

[Tropical] Atlantic – briefed by Tom Delworth

What part of variability is GHG forced, and what part natural?

Obs Spectrum shows – decadal peak & lower frequency (50-70 years)

Models also have peak, not at same time scale. Several processes involved.

Hawaii workshop.

Is it premature to talk about predictability? Lots of work in last 10 years. Some potential predictability for 10 years, and high-lat SSTs, but not clear if that matters for the atmosphere.

Interaction between forced and natural variability? Role of aerosols? Aerosols may have sped up THC by suppressing inhibiting rainfall and reducing poleward transport of water vapor.

Pacific – briefed by Nate Mantua & Ben Kirtman

Signals in Pacific may be stronger than that in the Atlantic (at least during the 20th C), but mechanisms causing that variability are elusive.

Not a lot of predictability work has been done.

Mental bias exists in the community because of ENSO; everyone is looking for oscillatory behavior.

We may be closer to real prediction in the Pacific since variability is upper-ocean, and Pacific is well sampled, and initial condition can be fairly well assimilated.

We can't do this in isolation of climate change.

Investment in better understanding forced response on decadal timescale, may give more payoff than similar investment to get anything out of forced variability – this sort of feasibility study must be done. i.e. *What is relative strength of variability in decadal timescale versus trend?*

DISCUSSION...

Only existing research on decadal-scale prediction/projection (?):

Schneider & Miller – Rossby waves propagation in mid-lat Pacific & Kuroshio temps

Hansen (1989) – predicting global temperature for a given scenario

At what spatial are things predictable for a given timescale?

Again, need some separation (regionally) on relative contribution of forced variability and natural variability.

How can we pull together all work, say presented at Vikram's workshops, into a perspective on what we might be able to predict?

Even if most predictable signal is that due to GHGs (/aerosols), how much do they project on natural modes of variability?

Come up with and collate best ideas for doing the work. Interesting diagnostics (ala Neelin – *could someone elaborate*). The centers don't have a good sense for how to do this. Explore intelligent ways for analyzing models for robustness/non-robustness.

May contribute to AR5, which may also be working on the near-term climate change.

Need to clear 2 hurdles with WG prospectuses: (1) Don't want to perpetuate on-going activity that hasn't yielded much. (2) Do want something that program managers could take to their superiors.

MAIN IDEA FOR WORKING GROUP –

Turning existing knowledge and preliminary prediction(/predictability) work to put together a white paper on what might be predictable. Also aspect of forced and natural variability. Produce ranked list of priorities.

(potential WG members)

Dan V – lead

Nate Mantua

Tom Delworth

Ben Kirtman

Vikram (or representative, must understand role, and what it's intended)

Niklas Schneider

Art Miller

Jerry Meehl

Mingfang Ting