

# Activity: Climate Time Machine



The Climate Time Machine allows you to investigate four areas of data that illustrate information around climate change events. The machine allows you to control the setting by moving the cursor along the x axis of the picture showing what happens as this variable changes. The four dimensions discussed are: Arctic Ice, Sea Level, Carbon Emissions, and Average Global Temperatures. Please read the short paragraph that occurs with each image to help orient you to the system. Answer the questions with each category.

## Arctic Ice

Is the information shown about Arctic ice actual data or a scientific model?

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What happens to the image as the date moves from the past toward the present date?

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What factors might influence this happening?

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What question(s) do you have about this information?

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# MOST\*

## MATERIALS NEEDED

Computer with Internet Access

## Students should be able to:

Describe the variables in each of the graphs

Manipulate each of the graphs portrayed

Describe the changes in each of the graphs

Determine if the graph is a model or made with actual data

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## New York State Standards

### Standard 1: Math:

Key Idea 1: M1.1a, M1.1b, M1.1c  
Key Idea 2: M2.1, M2.1a, M2.1b  
Key Idea 3: M3.1, M3.1a

### Standard 1: Scientific Inquiry:

Key Idea 1: S1.1, S1.1a, S1.1b, S1.2c

### Standard 1: Information Systems:

Key Idea 1: 1.2, 1.5  
Key Idea 3: 3.2

### Standard 6:

Key Idea 2: 2.2, 2.3  
Key Idea 3: 3.1  
Key Idea 4: 4.2  
Key Idea 5

### Standard 4: Physical Setting:

Key Idea 1: 1.1e  
Key Idea 2: 2.1a, 2.1d, 2.1j, 2.2i, 2.2j, 2.2r

# Activity: Climate Time Machine

## Sea Level

Is the information shown about sea level actual data or a scientific model?

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What happens as the sea level rise increases from one meter to six meters?

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What do you predict will happen in the next ten years?

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What question(s) do you have about this information?

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## Carbon Emissions

Is the information shown about carbon emissions actual data or a scientific model?

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What are the units of measurement used in this slide?

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What is indicated by the change of color from yellow to red?

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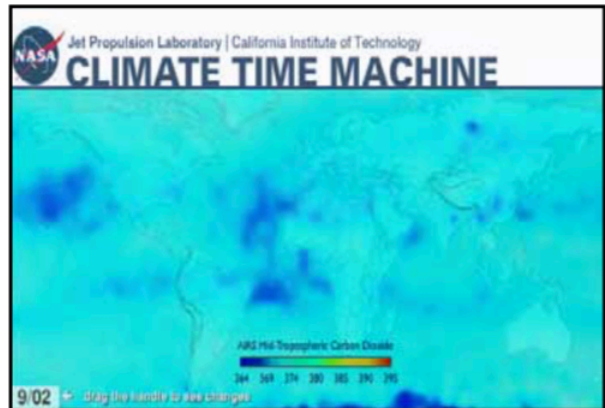
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What is indicated by the change of color from blue to green?

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# Activity: Climate Time Machine

What happens as time goes by from the year 2003 - 2009?

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Why do you think this is occurring?

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What question(s) do you have about this information?

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## Average Global Temperatures

Is the information shown about global temperatures actual data or a scientific model?

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What is indicated by dark blue?

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What is indicated by red?

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As you move from 1895 to 2007, what happens to the data?

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Why do you think this occurs?

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What question(s) do you have about this information?

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