Spring 2013
MW 10:30-11:45
Saunders 443b

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Office Hours by appointment

Course Web Page:
http://climate.socialsciences.hawaii.edu/Courses/GEOG401

Grade Basis

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<tr>
<th>Percentage</th>
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<tr>
<td>20%</td>
<td>Midterm Exam</td>
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<td>Final Exam</td>
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<td>Participation</td>
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<td>15%</td>
<td>Quizzes, homework, classroom assignments</td>
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<td>Video project</td>
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<td>Outreach project</td>
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Textbook:

Understanding the Earth System: Global Change Science for Application (2012)
By Sarah Cornell, Colin Prentice (Editor), Joanna House (Editor), Cat Downy (Editor)

Other resources:

Pacific Islands Regional Climate Assessment (PIRCA) Report
Numerous online resources (see course web page for links)
Scientific papers

Videos:

An Inconvenient Truth: http://vimeo.com/16335777
Chasing Ice: http://www.chasingice.com

Topics:

Radiation balance
The coupled climate system and feedbacks
Paleoclimatology and the climate history of earth
Biogeochemical cycles
Human imprint on atmospheric chemistry
Expected effects of increasing greenhouse gases
Detection and attribution of climate warming
The great thermal flywheel: the oceans and climate change
Contemporary climate science and the IPCC
Climate change impacts
Climate policy debate
Climate deniers and the campaign to spread doubt
Communicating climate science
Textbook Sections:

1. Earth system science and society: a focus on the anthroposphere
2. Fundamentals of climate change science
3. How has climate responded to natural perturbations?
4. The Earth system feedbacks that matter for contemporary climate
5. Earth system models: a tool to understand changes in the Earth system
6. Climate change impacts and adaptation: an Earth system view
7. The role of the land biosphere in climate mitigation
8. Society’s responses and knowledge gaps

PIRCA Report Chapters:

1. Pacific Islands region overview
2. Freshwater and drought on Pacific Islands
3. Sea level and coastal inundation on Pacific Islands
4. Marine, freshwater, and terrestrial ecosystems on Pacific Islands
5. Conclusions

Activities

Outreach – resource for K-12 teacher
YouTube video production (2-min public service message)