ATMS 211
Climate and Climate Change
Spring 2019

Prof. Joel Thornton
T.A. Claire Buysee

Times and Locations

Lectures M,Tu,W,Th: 11:30 – 12:20pm
BAGley 154

Discussion Sections: see myUW for assigned time/location

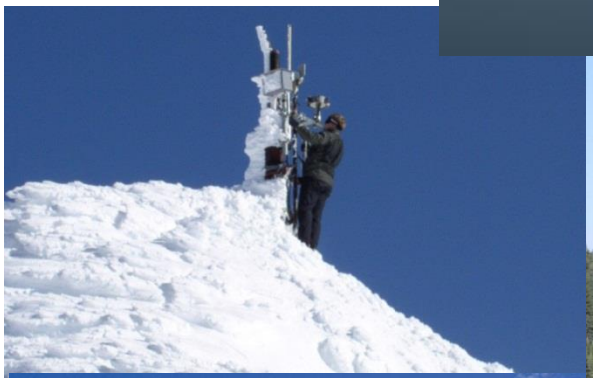
About Me

Prof. of Atmospheric Sciences

Ph.D. in Atmospheric Chemistry

Scientific Interests:

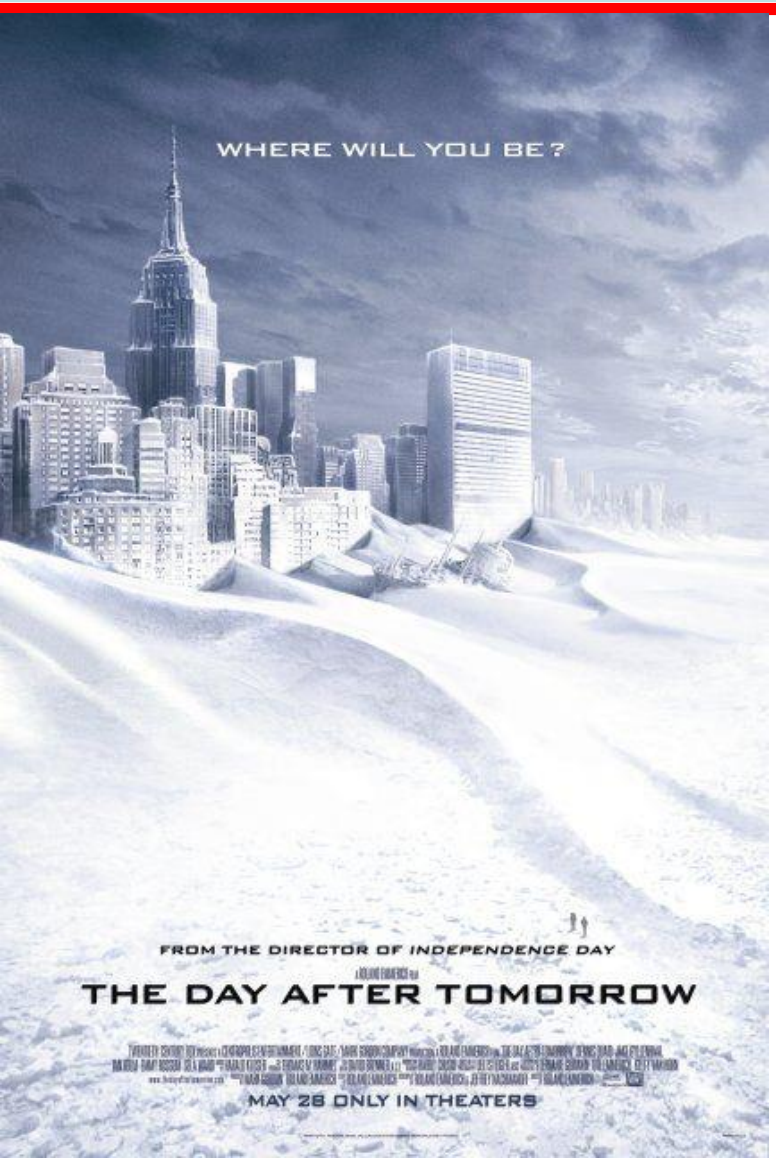
- **Natural and polluted air chemistry**
- **How pollution affects climate**
- **How climate change affects pollution**



How to Contact Me

1. **Right after lecture (come on down – most efficient!)**
2. **Weekly office hours (TBD) or special appointment via Canvas**
3. **Discussion board/Chat on Canvas Page (see web page)**
4. **Canvas messaging***

Course Goals



1. Introduce you to the science of climate and the scientific method

2. Give you generally applicable tools to understand and <u>critically evaluate</u> modern environmental problems

What this course is/isn't about

<u>YES:</u> what, how, and why of climate and climate change

<u>NO:</u> values, philosophies, politics, etc

Course Overview

The Climate System (Present)

- Earth's Energy Balance
- Earth's Atmosphere and Oceans
- Regional Climates

Climate Change (Past)

- Change and Response (Feedbacks)
- Natural Variations
- The Human Influence

Global Warming (Future)

- Evidence
- Expectations
- Mitigation Approaches

Required Course Materials

- **Textbook: Kump, Kasting, Crane, 3rd edition (2010) *The Earth System***

Grading Policy

Grading Method

- Likely course mean
  - 2.8 – 3.2 (B- to B)
- Curve if necessary

Exams (~ 4) + In-class Polls 65%
-see Canvas for details

Final Exam: 20%

Homework: 15%

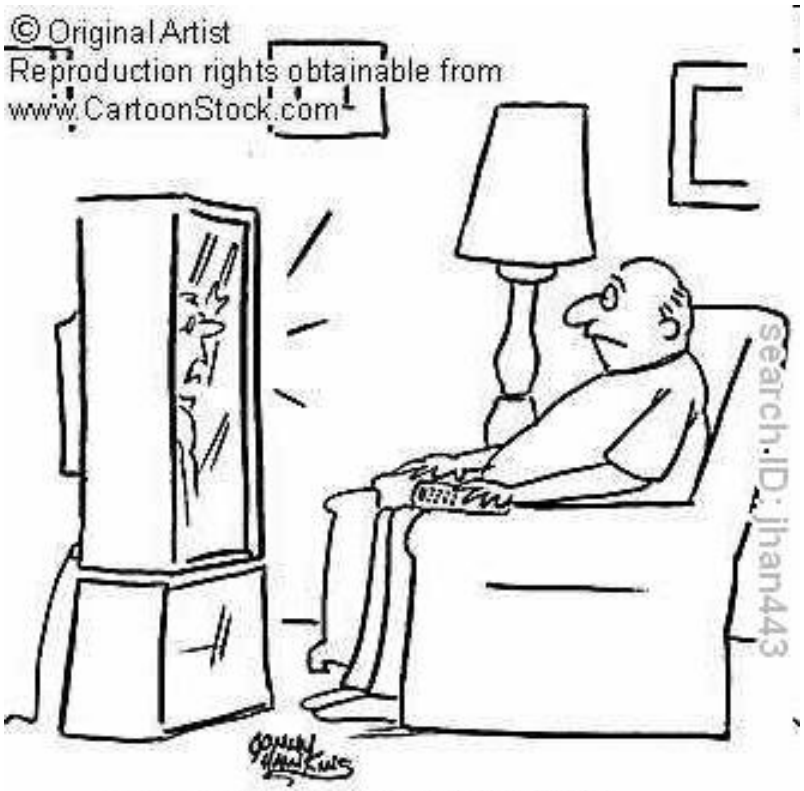
Plagiarism - Working Together

- see UW policy on plagiarism
- discussions are encouraged!
- on your own for exams, turn in your own homeworks

Optional Credits

- W credit is possible – see Canvas page for more info

We want you to do well!



1. **COME TO CLASS/Disc.**
2. **TAKE GOOD NOTES**
3. **REVIEW YOUR NOTES**
4. **TEST YOURSELF**
5. **RELAX**

GET YOUR QUESTIONS ANSWERED!
During lecture, after lecture, office hours, Canvas discussion board, etc

This Week: Environmental Change Concepts

Read Chapter 1 of text

Due before sections this week:

- 200 word synopsis of a recent news article on climate change

- 200 word description of the climate of an area you've lived (ideally not Seattle).

Discussion section activities:

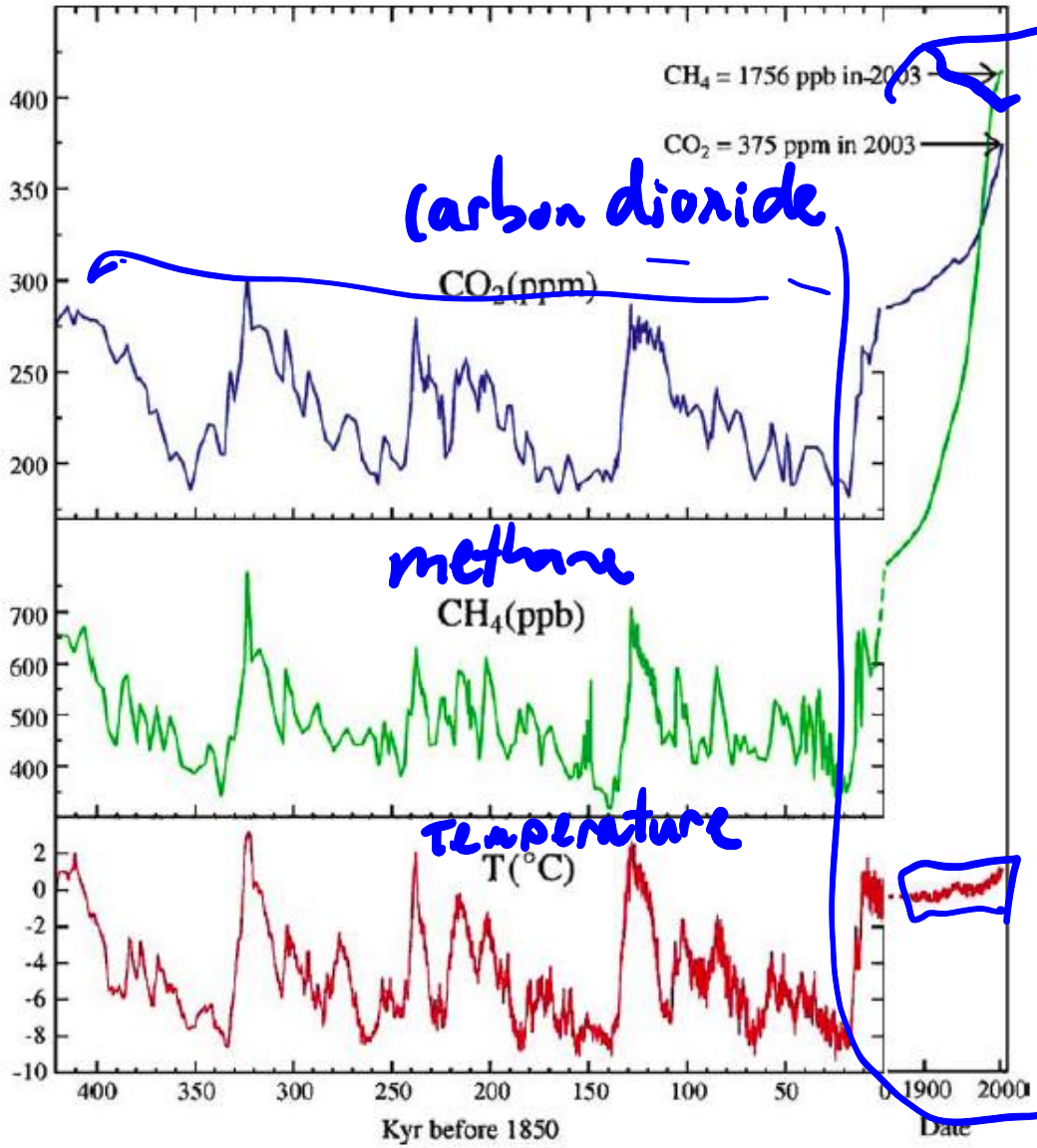
math (and geography) surveys, climate vs. weather

Poll Everywhere

- See Canvas page for important information related to registering and participating in Poll Everywhere

- PollEv.com/thornton211
- Text: THORNTON211 to 22333

Graphic Analysis Exercise



1. What are the x-y pairs in each plot (3 total)?

2. What are the units for each axis (1 x, 3 y's)?

3. What do you find interesting, important. Or otherwise noteworthy?

4. What do you find misleading or confusing?