

High School Preparation for a Meteorology Career: The Future of Meteorology - Bright, Exciting, and Different

Dr. Bruce Berryman & Dr. Jason Shafer
Lyndon State College

Everyone associates "meteorology" with "weather," usually monitoring major storms streaking across weather maps and forecasting the violent weather they produce. Fortunately, this has not changed! However, now in addition to studying weather, the discipline has broadened out to include monitoring, forecasting, and studying weather effects, weather applications, and weather impacts on society. In fact, more and more often "meteorology" is being called "atmospheric sciences" in recognition of this increased breadth of study. On the one hand this means that basic high school preparation for a weather-related career has not changed. On the other hand, this preparation can now also include other supporting courses.

High school study in mathematics (at least through pre-calculus) and physics, and an ability to use computers as an aid in studying those subjects, is still essential. After all, atmospheric motions are governed by physics, math is the language of physics, and computers are required to apply mathematical and physical laws to forecasting the storms and weather events we are all so interested in. Some meteorologists will spend their entire careers watching and forecasting storms, informing the public about tomorrow's weather, and enjoying every minute of it!

Now, in addition to that career, there is a broad range of careers open to atmospheric scientists. These include careers in space weather, emergency management, and the impacts of climate change on society, business, and agriculture. For those careers, in addition to the science skills needed to understand atmospheric behavior, non-science skills in applying your weather knowledge to political, social, and economic areas will be required. This includes the ability to interact effectively within multi-disciplinary teams solving environmental problems, with community and governmental leaders implementing those solutions, and with the general public as they demand more information on the impacts of weather on their daily activities. In these career areas, ability and interest in business, the social sciences, and human relations is also important.

The "bottom line": enjoy weather AND helping society.

PRESENTERS' BIOS

Dr. Berryman grew up in the farming and logging country of central Wisconsin and attended the University at Madison for his academic training (B.S., M.S., Ph.D. – Meteorology). He was at the Earth and Environmental Sciences Department at Wilkes University in PA for about nine years (seven as Chair) and has now been at the Atmospheric Sciences Department at Lyndon State for 27 years (13 as Chair). The department has recently upgraded its curriculum to put it in line with the trends he will talk about in his seminar and added the Institute of Applied Meteorology to the department to provide students with work experience before graduation. Most of Dr. Berryman's teaching and research has been in the areas of climate, climate change, human impact on climate (and vice versa), and air pollution. He and his wife have been married for 40 years, have two grown daughters, and live in a house tucked away in the deep woods in northeastern Vermont.

Ever since he was a boy, **Jay Shafer** has been drawn to the most changeable element of the natural world, weather. Whenever exciting weather (especially snowstorms) occurred in his hometown of Wanaque, New Jersey, Jay was glued to The Weather Channel or outside eagerly shoveling on snow days. This passion has led Jay to his current position as an Assistant Professor in Lyndon State College's Atmospheric Sciences Department. His teaching focuses on analysis and forecasting - teaching students how to analyze and forecast the weather, and effectively communicate this information to various users.

Jay's formal meteorological education started at Plymouth State College, where he earned a B.S. in Meteorology (2000), and soon found out there was far more to learn about the atmosphere. This led him to graduate school at the University of Utah, where he earned a M.S. (2002) and Ph.D. (2005) in Meteorology. In graduate school, Jay's research focused on Intermountain weather. His doctorate involved examining strong Intermountain cold fronts, developing a climatology of where and when they occur, and determining the large and small-scale controls that are important for their rapid intensification. He has published multiple papers on Intermountain weather.

Jay enjoys experiencing the cold confines of Vermont's Northeast Kingdom, where he continues to enjoy snow removal, and its outdoor recreational activities.