

The Power of Climate Change

Scenario Description:

You are an analyst working for an electrical utility. A manager at one of the power plants has recently approached you about climate resilience strategies. The power plant is situated along the Gulf of Mexico in Dauphin Island, AL, and uses the Gulf as an heatsink.

Currently, the plant is designed around the assumption that the temperature of the gulf will be below 85°F (this assumption was relatively reasonable when the plant was built in 1970). When the water temperature is above this point, the plant must operate at reduced capacity, as it cannot transfer additional thermal energy into the water.

Assemble data from one or more reputable sources (USGS, NOAA, US Energy Information Administration). Make an operational assessment of the risk that the plant will have to operate at reduced capacity during the next 5 years. Consider both the probability of reduced operating capacity as well as the timing of that capacity (e.g. you should also look at electrical usage during those periods).