WITH A CHALLENGE SUCH AS GLOBAL CLIMATE CHANGE—indeed with any global issue that hinges on the choices of individual people as well as corporations and governments—communication is key. How do you convey the urgency in a credible and compelling fashion? How do you make the abstract idea of future impacts relatable today? Stanford researchers are trying to understand how people are hearing messages about climate change and how we can improve these messages to more clearly communicate what is known—and what is not known.

Since the mid-1990s Professor Jon Krosnick and the Stanford Political Psychology Research Group have been studying American public opinion about global warming. By conducting a series of national surveys, regional surveys, and experiments, the group has tracked shifts in opinions about climate change across the nation and over time.

Stanford is also focused on communicating about climate change to policymakers and, of course, to its own student population. For several decades, Stanford faculty have shared their knowledge about climate change by:

- Producing scientific assessments and reports for the Intergovernmental Panel on Climate Change (IPCC) and the U.S. National Academies
- Engaging with decision makers for formal and informal information exchange
- Participating on boards and advisory groups for nonprofit and government organizations
- Testifying before Congress and state legislatures
- Communicating through traditional and social media channels

In 2014, the Stanford Woods Institute for the Environment opened an office in Washington, D.C. Having established a physical presence in the capitol, Stanford is now even better positioned to share climate research with decision makers of all types.

Back on Stanford’s campus, the School of Earth, Energy & Environmental Sciences has introduced broadly appealing courses such as *Climate and Society* to share the scientific underpinnings of climate science in a way that is accessible to all students. In addition, the school offers a co-terminal master’s degree in Earth Systems that focuses on environmental communication for those looking to strengthen the connection between scientific knowledge and decision making.

For the past 10 years, Stanford has also hosted the Leopold Leadership Program, training more than 200 mid-career environmental academic researchers to effectively communicate their science in the public policy arena and to lead change for sustainability goals.
Up Close and Personal

Climate change has finally penetrated the popular consciousness, but it remains primarily an intellectual construct for most people. Even many of its most demonstrable impacts are slow moving and nearly invisible. How to bridge the gap?

At Stanford, marine scientist Fiorenza Micheli teamed up with Jeremy Bailenson’s Virtual Human Interaction Lab to see whether people change their perception of climate change after virtually diving in a coral reef and seeing the effects of ocean acidification. Those who spent 15 minutes virtually observing colorful reef dwellers such as sea urchins, sea bream, and sea snails being replaced by slimy green algae—before the reef disappeared altogether—demonstrated greater empathy for the environment, even a week after the experience.

Micheli is co-director of the Center for Ocean Solutions and the David and Lucile Packard Professor in Marine Sciences. Bailenson is the Thomas More Storke Professor in the Department of Communication. Both are senior fellows at the Stanford Woods Institute for the Environment.

Teaching and Learning About Climate Change

From Stanford to Sitka and Seine-Saint-Denis on the outskirts of Paris, Stanford undergraduates enjoy special opportunities to learn about climate change in the classroom, the laboratory, and the field.

Occasionally, they go very far afield indeed. Every two years, 12 Stanford sophomores venture to Southeast Alaska (right) for a special field program directed by Rob Dunbar, the W. M. Keck Professor of Earth Science and senior fellow at the Stanford Woods Institute for the Environment. The program combines classroom and experiential learning to explore global questions of land use change and sustainable resource management in a region already experiencing measurable impacts from global climate change.

Back on campus, courses like EARTH 2: Climate and Society are open to students of all class years and majors. And in December 2015, 29 undergraduate and co-terminal master’s students traveled to Paris with Stanford faculty to observe the COP21 climate talks. A quarter-long course, International Climate Negotiations: Unpacking the Road to Paris, prepared them with the context and tools they would need to follow the events. In France, the students met with scientists, negotiators, journalists, and nonprofit leaders while pursuing individual research projects they later presented at a Stanford symposium.

The experience was far more than a research exercise, especially for students like Josh Lappen, ’17, whose cautious optimism about the accord reflects his generation’s relationship with climate change: “These words, partially by design, are no guarantee of action . . . . The power of Paris is not that it mandates action, but that it empowers us to mandate that action.”