



Implementation of AMS Climate Studies at Chabot College



AMS Climate Studies Diversity Project

Our nation faces a serious challenge in attracting young people to science and science-related careers (including teaching). This is particularly true for members of groups underrepresented in science, technology, engineering, and mathematics (STEM) and is especially acute in the small number of minority college students majoring in the geosciences.

A formidable obstacle in attracting under-served students to the geosciences has been limited opportunity to enroll in introductory-level geoscience courses. To help address this problem, the American Meteorological Society (AMS) developed an introductory climate science course, *AMS Climate Studies*, which can be added as a general education course. This highly innovative course has been implemented at more than 110 institutions nationwide since fall 2010, including 52 minority-serving institutions that have joined the AMS Climate Studies Diversity Project. This program, along with the highly successful NSF-funded AMS Weather Studies (2002-07) and AMS Ocean Studies (2006-08) Geosciences Diversity/National Dissemination Projects, have introduced the introductory-level courses to 210 minority-serving institutions and more than 24,000 MSI students.

The AMS encourages course adoption by institutions serving large numbers of minority students through support from the NSF Opportunities for Enhancing Diversity in the Geosciences. The AMS Education Program has partnered with Second Nature, a national non-profit organization that works with college and university administrators to accelerate the movement toward a sustainable society. Together, the AMS and Second Nature uphold the importance of basic climate science education. Through this partnership, the AMS Climate Studies course will help American College & University Presidents' Climate Commitment (ACUCC) signatories implement the curriculum component of their Climate Action Plans.



At Chabot today: Geography 8

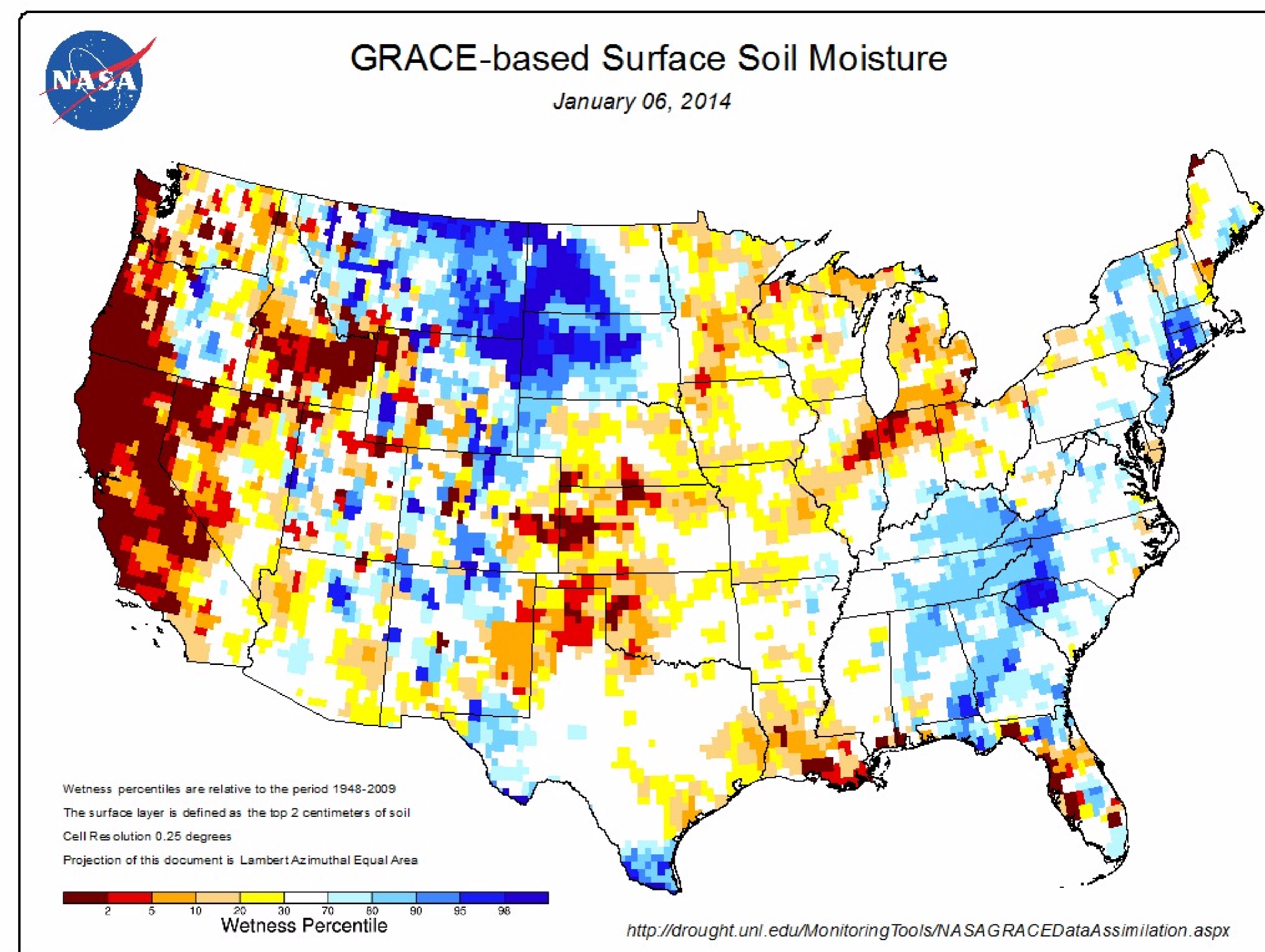
As of February 4, 2014, the *AMS Climate Studies* course first-time offering as Geography 8 at Chabot College is only 2 weeks old. So, the implementation is at a very youthful stage. The current course introduces *AMS Climate Studies* as the new paradigm for content delivery of Chabot's long-established, annually-offered Geography course entitled *Introduction to Weather and Climate*.

This poster highlights the recently installed course components of Chabot's Geography 8 that connect students with the rich resources of *AMS Climate Studies*, and outlines future prospects in the effort to permanently establish it on campus as the foundation course for multi-disciplinary studies of Earth's climate and climate change.

Week	Dates	Assignments/Activities	Chapter - Topic
Preview & 1	Jan. 21, Jan. 23, Jan. 28, Jan. 30	<i>Investigations 1A, 1B</i> <i>COMET: "Intro to Climatology"</i>	1 Today's Climate Science
2	Feb. 4 NO CLASS	<i>Investigations 2A, 2B</i>	2 Monitoring Climate
3	Feb. 11, Feb. 13	<i>Investigations 3A, 3B</i>	3 Earth's Energy Budget
4	Feb. 18 NO CLASS		
Flex Days	Feb. 20 NO CLASS		
5	Feb. 25, Feb. 27	<i>Investigations 5A, 5B</i>	5 Global Water Cycle
6	Mar. 4, Mar. 6	<i>Investigations 6A, 6B</i>	6 Global Atmospheric Circulation
"6B"	Mar. 11, Mar. 13	Midterm Exam #1	review
7	Mar. 18, Mar. 20	<i>Investigations 7A, 7B</i>	7 Regional Circulations
8	Mar. 25, Mar. 27	<i>Investigations 8A, 8B</i>	8 Air/Sea Interactions
9	Apr. 1, Apr. 3	<i>Investigations 9A, 9B</i>	9 Paleoclimates
10	Apr. 8, Apr. 10	<i>Investigations 10A, 10B</i>	10 Climate Measurements; Severe Weather
"11A" Spring Brk.	Apr. 15 NO CLASS		
11	Apr. 22, Apr. 24	<i>Investigations 11A, 11B</i>	11 Natural Climate Change
12	Apr. 29, May 1	<i>Investigations 12A, 12B</i>	12 Anthropogenic Climate Change
15	May 6, May 8	Midterm Exam #2	review
16 (at Chabot)	May 13, May 15	<i>Investigations 14A, 14B</i>	14 Response to Climate Change
17 (at Chabot)	May 20, May 22	Discussion, Feedback, and Course Evaluation	Review, summary
18 (at Chabot)	May 29	Final Exam	

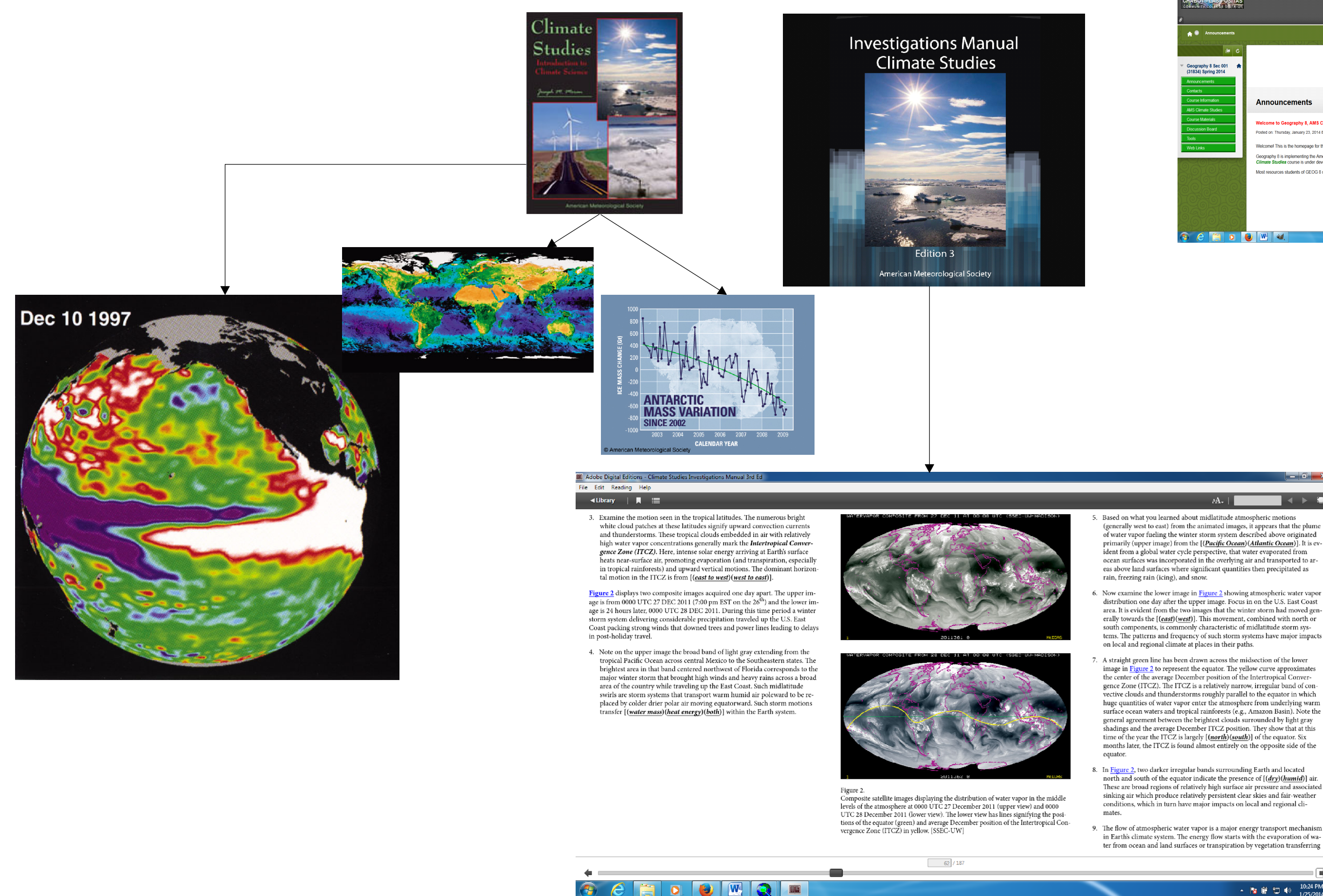
Chabot College GEOGRAPHY 8 Spring 2014 *AMS Climate Studies*

Current Regional Environmental Issues: CALIFORNIA DROUGHT

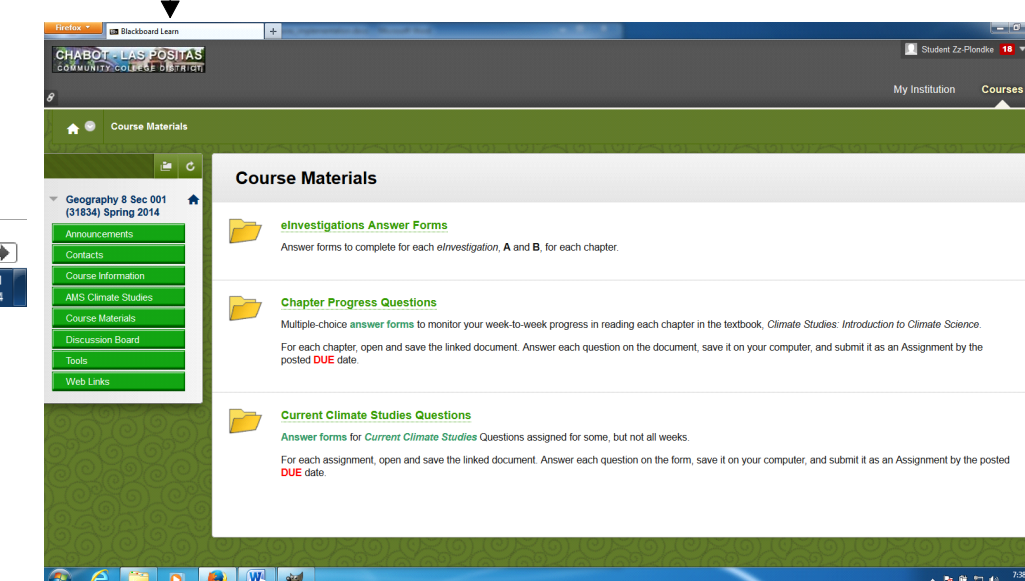
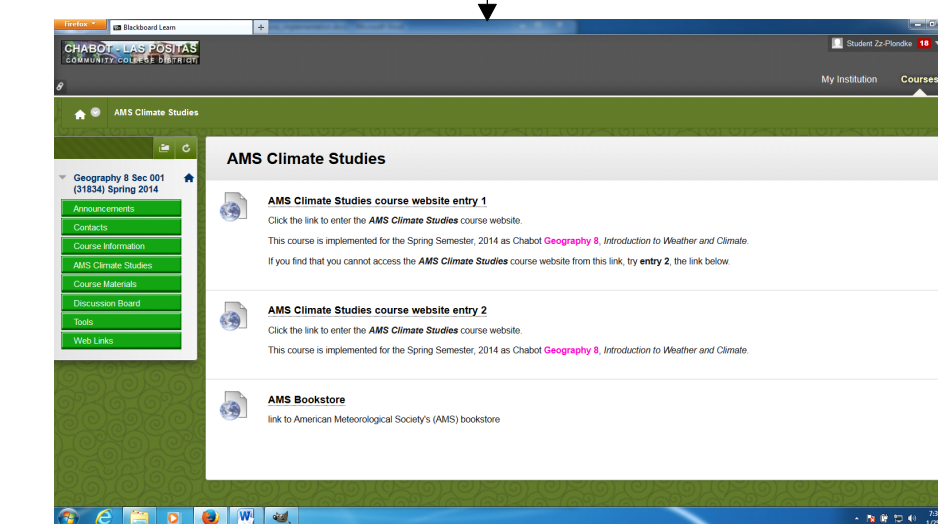
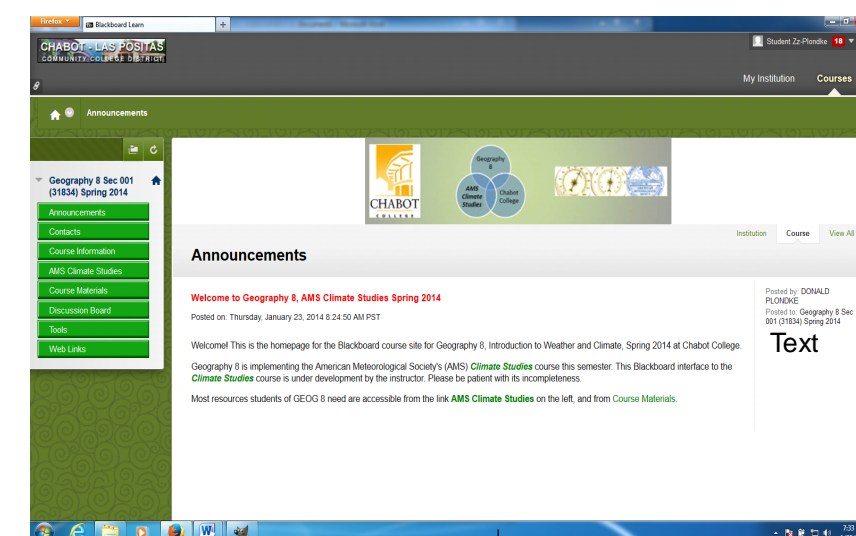


<http://drought.unl.edu/MonitoringTools/NASA/GRACEDataAssimilation.aspx>

Student Resources:



Blackboard Learn 9.1.13 Course Management System



Text

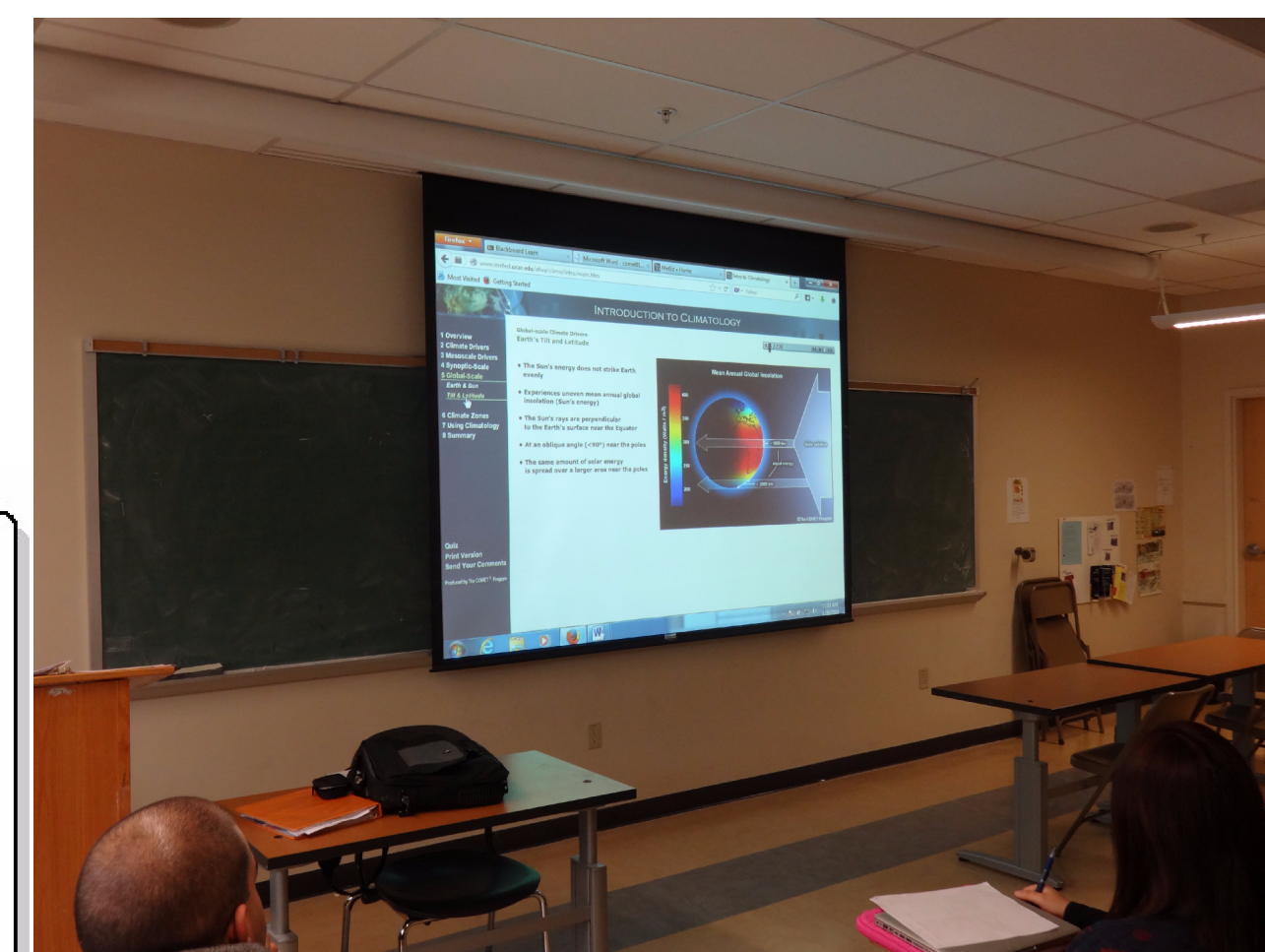
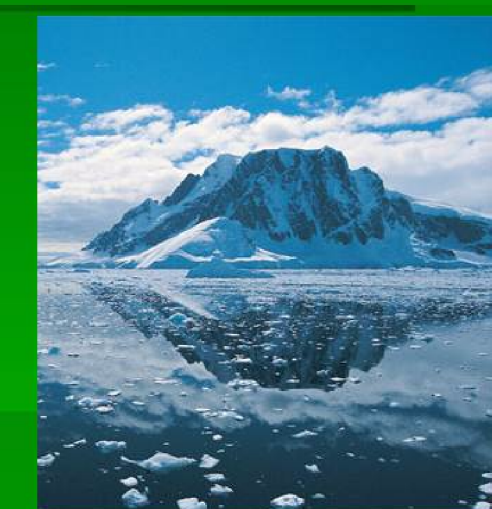
Latin America's Environmental Issues

Global Warming

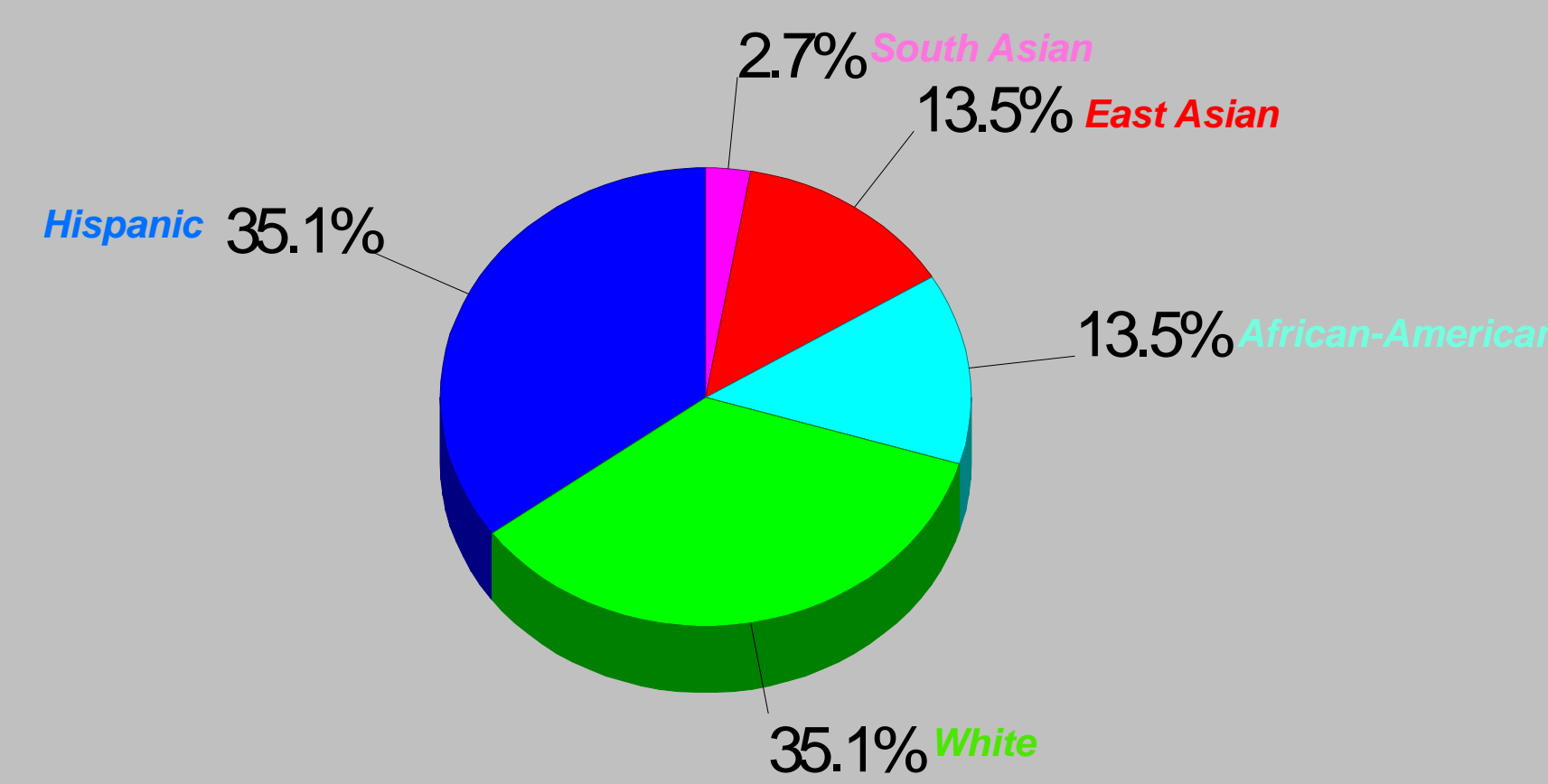
South America's ecosystems are particularly vulnerable to the changes in water availability expected with a changing climate.

Higher global temperatures may cause an increase droughts and melting glaciers in the mountain communities.

Signs of warming climates have already appeared in Middle and South America



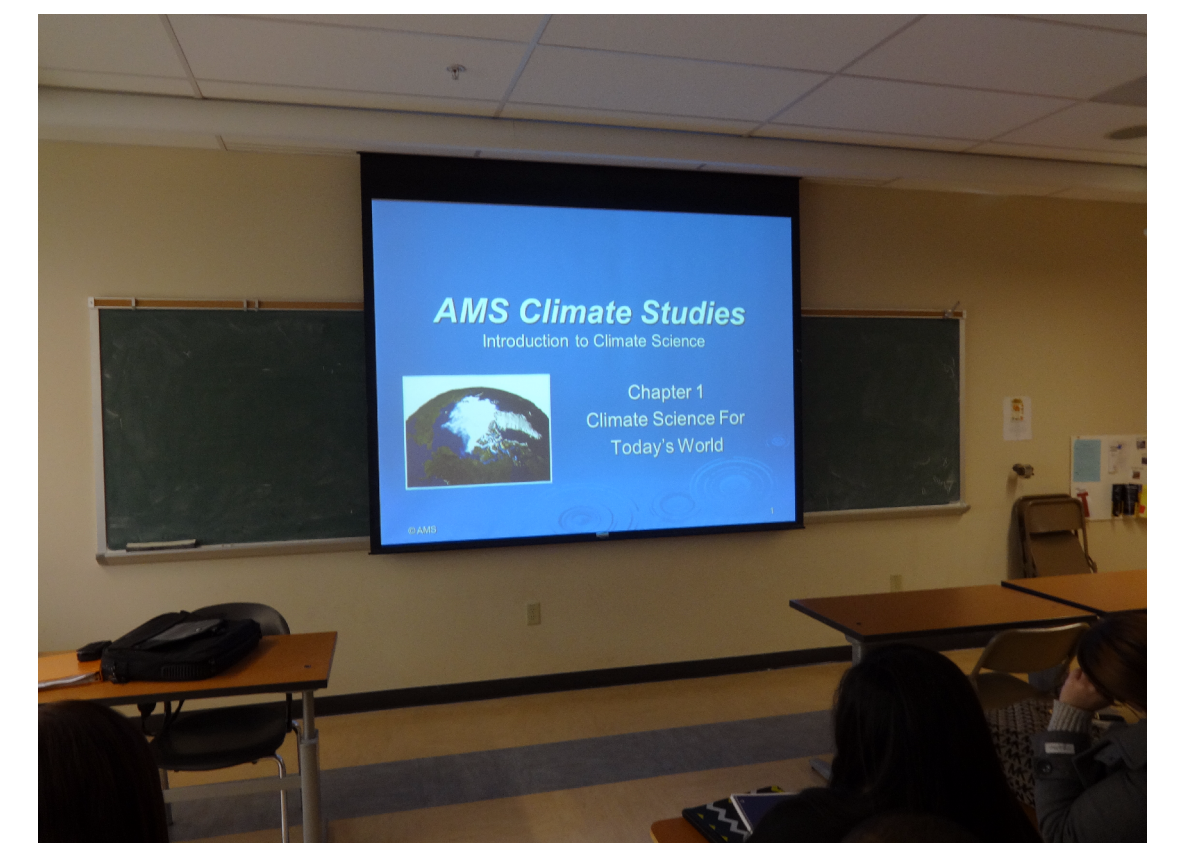
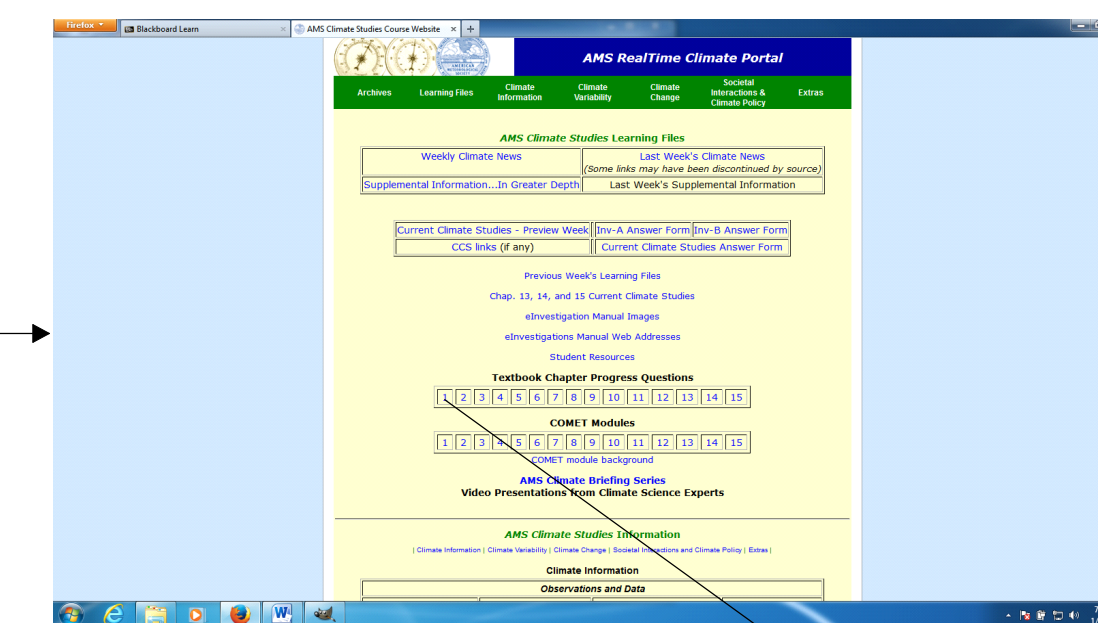
Ethnic Distribution of 37 GEOG 8 Students



THE FUTURE

Toward the overall objective of "institutionalizing" *AMS Climate Studies* as a regularly offered course at Chabot College, the following goals and milestones have been defined:

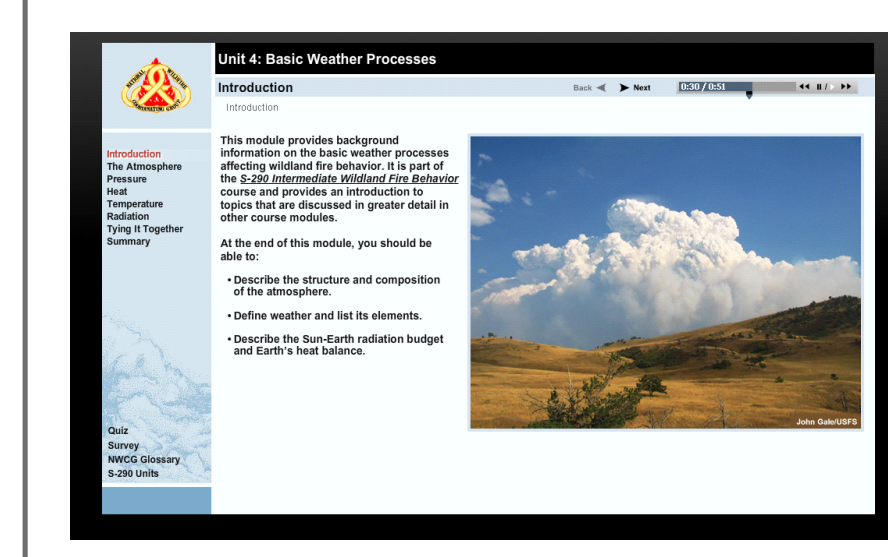
1. Successfully complete the first trial-run of the course, which will end on May 29, 2014.
2. Invite interested faculty and administrators to attend one or more class sessions in May, 2014 for the purpose of raising college-wide awareness of the *AMS Climate Studies Diversity Project*, and of the initial offering of this course with its cutting-edge technological learning resources imbedded. Invite faculty to express their impressions of the class environment and pedagogical approach such that valuable feedback can be used in the next stages of course development.
3. Survey the students who participated in the course during Spring 2014 and analyze their feedback toward improving the structure and delivery of the *AMS Climate Studies* course content in our college's environment. We seek to build a campus-wide enthusiasm for permanent establishment of the course in our curriculum.
4. Develop a new curriculum proposal to create a new course based on our experience of the first semester prototype. We foresee the new proposed course to be "housed" in our newly established *Environmental Studies* program that would broaden the exposure of the topic and methodology of *AMS Climate Studies* to the campus community and attract students with diverse academic and professional goals across many campus programs. The new course proposal will be designed to be cross-disciplinary in scope and attractive to faculty in disciplines beyond Geography who may have interest in teaching future offerings.
5. Maintain communication with AMS staff who lead in the implementation and growth of *AMS Climate Studies* among an increasing number of college and universities. Dialog with instructors at other institutions about their experiences with implementation and response to the course.



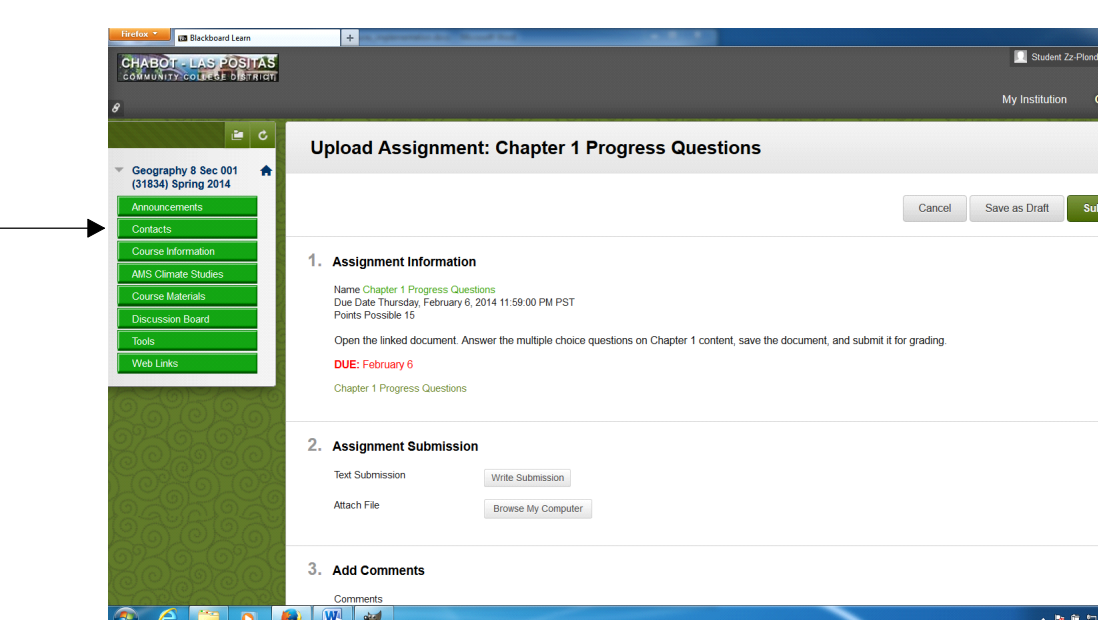
a large collection of learning modules; for example:



Basic Weather Processes



COMET: Cooperative Program for Operational Meteorology, Education and Training, established by the University Center for Atmospheric Research (NCAR) and the National Weather Service (NWS), giving students access to interactive learning modules on mesoscale meteorology.



Geocoded addresses of students in GEOG 8

