

SJSU Department of Meteorology and Climate Science Program Description
(<http://www.sjsu.edu/meteorology>)

The Department of Meteorology and Climate Science is the only one of its kind in the entire California State University system. We provide students with an in-depth knowledge of the atmosphere and prepare them for careers in the atmospheric sciences. Faculty maintain active research programs that benefit the science community and enhance our students' learning environment.

Learning Outcomes for Meteorology & Climate Science:

BS Meteorology

1. Be able to read and interpret various meteorological diagrams, and develop and present a short-to-medium-term forecast with considerable skill.
2. Be able to explain meteorological phenomena at various scales in terms of basic physical and dynamic processes, including radiative forcing, thermodynamics, microphysics, and dynamics.
3. Know the design and use of meteorological instruments, and techniques for collecting and interpreting the data.
4. Be able to explain current climate in terms of basic physical and dynamical processes, and explain the mechanisms responsible for climate change.
5. Be able to explain ideas and results through written, statistical, graphical, oral and computer-based forms of communication.

BS Meteorology – Concentration in Climate Science

1. Be able to explain current climate in terms of basic physical and dynamic processes.
2. Be able to explain the mechanisms responsible for climate change.
3. Know and be able to practice the techniques used for collecting, analyzing, and interpreting various forms of climate data.
4. Demonstrate an ability to synthesize concepts from a broad range of disciplines, and apply them to problems in climate science.
5. Be able to explain ideas and results through written, statistical, graphical, oral and computer-based forms of communication.

MS Meteorology Program

1. Be able to conduct an independent research project, and communicate the results in written and oral form in acceptable professional formats.
2. Be able to explain meteorological phenomena in terms of advanced physical and dynamic concepts.
3. Understand and be able to apply advanced numerical methods to solve atmospheric and climate science problems.