

Earth science and society

Alan Betts [akbetts@aol.com]

Our big environmental challenges, especially climate change, come from the conflict between human individualism and consumerism, nationalism and the limits imposed on us by the earth system. We must confront so many treasured beliefs. Can earth science help us in this? The recent U.N. conference in Copenhagen is a stark example of this issue. Every country came with its own very reasonable negotiating position; reasonable in that it had some broad support from that nation's perspective. Vulnerable countries and countries with well-informed populations pushed for stronger action to reduce climate change. Many nations, including the United States, resisted large reductions in fossil fuel use because of the potential impact on wealth and free market philosophy. Our negotiators also knew that Congress and large segments of our population would oppose any treaty. For years our political system has treated scientific evidence about the likely future of our planet as simply untrue or at least adaptable to "political reality."

Certainly our knowledge of the future of the earth system is very incomplete. But the earth, in all its living glory and complexity, doesn't read the blogs and doesn't negotiate with our "reasonable requests" for a 30-year extension. The earth's climate just responds to increasing pollution and greenhouse gases; and all life on earth, which includes humanity, will have to adapt. Ignoring this reality and simply trumpeting our faith in growing energy use and consumerism is a recipe for the collapse of our human system.

As a society we recognize that if we ignore bridge maintenance because we don't like taxes, then it is unfair to blame the engineer who designed the bridge when it eventually collapses. Yet even in such a relatively straightforward case of cause and effect, it's very hard to accept our obvious responsibility. The parallel for the earth's environment is even more difficult, because we didn't design it, and we barely understand it. But as crises approach because of our shoddy human practices, whom can we blame but ourselves? Instead, some just shout louder: "Don't worry; anthropogenic climate change is just a scientific conspiracy."

This extraordinary claim, which collapses the moment anyone tests it, is believed by many in the United States. It is used for political leverage, mostly to avoid discussing issues of the wealth and power that must be faced if we accept our responsibility for the future of Earth.

Understanding the Earth requires several fundamental shifts. The first big step, always the hardest, is a shift from an annual to a generational perspective. For our capitalist society, this means we must look beyond quarterly profits and start the "real costing" of goods and services for humanity and the earth system for the next 30 years. Even this perspective is not really big enough, but it is a tangible first step for those with children and grandchildren. In reality, the longer seven-generational time frame of many native peoples is a better timescale for the earth's ecosystem.

Of course we don't know enough, so we have to build in resilience and adaptability. Where we lack detailed knowledge, we need the vision to follow broad principles that are earth-centered rather than human-centered. Yes, it will cost more and slow down "growth." But we must build in feedbacks that slow down the growth of our human impacts if we are to thrive as a species on this planet; rather than grow exponentially to a glorious crash from which it may take us centuries to recover.

This is not easy. It means changing our fossil bureaucracies to a more adaptive system of government. The United States is now in the regrettable position that it is too big to fail but is crumbling as a system because it is too fearful to adapt. This is just one more transition issue to face in our local communities, now that this week's big rainstorm has washed away some of our winter snow!