

**Educational Product** 

Educators & Students

Grades 5-12

ET-2004-10-118-ARC

# **Educational Topic**

# Meteorologist

#### **Related Job Titles:**

Weather Officer, Weather Forecaster, Meteorology Researcher, Meteorological Modeling Specialist, Atmospheric Scientist, Atmospheric Chemist

### Job Description:

A Meteorologist collects weather data, surveys weather indicators and makes predictions regarding developing weather patterns. This individual advises air traffic control and other agencies about weather hazards such as thunderstorms, developing storm cells and fronts, turbulence, tornadoes, icing, flooding, flash flooding and other such weather-related phenomena. They issue to various governmental agencies and the public weather advisories for vehicles, aircraft and watercraft. They use sophisticated computer software programs that assist them in modeling the potential flow and intensity of storm cells and fronts. They are also available to participate in weather-related research projects that seek to provide more accurate forecasting methods over a longer time period.

#### **Interests / Abilities:**

- Do you read and understand charts with special symbols easily?
- Can you perform calculations quickly with great accuracy?
- Do enjoy getting out a road map and figuring out what route to drive when preparing for vacation? Can you see more than one route to a destination?
- Are you curious about your surroundings and what processes shape them?
- Are you patient when it comes to completing forms requiring detailed information?

## **Suggested School Subjects / Courses:**

- Math (algebra, trigonometry, calculus)
- Physics
- Méteorology
- Statistics
- · Computer modeling
- Geography

# **Education / Training Needed:**

The minimum education required for this position is a bachelor's degree in Meteorology or Atmospheric Sciences from an accredited college or university. Experience in computer modeling techniques is extremely helpful for this job. To do research, at minimum a master's degree is required and a Ph.D. is highly desired for this position.

#### Areas of expertise:

- Aeronautical: study weather phenomena and its effects on flight (lightning, icing, etc.)
- Synoptic: analyze data from satellites, radar, and surface-observing instruments
- Weather forecasters: prepare forecasts for public and specialized reports for aviation, marine, and agriculture
- Research: study atmospheric physics, refine theories, and improve mathematical/computer models of atmospheric processes, and events
- Climatologists: collect, organize, archive, interpret, and publish climatological data.

#### **Additional Resources:**

- American Meteorological Society http://www.ametsoc.org/AMS
- Astrobiology Summer Academy http://academy.arc.nasa.gov/
- Education Pays Calculator http://www.educationpays.org/calc.asp
- Gradate Student Researchers Program http://spacelink.nasa.gov/Instructional.Materials/NASA.Educa tional.Products/Graduate.Student.Researchers.Program.Brochur e/.index.htmlt
- MATHCOUNTS Competition http://mathcounts.org/
- Minority University Research and Education Programs http://mured.nasaprs.com/
- NASA Cooperative Education Program for college students http://spacelink.nasa.gov/Educational.Services/ NASA.Education.Programs/Student.Support/NASA.Cooperative .Education.Program/.index.html
- NASA Jobs http://nasajobs.nasa.gov/
- NASA SHARP Internship Program for highschoolers http://www.mtsibase.com/sharp/
- NASA Student Employment http://nasajobs.nasa.gov/stud\_opps/employment/index.htm
- NASA Student Involvement Program student contests http://www.nsip.net/index.cfm
- National Oceanic and Atmospheric Administration http://www.noaa.gov

# What can I do right now?

- Set up your own weather station and provide your local radio station with a daily report.
- Get some work experience at the local airport, television, or radio station as a weather data compiler or weather statistics researcher.
- Interview pilots about how different weather phenomena affect their aircraft's flight characteristics.
- Call the Automatic Terminal Information Service (ATIS) phone number and listen to the local airport's weather report.
- Learn to read and interpret the various types of weather maps, charts, and data available through the Internet.
- · Learn how to use database software.
- National Severe Storms Laboratory http://www.nssl.noaa.gov
- National Weather Service http://www.nws.noaa.gov
- Schools with programs in meteorology http://www.nssl.noaa.gov/edu/schools.html
- Student's Guide to Astrobiology http://www.astrobiology.com/student.html
- Tech-Interns.com http://www.tech-interns.com/

- Please take a moment to evaluate this product at:
- http://ehb2.gsfc.nasa.gov/edcats/educational\_topic
- Your evaluation and suggestions are vital to continually improving NASA educational materials.
- Thank you.



http://quest.nasa.gov/people/index.html

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