

# Atmospheric Scientists, Including Meteorologists

SOC: 19-2021 • Career Profile Report

## ■ Key Facts

\$97,450

Median Salary

9,400

Employment

+1.0%

Growth Rate

## ■ Requirements & Salary Range

Education: Bachelor's degree

## ■ Automation Risk Assessment

**Low Risk** - 8.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

## ■ Work-Life Balance

**7.5/10** - Good work-life balance

## ■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	6.2/10	Investigative	9.4/10
Artistic	5.6/10	Social	6.4/10
Enterprising	4.8/10	Conventional	6.4/10

## ■ Top Skills Required

Analytical skills, Communication skills, Critical-thinking skills, Math skills

### ✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

### ■ Challenges

- Burnout Risk
- Rapid Technological Change

## ■ What They Do

Atmospheric Scientists, including Meteorologists, are scientists who study **weather, climate, and atmospheric processes** to understand how the Earth's atmosphere behaves and how it affects people, ecosystems, and infrastructure. Their work supports weather forecasting, climate research, aviation safety, disaster preparedness, and environmental protection by translating complex atmospheric data into actionable insights.

This career is well suited for individuals who enjoy science, data analysis, and applying research to real-world problems that impact public safety and daily life.

## What Do Atmospheric Scientists and Meteorologists Do?

Atmospheric scientists analyze atmospheric conditions and use models, observations, and technology to explain and predict weather and climate behavior.

Common responsibilities include:

- Collecting and analyzing weather and climate data
- Developing and using computer models to forecast atmospheric conditions
- Studying storms, temperature patterns, air pressure, and precipitation
- Issuing weather forecasts, advisories, or warnings
- Communicating findings to the public, government, or industry
- Conducting climate and atmospheric research
- Preparing technical reports and visualizations

## Areas of Specialization

Atmospheric science includes several specialized paths:

- Meteorologists: Forecast daily weather and severe events.
- Climatologists: Study long-term climate patterns and trends.
- Atmospheric Researchers: Investigate physical and chemical processes in the atmosphere.
- Operational Weather Forecasters: Support aviation, shipping, or emergency management.
- Environmental and Air Quality Scientists: Analyze pollution and atmospheric chemistry.
- Broadcast Meteorologists (related role): Communicate weather information to the public.

## Skills and Abilities Needed

Atmospheric scientists combine scientific reasoning with technical and communication skills.

### ***Core Professional Skills***

### ***Personal Qualities That Matter***

## Education and Career Pathway

Becoming an atmospheric scientist typically requires advanced scientific education:

- Bachelor's Degree: In atmospheric science, meteorology, physics, or a related field
- Advanced Mathematics and Physics Training: Essential for modeling and analysis
- Master's or Doctoral Degree: Often required for research or specialized roles
- Internships or Field Experience: Hands-on forecasting or research training
- Continuing Education: Staying current with models, data systems, and climate research

## Where Do Atmospheric Scientists Work?

Atmospheric scientists are employed across public, private, and academic sectors:

- Government Weather and Environmental Agencies
- Research Institutions and Universities
- Aviation, Shipping, and Transportation Organizations
- Energy, Agriculture, and Insurance Companies
- Environmental and Climate Consulting Firms
- Media and Broadcasting Organizations

Work environments range from offices and labs to field sites and broadcast studios.

## How Much Do Atmospheric Scientists Earn?

Earnings vary by education level, specialization, and employer:

- Entry-Level Atmospheric Scientists: Typically earn professional science salaries
- Experienced Researchers or Forecasters: Often earn higher pay with expertise
- Senior Scientists or Specialized Roles: May earn more in leadership or consulting positions

Compensation often includes benefits in government and research settings.

## Is This Career Difficult?

Atmospheric science is intellectually demanding and mathematically intensive. Professionals must interpret complex data, manage uncertainty, and in some roles make time-sensitive decisions that affect safety and operations. The challenge lies in mastering advanced science while clearly communicating results to diverse audiences.

## Who Should Consider Becoming an Atmospheric Scientist or Meteorologist?

This career may be a strong fit if you:

- Enjoy physics, math, and environmental science
- Are interested in weather, climate, or natural systems
- Like analyzing data and solving complex problems
- Want work that impacts public safety and planning
- Are comfortable with continual learning and research

## How to Prepare Early

- Take advanced courses in math, physics, and earth science
- Learn basic coding, data analysis, and statistics
- Follow weather patterns and forecasting tools
- Gain experience through internships, research, or weather labs
- Research accredited atmospheric science or meteorology programs

**Atmospheric scientists help society understand and adapt to the forces of weather and climate, turning atmospheric data into knowledge that protects lives, supports industries, and deepens our understanding of the planet.**