

Why do Climate Models Matter?

Goals:

- Help students recognize how climate models can be useful, even if they are not perfect
- Help students understand how climate models are used to do science

Materials Needed:

- Printed copies of the Climate Model Graphs from the 2007 IPCC report (enough for each group to have 1 of each)
- **OR** use an overhead projector or PowerPoint presentation to show each graph

Instructions:

1. Break up the students into small groups of 3-4.
2. Show them the first plot and have them discuss in their groups what they notice.
 - a. During this process, answer any questions they have about what the lines mean and what the y-axis means
 - b. Note: this is a brainstorming session. Allow the students to generate a long list of whatever details they notice.
3. Reconvene as a large group and have groups share what they noticed. Pay particular attention to how well they think the models captured the observed trends.
 - a. Can the students come up with consensus on how well the model did? (Note: it is OK if they think the model had lots of error. This is a common conclusion to make at this point)
4. Show them the second plot and have them discuss what they notice again
 - a. Continue to answer questions they have
 - b. Note: this is also a brainstorming session. Allow the students to generate a long list of whatever details they notice.
5. Reconvene as a large group and have groups share what they noticed. Focus on how well they think the model represented the observed trends.
 - a. Can the students come up with consensus on how well the model did?
6. Flip back and forth between plot 1 and plot 2. Ask them which model simulation represents observations best.
7. Finish the activity with students discussing how models can be useful, even if they aren't perfect.



