Coupled Prediction and data assimilation in JMA and a brief introduction of GODAE OceanView Observing System Evaluation Task Team (OSEval-TT)

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Introduction
- Subseasonal Prediction by a coupled model in JMA
  - The coupled model improved tropical atmospheric fields over the original atmospheric model, which is consistent with the result of coupled prediction experiments in ECMWF.
- Coupled Reanalysis using the coupled DA system developed in JMA/ MRI
  - The coupled DA system well reproduces precipitation and lagged correlation between SST and precipitation in the tropics.
- Introduction of GODAE OceanView OSEval TT
  - The TT is willing to support the international efforts on OSEs for S2S forecasts.
- Possible future OSE plans for S2S forecasts in JMA

Coupled Reanalysis
- CDA System (MRI-CDA)
  - Based on JMA’s operational systems
  - Outer Loop Coupling
    - Assim: clim: Atmos. 6 hours, Ocean: 10 days
- Components
  - Atmos. 4DVAR System (Res. TL159L100)
    - Used as the inner model
  - Coupled A-O Model
    - Res. TL159L60 (Atmos.), 1º × 0.5º (Ocean)
    - Used as the outer model
  - Ocean 3DVAR System

Subseasonal Prediction by a coupled model
- Experimental Design
  - Tested for 91 cases (every 5 days from Jun 2016 to Aug 2017)
- Uncoupled Atmospheric model
  - Based on JMA’s operational model for NWP (as of Jun 2017)
  - Resolution: TL159L100, Prescribed SST and Sea-Ice
- Coupled Model
  - The atmospheric model is coupled with the JMA’s operational ocean and sea-ice model for seasonal forecasts.
  - Resolution: TL159L100 (atmosphere) + 1º × 0.3-0.5º L52 (Ocean)

Possible future OSE plans for S2S forecasts in JMA
- OSEs for S2S forecasts using the current operational seasonal forecasting system (including a coupled model and an ocean data assimilation system) in or the next-generation system in JMA.
- OSEs using the coupled data assimilation system introduced above.
- JMA is willing to collaborate with the international community in this field.