There is growing awareness that we must expand narratives about climate change beyond largely scientific constructs, and include the cultural and social contexts where communities define their responses to complex issues. After all, while measuring parts per million of greenhouse gases makes for compelling science, it has largely failed to inspire the public to action. We need mechanisms that engage the public and promote discourse about climate change, and infuse climate sciences and communications with public knowledge. One of the best ways to achieve this is to tap into an arena where people so often experience and influence culture: art.

We know intuitively that art is a social and creative pursuit. It both shapes and is shaped by culture. Picasso’s rendering of the bombing of a small town, Guernica, for example, has stood testament to the cruelty of war for millions of people. And Shepard Fairey’s Barack Obama “Hope” poster catalyzed a US political movement in its prime. Art can connect to people’s values while communicating information in ways that we feel—and we learn better that way. Bertolt Brecht said it best: “Art is not a mirror to hold up to society, but a hammer with which to shape it.”
Forward-thinking conservationists such as Bill McKibben have rightly called on artists to join them on the front lines of the climate movement. In some instances where artists have engaged with the issue, however, the climate community has responded with critiques that artists are getting the message “wrong.” Climate art has been criticized for reinforcing frames that climate change is a distant phenomenon, most notably through repeated use of polar bear imagery. One study indicated that the film The Day After Tomorrow increased people’s sense of urgency about the issue while obscuring their understanding of the underlying science. Too often, well-meaning scientists appear to confuse art with the one-way approach and fact-driven format of news media. As a 2012 study concluded, “The visual and performing arts should be harnessed to help extend the increasingly unpalatable and urgent messages of global climate change science to a lay audience worldwide.” Art, however, is much more than a means of transmitting scientific information. Art also expresses and catalyzes culture.

To more fully engage the public to address climate change and promote the multidisciplinary thinking required for the task, the climate community must more deeply understand and engage with the field of art and creative expression. For starters, the climate community must grasp art’s role in: 1) promoting social dialogue to make sense of complex phenomena, and 2) producing and documenting cultural knowledge and other data about the issue.

**Art as Social Practice**
Scholars have described a “blurring of art and life”—as Claire Bishop has called it—that is particularly rich in the context of participatory art. Participatory art engages audiences to take part in a project and often leverages social dialogue as a medium. Not surprisingly, some scholars believe that participatory art projects, particularly those that include social practices, more effectively promote social progress than non-participatory approaches. Examples include Gideon Mendel’s participatory photography effort—designed to abate social stigmas associated with HIV by humanizing the disease—and the Culture Lobby’s multi-media approach, which promoted regional dialogue and understanding to ease the social tensions and political disorientation of European integration.

Participatory approaches can likewise illuminate contested environmental issues. Members of the Washington, DC-based Dance Exchange, for example, walked from DC to West Virginia to identify the source of electricity in their area, and captured the stories of people affected by coal mining and mountain-top removal along the way. The cultural knowledge they gathered culminated in dance performances, interactive experiences, and an online collection. The project is also credited with spurring discourse and knowledge-sharing between groups, including Forest Service staff, local landowners, and artists involved in the project.
Speaking to the scientific value of the effort, project collaborator Daniel Farge said, “Remote sensing has a lot of gaps because of clouds. A lot of these glaciers are observed at most once a year. Now you can see exactly what’s going on for a whole annual cycle.” Balog and his team designed the endeavor as both a scientific and an artistic undertaking, and the project has already culminated in the award-winning film Chasing Ice. As Balog has said, “Most of the time, art and science stare at each other across a gulf of mutual incomprehension ... In the Extreme Ice Survey, we’re dedicated to bringing those two parts of human understanding together.”

Other artists also see the potential for art to record cultural knowledge and other data about climate change. Through their Facing Climate Change project, Sara Joy Steele and Benjamin Drummond produce multimedia stories about people who are experiencing climate change—including tribes that are adapting to rising seas and shifting species distributions, and oyster famers who are seeing the effects of ocean acidification. In 2006, two notable artists in this space, Susannah Sayler and Edward Morris, founded the Canary Project to document sites where scientists are studying the effects of climate change. Since that time, they have produced more than 20 projects that have involved hundreds of artists and designers in expanding public discourse and recording cultural knowledge about climate change; these have included discussions about our relationship with natural systems and an effort to capture data about present ecological states.

Artist Karolina Sobecka’s project “Thinking Like a Cloud,” on the other hand, collects water vapor from clouds—and the rich microbiology they contain—and invites people to order samples from a “cloud tasting menu.” Sobecka shares information about the microbiology of each specimen, and asks participants to reflect on how the experience has shaped their understanding of ecosystems that are otherwise out-of-reach. The project is designed to promote interconnectedness while confronting people with the question: Do we know enough about natural systems in the troposphere to interfere with them through geo-engineering?

In these projects and others like them, art is more than a one-way communication vehicle. It’s a way for people to shape their own understanding about a topic or issue and, in some cases, to participate in and influence its discourse.

Art as Data
The theatre piece “An Evening with William Shatner Asterisk” suggests a symbiosis between art and science. Ian Garrett, director of the Center for Sustainable Practice in the Arts, summarized the relationship this way: “Whereas art promotes experience, including about data, science produces data, including about experiences produced through the arts.”

So, too, can art record and produce data.
The work of James Balog and the Extreme Ice Survey epitomize the potential for art to augment the climate sciences. Through time-lapse photography of 13 glaciers—using equipment painstakingly constructed and installed for the task—the world now has access to striking evidence of glaciers melting. The imagery demonstrates the scale and pace of the changes our world faces—and for US audiences, not just in far-off lands, but also on home soil in Alaska and the American Rockies.
Earth Institute and Marfa Dialogues/NY have hosted “speed dating” events between artists and scientists in the climate arena, where a person from one discipline meets individually with a dozen people from the other for five minutes apiece. The approach is credited with creating the space for people to meet a range of individuals with disparate perspectives on climate change and for sparking dialogue that can lead to collaboration.

While these are all promising models, members of the climate community should not only invite artists into the fold, but also meet artists where they are. They must experience and participate in the arts, in whichever mediums are most meaningful for them. After all, we not only need interdisciplinary networks to address climate change, we also need greater multidisciplinary thinking by individuals, and across the spectrum of actors.

Additionally, the climate community—particularly those who understand and engage with art—can apply scientific methods constructively to explore art’s social impacts. An overarching research question is whether certain approaches, such as participatory art where social progress is the goal, may be the most effective method for documenting and producing cultural knowledge about climate change, and marshaling the public to become agents of change. For example:

- There is acceptance within the art field that participatory projects both elevate voices in a discourse and bridge communities. We need to study how these dynamics play out in practice.

Maya Lin, renowned for her design of the Vietnam Veteran’s Memorial, has more recently created a digital “memorial” to biodiversity loss and decline at whatismissing.net. The interactive site maps our society’s memories about biodiversity, the actions we are taking to conserve the natural world, and potential future states.

These artists and myriad others like them are producing cultural knowledge and other data about climate change, augmenting climate research while also helping to make it relevant.

**Engaging with Art and Artists**

Despite the potential, the climate community has yet to fully engage with art and artists. The Intergovernmental Panel on Climate Change, the United Nations Framework Convention on Climate Change, and other climate groups should take a page from CERN, Fermilab, and NASA. Each research institution offers an art gallery and/or artist-in-residence program that uses art to invite the community into their space and work, engages the public in complex and distant concepts, and/or provides vehicles for envisioning possible futures. As Arthur Clarke has said, “The astronomical artist will always be far ahead of the explorer.” These research institutions and others at the forefront of innovation are capitalizing on that potential.

Additional engagement models include individual collaborations between artists and scientists—whereby an artist engages subject-matter experts in a project, or vice versa—and artist-scientist pairings that promote collaborations that may surpass the aims of a particular task.
• Cultural theorists such as Pierre Bourdieu have asserted that art is chiefly meaningful for those who can “decipher it.” We need to identify if and how participatory approaches overcome these perceptual barriers.

• We know from the literature of collective behavior that creativity and symbolic meanings have important roles to play within social movements and protests. We need to better understand the role of art in building public will more broadly, such as by inspiring people to learn more about an issue or to engage as part of the solution.

Artists with whom I’ve spoken are keenly interested in the results of these and related studies.

Ultimately, to hasten cultural responses to climate change, the climate community must more fully embrace and encourage art that engages people’s hearts and minds to make sense of, get inspired to act on, and figure out how to address climate change.

For examples, we can likely look to the streets outside of the United Nations Climate Change Conference, which will convene in Paris in December. Artists have often taken to the streets around these gatherings. This year, two groups—ArtCOP21 and Artists for Paris Climate 2015—promise to give political actors something to look at and think about on their way to and from the conference ... unless, of course, those artists are invited inside this time.

Robert Russell Sassor (@rrsassor) is a director at Metropolitan Group. His short story, First Light, won eco-fiction.com’s climate fiction contest and will be published by Moon Willow Press in an anthology this fall.