

Climate Change Science and Policy Specialization

A long-term change in the earth's climate, especially a change due to an increase in the average atmospheric temperature.

Climate change research areas include:

- global water cycle including causes and consequences of sea level rise
- sustainability of water resources
- global energy economy, including conventional and alternative energy sources, technology, and policy
- rapid climate change and effects on managed and natural ecosystems, including biodiversity and agroecosystems.

Specialization requirements:

1. Work with an ESGP advisor from the Climate Change Science faculty list
2. Complete specialization course requirements
3. Conduct research project in Climate Change Science topic

Course requirements:

Choose at least 3 (MS) or 6 (Ph. D.) credits from the following:

AEDECON 4320/ INTSTDS 4320 Energy, the Environment, and the Economy **U 3**

ATMOSSC 5901 Climate System Modeling: Basics and Applications **G 3**

ATMOSSC 5950 Atmospheric Thermodynamics **G 3**

EARTHSC 5627 Global Biogeochemical Cycles **G 3**

EARTHSC 6750 Paleoclimatology **G 4**

EARTHSC 5203/ PUBHLTH 5203 Geo-environment and Human Health **G 3**

EARTHSC 5663 Global Change and Sustainability in the Earth System **G 4**

EARTHSC 5650 Glaciology **G 4**

ENR 5600 Sustainable Agriculture and Food Systems **G 3**

GEOG 8902 Applied Climatology **G 3**

GEOG 5802 Globalization and Environment **G 3**

PUBAFRS 7500 Energy Policy and the Environment **G 3**

PUBAFRS 7504 Science and Technology Policy **G 3**

PUBHEHS 5320 Climate Change and Human Health **G 3**

Biological Sciences in Climate Change:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

EEOB 5470 Community and Ecosystem Ecology **G 3**

Physical Sciences in Climate Change:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

GEOG 5900 Climatology **G 3**

CHEM 6550 Atmospheric Chemistry **G 3**

ENR 8710 Soils and Climate Change **G 2**

Social Sciences and Policy Important in Climate Change:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

AEDECON 5330 Benefit-Cost Analysis **G 3**

ENR 7400 Communicating Environmental Risk **G 2**

ENR 7380 Climate and Society **G 3**

Seminar:

Three (3) credits:

ESGP 7899 – Current Issues in Environmental Science **G 1**

Two (2) credits Climate Change special topic

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Climate Change Faculty

Rattan Lal SENR

Mark Moritz Arts and Sci

Kelly Wrighton Arts and Sci

Gil Bohrer Engineering

Berry Lyons Arts and Sci

Jiyoung Lee Public Health

Joel Barker Arts and Sci

Dan Herms CFAES

Virginia Rich Arts and Sci

Andy May Engineering

Casey Hoy CFAES

Heather Allen Arts and Sci

Mazeika Sullivan SENR