Benjamin Goldman

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Presentation Notes

1 General:

- Remember to say meaning of axes and colors
- Talk slower
- Less detail in results, more in intro?

2 Title

3 Introduction

Climate Change and Variability

- Climate change: long term trends in temp, etc (fig: red line)
- Climate variability: short (a few years) change in climate (fig: blue line)
  - May be cyclical or random

Climate Forcing

- External factors that affect climate change and/or variability
- List factors, ghg, aer, bmb, lulc
- Sources:

  - ghg: industry, livestock
  - aer: industry, volcanoes (smoke, dust, sulphites?)
  - bmb: wildfires
  - lulc: deforestation, agriculture, desertification
- Greenhouse effect
  - gasses and particulates affect atmospheric chemistry and sunlight reflection/absorption
  - ghg absorbs "blanket" trapping heat (fig: orange arrows)
  - aer reflects in upper atmosphere blocking heat out. (fig: yellow arrows)
  - bmb, lulc affect reflection, absorption on surface (fig: yellow arrows)

El Niño (ENSO)

- Temperature of the pacific ocean
- Cold -> La Niña
- Hot -> El Niño
- Entire cycle: ENSO (El Niño/Southern Oscillation)
- Affects humans: hot year, dry year, cold year, wet year
- Figure: temperature differences between strong La Niña year and strong El Niño year
  - Blue=colder, red=warmer
  - Point out California hot for El Niño (wildfires)

Method: Climate Simulation

- Main way of making predictions
- Predictions of forcing levels are fed to computers
- Computers simulate climate on a grid of data containing temperature and much more
- Predictions are usually run many times

- My contain biases but are quite well tested

Review of Literature

- Slide is notes

Gap

- Slide is notes

Questions

- What, why, how
- Slide is notes

4 Data, Methods, and Results

Methods Overview

- Slide is notes

Role of Mentor and Student

- Slide is notes

Model Setup

- Slide is notes

Measuring ENSO Intensity

- Make sure you talk about what Niño 3.4 index is: number that represents how strong El Niño is at each time
- Windowed variance calculates amount of variability of the Niño 3.4 index ie how intense the ENSO cycle is

ENSO is Becoming Stronger

Influence of Aerosols and Greenhouse Gasses

Correlation With Ocean Temperature

Wavelet Analysis

5 Conclusion

Conclusions and Discussion

Application, Limitation, and Next Steps

Acknowledgments

References