



ISU Meteorology Careers & Classes



By: Stefan Sundin



Primary Fields of Meteorology



Public Sector

Military, federal, & state
government



Private Sector

Media, commercial companies,
etc.



Academia

Post graduate research,
professorships

Public Sector Meteorology

- The provision of weather and climate services by the government
 - Operational/forecasts & warnings, army/air force, data for research, emergency management, etc.
 - National Weather Service: [NWS](#)
 - National Oceanic and Atmospheric Administration: [NOAA](#)
 - World Meteorological Organization: [WMO](#)
 - European Centre for Medium-Range Weather Forecasting: [ECMWF](#)
- Important skills to have:
 1. Good with communication, computer skills, critical-thinking, adaptability, etc.
 2. Have a good understanding of social science (help decision-makers and vulnerable communities understand the needs for weather & climate information)

Private Sector Meteorology

- The use of meteorological expertise in a variety of industries and organizations to provide services such as weather forecasting, consulting, or research
 - Broadcast, finance, insurance, aviation, agriculture, emergency management, etc.
- Important skills to have:
 1. Oral and Written Communication
 2. Networking (to get a position in the first place)
 1. Many private companies come to annual AMS meeting!
- Click [HERE](#) to find out more about private sector disciplines, suggested types of classes to take, and preferred skills (by AMS)

Academia Meteorology

- The study of the atmosphere and weather, and how to apply that knowledge to solve problems (usually with an educational emphasis)
 - Teacher or university professor, research, mentor/advisor, etc.
 - Graduate school at ISU info [HERE!](#)
- Important skills/requirements:
 1. Proficient in mathematics and physics
 2. Graduate-level degree (usually M.S. at minimum)
 3. Written & Oral Communication

Sub-discipline minors to pair with Meteorology B.S.

- Agronomy
 - 18 credits (~5 additional classes)
 - Agron 4500: Issues in Sustainable Agriculture – Soc Sci
- Chemistry
 - 20-23 credits (~7 additional classes)
 - Chem 1770 and 1780 required (5 credits)
- Geology
 - 15 credits (~5 additional classes)
- Physics
 - 20 credits (~5-7 additional classes)

Useful skillset minors with Meteorology B.S.

- Computer Science – **Private/Public Sector, Research**
 - 16 credits (~5-6 additional classes)
- Geographic Information Science (GIS) - **Private/Public Sector**
 - 15 credits (~5 additional classes)
 - Meteor 4680 – Only if you plan to minor in GIS
- Journalism & Mass Communication – **Private/Public Sector**
 - 15 credits (~5 additional classes)
 - JLMC 2400 – Soc Sci, JLMC 4610 – Arts/Hum, JLMC 4640 – Arts/Hum
- Mathematics - **Academia**
 - 16 credits (~3 additional classes)
- Statistics – **Private Sector**
 - 15 credits (~4 additional classes)

ISU Meteorology Electives as of Fall 2024

- 1-Credit Elective
 - Mteor 1070: Severe and Hazardous Weather (Typically Offered: Fall)
- 3-Credit Electives including but not limited to...
 - Mteor 1400: Climate and Society (Typically Offered: Fall, Spring) – IP
 - Mteor 1600: Water Resources of the World (Typically Offered: Spring) – IP
 - Mteor 3600: Ocean-Atmosphere Interactions (Spring 2025, 2027...)
 - Mteor 4070: Mesoscale Meteorology (Spring 2026, 2028...)
 - Mteor 4600X: Atmospheric Chemistry (Fall 2025, 2027...)
 - LOTS of other 300+ level courses – talk with Dave about when these courses are offered and/or if they are still offered
 - ISU Meteorology Courses Offered [HERE](#)

References/Resources

- More career info...
 - Career Opportunities by NOAA [HERE](#)
 - Various Purposes Meteorologists Play by NOAA [HERE](#)
 - Meteorology Fields by AMS [HERE](#)
 - Education and Careers by AMS [HERE](#)
- More ISU meteorology classes info...
 - Undergraduate Minors can be found [HERE](#)
 - ISU LAS Gen-Ed Approved Classes 2024-2025 can be found [HERE](#)



Questions?

