Timothy Hall

Dear Professor Hall,

Hello, my name is Ben Goldman. I am writing to introduce myself and ask you some questions about your research. I am a sophomore in the science research program at White Plains High School, New York. The science research program is a 3-year class where we will create and present a research project at local and state science fairs. I am interested in your recent research on hurricanes Dorian and Harvey, and I wish to study atmospheric science, particularly the relationship between tropical cyclones and climate change, although I am also interested in many other topics. Over the course of 3 years I will create and present a research project on my chosen topic. I have a few questions about your research. In a study, you showed that global warming will cause hurricanes to stall more by weakening prevailing winds. I am wondering what methods you use to discern that relationship. To what extent is your conclusion also supported by computer climate simulations? Also, what questions remain that need to be further researched about climate change’s impacts on the behavior of tropical cyclones? Thank you in advance for your time.

Sincerely,

Ben Goldman

Adam Sobel

Dear Professor Sobel,

Hello, my name is Ben Goldman. I am writing to introduce myself and ask you some questions about your research. I am a sophomore in the science research program at White Plains High School. The science research program is a 3-year class where we will create and present a research project at local and state science fairs. I am interested in studying tropical cyclones and their relationship with climate change. I was very intrigued by your research on the influence of air pollution and greenhouse warming on tropical cyclones, and I have a few questions. The general interest article on your report said that until recently, the cooling and intensity-abating effects of air pollution cancelled the intensifying effects of greenhouse warming. Why did aerosols maintain a low intensity level in tropical cyclones, while global temperatures were rising? In other words, why did the aerosols affect hurricanes, but not other atmospheric occurrences? Incidentally, I was given your name by my cousin, Rebecca Morss. We met at her job at NCAR in Boulder and discussed her career and education in atmospheric science. Thank you in advance for your time.

Sincerely,

Ben Goldman

Sonali McDermid

Dear Professor McDermid,

Hello, my name is Ben Goldman. I am writing to introduce myself and ask you some questions about your research. I am a sophomore in the science research program at White Plains High School. It is a 3-year program, where we create and present a research project at local and state science fairs. I am interested in studying atmospheric science, particularly tropical meteorology and climate change. I am very interested in your recent research on the impact of land use on local climate. I have some questions about your research. Your results showed that in locations where irrigation is especially intense, the effects of irrigation contrast with the effects of land cover changes, instead of amplifying the effects of land cover. What causes this reversal? Second, you found that agriculture affects the lower atmosphere, along with the surface. What impacts does agriculture have on larger-scale weather systems and climate? Thank you in advance for your time.

Sincerely,

Ben Goldman

Fred Kucharski

Dear Professor Kucharski,

Hello, my name is Ben Goldman. I am writing to introduce myself and ask you some questions about your research. I am a sophomore in the science research program at White Plains High School, New York. It is a 3-year program, where we create and present a research project at local and state science fairs. I am interested in studying atmospheric science, particularly tropical meteorology and its relationship to climate change. I found the article you co-authored on the connection between the Atlantic Nino and ENSO, and its change under greenhouse warming to be very interesting. I have a few questions about your research. Part of your methodology was to sort out the CMIP5 models that did not significantly simulate the observed relationship between the Atlantic Nino and ENSO. Why did you remove them? Even though they were not as useful to your experiment, they might reveal interesting connections. Second, you showed that the loss of Atlantic-Pacific correlation was caused by a more stable atmosphere. Are there any other significant meteorological phenomena that this increase in stability might influence, other than El Nino/La Nina? Finally, what other studies would you recommend to continue research on the influence of climate change on el Nino/la Nina? Thank you in advance for your time.

Sincerely,

Ben Goldman

Fan Jia

Dear Professor Jia,

Hello, my name is Ben Goldman. I am a sophomore in the science research program at White Plains High School, New York. It is a 3-year program, where we create and present a research project at local and state science fairs. I am interested in studying atmospheric science, particularly tropical meteorology and its relationship to climate change. I was very interested in your recent research on the connection between the Atlantic Nino and ENSO and its change under greenhouse warming to be very interesting. I have a few questions about your research. Why did you use a bootstrap method to determine the statistical significance of the loss of connection between the Atlantic Nino and the Pacific ENSO? Also, given this and other current research on El Nino and greenhouse warming, what questions remain that need to be answered? Thank you in advance for your time.

Sincerely,

Ben Goldman