

Precipitation over oceans

- Lightning and sea surface salinity data as proxy for precipitation over oceans?
- Operational continuation of L-band radiometry missions (soil moisture, sea ice, sea surface salinity) and gravity measurement missions (GRACE) (groundwater) important
- Continuation of GPM with bigger swath radars
- Welcome ESA initiative to have these mission in the Copernicus framework to ensure sustained, systematic observations
- Cal/Val of satellite precipitation measurements over oceans should be flagged by GCOS, currently not all regimes are covered
- No reference network is currently covering ocean

Water fluxes between domains

- Atmosphere-Land:
 - Evapo(transpi)ration
 - Rootzone moisture measurements important for ET, currently gap
 - Groundwater Recharge
- Atmosphere-Ocean
 - Over oceans measurements for rainfall
 - Measurements of evaporation requires innovation
- Land-Ocean
 - Ice-Sheets
 - Groundwater inflow
- Atmosphere- Ocean-land
 - Sea level measurements can contribute to solve other water related questions (global, annual to decadal timescale)

Next steps

- Contribute further to the paper
- Could paper contribute as background for the climate summit? (extracts of cycles published as peer reviewed papers)
- Participants to review and update paper internally and then include WCRP, modeling community
- To include data availability?