

Model Hierarchies Workshop Summary

Model Hierarchies Workshop
2-4 November 2016
Princeton University

V. Balaji

NOAA/GFDL and Princeton University

4 November 2016

Organizing Committee

- V. Balaji, Princeton University – USA
- Sandrine Bony, LMD/IPSL, CNRS – FRANCE
- Julie Deshayes, LOCEAN/IPSL – FRANCE
- Carolina Dufour, Princeton University – USA
- Stephan Fueglistaler, Princeton University – USA
- Isaac Held, NOAA/GFDL – USA
- Catherine Michaut, IPSL, CNRS – FRANCE
- Lorenzo Polvani, Columbia University – USA
- Michel Rixen, WCRP/WMO – SWITZERLAND
- Cath Senior, UK Met Office – UK
- Ted Shepherd, University of Reading – UK
- Aditi Sheshadri, Columbia University – USA
- Adam Sobel, Columbia University – USA
- Anna Valerio, Princeton University – USA

Many thanks to the session chairs

- Chia-Ying Le
- Xavier Levine
- Spencer Hill
- Penelope Maher
- Allison Wing
- Tim Cronin
- Aditi Sheshadri
- Ding Ma
- Pedram Hassanzadeh
- Stephen Thompson
- Gabriel Chiodo
- Hongzhai Zhang
- Amanda O'Rourke
- Katinka Bellomo
- Martin Singh
- Ying Li

Thanks to our invited speakers

- Marika Holland
- Mick Follows
- Amy Clement
- Alan Plumb
- Masaki Satoh
- Michela Biasutti
- Björn Stevens
- Tim Palmer
- Isaac Held
- ... and George Philander.

What did we learn, where do we want to go?

Thoughts on hierarchies:

- “truth is the intersection of many lies”: Simons via Michela Biasutti
- “all models are wrong but some are useful”: Box via Saravanan
- “...they saw the vast Map was useless...” Borges via Balaji
- ecosystems, natural vs artificial selection, Darwin v Genesis (Gettelman, Medeiros) spider web (Sonya Legg)
- “Observations have no place in a hierarchy of models.” Eminent Scientist via Dave Thompson
- replace complicated things you don’t understand by simpler things you don’t understand (Björn Stevens)
- The Big Gap: “here be dragons” (Tim Palmer)
- Emulating simulations to tell stories (Isaac Held)

Next steps:

- Common experiments across multiple levels of hierarchy
- Common diagnostics across multiple levels of hierarchy
- Role of WCRP and CMIP, future workshops