

FUEL IMPORTS

Territory size shows the proportion of worldwide fuel imports. In the next 20 years, the U.S. demand for oil is expected to jump 30 percent, with demand for natural gas jumping by more than 50 percent.

Problems Without Borders

Complex data—on fuel, plants, or recycling—can tell a simple story.

With maps from a joint project between the Universities of Michigan and Sheffield (U.K.), a famed Harvard biologist lays bare the environmental bottom line

By E. O. Wilson

Homo sapiens is not a physically imposing species—and in terms of biomass does not take up much room. If the bodies of all 6.5 billion human beings alive on earth today were log-stacked, they would fill less than a cubic mile. They could be lowered out of sight in some small corner or other of the Grand Canyon. Our musculature is even less imposing. Thin and wobbly-headed, we appear to have arisen by natural selection to run marathons across African savannas in pursuit of antelope and other strongly built but short-winded animal prey.

How did such frail creatures come to be a geophysical force and

dominate the world? Brains, obviously. Somehow, by a process still not well understood, we mastered fire, invented weaponry, and learned to talk to one another in arbitrarily devised symbolic languages. But in rising to power, beginning with the invention of agriculture a scant 10 millennia ago, we carried along with us the heavy baggage of ancient primate instincts. Today, as a result, we live in *Star Wars* civilizations ruled by Stone Age emotions, medieval institutions, and god-like technology.

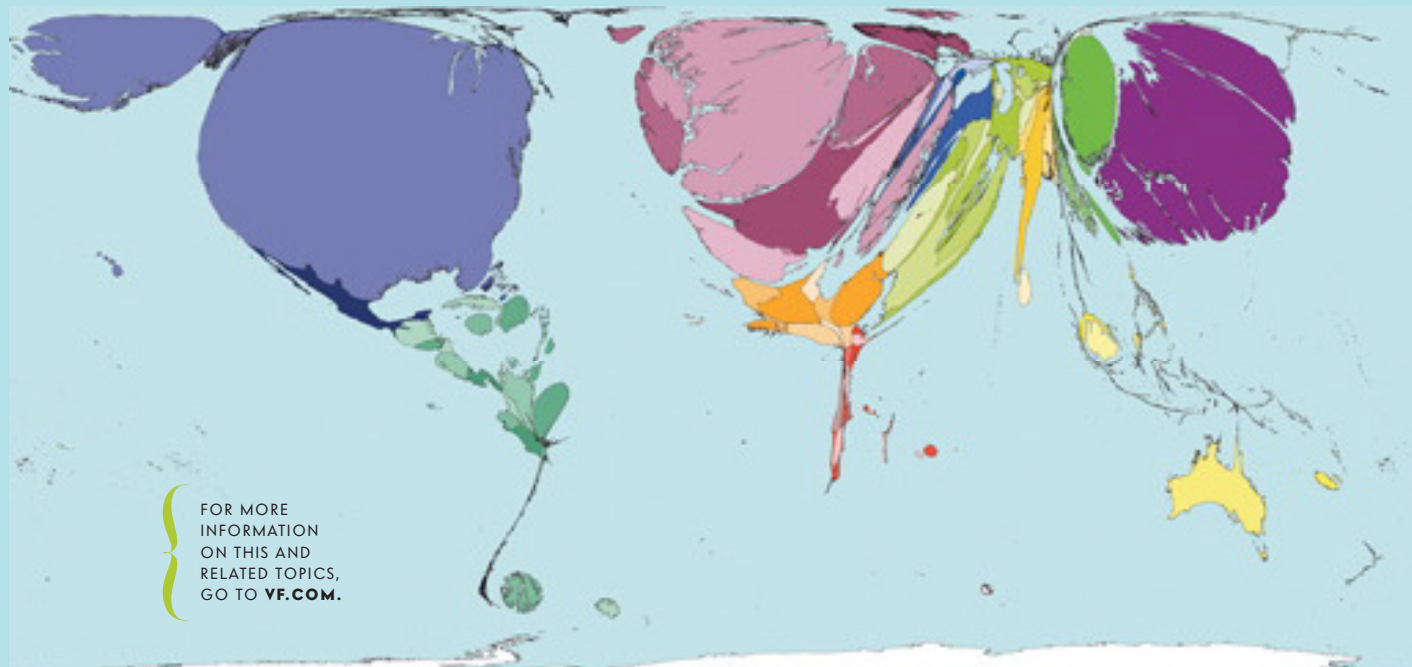
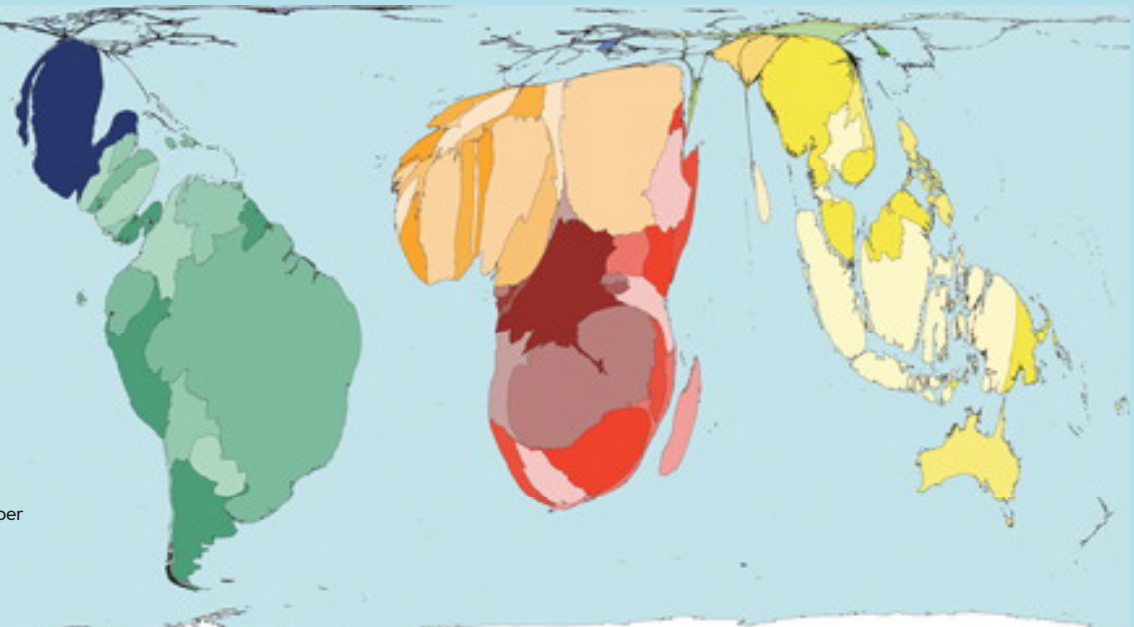
We haven't really figured out yet, as a species, what we are, where we are going, and what we will be when we get there. But at least we have discovered that we are fast ruining the global envi-

PLANTS AT RISK

Territory size shows the worldwide proportion of plant species that are at risk of extinction. The most plant species at risk are in Ecuador; 74 percent of 2,467 local species assessed there were classed as threatened.

**FOREST LOSS
VERSUS WOOD AND
PAPER IMPORTS**

The top map shows the proportion of worldwide net forest loss that occurred in countries between 1990 and 2000. The lower map shows the proportion of worldwide net imports of wood and paper in U.S. dollars. Deforestation accounts for 25 percent of global carbon emissions.



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ronment. The scientific evidence for that conclusion is now massive and compelling. The kaleidoscope of maps on these pages, created through the joint Worldmapper project at the Universities of Michigan and Sheffield (U.K.), exhibit the ghastly power of humanity's planetary engineering—and the importance of envisioning the planet as a whole. By mapping the proportional impact of a given variable across the world's territories, complex data relating to a

small region's resource consumption or waste generation can tell a simple story on a global scale. The bottom line is that we have created a real mess. In order to avoid wrecking our planetary home, we have to settle down and together devise the means to achieve sustainable development while preserving our biosphere. The good news is that the same thing that has gotten us into trouble—those brains of ours—can get us out. We're smart. We can do it. □

**WASTE PRODUCTION
AND RECYCLING**

In the left map, territory size shows the proportion of the world's municipal waste generated in a given place, while the map on the right shows the proportion of worldwide recycling that is occurring.

