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MPO 624 Intake Survey

*Name, program, year:*

Jeremy Klavans, MPO, First-year

*Advisor and research topic (if applicable):*

Amy Clement. Climate variability. Climate model complexity. Climate change.

*Career goals/ hopes:*

In the course of my career, I hope to be able to provide information to decision makers about climate change/impacts that will allow for more efficient policy/planning. Within the scientific community, I hope to evaluate tools for and approaches to studying climate change in an “impacts relevant” (or “policy relevant”) framework. I would hope to do this in an academic or governmental institution.

*Hopes for this course (please be as specific and detailed as you like, perhaps from the outline above):*

Gain a more detailed understanding of the utility and limits of some of the data analysis tools used in the literature. Learn new statistical techniques. Gain a deeper understanding of the interpretation of statistical results.

*Computer system you will work on (Windows, Mac, Linux; RAM if you know):*

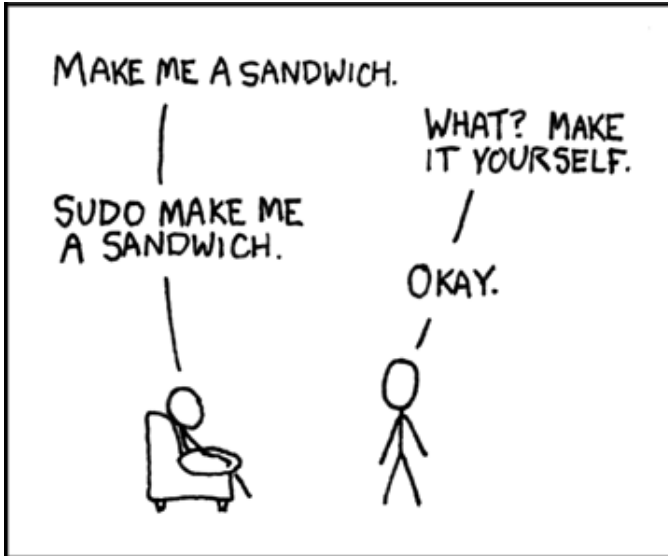
Mac.

*Describe your computer experience in narrative form. What are your thoughts, philosophy, worries, hopes about working with computers. Don't try to impress, just show me where we are all at here at the beginning. Read the course goal again.*

I'm just beginning to understand what a computer can actually do. I have no formal training in computer science, data analysis, or web design. However, I have taught myself the basics of several interpreted languages (Matlab, Python, NCL), a little shell script, and some basic mark-up in HTML (JS and CSS) and TEX. This has proven to be enough to download, explore, and analyze data for specific purposes (e.g. professional or academic research processes, building basic websites, etc.). However, I know that I can improve my efficiency by gaining a better understanding of what is happening behind my interpreted commands.

*Have you used the command line in a terminal?*

*Favorite commands:*



*Have you edited code? If so, in what editor?*

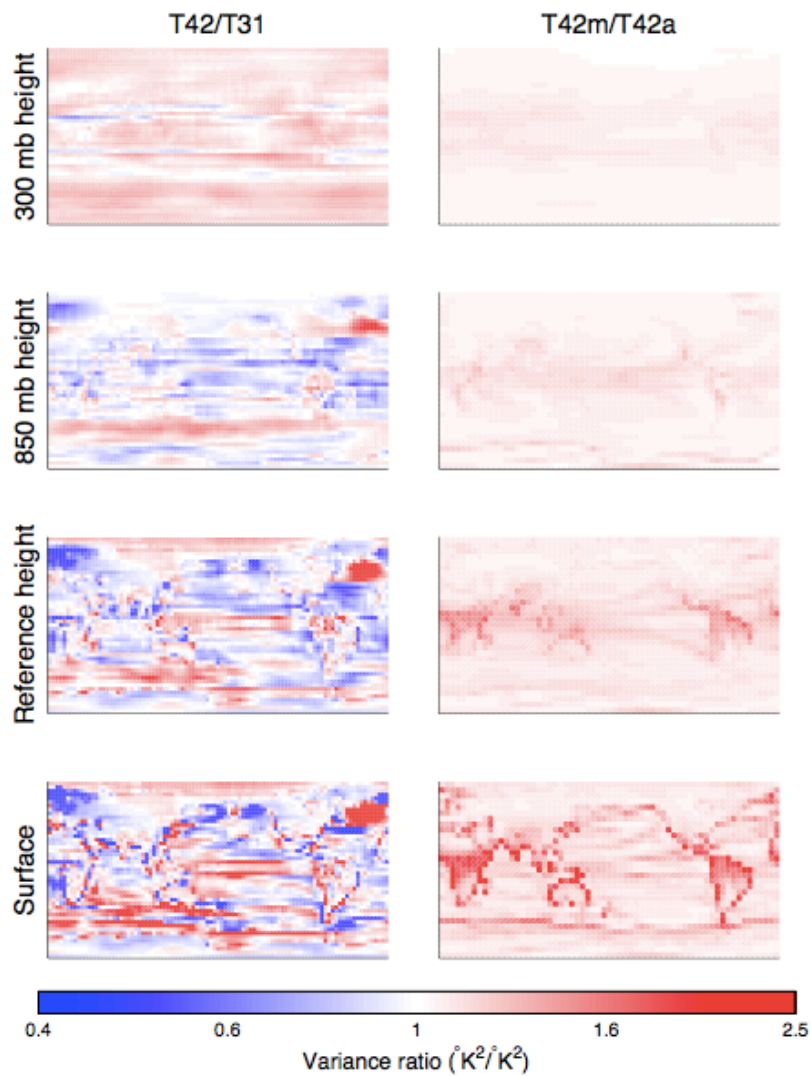
*Favorite or proudest few lines of code (any language):*

Languages: Matlab, NCL, Python, Shell Script.

Text editor: Vim (or for mark-up, I like Text Wrangler)

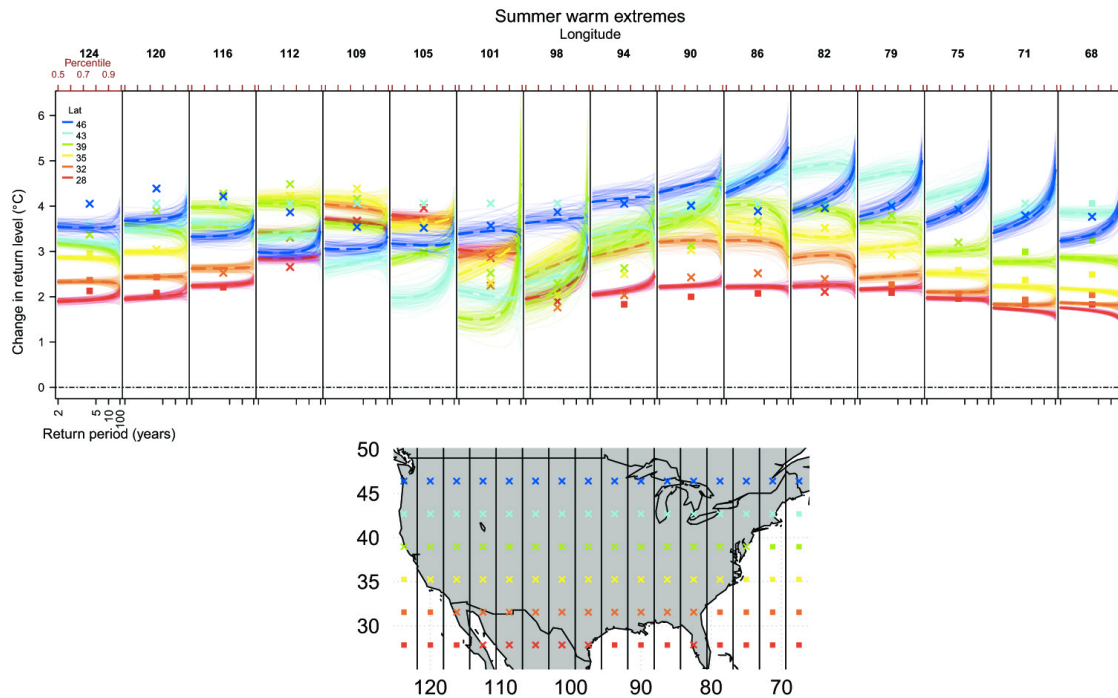
Proudest lines of code: My first parallelization. Took run time from 36 hours to about 10 minutes.

*Nicest figure you have made from data (paste, explain):*



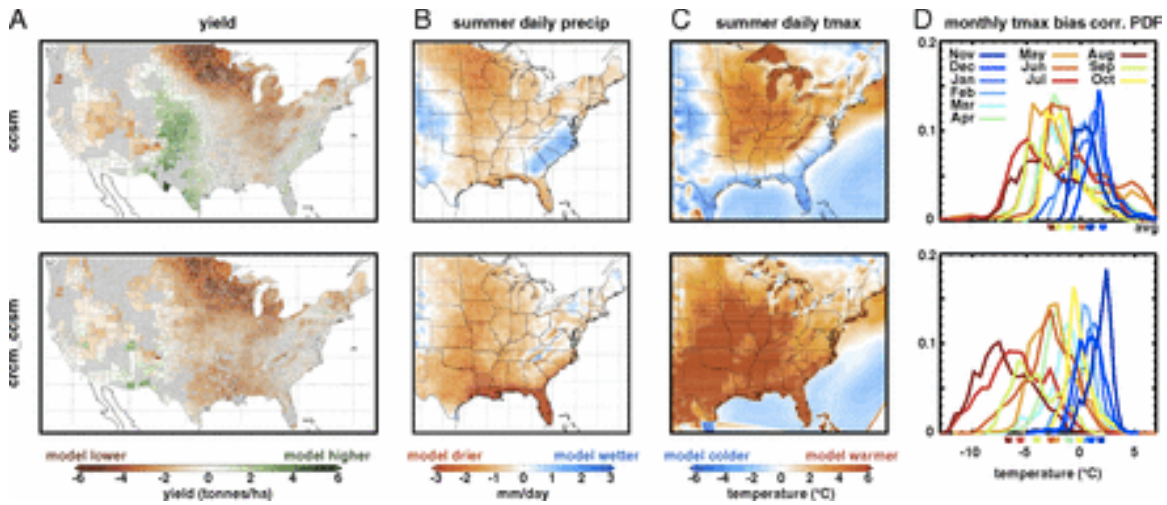
This figure shows the results from my first real scientific paper. Shows that variability decreases with increasing model resolution (for most frequencies), and that those changes are not simply a result of spatial disaggregation.

*A figure you admire for graphical reasons (paste, explain):*



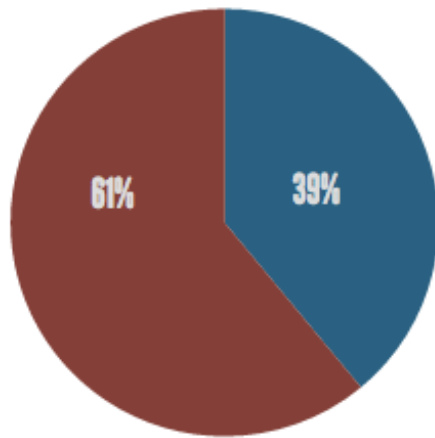
Very colorful – visually stimulating. Makes you want to look more closely. (Although, I would probably have used a different color palette.)

*A figure you admire for content reasons (paste, explain):*



Shows dynamical downscaling increased model-observation discrepancies relative to simple bias-reductions.

*A figure you are puzzled about or intrigued by (paste, explain why its puzzling):*



■ Realized Energy Savings (39%)

■ Unrealized Energy Savings (61%)

Why did they need a figure to tell me that? It would be much less ink if you told me in a sentence (or even part of a sentence).

*Favorite ADA-related Web site or software not mentioned in course materials so far:*

In the vein of data visualization, I would suggest Adobe Illustrator (or some free, comparable software). Making content-dense, but visually attractive plots is something I want to get better at.

*Initial brainstorming thoughts on a possible topic or ingredients for your term project. You might as well choose your research or something related to your other coursework, so you can double-count the effort and do better work instead of just more work. Any or all of the following thought-provokers may be your springboard. Again, don't worry about impressing or grading or anything else, just help me (and us all, we will look these over on screen in class) understand where you're at and your interests.*

*Your application: what behavior of what system might you be trying to characterize, or compare to what other system or model or forecast?*

*Your data: what dataset(s) might contain the information you would like to explore or address? Feel free to use this as a springboard for a conversation with your advisor.*

*Your analysis: what kinds of questions do you imagine you will ask about the system or the datasets? What would constitute an answer or an addressing of the issue? What kinds of figures would you like to create?*

My current research project will be analyzing a hierarchy of climate models (increasing in complexity) for changes in variability. In particular, we are looking at the North Atlantic

Oscillation. Using the dataset, I would like to gain additional understanding of what changes exist in the NAO between models? How does total variability change between models? How do impact relevant quantities (like temperature or precipitation over populated areas) change between models? If they don't change why? If they do change, how and why?