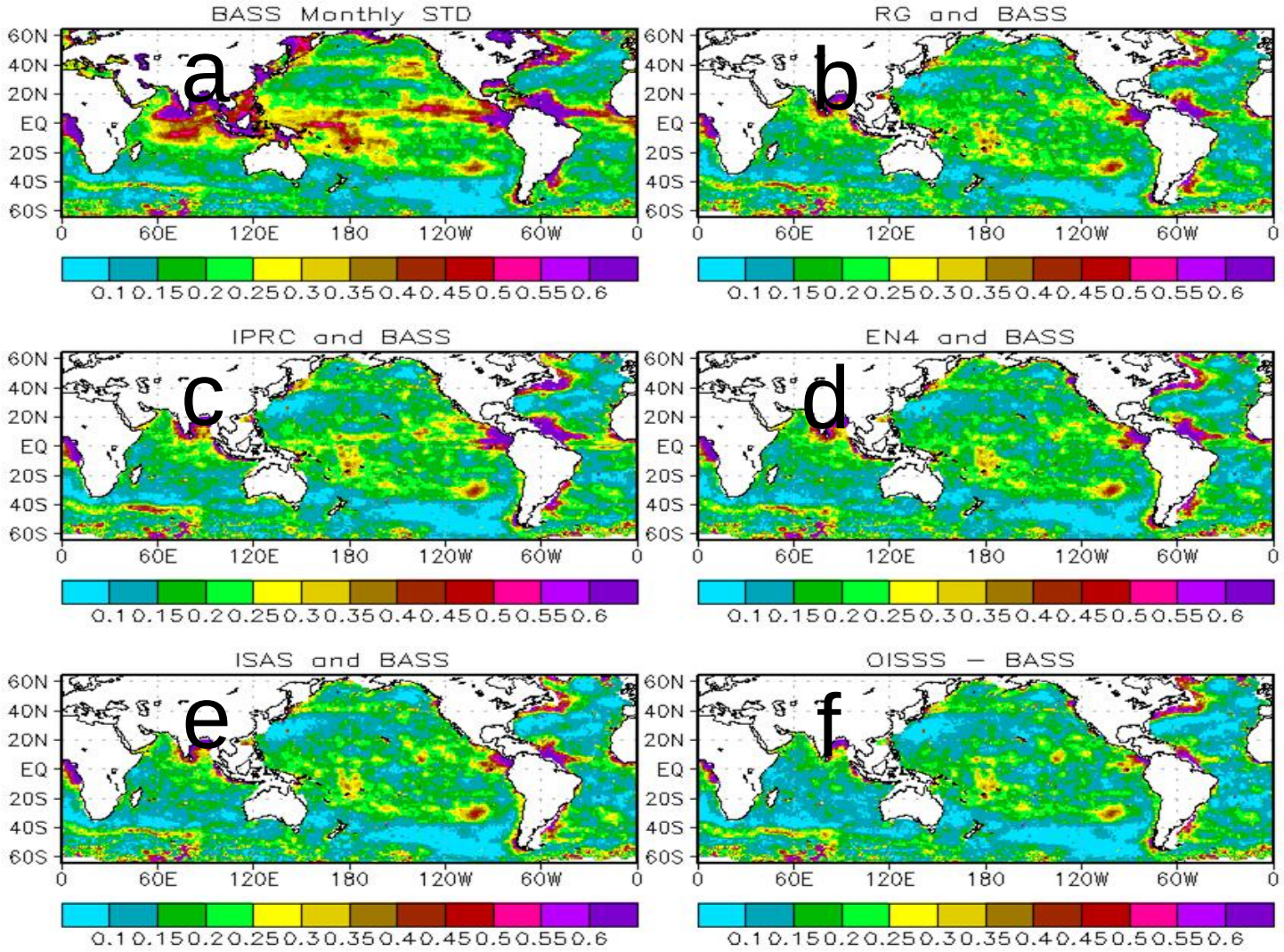
Outline

- Annual Mean differences, RMS differences, correlations, and annual mean zonal mean differences between BASS and other products
- Mean SSS departures to WOD climatology

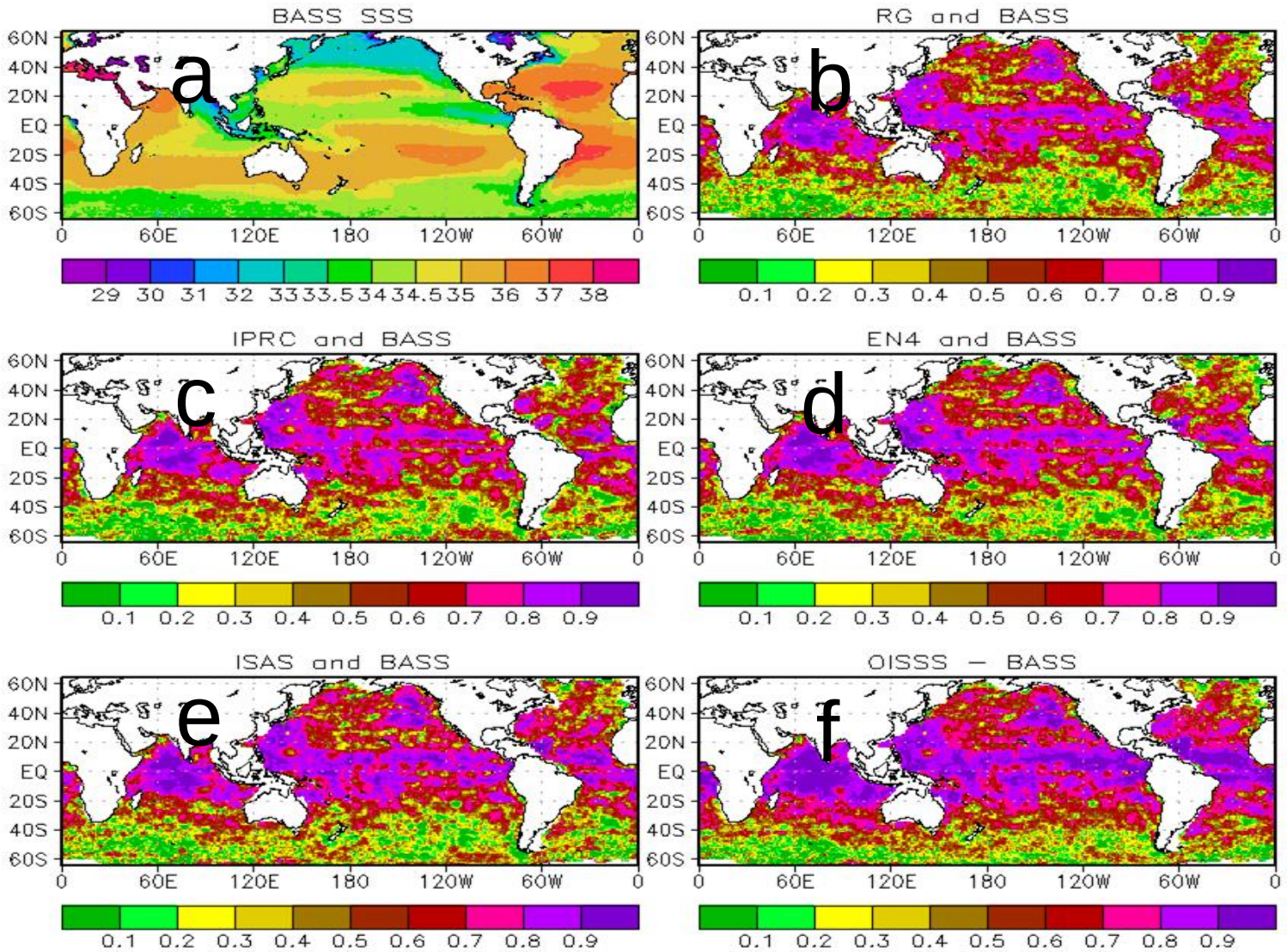
Annual Mean Differences between BASS and Other Products



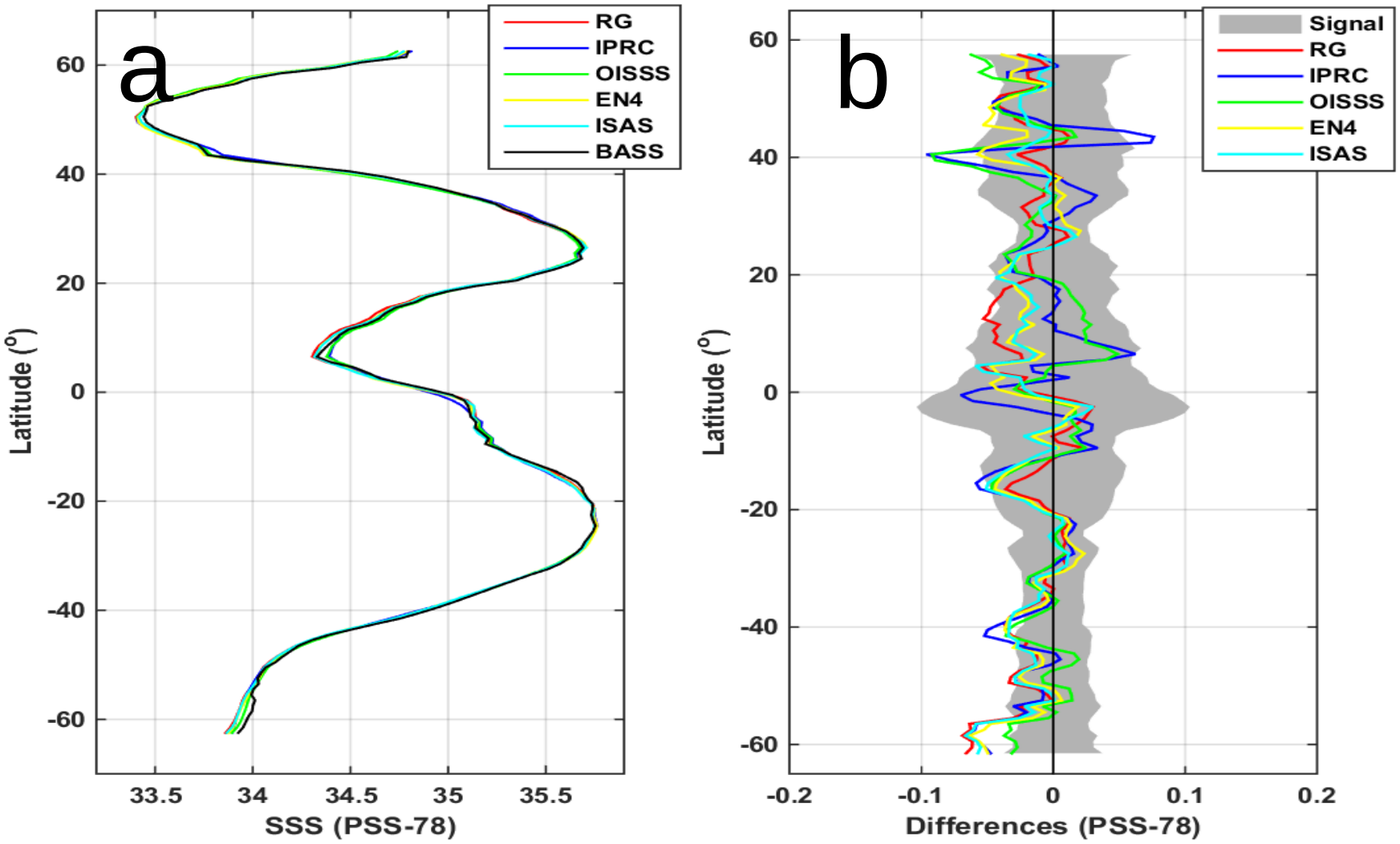
RMS Differences between BASS and Other Products



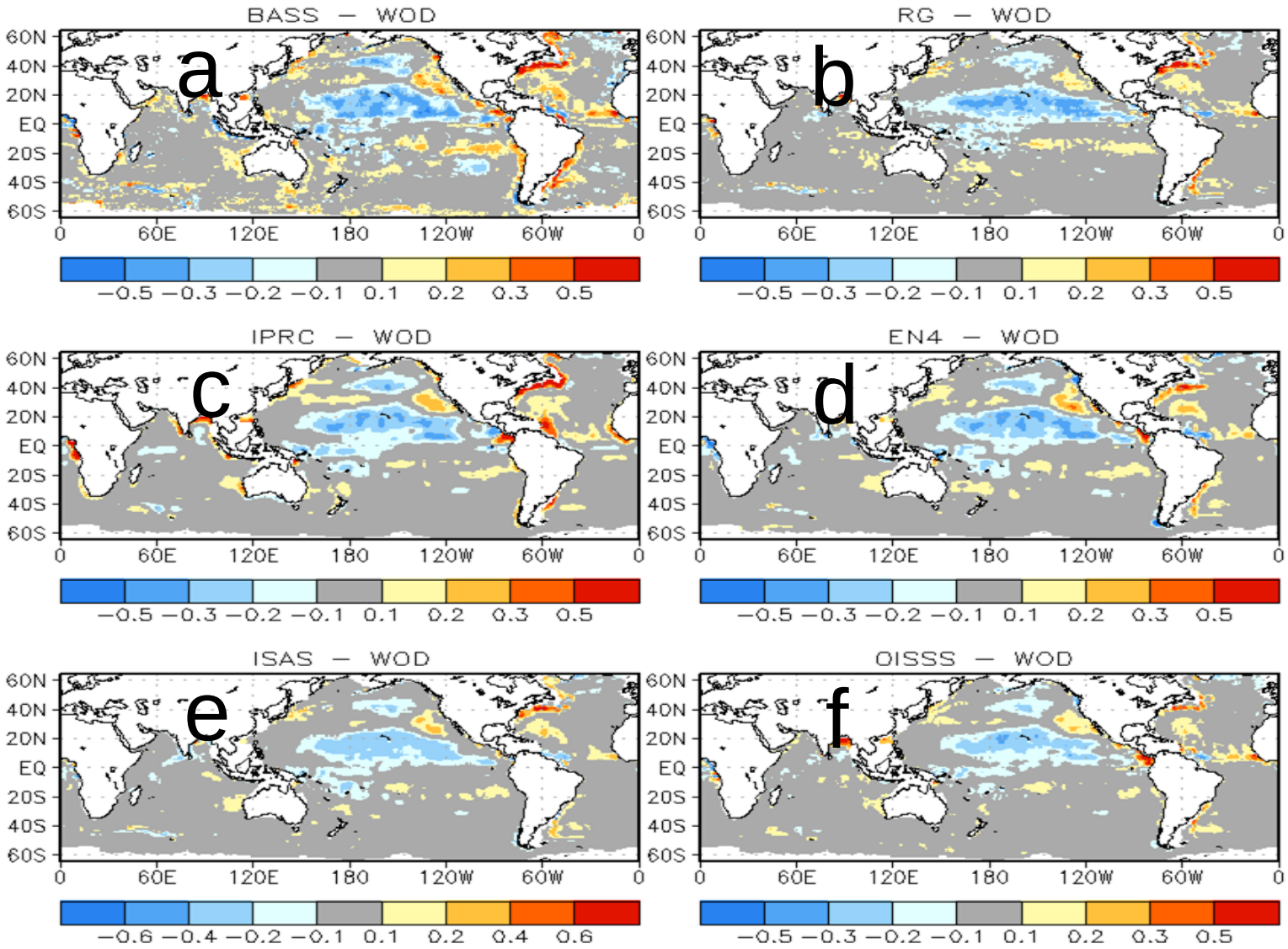
Correlations
between BASS and Other Products



Zonal Mean Annual Mean SSS and Differences between BASS and Other Products



Mean SSS Departure from WOD Climatology



Summary

- The salinity products can capture large scale monthly SSS characters well.
- The salinity products suggest similar mean SSS departures from WOD climatology.
- The salinity products show regional disagreements at Gulf Stream, eastern Equatorial Pacific Ocean, Amazon river mouth, and Southern Ocean.
- OISSS likely has the most similarity with BASS