Strand 8.4	Standard 8.4.4 Episode 1	Anchor Phenomena There are factors that affect regional climates and global temperatures.

Title Episode 1 Global climate change phenomenon	Time 20 minutes	CCCs Patterns	Practices: **Analysis of and interpreting data**

Episode Snapshot: Students will watch a video on the general climate change of earth and identify patterns in the **data.**

Gathering:

Explain to the students that many people are confused about the idea that the earth's climate is warming. Over the past decade we have had some of our coldest winters in recorded history. Show students the first frame of the video (http://climate.nasa.gov/climate_resources/139/) which shows them the temperatures of the earth in 1939. Have them used colored pencils to draw what it was like in this year. Explain that higher than normal temperatures are shown in red and lower than normal temperatures are shown in blue. Give them a few minutes to predict and form a hypothesis on what they think will happen to the temperatures by 2015. Where do they think it will have the highest increases? Where do they think will have the lowest decreases? Have the students watch the following video that shows in red higher than average temperatures and in blue lower than average temperatures.

Reasoning:

Look for patterns in the data about the phenomena that is happening on our earth between 1939 and 2015? Have students reflect on this and write an **analysis of the data** that was presented. Based on this what can they conclude? Have a class discussion about what they concluded.

Communicate:

Have students color generally where the blue and red is at the end on the student sheet and write a conclusion statement. As they go through this strand they should go back and adjust and add to their conclusion as the find out more information. Have them come up with questions about their conclusion that they don't know. Examples of questions they may come up with are; Why is the temperature rising? Why is it so hot in the north? What do the colors mean? What is going to happen because temperature is changing? What is causing the temperature change? Is it hotter where people are?

Assessment: Students will write a conclusion **analyzing** what the data showed and that the earth on average is rising in temperature. Teachers should look for students having the idea that the general temperatures are going up based on the data from Nasa presented.	**Materials, resources, handouts, etc:** Computers Link http://climate.nasa.gov/climate_resources/139/ Document to draw the data from the map https://docs.google.com/document/d/1CSZCNUh3dCWbZqWZfDvY-1OSePgAxaqNEOfxke_IrAU/edit?usp=sharing