**EAPS 53600 Semester Project guidelines**

Project goal

The goal of the project is for you to explore a topic of your choosing related to large-scale dynamics. **Creativity and ambition in topic and methodology are strongly encouraged**, though **your project also needs to produce outcomes within a month as a course project**. Ideally then your project should be on a novel topic that interests you but also with a very clear and focused hypothesis and a reasonable methodology (e.g. running a high-res global climate model may be difficult).

In short: **do not pick a methodology that will take you many weeks to even have a chance to produce any results!** It's fine if your *results* do not turn out quite as planned, but if you can't even produce any results to begin with you won't have anything to talk about. **Choose a dataset/model/tank experiment type that you *know* you can execute within a couple of days.**

There is a wide range of possible topics you might explore: specific circulations (e.g. the monsoon), specific types of dynamical responses (e.g. kelvin waves), clouds and climate (e.g. 1D radiative-convective equilibrium model), modes of climate variability (e.g. El Nino), or other more creative options too.

Your methodology may include data, models, or lab experiments. In class you will be introduced to certain datasets (e.g. reanalysis), models (single-column models, rotating shallow-water model), and rotating tank experiments (general circulation, geostrophic adjustment). However, you are encouraged to use any type of dataset, model, or experimental design you like; your work should not be similar to any of the in-class assignments.

**Important notes:**

- **I am very happy to help you bounce around your ideas for your topic and/or help find suitable data/models/tank experiment materials for your methodology!**
- **Keep your mind open as we progress through the first half of the semester; you do not need to make any final decisions about anything until early March.**

**Peer review (note: this is also *self-review* -- ask yourself these same questions)**

Rate each proposed semester project on the following categories using a 1-5 scale, with 1 = bad and 5 = great. For the follow-on questions -- if you aren't sure, ask the author directly!

1. Creativity: does the project try to tackle an interesting topic? (e.g. it should not be similar to a simple in-class lab)
2. Clarity of hypothesis: is the hypothesis clear and testable? (i.e. it is obvious what it would mean for the statement to be right or wrong?)
3. Clarity of method: is the proposed method for testing the hypothesis clear? (i.e. what specific experiments or analyses would they do? Is that sufficient to conclude whether the hypothesis is true or false?)
4. Feasibility: can the proposed method for testing the hypothesis be executed by the student within a semester project? (i.e. do they have the tools needed to actually do what they proposed?)