

Ji-Woo Lee

Supported Projects: PCMDI, ESGF, CASC postdoc

Quarterly Report for July 1, 2017 – September 30, 2017

Quarter Accomplishments:

- **PMP**
 - Developed a code for creating climatology plots for new PCMDI website (expect >1000 plots at the end)
 - Analyzed 5 modes of variability obtained from 180 CMIP5 simulations (all available models and ensemble members) and advanced analysis result and the research outcome was submitted as journal article at *Climate Dynamics*. Currently working on the paper revision.
 - Implemented PMPParser into pre-developed ENSO metrics and test using parameter file (collaboration with IPSL)

- **UV-CDAT**
 - Tutorials using Jupyter Notebook were added on the website
 - Taylor Diagram
 - Logo control
 - New version (v2.12) test
 - Visualized all available color maps (UV-CDAT, matplotlib, PCMDI, etc.)
 - Restored IPCC AR4 color maps
 - Tested Taylor Diagram with the new version
 - Discovered memory leaking issue for plotting iteration – solved in the new version

- **Work Travels**
 - Visit South Korean institutions and universities
 - Introduced UV-CDAT, PMP, ESGF and ongoing researches
 - Had meetings with Korean CMIP6 modeling and seasonal/weather prediction models developing groups: encourage them to use PMP and UV-CDAT as evaluation and analysis tools
 - Introduced ESGF installation strategy

- **Publication**
 - **Lee, J.-W.**, K. Sperber, P. Gleckler, C. Bonfils, and K. Taylor, 2017: Quantifying the Agreement Between Observed and Simulated Extratropical Modes of Interannual Variability. *Climate Dynamics* (in review)
 - Kim, S., S. Ames, **J. Lee**, C. Zhang, A. C. Wilson and D. Williams, 2017: Framework for Detection and Localization of Extreme Climate Event with Pixel Recursive Super Resolution. Seventh Workshop Data Mining on Earth System Science (DMESS 2017). ICDM on IEEE.
 - Kim, S. K., S. Ames, **J. Lee**, C. Zhang, A. C. Wilson, and D. Williams, 2017: Massive Scale Deep Learning For Detecting Extreme Climate Events. *Climate Informatics*. NCAR/TN536+PROC

Next Quarter's Roadmap

- Discover further research topics regarding PMP work; Power spectrum, ENSO (continue)
- Advance UV-CDAT scientific examples and tutorials with Jupyter Notebook (continue)
 - Blue Marble background image control
 - Useful CDMS functions, etc.

Resources Required to Achieve Goals

- Nothing special at this moment