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Climate DOC

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### The Indian Monsoon

As disappointed as we all were that we missed the monsoon this year since it is so late, we nonetheless gained a grasp on how vital these yearly rains are to Indian society in innumerable aspects. Monsoons are an inextricable and essential part of Indian culture

First, we heard from nearly a dozen different graduate students at IIT Bombay, IIT Bangalore, and IISC about their work with the Indian monsoons. The sheer number of the students who spoke to us about the rains is a testament to how critical they are to India. Each student was extremely dedicated to and passionate about his or her research. There were so many different approaches to studying the monsoons, too. While some students like Sohana sought to map and predict the approach of the current monsoon, others focused on the broader scale predictions of monsoon duration and intensity for the further off future. Other students concentrated instead on the social or agricultural implications of the monsoons.

During the farm visit, we learned about how the vast majority of yearly rainfall comes from the monsoons and must be carefully harnessed in order to adequately nourish the crops. Unpredictability in the monsoons can have an immense negative impact on agriculture. For example, if the monsoon were to unexpectedly come a week or two early or late and the farmer had not known to plant his crops accordingly so that they received enough water, he would lose that entire harvest. Therefore, this affirms that the work that the PHD students at the various universities that we visited is valuable and applicable to farming. Any advances they make in accurately predicting monsoon onset and intensity could save the livelihoods of farmers and help to feed and nourish millions of people.

Although we did not get to see the actual monsoon itself, we did witness a couple pre-monsoon rainstorms. Though the duration of these storms was short, the intensity of the downpour was impressive. These brief rains also seemed to point out the failures in Indian infrastructure. Within twenty minutes of precipitation, the streets were already beginning to fill with water on the edges. As new currents arose to stream down the sidewalks, my faith in the drainage systems diminished. In less than an hour, the pre-monsoon rains would disappear once again. The question remained for me at least, if the drainage infrastructure is so poor for even such a short storm, how do cities cope with the enormous rainfall of the actual monsoons?

Whether it be potentially costly flooding in urban environments or randomness damaging harvests, it is obvious that predicting onset and creating effective infrastructure for the monsoons is a vital step in continuing the development of the Indian nation. Its significance in society and culture will not fade and the benefits of applying science to the monsoons are tremendous.