

GEOG 506: Community Service Practice in Geography

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Office Hours: MWF 1:00-1:50
W 5-5:30, 8:30-9, and by appt.

This course is designed to provide students an opportunity to deepen their understanding of geography and planning through an applied research project, as well as expose them to the everyday workings of a planning department in a medium-size town.

Readings

Stemen, *GEOG 506 CD*

Stoknes, *What We Think About When We Try Not to Think About Global Warming: Toward a Social Psychology of Climate Action*

Assignments

12 two-page journals	360 pts
Sector Analysis	200 pts
Vulnerability Assessment	250 pts
Dispatch From the Future	150 pts
Three-page final journal	<u>40 pts</u>
	1000 pts

Objectives

Provide students the opportunity to apply their geographic skills to the problems of climate action.

Increase student knowledge and understanding of city planning

Engage students in discussions about important works in the field of environmental geography and sustainability

Provide students the opportunity to improve their writing skills

Promote civic engagement and service to the region

Acquiring a bunch of facts is not the major focus of this class. I am more concerned with how you think. I designed the class so we can discuss and expand on the same concepts throughout the semester. Since writing is thinking on paper, we will spend a majority of the class focusing on your written work.

Every week you will write a two-page journal on that week's readings. I comment on these journals, but I do not grade them. If it appears to me that you have done the reading, and spent some time thinking about it, you receive full credit. I assign this exercise to get you into the habit of writing about what you read. Journals are due the week they are assigned.

Journals and class discussions are the core of the heart of the course. Come prepared to talk. You will read each other's journals at the start of each class. Then I will lead the seminar in a discussion of the week's readings, how they relate to each other, and how they relate to earlier readings.

Last year, students used Cal-Adapt to forecast the climate for Chico in 2030. This year's class will build on that effort. In teams, you will produce a vulnerability assessment for the City of Chico or Butte County, using templates provided by the State of California. "Climate vulnerability assessment is a method for determining the potential impacts of climate change on community assets and populations. The severity of these impacts and the community's ability to respond will determine how these impacts affect a community's health, economy, ecosystems, and socio-cultural stability. Communities that understand these impacts can prepare climate adaptation policies and programs to increase resilience to climate change." (*Planning for Adaptive Communities*)

If you have a disability of any type that makes it difficult for you to complete any of above the course work please let me know and I will work with you to resolve the difficulty.

"I believe it will be calming to get to know the world that is likely to be our home in the future rather than dreaming about a world that could have been. The first step down the road to mental peace is to obtain a precise description of what the future is going to look like. Then to accept it. And finally to stop grieving."

– Jorgen Randers, 2052

Weekly subjects, reading assignments, and course work deadlines

(This schedule may / will change as the seminar evolves.)

August 23 – **Climate Action on Adaptation**

The Adaptation Strategy Development Process

The Five Ds

---Additional Readings-----

Peak Everything

What Can Communities Do?

Video: The Secrets of The Climate Paradox

August 30 – **Our Future World**

The World in 2050, pp. 1-25

Climate Change in California, pp. 1-29

Four Degrees

---Additional Readings-----

2052, pp. 1-49

Limits to Growth-Thirty Year Update, pp. xi.-16

Beyond Limits to Growth

Journal # 1 due

September 6 – **Adapting to Climate Change Vulnerabilities**

Planning for Adaptive Communities, pp. ii-30

Safeguarding California Plan: 2017 Update, pp. 1-7

SCRUM: The Art of Doing Twice the Work in Half the Time, pp. 1-10

The Jury of Our Peers

---Additional Readings-----

Conduct A Climate Change Vulnerability Assessment

The Great 2006 Heat Wave over California and Nevada

2008 Fire Siege, pp. 17-54

How unusual is the 2012–2014 California drought?

Impact Choice Due

Journal # 2 due

September 13 – **Identifying Exposure with Cal Adapt**

Take video tour at: <http://cal-adapt.org>

<http://cal-adapt.org/temperature/heat/>

<http://cal-adapt.org/fire/>

<http://cal-adapt.org/snowpack/decadal/>

Costing the Earth

---Additional Readings-----

Assessment of Climate Change in the Southwest United States

Summary for Decision Makers

Future Climate - Projected Average

Future Climate: Projected Extremes

Human Health

Urban Areas

Updating And Enhancing The Cal-Adapt Website

Map-Based Web Tools Supporting Climate Change Adaptation
Sector Choice Due
Journal # 3 due

September 20 – **Sensitivity to Climate Change Exposure**

Defining Local and Regional Impacts, pp. i-9, plus your sector
Indicators of Climate Change in California, pp. i-vi, plus your impact
Two Brains
Journal # 4 due

September 27 – **Potential Impacts to Climate Change Exposure**

Understanding Regional Characteristics, pp. i-12, 37-46
Paddling in the Pool of Worry
---Additional Readings-----
Butte County Local Hazard Mitigation Plan: Chapter 4
Butte County Local Hazard Mitigation Plan: Chico
Draft Sector Analysis Due
Journal # 5 due

October 4 – **Vulnerability Assessment Standups**

SCRUM - Sprint & Daily Standup
Don't Even Talk About It
Final Sector Analysis due

October 11 – **Telling Adaptation Stories**

Houston, We Have a Narrative
Tell Me a Story
---Additional Readings-----
Narrative Power Analysis
Narrative Power Analysis Worksheet
The ABT Template
Video: <https://www.youtube.com/watch?v=n9TWwG4SFWQ>
Journal # 6 due

October 18 – **Building Adaptive Capacity to Climate Change Exposure**

Identifying Adaption Strategies, pp. i-12, plus your sector
Draft Vulnerability Assessment due

October 25 – **Climate Change and the Oroville Dam**

Oroville Zone 1 Evacuation Map
Emergency Evacuation List
<http://www.buttecounty.net/oem/DisasterPreparedness/FloodEvacuationZones.aspx>
Attend APCG Opening Presentation, Colusa 100

November 1 – **Estimating Risk and Onset to Climate Change Exposure**

Planning for Adaptive Communities, pp. 29-30
Protect, Ban, Save, and Stop
Vulnerability Assessment Due
List of Possible Adaptations Due

Journal # 8 due

November 8 – **The Psychology of Climate Action**

What We Think About ... Global Warming, pp. xi-83

Journal # 9 due

November 15 – **Reframing Climate Messages: The Five Ds Revisited**

What We Think About ... Global Warming, pp. 84-162

Journal # 10 due

November 22 – No Class

November 29 – **Dispatches From the Future**

15 Steps to Create Effective Climate Communications

Draft Dispatch due

December 6 – **Community Outreach and Education**

Community Forum on Climate Adaptation Planning: Colusa 100A

Dispatch From the Future Due

December 13 – **Culminating Event**

Final Journal due

Class Deliverables

A Vulnerability Assessment

Potential Adaption Strategies

Identify Climate Change Adaptation Team Members

Host a Public Forum to Present Findings

Nine Steps in Adaption Planning

(Vulnerability Assessment/ Adaption Strategy)

Exposure
Sensitivity
Potential Impacts
Adaptive Capacity
Risk & Onset
Prioritize Adaptive Needs
Identify Strategies
Evaluate and Prioritize
Phase and Implement

Direct Climate Impacts

Temperature
Precipitation
Sea Level Rise
Ocean Acidification
Wind

Climate Impact Sectors

Public Health, Socioeconomic, and Equity Impacts (PHSE)
Ocean and Coastal Resources (OCR)
Water Management (WM)
Biodiversity and Habitat (FR)
Forest and Rangeland (FR)
Agriculture (AG)
Infrastructure (IN)

Climate Impact Regions

North Coast
North
Bay Area
Northern Central Valley
Bay-Delta Region
Southern Central Valley
Central Coast
North Sierra
Southeast Sierra
South Coast
Desert

Additional Reports by Sector

Public Health, Socioeconomic, and Equity Impacts (PHSE)

- CA Excessive Heat Contingency Plan 2014
- Climate Change and Health Profile Report, Butte County
- Preparing California for Extreme Heat: Guidance and Recommendations
- ASTHO Climate Change Population Vulnerability Screening Tool
- Climate Change & Health Equity
- Indicators Of Climate Change In California: Environmental Justice Impacts
- Integrating Hazard Mitigation and Climate Adaptation Planning: Case Studies and Lessons Learned
- Public Health-Related Impacts Of Climate Change In California
- The 2006 California Heat Wave: Impacts on Hospitalizations
- Climate Change and Extreme Heat Events
- California heat waves in the present and future

Water Management (WM)

- Butte County Drought Preparedness and Mitigation Plan
- Climate Warming And Water Supply Management In California
- Current and Future Impacts of Extreme Events in CA

Biodiversity and Habitat (FR)

- CA Wildlife Action Plan-Executive Summary
- CA Wildlife Action Plan-Anadromous Fish
- CA Wildlife Action Plan-Central Valley & Sierra Nevada Province
- California Deer Conservation and Management Plan
- DFG Butte County Deer Herds

Forest and Rangeland (FR)

- Unit Strategic Fire Plan Butte Unit
- Butte County Wildfire Protection Plan
- Climate Change and Wildfire in California
- The relationship of hospital admissions to the California wildfires of 2003

Agriculture (AG)

- Adaptation of Agricultural and Food Systems to a Changing Climate and Increasing Urbanization
- Analysis Of Climate Effects On Agricultural Systems
- Specialty Crops: Impacts and Strategies for Resilience
- Vulnerability And Adaptation To Climate Change In California
- Agriculture

<http://agadapt.ucdavis.edu/community-engagement/>

Infrastructure (IN)

- Addressing Climate Change Adaptation in Regional Transportation Plans
- California Building Resilience Against Climate Effects (CalBRACE) Project
- Addressing Climate Change Adaptation in Regional Transportation Plans
- The Potential Impacts of Climate Change on California's Energy Infrastructure
- Climate Change and the Potential Implications for California's Transportation System

General Reports and Legislation

Safeguarding California: Reducing Climate Risk
Safeguarding California: Implementation Action Plans
California Perennial Crops In A Changing Climate
California Climate Adaptation Storybook
State of Local Climate Action: California 2016
Our Changing Climate 2012
SB 246
SB 379

Climate Action Plans & Adaptation Plans

Butte County Climate Action Plan
City of Chico Climate Action Plan
CSU Chico Climate Action Plan
City of Long Beach Climate Resiliency Assessment Report
A Citizens' Guide to Building A Climate-Resilient Long Beach
Case Study: Climate Preparedness in the San Diego County Multi-Jurisdictional
Hazard Mitigation Plan Update
Chula Vista Climate Adaptation Strategies
City of Emeryville Climate Action Plan 2.0
Integrated Strategies for a Vibrant and Sustainable Fresno County
City of Santa Cruz Climate Adaptation Plan
San Luis Obispo Adaptation Plan
Riverside County: Subregional Climate Action Plan Adaptation And Resiliency
Strategy
Riverside County: Technical Appendix A Vulnerability Assessment
Adaptation Strategies for the San Francisco Bay Area
San Mateo County Energy Efficiency Climate Action Plan
Taking ownership of climate change: participatory adaptation planning in two
local case studies from California
Moving from agenda to action: Evaluating local climate change action plans