

Interview with early career scientist Jian Peng



What is your vision on the future of climate science, what do you see as main challenges and opportunities?

We climate scientists have made significant progress in understanding the challenges and risks associated with climate change. However, there are still many unanswered questions in climate science. In my opinion, the future direction of climate science should focus on addressing these questions: 1. Understanding climate sensitivity, we need to figure out how global temperatures respond to concentrations of atmospheric carbon dioxide. 2. Improving earth system models especially atmospheric circulation. The current climate model still can not probably resolve clouds in the atmosphere. 3. Strengthen interdisciplinary research, I pose this point because climate interacts with everything such as human activities, global economy and the natural processes in ecosystems and the oceans. Therefore, interdisciplinary approaches are necessary for scientific progress and for developing solutions. Collaboration among climate scientists, ecologists, hydrologists, social scientists, economists, political scientists would further provide opportunities for developing solutions to deal with climate change.

How would you see yourself contributing to climate science in the next years? And in the next decades?

As changing climate alters movement of water through land, oceans, and atmosphere, climate science is called upon to provide information about the future of the water cycle. My research goal is to extend and deepen our understanding of the changes in the terrestrial water cycle and to shed light on the mechanisms of the changes and their consequences in water resources and vegetation in the context of global change. Specifically, I would like to answer the following questions: how does the hydrological cycle fit in the full earth-atmosphere system, and how it may change in the coming decades and centuries, and will floods, and droughts behave in the future as they did in the past?

How would you envisage your dream job in 20 years from now?

I strongly believe that knowledge is far more valuable when shared. Especially for climate science, there is a strong need for the climate scientists and general public to engage in constructive dialogue. Climate scientists should communicate

the science in a clear, coherent and objective way. It is essential for the public to establish trust in the findings of climate science. Therefore, my dream job in 20 years is to work in an international climate change organization such as WMO, WCRP and play a role in bridging the gap between scientists and the public.

Who is your biggest source of inspiration?

I was inspired to climate science by reading a story in the daily newspaper during my high school study. The story is about the potential for greenhouse warming to melt ice sheets and result in dramatic sea level rise. Then I was starting to get interested in climate change and eventually chose a career in climate science. From then on, interest and curiosity are the biggest inspiration for my research. I am always fascinated by various ideas and research questions in earth system science, which is also where I see my own contributing and brings me achievements.