Department of Atmospheric & Environmental Sciences

Contact me at:

Ross Lazear rlazear@albany.edu

Web: http://albany.edu/daes/



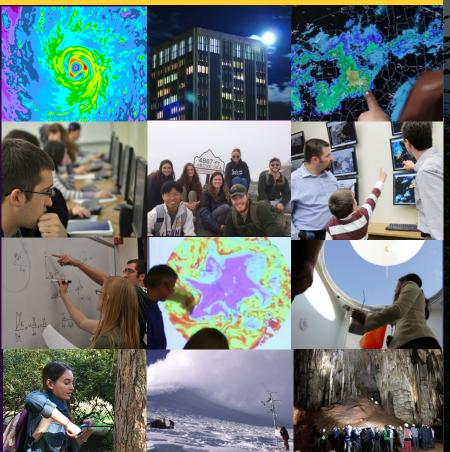


B.S. in Atmospheric Science (meteorology and more)

B.S. in Environmental Science

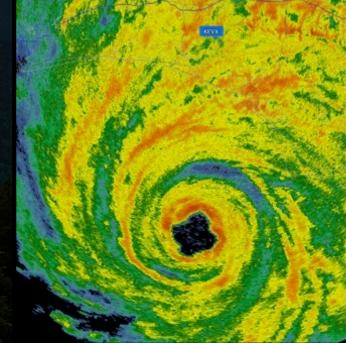
B.S. in Climate Science (coming soon)

B.A. in Environmental Studies (coming soon)

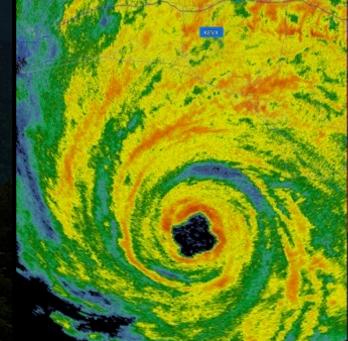






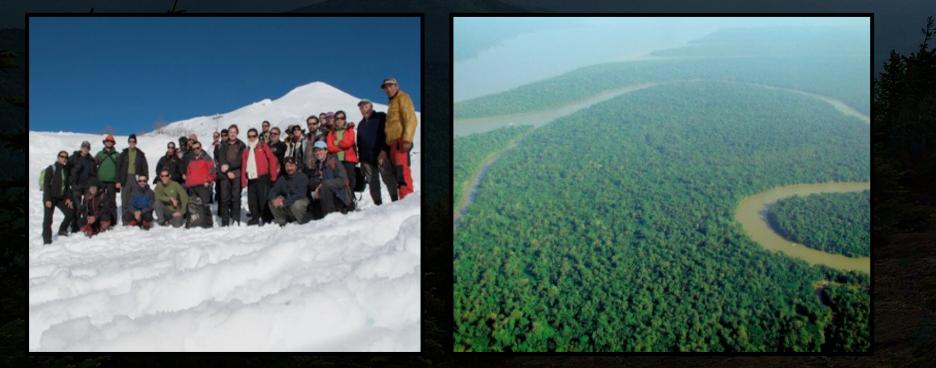












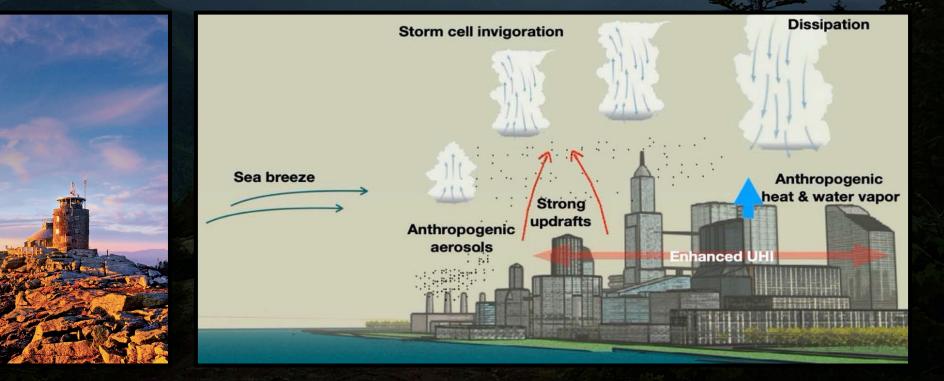


World-class teaching and research in: Atmospheric chemistry, air quality, and coastal–urban environments

World-class teaching and research in: Atmospheric chemistry, air quality, and coastal–urban environments

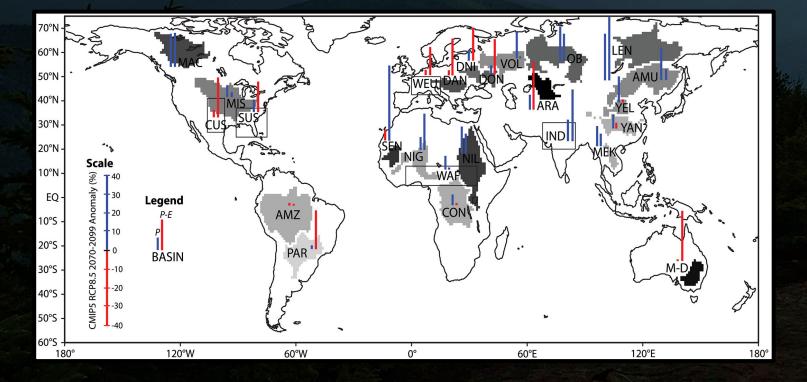


World-class teaching and research in: Atmospheric chemistry, air quality, and coastal–urban environments

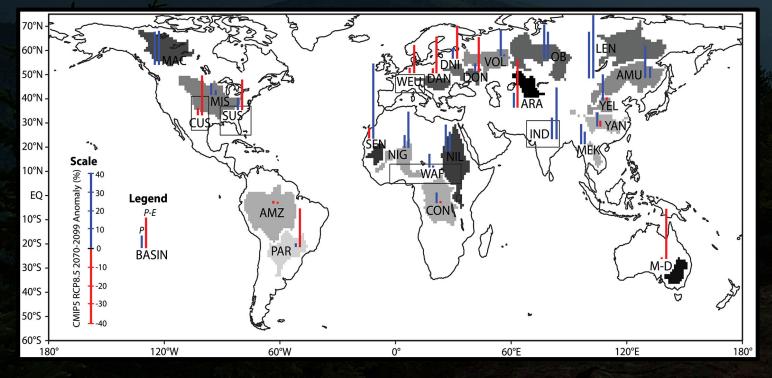


World-class teaching and research in: Boundary layer meteorology, and air-land-sea interactions

World-class teaching and research in: Boundary layer meteorology, and air-land-sea interactions



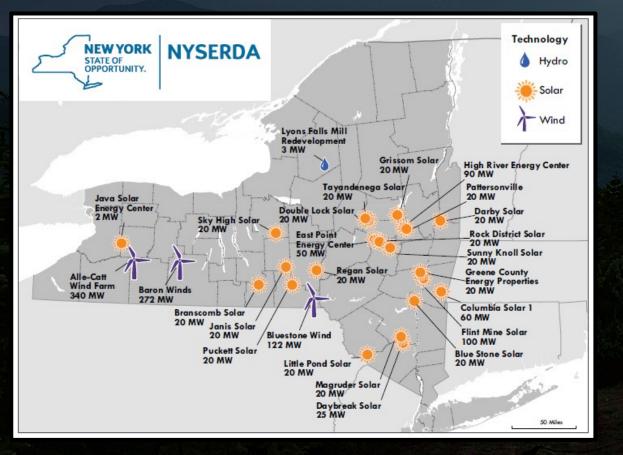
World-class teaching and research in: Boundary layer meteorology, and air-land-sea interactions



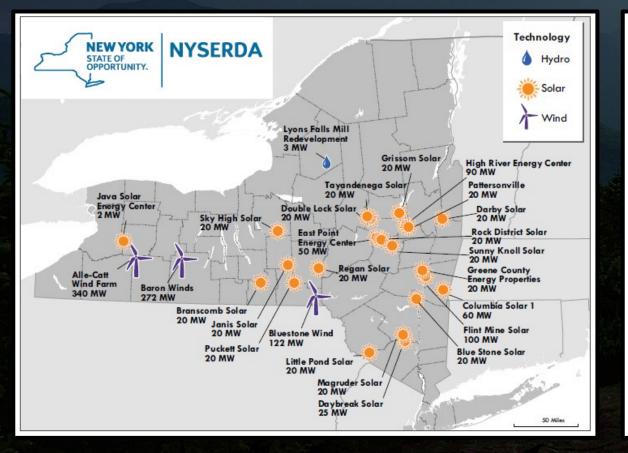


World-class teaching and research in: Renewable energy

World-class teaching and research in: Renewable energy



World-class teaching and research in: Renewable energy



2020 Outages in the U.S.: Duration and Number of Events













B.S. in Atmospheric Science

Broad foundation in four fundamental areas:

- Synoptic
 - Observations and weather forecasting
- Dynamic
 - Theory and computer modeling
- Physical
 - Clouds and atmospheric chemistry
- Climate
 - Land-ocean-atmosphere processes
- Minors: Broadcast Meteorology/Sustainability/Math

Also available:

- Emergency Preparedness, Homeland Security, and Cybersecurity Minor (CEHC)
- Masters in Secondary Education (5-year program)



B.S. in Environmental Science

Core environmental fundamentals + four specializations:

- Climate Change: long-term variability and change → Climate Science B.S.
- **Ecosystems**: ecology, biodiversity, sustainability
- **Geography:** land-use planning, resource management, GIS
- Sustainability Science and Policy: renewable energy, air quality

Also available:

- Sustainability Minor & Emergency Preparedness, Homeland Security, and Cybersecurity Minor
- Geographic information systems (GIS) certificate



Hands-on research, internships and student involvement



Atmospheric Science B.S.

3

<u>Semester I</u>

MAT 112: Calculus I	4
PHY 140, 145: Physics I (w/ lab)	4
CHM 120: Chemistry I	4
Elective/University Gen. Ed. Requirement	*

Semester 3

MAT 214: Calculus III	4
ATM 209: Weather Workshop	1
ATM 210/Z: Atmospheric Structure,	3
Thermodynamics,	
and Circulation	
Elective/Gen-ed	*

Semester 5

ATM 316: Dynamic Meteorology I	
ATM 320: Atmos. Thermodynamics	
ATM Elective	
Elective/Gen-ed / Minor	
Elective/Minor	

<u>Semester 7</u>

ATM Elective
ATM Elective/Gen-ed/Internship
Elective/Minor/Research
Elective/Minor
Elective/Minor

<u>Semester 2</u>	
IAT 113: Calculus II	4
HY 150: Physics II	3
lective/Gen-ed	*
lective/Gen-ed	*
Semester 4	
AT 311: Differential Equations	3
TM 211: Weather Analysis and	4
Forecasting	
ATM 315: Env. Stats/Comp.	4
lective/Gen-ed	*
lective/Gen-ed	*
Semester 6	
TM 317: Dynamic Meteorology II	3
TM 321Y: Physical Meteorology	3
TM 350: Meteorological Data Analysis	2
and Computing	
ATM Elective	*
lective/Minor	*
Somector 8	

<u>Semester 8</u>

ATM 419: Numerical Weather Pred.	3
ATM Elective/Gen-ed/Internship	*
Elective/Minor/Research	*
Elective/Minor	*
Elective/Minor	*

Environmental Science B.S.

Students cho	ose from four areas of specialization: Geography Su	ustainability Science & F	Policy Ecosystems	Climate Change
Sample four-ye	ar plan for an ENV major.	required class	ses listed in bold (credits	s in parentheses)
<u>Sem</u> MAT 112:	<u>ester </u> Calculus I (4)	ENV 105&106:	<u>Semester 2</u> Intro. Environmental Sci	ience & Lab (4)
CHM 120:	General Chemistry I (3)	CHM 121:	General Chemistry II (3)	
CHM 124:	General Chemistry Lab I (1)	CHM 125:	General Chemistry Lab I	I (1)
BIO 130:	General Biology: Molecular/Cell (3) Sity Gen. Ed. Requirement	BIO 131: Elective/Gen-ed	General Biology: Ecolog	y/Evolution (3)
•	ester 3		Semester 4	
PHY 140: Physic	s I (3)	BIO 202:	Intro. Biology lab II (1)	
ENV 221: Under	standing the Earth (3)	ENV 315:	Environmental Stats. &	Computation (4)
BIO 201: ATM 210: Elective/Gen-ed	Intro. Biology lab I (1) Atmospheric Structure/Circulation (3)	Specialization re Elective/Gen-ed Elective/Gen-ed	quirement	
	<u>Semester 5</u>		<u>Semester 6</u>	. (2)
ENV 302:Ocean BIO 330:Princi	Science (3) Soles of Ecology & Evolution (3) Specializatior		ological and Envi. Measur quirement	ement (3)

requirement

Elective/Gen-ed Elective/Gen-ed

<u>Semester 7</u>

Specialization requirement Specialization elective Specialization elective Elective / Internship / Research ENV 327: Meteorological and Envi. Measureme Specialization requirement Specialization requirement Elective/Gen-ed Elective/Gen-ed

<u>Semester 8</u>

ENV 490: Major Topics in Environmental Science (3) Specialization elective Specialization elective Elective / Internship / Research

Atmospheric Science Honors Program

• Apply junior year -Email DAES UG director, Justin Minder -Two letters of recommendation

•Requirements

-Six additional credits of ATM electives (300- or higher) -Six credits of research (ATM 499):

Research

-Work with one or more faculty on a twosemester research project-Thesis, and present to department

•Maintain 3.25 cumulative GPA, 3.50 major GPA

Environmental Science Honors Program

•Apply junior year -Email DAES UG director, Justin Minde -Two letters of recommendation

• Requirements -MAT 113 (Calculus II) -Additional specialization elective -Six credits of research (ENV 498):

• Research

-Work with one or more faculty on a twosemester research project-Thesis, and present to department

• Maintain 3.25 cumulative GPA, 3.50 major GPA









Questions?



DAES Director of Student Engagement and Recruitment: Ross Lazear – <u>rlazear@albany.edu</u> DAES Undergraduate Program Director: Justin Minder – <u>jminder@albany.edu</u>

Where some of our recent graduates are now:

- Graduate school
- National Weather Service
- United States Geological Survey
- US & NY Environmental Protection
- Renewable energy companies
- Local and national media
- New York State Mesonet
- Environmental Consulting
- Emergency Preparedness
- Risk assessment in Insurance / Financial sectors



Shade Tree Meteorology LLC Weather Information-Tailored to Your Needs



Department of Education





Environmental Protection

Science for a changing world



ATMOSPHERIC AND ENVIRONMENTAL SCIENCES

Demand for atmospheric and environmental scientists in a variety of fields



Environmental Science B.S. specializations

Geography (22 credits):		
<u>Required courses (10 credits)</u>		
GOG/USP 220:	Introductory Urban Geography	
GOG 290:	Introduction to Cartography	
GOG 496/USP 45	6: Geographic Information Systems (GIS)	
<u>Sam</u>	ple Electives (choose 12 credits)	
GOG 330: Principles of	Environmental Management	
GOG 344: World Popu	lation	
GOG 354: Environmen	t & Development	
GOG 375: Methods of Urban Analysis		
GOG 414: Computer Mapping		
GOG 430: Environmen	tal Planning	
GOG 460: People, Place, and Power		
GOG 484/5: Remote S	ensing I/II	
ENV 250: Environmental Sustainability		
ENV 404: The Adirondack Environment		
ATM 301: Surface Hydrology and Hydrometeorology		
ATM 405: Water and 0	Climate Change	
Ecosystems (22 credits)		
Required (10 credits)		

BIO 212: Introductory Genetics BIO 327: Experimental Ecology BIO 401: Ecology

Sample Electives (choose 12 credits) ANT 418: Culture, Environment, and Health ANT 419: Human Evolutionary and Environmental Physiology ATM 301: Surface Hydrology and Hydrometeorology BIO 329: Genetics of Human Disease BIO 402: Evolution ENV 250: Environmental Sustainability ENV 404: The Adirondack Environment GOG 407: Biogeography GOG 424: Landscape Ecology GOG 433: Urban Ecology GOG 496: Geographic Information Systems HSPH 321: Global Environmental Issues and Their Effect on Human Health Sustainability Science and Policy (21 credits): <u>Required courses (9 credits)</u>

ATM 304: Air Quality **ENV 250:** Environmental Sustainability **RPOS 399: Topics in Political Science and/or Public Policy** Sample Electives (choose 12 credits) ANT 418: Culture, Environment, and Health ATM 405: Water and Climate Change ATM 413: Weather, Climate, and Societal Impacts **BIO 311: World Food Crisis** ENV 404: The Adirondack Environment GOG 220: Introductory Urban Geography GOG 344: World Population GOG 430: Environmental Planning **RPAD 366: International Environmental Policy** HSPH 321: Global Environmental Issues and Their Effect on Human Health HSPH 323: Environmental Laboratory Perspectives in Public Health HSPH 332: Epidemiology and Biostatistics

Climate Change (21 credits):

<u>Required (12 credits)</u> ATM 306: Climate Variability and Change ATM 405: Water and Climate Change ENV 415: Climate Laboratory ENV 450: Paleoclimatology

<u>Sample Electives (choose 9 credits)</u>

ATM 301: Hydrology and Hydrometeorology ATM 304: Air Quality ATM 307: Introduction to Atmospheric Chemistry ATM 335: Meteorological Remote Sensing ATM 413: Weather, Climate Change, and Societal Impacts ATM 414: Air Pollution Meteorology ENV 404: The Adirondack Environment RPAD 366: International Environmental Policy RPOS 266: International Political Economic Science HSPH 321: Global Environmental Issues and Their Effect on Hu