University of Utah
Undergraduate Certificate in Climate Change

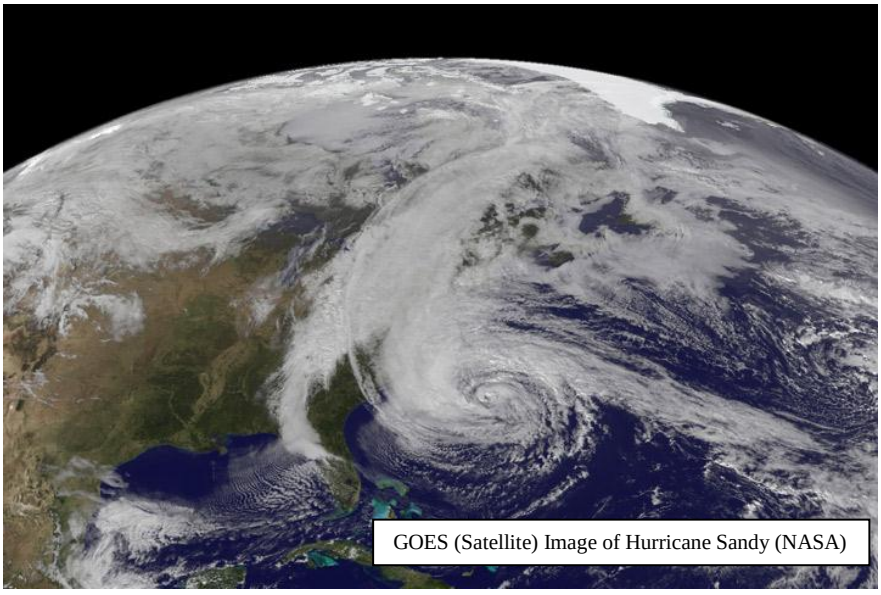
Human alteration of Earth's climate is an accepted scientific fact (Anderegg et al., 2010; IPCC, 2007; Oreskes, 2004). As a result of the politicization of the issue and poor communication by the scientific community, the public and private sectors have gained limited knowledge of how the climate system operates, the science of climate change research, and societal impacts of these changes. As the impacts of climate change become more severe over the coming years and decades, companies, government agencies, and non-governmental organizations will be required to adapt and respond to climate change. Scientifically-based, up-to-date knowledge is essential to formulating adaptation and response strategies. A certificate in climate change is marketable evidence of this essential knowledge.

This program will provide you with cutting edge knowledge about climate, climate change, impacts and relevance. By earning this certificate, you will:

- Understand the fundamentals of climate systems.
- Understand the fundamentals and scientific background of climate change.
- Understand the science of global warming.
- Learn about mitigation and adaptation strategies for dealing with climate change.
- Learn how climate change permeates nearly every aspect of our lives.

This certificate would be valuable to a wide range of career options including but not limited to:

- land managers, governmental employees, environmental and social equity advocates, and environmental consultants;
- local, state, and federal government administrators;
- natural and geological science researchers, scientists, planners, and policy-makers; as well as individuals looking to be better global citizens by understanding the science behind climate change.



GOES (Satellite) Image of Hurricane Sandy (NASA)

Name	UNID

CURRICULUM:

Category	Course	Title	Credit Hours
Required	ATMOS 5400 *or* GEOG 5205	The Climate System / Climate Change Foundations	3
	GEOG 5210	Global Climate Change	3
	GEOG 5215	Climate Change Impacts, Adaptation & Mitigation	3
	Sub-Total		**9**
3 Elective Courses	ATMOS 3100	Atmospheric Chemistry & Air Pollution	3
	ATMOS 3200/GEOG 3280	Mountain Weather and Climate	3
	BIOL 3440	Global Change Ecology	3
	BIOL 3460	Global Environmental Issues	3
	BIOL 5440	Urban Ecology	3
	BIOL 5490	Ecosystem Ecology	3
	COMM 5365	Communicating Climate Change	3
	ENVST 3365	Environmental Justice	3
	GEO 3300	Water Planet	3
	GEO 5675	Paleoclimate Reconstruction	3
	GEOG 5460	Popular Literature on Global Change	4
	GEOG 5410	Paleoclimatology	3
	GEOG 5270	Biogeography: Global Patterns of Life	3
	GEOG 5090	Health Geography in the Age of Global Pandemics	3
	GEOG 5275	Vegetation and Climate Change	3
	Sub-Total (minimum)		**9**
	Certificate Total	**18-19 credits**	

Recommended Program Schedule

The core courses are offered so that the sequence can be completed in 3 semesters (fall, spring, fall sequence). Electives may be taken throughout the sequence, however we advise that they be taken after the initial core course has been completed.

Semester 1	Course	Course Title
Fall (first core course)	GEOG 5205 *or* ATMOS 5400	Regional and Global Climates / The Climate System
Semester 2		
Spring (second core course + 1 elective)	GEOG 5210	Global Climate Change
	XXXX	Elective 1
Semester 3		
Fall (third core course + 2 electives)	GEOG 5215	Climate Change Impacts, Adaptation & Mitigation
	XXXX	Elective 2
	XXXX	Elective 3

Notes