

US CLIVAR science initiatives, future strategy and links to international CLIVAR

VAMOS Meeting June 2009

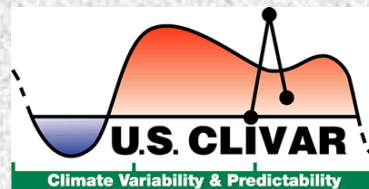
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Messages

- US CLIVAR moving ahead on drought & decadal themes, and a number of other activities. Third theme (to be identified at our Summit mtg).
- These themes and WCRP cross-cuts (e.g. extremes, decadal) have garnered enthusiasm & engagement amongst US agencies and scientists
- New opportunities for VAMOS abound (e.g. CPTs, CMIP5)

US CLIVAR Themes and Activities

Drought (initiated in ~2007)

- DRICOMP: Evaluate how we can contribute towards climate prediction
- Drought Working Group: modeling experiments exploring sources of multi-season drought predictability; model-based drought indices
- Drought Workshop: October 2008 (100+ attendees)
- Next steps:
 - internationally under WCRP extremes cross-cut. Next step is to prepare draft of a drought research assessment paper and organize an international workshop (Tereza Cavazos or Jean-Philippe Boulanger identified as potential VAMOS participants)
 - Within US CLIVAR: to be determined

Third US CLIVAR theme to be decided at our July Summit - input?

Decadal Variability/Predictability (just getting up to speed)

- Western Boundary Current Working Group
- Atlantic Meridional Overturning Circulation (AMOC)
- Decadal Predictability Working Group: just started (Lisa's talk)
- Various process studies plus AMOC may tell us more about possible important processes, PLUS observation systems, model initialization...
- Links to prolonged drought...
- Model evaluation program (future activity?)

U.S. CLIVAR Organization

Committee

US CLIVAR Scientific Steering Committee

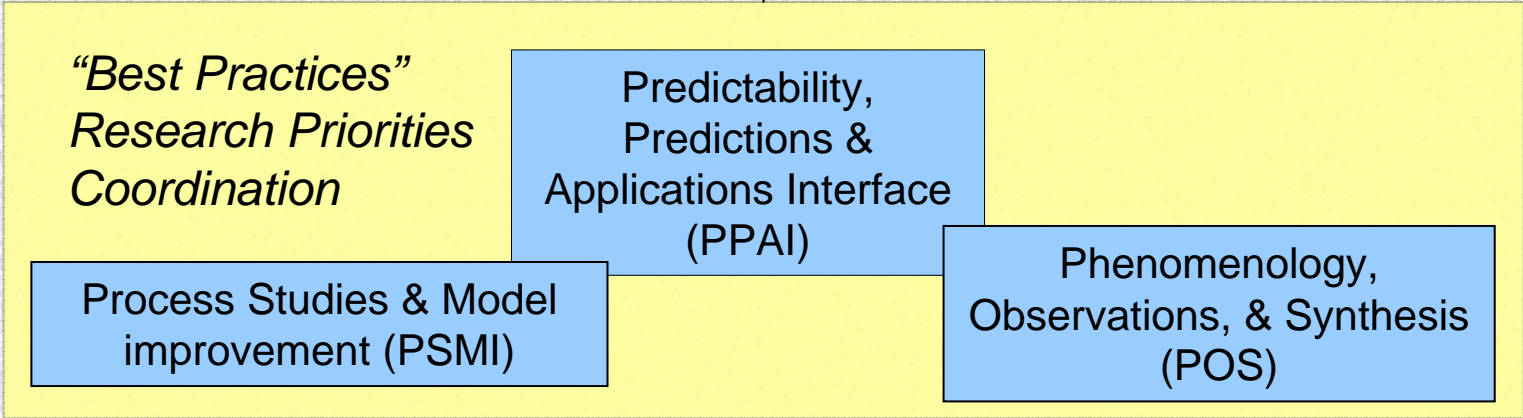
Inter-Agency Group (IAG)
Federal Program Managers



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U.S. CLIVAR Office

Panels



Working Groups

International CLIVAR

Working Groups (short-term)


- Western boundary current (workshop Feb 2009)
- High-latitude fluxes (workshop Feb 2010)
- Decadal Predictability (initiated Jan 2009, June 2009 mtg)

Other US CLIVAR Activities

- Process Studies/Model Improvement Panel
 - Model improvement: CPTs (call for new proposals in 2009)
 - Process Studies
 - Best practices and associated projects: IASCLIP, DYNAMO, etc.
- Predictability/Prediction
 - Drought and Decadal Variability
 - Earth system modeling/prediction links to marine ecosystems. NCAR Summer Colloquium (Aug 2-14)
 - Tropical (model) biases
 - Post-Doc program targeting applications
- Phenomenology, Observations, & Synthesis Panel
 - Western Boundary Current Working Group
 - Contributing to and building on Oceanobs09
 - High-latitude flux working group
 - Integrated Earth System Analyses (IESA)

On the horizon???

Attribution, aerosols and climate, abrupt change/tipping points, ocean carbon, ocean acidification, polar climate changes, & many others



Marine Ecosystems and Climate:
Modeling and Analysis of Observed Variability

Prospects for Evaluations of CMIP5 runs?

Opportunity

- CMIP5 model results provide new opportunities...
- Scope of a model-evaluation-type program for AR5?
 - Decadal runs (US CLIVAR Decadal Predictability Working Group) (some interest by the UK)?
 - Value added in CMIP5 models (complexity, fidelity)?
 - Regional, high resolution “applications-focused” (ie links between IPCC WGI and WGII)
- US agency interest in supporting research proposals

How can VAMOS encourage and coordinate analyses of CMIP5 runs?

Climate Process Teams - CPTs

Teams of theoreticians, observational scientists, diagnostic scientists, process modelers, coupled model, & data assimilation systems developers, organized to characterize & address systematic critical issues that limit progress in improving climate models.

- US CLIVAR has coordinated a US **Announcement of Opportunity (AO) for new CPTs** - to be released in June 2009
- Possible CPT topics: **tropical convection**, radiative transfer processes, aerosol indirect effects, cloud microphysics, **land surface processes including soil moisture** and ice, ocean mesoscale eddy processes, sea ice processes, equatorial ocean upwelling and mixing, Southern Ocean ventilation and deep water formation, atmospheric gravity waves, air-sea fluxes, and ice sheet dynamics. Ideas for new and potentially exciting topics will be considered...
- Major US climate change modeling centers engaged: NCAR, GFDL, NCEP, LANL, and GSFC
- Community to self-organize & develop proposals... **VOCALS CPT?**

Opportunity



VAMOS: Future Directions and VAMOS-US Interactions

- Many of the VAMOS activities, including VOCALS and IASCLIP, are of interest to the US.
- We need an update of VOCALS and IASCLIP Planning for upcoming US CLIVAR Summit
- Coordination (and communication) between US and CLIVAR and VAMOS activities is satisfactory; could be better. US CLIVAR will be inviting co-chair Hugo to attend and brief the US CLIVAR Summit in mid-July

News from Washington

- USGCRP (formerly CCSP formerly USGCRP) 21 Synthesis and Assessment Products (SAPs)
 - Role of Aerosols, Extremes, Reanalyses, etc
- All US federal research agencies are trying harder to position and justify their research in the context of providing useful knowledge for decisions and policies. *Climate science driven by need to “improve understanding” remains important, but it is to CLIVAR’s advantage to think carefully and strategically about investing resources in areas of research that can help the climate research community be more responsive to needs of the climate “services” community*