issues," Gerrard says. "Climate change is such a complex and politically significant issue that it may be decided that it is not for the courts to fashion remedies."

Though most common in the US, legal challenges to emissions regulation are happening elsewhere. In 2008, car-maker Porsche blocked attempts by the Mayor of London to change the city's congestion-charge scheme to an emissions-based fee, which would have penalized drivers of its vehicles. Industry bodies and private companies have also raised legal challenges on the operation of the European Union's Emissions Trading Scheme — the Air Transport Association of America, for example, is fighting attempts to include aviation in the scheme from next year. Other climate litigation cases have been largely brought by non-governmental organizations such as green pressure groups, either to request tighter regulation or to block specific projects based on their climate impacts. "Not a single coal-fired power plant has started construction in the US in the past two years," says Gerrard. "That's due to a combination of economic factors and low natural-gas prices, and a ferocious campaign of litigation against them."

If the Supreme Court does decide in the coming weeks that the energy companies do not have a case to answer in the Connecticut versus American Electric Power dispute, then the outlook for future climate litigation cases could be bleak. Still, Kysar believes such actions remain useful because they raise awareness, and help a general shift towards wide acceptance of the global warming problem. Many of the lawsuits filed by the companies against the EPA tailoring rule, for example, accept the science of climate change and that the problem should be addressed. They also throw up some interesting and unlikely issues for other sectors. AES Corporation, one of the greenhouse-gas emitters sued in the Kivalina village case, claimed defence costs and an indemnity from its insurance company, Steadfast. The insurers then sued AES on the grounds that they only covered accidental damage and the greenhouse gases in question were released deliberately. A judge agreed. AES appealed. The case continues. ❐

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SNAPSHOT

Tapping local knowledge

Many people living in the Eastern Himalayas — particularly those at higher elevations — are noticing signs of climate change, including warmer weather and less snow, according to a survey.

The Himalayas, the world's tallest mountain range, are home to more than 750 million people, and at least twice that number live in the river basins that get their water from the Himalayas' 15,000+ glaciers. Despite the immense probable impacts of climate change in the region, the extent and consequences are not well known, says Kamaljit Bawa, a conservation biologist at the University of Massachusetts in Boston. "There are predictions and guesses, but no real data," he says.

To help fill in the blanks, Bawa and his colleague Pashupati Chaudhary decided to gather local environmental knowledge. They surveyed 250 households in 18 villages in West Bengal, India and eastern Nepal, which are home to indigenous populations including Sherpa (*Biol. Lett.* doi:10.1098/rsbl.2011.0269; 2011). Because these villagers make their living off the land, they're intimately in tune with their surroundings, explains Bawa. "It's very cold there and it's often raining, so they're talking about the weather all of the time," he adds.

The researchers found nine different indicators of climate change that were reported by a two-thirds majority of respondents in one or more villages. Overall, about 73% of the respondents believe that the weather is getting warmer, 67% believe that summer starts earlier now than it did a decade ago, and nearly 70% believe that the monsoon season starts earlier. About 46% believe that there is less snow on the mountains than in previous years, and 70% believe that local sources of water are drying up. More than 53% of respondents reported substantially earlier budding in several species of plants, and almost 49% reported earlier flowering. On average, 54% reported seeing new crop pests in their villages in recent years, and 46% reported seeing mosquitoes for the first time.

When the researchers divided the villages into two categories — those lying between 1,000 and 2,000 metres elevation, and those between 2,000 and 3,000 metres — they found some dramatic differences between the groups. Although more than 77% of higher-altitude residents reported that summer had begun earlier in recent years, less than 58% of those living at lower altitudes reported the same. And although more than 75% of the respondents at higher altitudes reported finding new crop pests in recent years, only 33% of those living at lower altitudes did.

The results, Bawa says, are consistent with trends predicted by climate models and other studies. One study has reported a temperature rise of 0.01 to 0.04 °C per year in the Eastern Himalayas from January to March, and, in general, temperature rise from climate change is happening more quickly at high altitudes.

The researchers say the findings could provide a jump-start for other scientists seeking to test specific climate hypotheses in a region where scientific data are meagre at best.

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