



Cecilia McHugh stands before sediment cores, which contain clues as to when and where great earthquakes and tsunami occurred—and when they might happen again.

**“I’m not just doing this because it’s interesting. I’m doing this because it has a purpose. It has so much meaning, knowing you can make a difference. You can save lives. It’s a huge deal.”**

Cecilia McHugh

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Cecilia McHugh (School of Earth and Environmental Sciences) travels the world studying ancient sediment and mapping sea floors to learn more about past earthquakes and, possibly, anticipate future natural disasters. “By going back in time, we can predict how frequently earthquakes strike in a particular region,” she says.

In 2017, McHugh and some of her students documented an 8.5-magnitude earthquake that occurred in Bangladesh in 1762. In addition, the team collected evidence of a possible tsunami during that time. Today, in a country with a population of 160 million, an earthquake of this magnitude could be ruinous, which is why McHugh’s research is so important: What she learns can help governments understand and prepare for future risks.

McHugh examined sediment samples in Haiti in 2010 and Japan in 2011 following the devastating earthquake and tsunami that hit each area. She led the study in Haiti just a few weeks after the earthquake; the team discovered unmapped faults. Their work was cited by the Obama White House. Last fall, in recognition of her scientific contributions, McHugh was elected a fellow of the Geological Society of America. As part of the International Ocean Discovery Program, she will lead—together with collaborators from Austria and Japan—a team of scientists in drilling in the Japan Trench at a depth of eight kilometers.

McHugh’s teaching has inspired many students who have gone on to successful careers of their own. “It’s most rewarding to see them do well, whatever their goals are, whether it’s to pursue a PhD, work for an environmental company, or teach,” she observes.

McHugh couldn’t imagine teaching anywhere else. “The diversity, by far, is what I like most about Queens College,” she says. “It is amazing. I went to my laboratory the other day and saw four students working—one from India, one from Nepal, one from Greece, and another from Taiwan.”

Her background allows her to connect on a deeper level with QC’s diverse population. Born in Argentina, McHugh came to the United States after high school and did not speak English. She eventually learned the language and went on to earn a PhD, all while raising two young sons. She sees many of her students struggling with similar challenges and encourages them: She succeeded, and they can, too.

