

METEOROLOGY AND ATMOSPHERIC SCIENCE

Graduate Program Head	Paul Markowski
Program Code	METEO
Campus(es)	University Park (Ph.D., M.S.)
Degrees Conferred	Doctor of Philosophy (Ph.D.) Master of Science (M.S.) Dual-Title Ph.D. in Meteorology and Atmospheric Science and Astrobiology Dual-Title Ph.D. in Meteorology and Atmospheric Science and Climate Science Integrated B.S. in Meteorology and Atmospheric Science and M.S. in Meteorology and Atmospheric Science
The Graduate Faculty	View (https:// secure.gradsch.psu.edu/gpms/? searchType=fac&prog=METEO)

The graduate program embraces topics that span atmospheric processes from those of the planetary boundary layer to those of the upper atmosphere, that encompass phenomena from weather to climate with molecular to planetary dimensions, and that range from practical to theoretical significance. The program develops and integrates approaches based on observational, computational and analytical techniques, and seeks to advance both fundamental understanding and predictive skill.

The major interests of the faculty and graduate students include (1) mesoscale and synoptic-scale weather systems; (2) climate and earth system dynamics; (3) atmospheric physics including radiative transfer and cloud physics; (4) atmospheric chemistry, air quality and the earth's biogeochemical cycles; (5) atmospheric turbulence, boundary layers, land-atmosphere interactions, ocean-atmosphere interactions, and ocean-ice-atmosphere interactions; (6) geophysical fluid dynamics, (7) physical oceanography, (8) climate and weather risk, and (9) space weather. Methodological approaches include numerical modeling, data assimilation, atmospheric remote sensing, field observations, atmospheric data analysis, and laboratory studies.