Undergraduate Studies in Atmospheric and Oceanic Science at the University of Maryland

Tim Canty
Associate Director of Undergraduate & Professional Masters programs
Program in AOSC officially began in August 2011.

In our 3rd year:

51 majors (12 double majors w/ Math, Geol, Eng., etc)

12 minors (Physics, Journalism, Chemistry,...)

Not the smallest program in college of CMNS!!!
(geology has 43 students)

Many “non-traditional” students with varied backgrounds
(pastry chef, company owner, car sales, former active military)
Why do students enroll?

“Want to understand how climate is changing”

“Want to work for National Weather Service”

“Want to chase tornadoes…”

“...I’m the one who runs to the window when there’s lightning…”

“Want to work at a national lab”

“...always been interested in how to predict weather.”

“..something I’ve always been interested in”

“I find it fascinating and want to know more!”
What do we ask of them?

Math: Calculus I, II, III, and Differential Equations*
Grad. School: Partial Differential Equations, Statistics

Physics: Dynamics, Waves, E+M, Modern Physics (3 semesters, L&L)*

Chemistry: General Chemistry (L&L)

Comp. Sci: 1 semester C, Java, or Matlab (AOSC 347), Fortran/Matlab/IDL for advanced students (AOSC652)

* advanced options available
What do we ask of them?

Atmospheric thermodynamics
Large scale atmospheric dynamics
Physical meteorology
Climate dynamics
Remote sensing
Atmospheric chemistry and climate
Air pollution
Synoptic Meteorology

+ required electives from AOSC, GEOL, GEOG, MATH, CS, BIO
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“... this is like a real science!”

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Senior Research Project
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Capstone of the AOSC major

Officially: Fall + Spring of final year... can begin anytime

Directed by research advisor – not required to be from AOSC
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We’re very grateful for the support CICS has provided our students!!
Senior Research Project

Currently 7 students enrolled

Project topics:

• Assessment of NCEP’s CFSR model by comparison to Ameriflux observations
• Role of nocturnal low level jet in MD air quality
• Connecting variations in solar flux to drought
• Using stable isotope data from coral as climate indicator
• Building, deploying, and analyzing cheap portable CO2 monitor
Senior Research Project

You’re invited!!!

Student prospectus defenses on December 12, 13

Final presentations:

AOSC Student Research Symposium
End of Spring 2014

• Building, deploying, and analyzing cheap portable CO2 monitor
Very active student chapter of AMS

President: Abby Ahlert
Vice President: Colleen Wilson
Treasurer: Daniel Smith
Secretary: Michael Francis
Academic Events Coordinator: Michael Natoli
Social Events Coordinator: Kate O'Brien
Webpage Manager: Grace Duke

Foster interest and involvement in issues related to weather and climate within AOSC and larger community
Supports undergraduates in AOSC
Organizes academic and social events

https://www.facebook.com/AMSUMD
Hike to Sugar Loaf Mountain 2013
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Currently developing an outreach program (w/ graduate students)

Working on a collaboration with the School of Journalism to provide weather forecasts for Capital News Service

Attending Spring AMS meeting in Atlanta
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Spring 2014:

AOSC graduation rate ↑ 600%

Building data visualization/ advanced forecasting lab

New group of seniors needing research guidance!!!

If you’re interested in working with AOSC students please contact: tcanty@atmos.umd.edu