

Introduction to Climate Services

What are Climate Services?

Climate services use climate data, forecasts, and science to inform decision-making for real-world problems. This unit contains three modules that discuss how relevant climate information is generated and used in practice.

A backbone of climate services is climate forecasting, or the use of climate models to predict the average weather in the coming months and years, which is introduced in The Fold and Forecast activity. The use of climate information helps make decisions about tomorrow, such as when responding to extreme events, which is explored in the Disastrous Decision-Making activity. Finally, climate information is also used for making decisions about future growing seasons, such as in the To Farm or Not to Farm activity, and for making decisions further in the future as our climate continues to change. [A short introduction video](#) defines climate services and introduces the lessons to students.

All three of these activities are examples of how professionals in different sectors use climate services in the field. Each student will learn the importance of communicating scientific data to help people around the world.

Activity 1: Fold and Forecast



Grade Level:
Middle - High School

In this activity, students will learn about climate models and the role of forecasting in climate scientists' research. Students will learn how to convey information when scientists are not certain which outcome will happen. The paper airplanes allow the students to create their own forecast of weather events, such as rainfall or snow. The goal of this activity is to teach students how to make a forecast using probability and to understand why probability is used.

Activity 2: To Farm or Not to Farm



Grade Level:
Middle - High School

In this activity, students will step into the role of farmers and focus specifically on drought risk and the impact on insurance decisions. There are several ways to reduce risk such as changing crop patterns, building savings, working with community networks, or purchasing drought insurance. The goals of this activity are to have students try different risk strategies and learn which are the most successful for farmers and their communities.

Activity 3: Disastrous Decision-Making



Grade Level:
Middle - High School

In this activity, students will become decision-makers in the local government of a coastal city during a flood event. Students will use the EPA-created tool EJScreen Mapper to look at the impacts of floods on coastal communities and see how they affect various vulnerable populations. The goals of this activity are for students to make decisions under uncertainty and work together to protect local communities.