

Meteorology

geography.vt.edu

The **Meteorology** degree prepares students for careers in meteorology and weather forecasting, and adds a significant focus on geospatial information technology and its ability to unite data from both the natural and human environments.

Students will learn to predict severe weather and to assess its impacts on ground features (flooding, soil loss, avalanche danger), landscape features (geospatial science), and the human environment (building and road flooding and damage, loss of life).



Graduates will be prepared for careers that deal with loss prevention (e.g., Federal Emergency Management Agency) and weather prediction (e.g., the National Weather Service), and in geospatial analyst positions dealing with the physical environment (e.g., Environmental Protection Agency, Virginia Department of Environmental Quality, Virginia Department of Emergency Management, and environmental nonprofits).



Natural Resources Conservation

frec.vt.edu

The **Conservation and Recreation Management** option prepares students to manage natural environments, which provide enjoyment to people who visit these public places. Graduates pursue careers in government and nongovernment organizations as well as commercial recreation and green business.

The **Environmental Education** option offers a balance of natural sciences, social sciences, and the humanities to give students a well-rounded base of knowledge about the natural world. Graduates pursue careers in nature education, environmental interpretation, resource education, and communications, or they may pursue licensure for an elementary education career.



The **Natural Resources Science Education** option emphasizes natural sciences and hands-on field experience, and provides a technical natural resources background with a focus on education and interpretation.

Graduates pursue careers in natural resources science and management, and can pursue licensure for teaching earth science or agricultural education at the 6-12 grade levels in Virginia.

Wood Science and Forest Products

woodscience.vt.edu

The **Wood Science and Forest Products** major focuses on the use of natural, renewable resources to produce useful bioproducts, biomaterials, and bioenergy in a sustainable manner. Students can choose from four options:



In the **Wood Materials Science** option, study is on biomaterials and bioenergy. Students learn how renewable carbon materials can be used to produce high-strength nanocomposites, biobased drug delivery systems, and liquid biofuels from renewable materials.

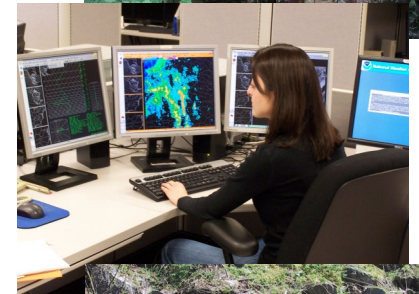
In the **Residential Wood Structures** option, study is on sustainable materials and innovation. Students learn how wood and other biobased materials are used in the design of structural products (homes and buildings), and how to apply technologies for building green, energy-efficient housing.

In the **Forest Products Business** option, students learn how to produce and market new, innovative wood products and develop businesses based on the use of green materials.

In the **Packaging Science** option, study is on packaging systems and design. Students learn to design systems for transporting the world's products and produce, ranging from food packaging to palletized systems.

College of Natural Resources and Environment

Experience Our Majors



EXPERIENCE SUSTAINABILITY

Environmental Resources Management

frec.vt.edu

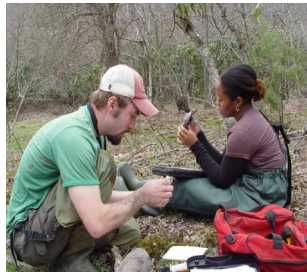
Undergraduate majors in **Environmental Resources Management** focus on using the latest research and technology to manage and conserve our forests and natural resources wisely for the benefit of society.



From managing protected areas and influencing economic policy, to forest soil productivity,

urbanization, and genomics, we seek to discover new knowledge and technology to address global challenges. Students may choose from two options:

In the **Environmental Resources Management** option, students study a wide variety of environmental issues, including forest resources, soils, water, environmental law, policy and planning, and environmental economics. Graduates pursue careers in public agencies, private industry, and firms that deal with forested wetland protection, endangered species, the urban-rural interface, and sustainability.



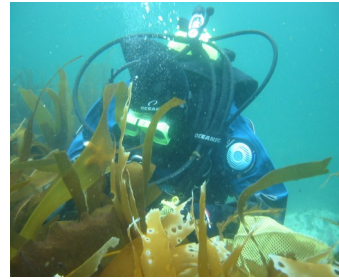
In the **Watershed Management** option students learn about water quality, stream and wetland ecology, and hydrology. Graduates pursue careers in hydrology or as water quality foresters

Fisheries and Wildlife Sciences

fishwild.vt.edu

The **Fisheries Science** major focuses on the ecology and management of aquatic animals and ecosystems. Wild fish, shellfish, endangered and threatened species, and aquaculture are areas of study within this major.

The **Marine Fisheries** option emphasizes the ecology and management of marine fishes. Marine ecology, methods for collecting data about marine populations, and marine fisheries management are included in the course of study for the degree.



The **Wildlife Science** major emphasizes research and management of terrestrial animals and ecosystems. Non-game and game animals, as well as threatened and endangered species, are included in the course of study for the degree.

Because the more challenging and rewarding jobs require a master's degree, the program emphasizes preparation for graduate study.



Forestry

frec.vt.edu

The **Forestry** major focuses on using the latest research and technology to manage and conserve our forests and natural resources wisely for the benefit of society. Forestry majors may choose from three options:



The **Forest Resources Management** option focuses on the regeneration, growth, protection,

management, and sustainability of forest ecosystems. Students learn to manage forested landscapes to provide society a renewable supply of forest products along with clean water, recreation opportunities, wildlife habitat, and environmental quality.

The **Forest Operations and Business** option is centered on harvesting and reforestation operations along with business management skills.

The **Urban Forestry** option prepares students for careers in planning and managing urban forests and landscape trees with a focus on the biological, social, and economic issues that influence urban forest ecosystems.



Geography

geography.vt.edu

The **Geography** major includes courses in human geography, physical geography, geospatial information technology, and world landscapes, including study abroad. Geography majors may choose from two options:

In the **Culture, Regions, and International Development** option, students study critical issues involving society, economy, and resources. Key themes are population and resources, impacts of technology, culture and gender, land use patterns, health and environment, the significance of the location of people and places, relationships between rural and urban areas, developed and developing countries, and globalization and international development.



In the **Geospatial and Environmental Analysis** option, students study ways in which geographic information is collected, stored, mapped, and integrated into database and decision-making systems. Key technologies incorporate computers in spatial analysis through Geographic Information Systems (GIS), the Global Positioning System (GPS), and remote sensing technology.

