

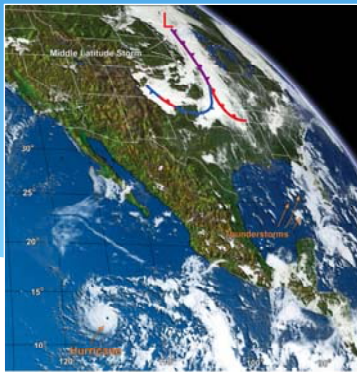
v i r g i n i a T e c h



Geography

How do I know I want to be a Meteorologist?

11 questions to ask yourself
Do I...



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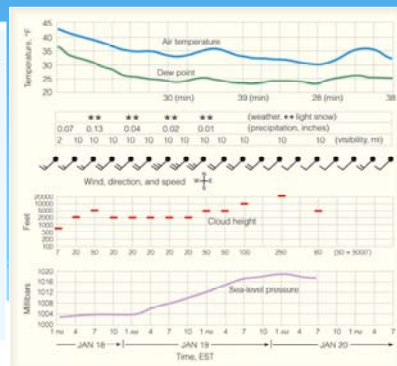
... feel excitement for weather events?



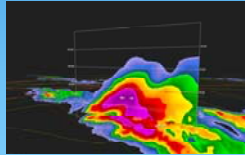
... enjoy creating and viewing maps and graphs?



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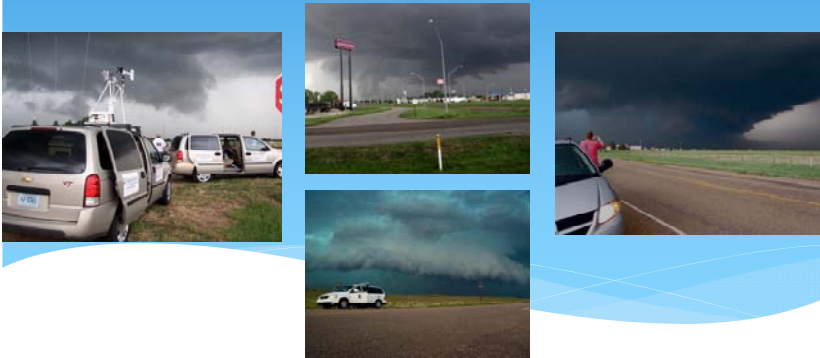
... like working with instruments and employing technology?



... appreciate assisting people and communities?

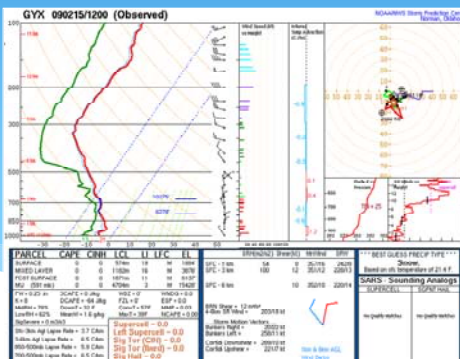
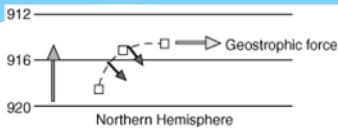
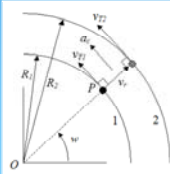


... wish I were able to experience and study storms in the field?

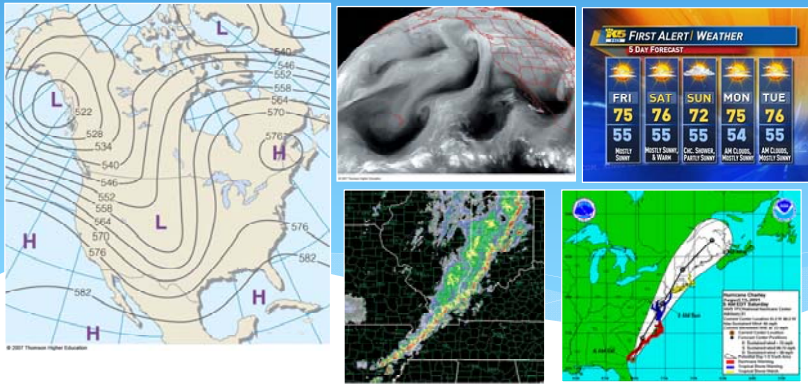


... enjoy math and physics?

$$\frac{\partial(\rho\omega)}{\partial t} + \frac{\partial(\rho\omega u_1)}{\partial x_1} = \frac{\partial}{\partial x_1} \left(\Gamma_\omega \frac{\partial \omega}{\partial x_1} \right) + P_\omega - Y_\omega + D_\omega$$



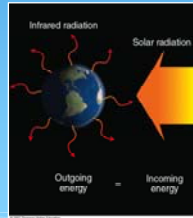
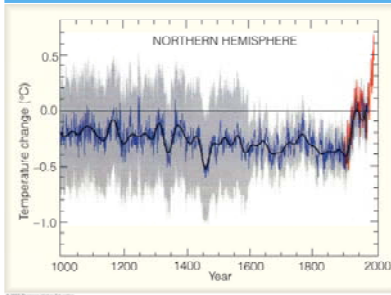
...aspire to predict the future?



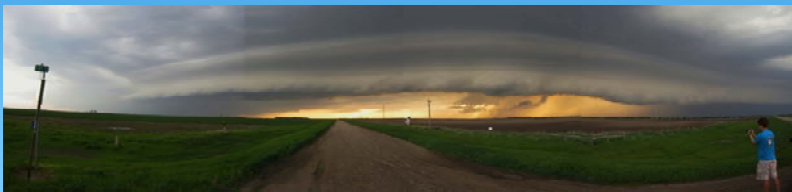
...want to solve human and natural problems?



... wonder about climate change?



... contemplate and appreciate the sights and sounds of our environment ?



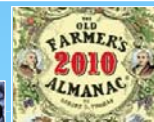
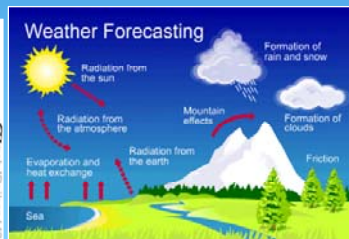
Your Virginia Tech Meteorology degree qualifies you for a position with the National Weather Service, and adds a significant focus on Geospatial Information Technology and its ability to unite data from both the natural and human environments.

Graduates of this degree program will be proficient in spatial analysis by making use of Geographic Information Science (GIS), and Remote Sensing as well as the specialized software used in forecasting and modeling weather events. This cutting edge niche in the field that will carry you to new and expanded employment opportunities. You will be able to predict severe weather (Meteorology) and assess its impacts on ground features (Geospatial Science) both human (e.g. building damage, road flooding, or loss of life) and natural (e.g. floodwaters, soil loss, or avalanche danger). This combination of skills will qualify you for employment dealing in loss prevention (e.g. the Federal Emergency Management Agency, the insurance industry, navigation and routing of ships) weather prediction (the National Weather Service, AccuWeather, meteorological consulting firms), and in geospatial analyst positions dealing with the physical environment (e.g. the Environmental Protection Agency, the Virginia Department of Environmental Quality, the Virginia Department Emergency Management, and environmental non-profits or NGOs).

...believe that I can outdo today's weather forecasters?!



"Tonight's weather forecast is confusing, followed tomorrow morning by downright bewildering."



Why study Meteorology?

Concern for the human relationship with the natural environment on many scales is growing. The foundation for much of this concern is variability and change in Earth's atmosphere and its interaction with land and ocean surfaces. We regularly see and feel the impacts of floods and droughts, heat waves and cold snaps, wildfires and mudslides, blizzards and hurricanes, and most dramatically the phenomena associated with thunderstorms – lightning, flash flooding, and tornadoes. The types of impacts on human lives and broader social systems is staggering: reduction in water supply or quality, threatened human health and safety, inadequate electrical power generation, reduced food production, interruption of critical services, decreased mobility. The impacts on natural systems can be just as dramatic: wildfires, mudslides, crop and vegetation infestation, reconfiguration of riparian environments, desertification. A key question in our concern for the human-environment relationship is whether Earth's atmosphere is changing and what might be the impacts of change.

Meteorologists study the physics, chemistry, and dynamics of the atmosphere to understand and predict atmospheric phenomena.

Therefore, meteorology provides the basis for understanding and mitigating negative atmospheric impacts on human and natural systems and answering difficult questions such as: When will the current drought end? Will pollution levels be unsafe tomorrow? Will the storm affect air and ground travel? Should I irrigate my crops? Will the river flood? How sustainable are certain societies given the potential constraints produced by the atmosphere? Have or will severe weather phenomena become more frequent or extreme? How will global vegetation and crop distributions shift in response to atmospheric change? How are humans impacting Earth's atmosphere from local to global scales?

... want to learn more?!

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Virginia Tech Meteorology