Figures of the Tropical Convection and Climate Research Repository

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1 Introduction

This document is a work in progress. Feel free to contact me and recommend improvements.

This document is intended to show examples of figures that are produced by the scripts contained in the github repository https://github.com/gitleviglenn/TC2R2. This repository will contain both python and julia code. The primary purpose of the repository will be to document and store scripts that produce useful figures to the TC-RAMS research group at Colorado State University. However, there will also be some scripts that contain functions or data analysis that is useful to the group. This repository is not a data repository. Many of the data files used in these scripts are large and storing all of them on this repository would be difficult. The scripts are intended to show examples of code that can be copied into similar scripts by users. If you wish to use the exact data from a script please contact the author of that script. Maintaining and using this repository is an attempt to facilitate the inevitable overlap between climate scientists and data scientists that each of us in the TC-RAMS group embodies.

2 How to Contribute (please do!)

The TC2R2 repository is owned by Levi Silvers. If you wish to contribute code, contact Levi at levi.silvers@colostate.edu. If your script produces an image, please include an example figure with your script that can be included in this document so that we can all see an example of what your script does. The figure image should be placed in the 'figures' directory.

List of git commands to clone, add, commit, and add data to the TC2R2 repository.

3 Results

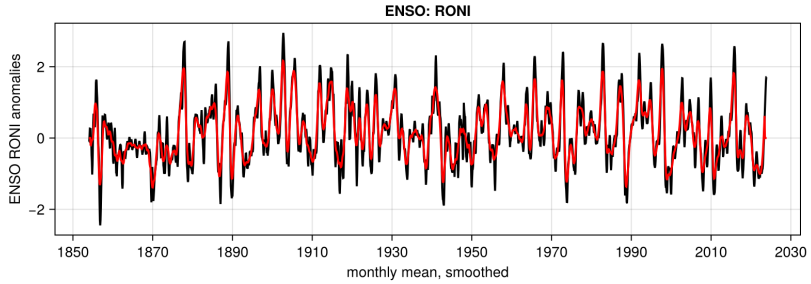

Figure 1: Time series plot of the relative oceanic nino index (RONI), as derived from observations (black). Red line is the result of a 12 point running mean applied to the black line. Generated with plotENSOsimple.jl

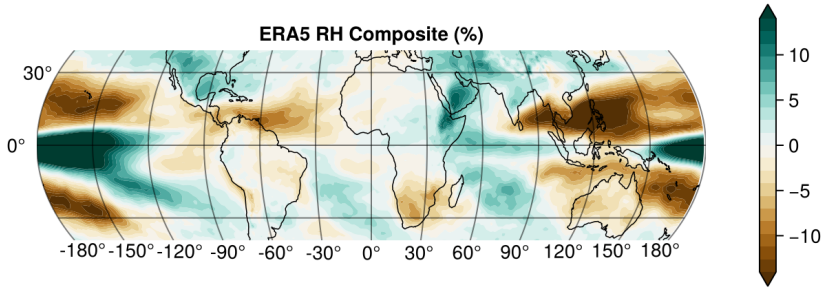

Figure 2: Difference of relative humidity (RH) between El Nino years and La Nina years. Data is from ERA5, El Nino and La Nina were determined using the RONI index. Generated with rh_era5.jl

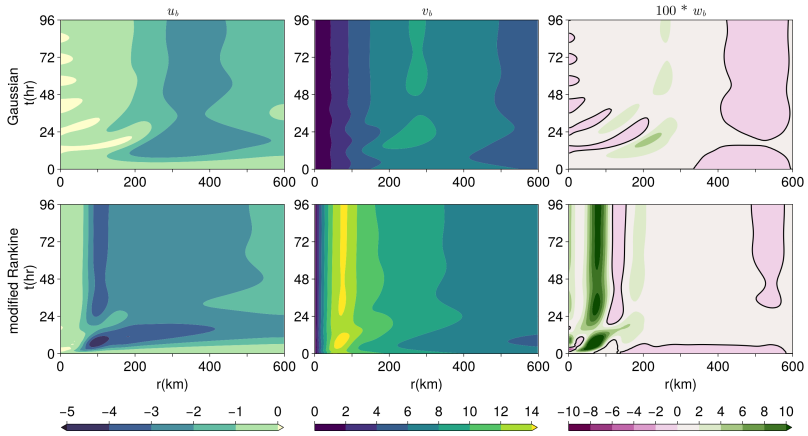

Figure 3: Hovmoller plots of the u_b, v_b, and $100 * w_b$ velocity from two experiments with different initial vortices. For each panel, time progresses from bottom to top and the horizontal axis is the radial dimension. The top row shows the evolution of a vortex which started as a Gaussian vortex, the bottom row shows the evolution of a vortex that was initially a modified Rankine vortex. Generated with plot_Hovmeuller_idealizedVorticesTCBL.jl