

STATION 2: [SENEGHE, SARDINIA](#)

Background Information

Watch the [video on Seneghe, Sardinia](#).

From the rugged rocky Swiss Alps, you descend into the warmer and drier climate of Seneghe, Sardinia. Removing your jacket, you realize that your perspective is that of an insect. Tall blades of grass tower above you. You hear a chorus of buzzing, whirring, and clicking sounds as you wander through the field. Inside a rusting soda can you stop to learn more about climate and Sardinia by activating viewing screens.

Seneghe, Sardinia, is located at 8° 95' E, 40° 8' N at an elevation of 997 feet. Sardinia is an island west of the mainland of Italy in the Mediterranean Sea. The climate is classified as Mediterranean. Mediterranean climates have warm summer months and temperate winter months.

In an adjacent room, you meet the *Marho* family through the videos and text. Although Seneghe's population of 1,900 is three times that of Isenthal, the primary economic activity is farming. There is little car traffic on Seneghe's roadways. However, traffic jams are not uncommon, as large herds of sheep sometimes block travel. There is nothing that drivers can do but wait for the sheep to move.

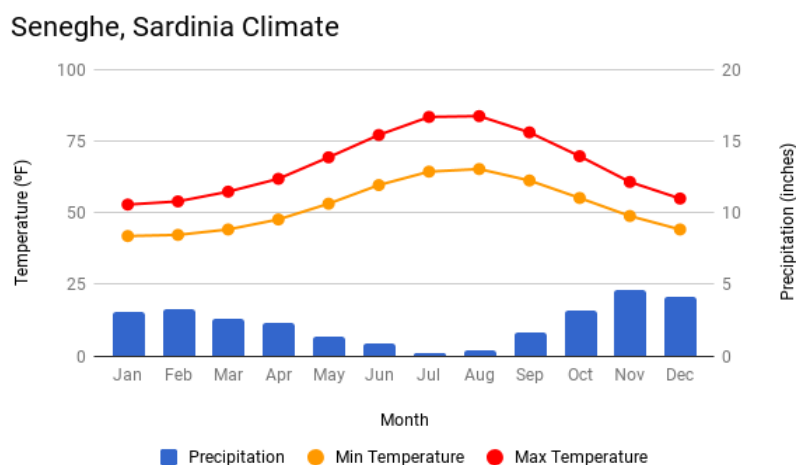
The sheep depend on grasses and other vegetation that grows in vast open fields. The vegetation is well adapted to the dry and hot climate of Sardinia. Within the ecosystem, there is a delicate web of interdependence with insects that have evolved with the plants. However, rising temperatures are threatening survival in unexpected ways. Scientists are observing the arrival of locusts formerly found only in warmer African regions.

If nonnative plants or animals move into a region, they often have a survival advantage over native species because they lack predators. Because this type of takeover resembles an invasion, the nonnative species are considered [invasive species](#). Invasive species change an ecosystem and the flows of energy within that ecosystem.

Another consequence of warmer, drier conditions is drought. In the long term, Sardinia is at risk for [desertification](#). Vegetation and soil are natural sources and sinks of carbon dioxide. Scientists are monitoring changes in vegetation, soil, and carbon dioxide to develop mitigation and adaptation plans for survival in a hotter, drier climate.

Explore Seneghe

1. Use Google Earth to develop a sense of place.
2. Use the data and information on the climograph to observe patterns in rainfall and temperature.



3. Read “[Extreme Weather on the Rise in Europe](#)” (Fischer, 2017).
4. Read “[Rapidly Warming Mediterranean Headed for Desertification, Study Warns](#)” (Shankman, 2016).
5. Identify factors that influence climate.
6. Identify sources of carbon dioxide and other greenhouse gas emissions.

Explore global temperature changes at [NASA Vital Signs Climate Time Machine](#).

Predicted Climate Change	Climate Change Threat	Climate Change Impact
Warmer winter and summer temperatures	Increased period of drought	Loss of vegetation
Lower precipitation	Long-term desertification	Water shortages
	Invasive insect species	Ecosystem change

Propose a mitigation strategy for reducing invasive species impacts and an adaptation strategy for rising temperatures and decreasing rainfall.

Research

Create a slideshow presentation on what desertification means for the ecosystem in the affected regions.