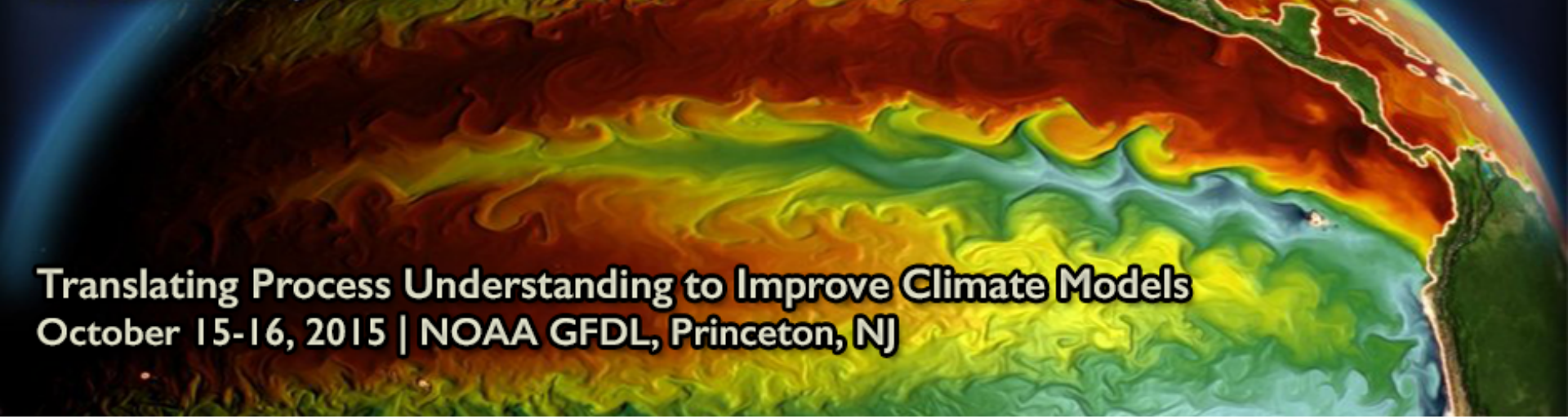

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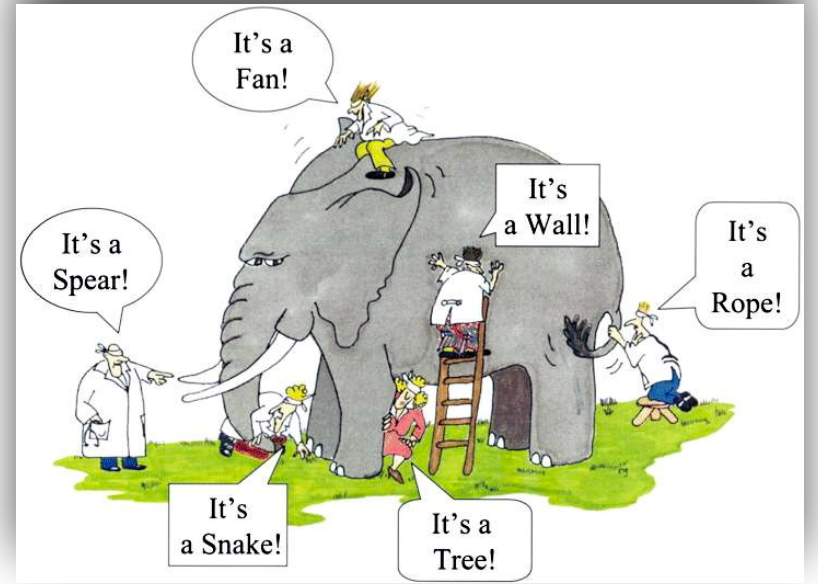
Motivation

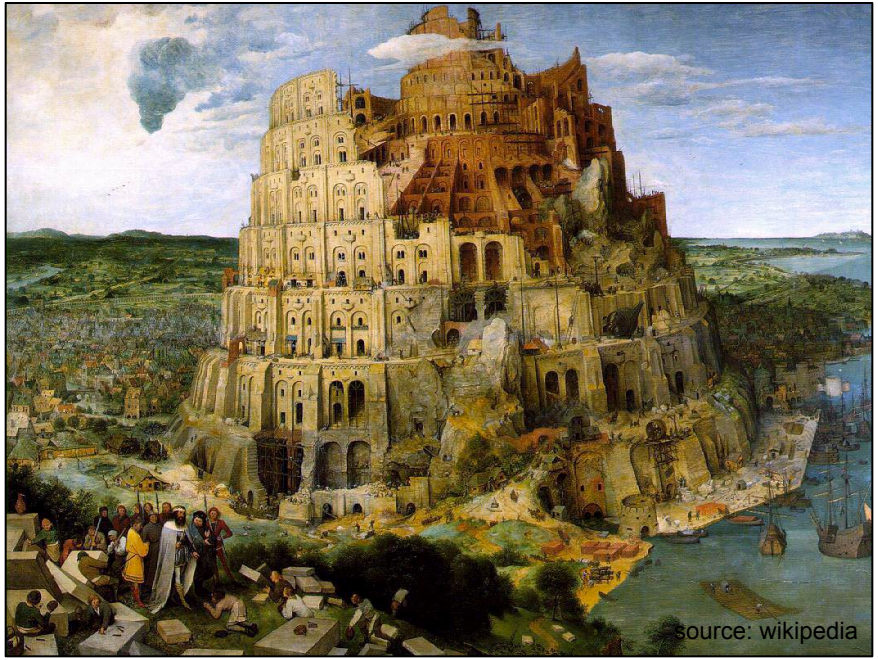
Bringing together **expertise from modelers, theoreticians and process study PIs** to address the **outstanding issues** in representation of **climate processes in models** (especially those that can be targeted on a 5-10 yr time period)



source: wordpress.com

Main goals of the workshop

- **Motivated by the science** of model biases
- Elucidate **priority model improvement needs (Modeling research)**
- **Identify opportunities** for transferring advances in new process understanding (**Observational/Theoretical research**)
- Discussion on the **structure of the next community-driven model development** teams
- **Engagement from a broad cross-section** of the community and a longer discussion



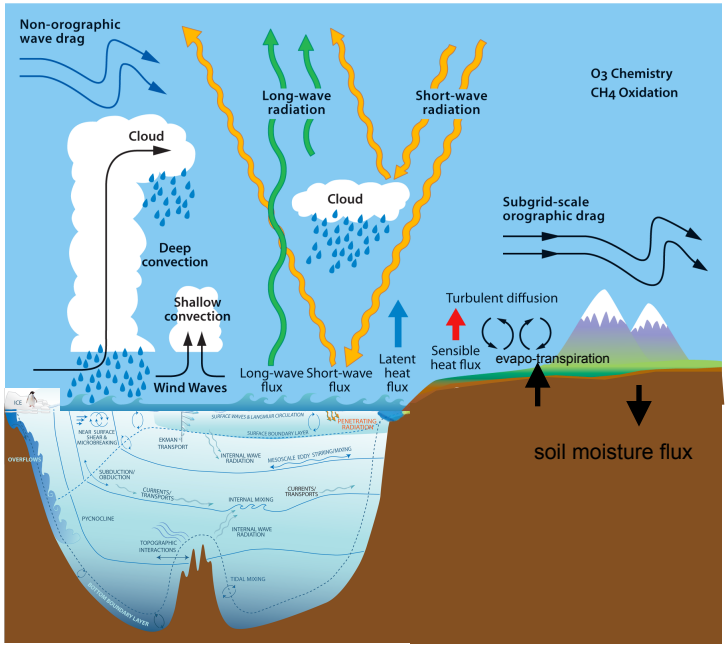
Tower of Babel for Climate Models

Translating Process Understanding to Improve Climate Models

October 15-16, 2015 | NOAA GFDL, Princeton, NJ

Workshop Topics (survey of modeling centers and Obs./Theory PIs)

- Scale-aware parameterization of subgrid scale processes
- Ice-ocean interactions and sea-ice dynamics
- Air-sea interactions
- Shallow and deep convection in the atmosphere
- Coastal/marginal sea processes
- Vertical transports and surface processes in the ocean
- Land surface physics parameterizations
- Processes influencing polar feedbacks
- Diurnal-to-annual surface processes (land and ocean)
- Ocean eddy processes
- Physical processes that affect carbon cycle
- Others



source: ECMWF, GFDL

Format

- Plenary presentations and poster session
- Day 1: Discussion on biases in Earth System Model components
- Day 2: Discussion on regional biases and future activities

Scope

- Interactions : Atmosphere, Ocean, Sea-Ice, Land components
- New ways for focused model development

Outcomes

- A quick turn-around **summary document will be generated immediately** following the workshop to provide highlights for consideration by the sponsoring agencies.
- A more **detailed white paper** will be issued as a US CLIVAR Report by **early 2016** summarizing questionnaire responses and workshop presentations, discussions, and recommendations to inform the broad research community and agency considerations.

Translating Process Understanding to Improve Climate Models

October 15-16, 2015 | NOAA GFDL, Princeton, NJ

Organizing committee:

Members:
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Marika Holland (NCAR)
Sonya Legg (NOAA GFDL)
Amala Mahadevan, (WHOI)
Aneesh Subramanian, (UCSD, Chair)
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Support: US CLIVAR, UCAR, GFDL

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