

Name:

SCIENTIST SPOTLIGHT ASSIGNMENT

Name of Chosen Scientist: Dr. Kim Cobb

1) Why did you choose this particular scientist?

I chose her because she and I have the same musical interest and when I went to her website she was there posing with a bunch of students. I thought it was cool to see her "brag sheet" begin with students. She must really enjoy teaching and researching with students.

2) What degrees does this scientist possess and from which academic institutions?

2002 Ph.D. Oceanography, Scripps Institute of Oceanography

1996 B.A. Honors in Geology and Biology, Yale University

3) What research interests does this scientist have? How does this research contribute to a better understanding of climate change?

Kim Cobb is the Georgia Power Chair and Professor in the School of Earth and Atmospheric Sciences at Georgia Tech as well as the Director of the Global Change Program at Georgia Tech. Cobb is also heavily involved in Georgia Tech's diversity, equity, and inclusion program. Cobb researches observations of past and present climate to advance our understanding of future climate change impacts, focusing on climate extremes and coastal floods. She is also a Lead Author for the IPCC Sixth Assessment Report, due out in 2021. She is also devoted to the communication of climate change to the public through media appearances, public speaking, and social media channels, and enjoys frequent exchanges with policymakers about climate impacts and solutions.

Studying past climates can tell us about the future climates. If conditions in the past are known we can prepare for a future with similar conditions. If past high levels of carbon dioxide causes certain global temperatures and various sea levels, we can estimate which regions are most at risk this century as carbon dioxide levels keep rising.

4) How does their research relate to the topics already learned in this course?

A big part of this course is looking at past climates to try to predict what lies ahead. For example, we have viewed Dr. Mann's "hockey stick" temperature reconstruction. This is a plot of global temperatures in the past 2000 years. For most of that 2000 years temperatures changed very little to the plot is mostly flat. However, in the past 60 years global temperatures have spiked sharply upward. So that plot now looks like a flat stick with a sharp hooked blade at the end.

We also have learned that as global temperatures are rising it is causing ice sheets and mountain glaciers to melt. That adds water to the ocean and causes sea level rise. Furthermore, as water gets warmer it expands. This is known as thermal expansion and is a second factor causing sea level rise.

5) What did you find most interesting about this scientist and/or their research?

For me, it was the barrage of pictures with her students doing research. She is clearly making science fun. I also noticed that quite a few of her presentations were not about science. They were about communication science and also how important just, equity, and inclusion are to her and to the field of science.

6) What did researching about this scientist teach you?

Science can be fun even though the math isn't! Women can play important roles in climate change science. She is the Dept. Chair of a major university and a lead author in the IPCC report which only "the best of the best" can be.