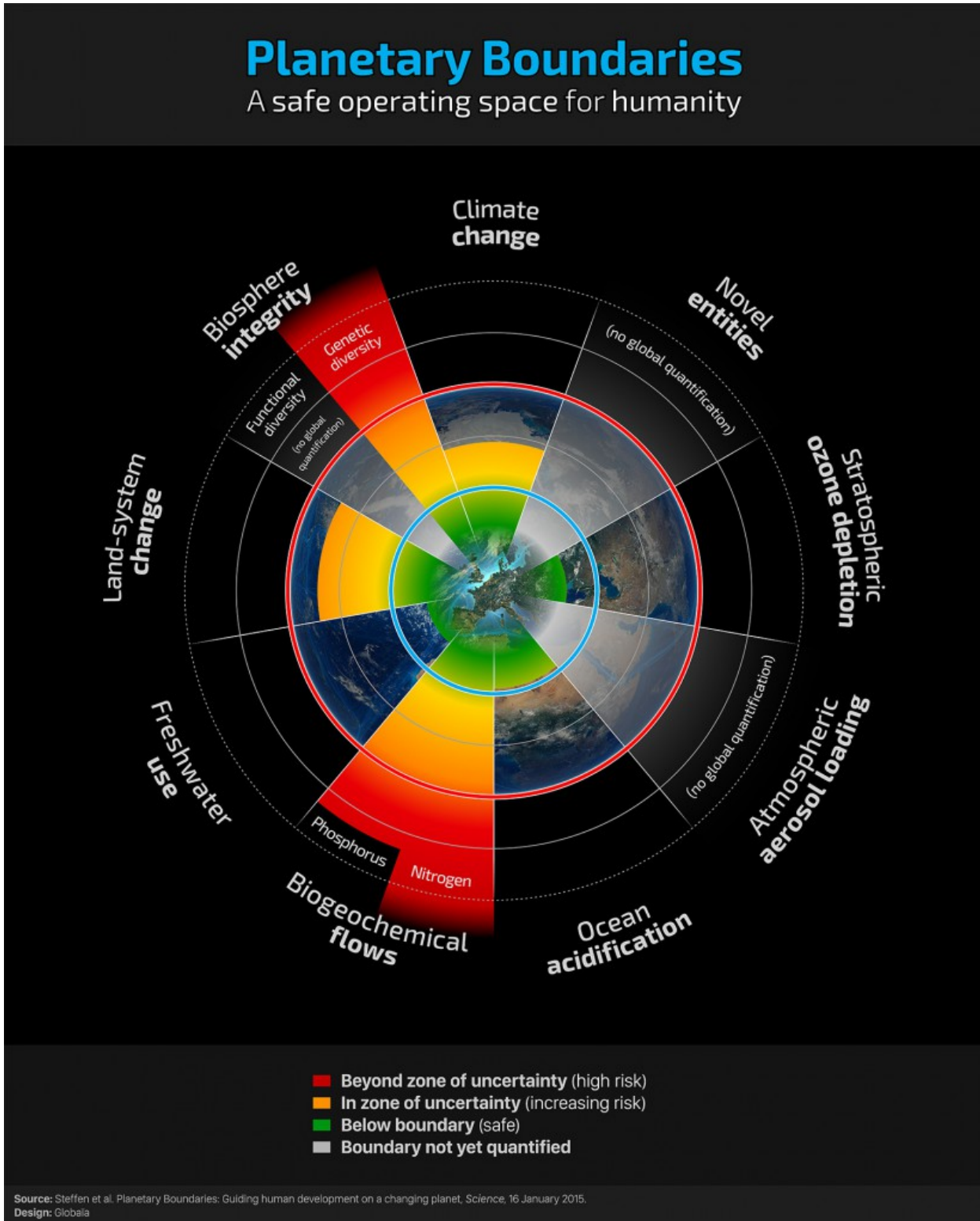


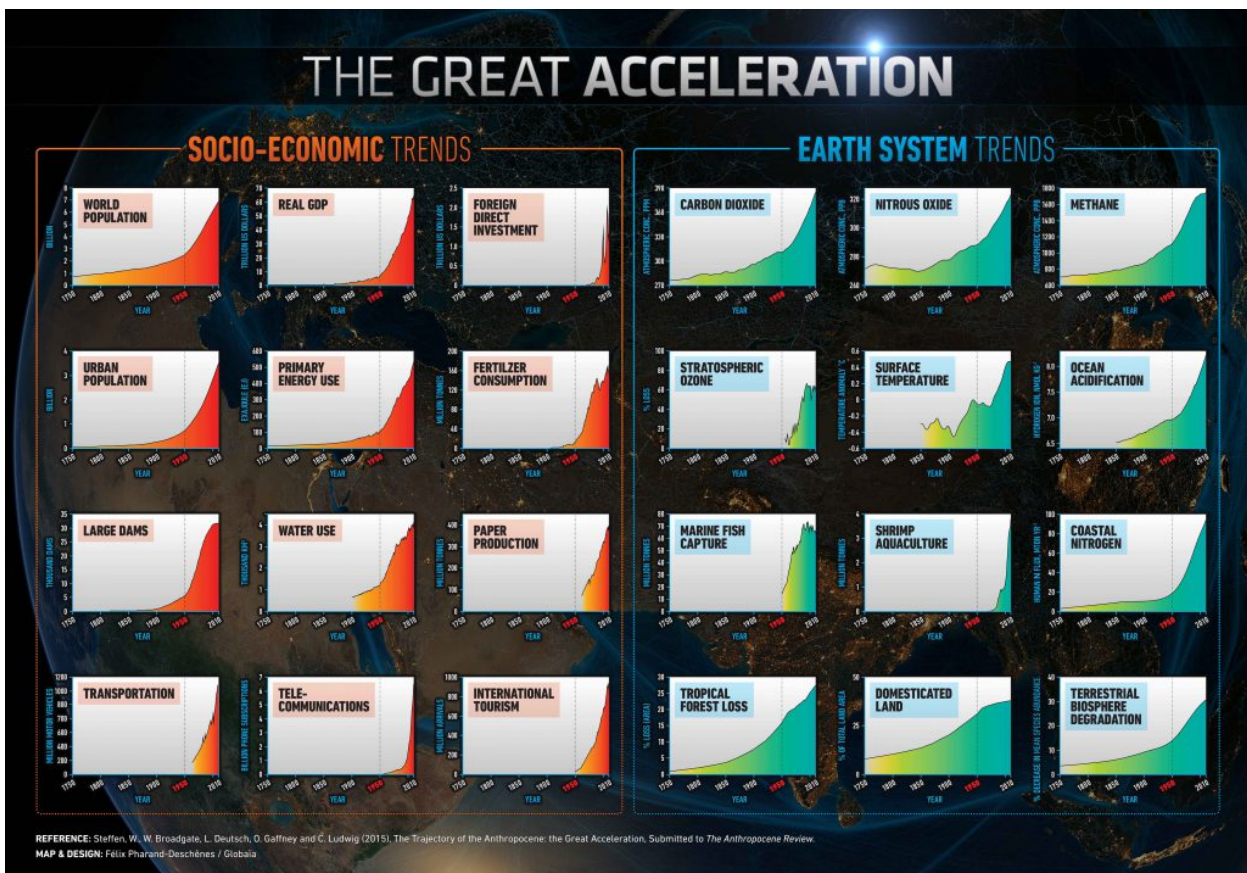
## Thresholds



The Stockholm Resilience Centre has [a paper](#) in Science that updates their work on *planetary boundaries*. "The planetary boundaries framework defines a safe operating space for humanity based on the intrinsic biophysical processes that regulate the stability of the Earth System." Of

the nine planetary boundaries, the scientists reckon that four have now been crossed. Does this mean we're dead? Not necessarily. The lead author, [Will Steffen](#), says "Transgressing a boundary increases the risk that human activities could inadvertently drive the Earth System into a much less hospitable state,..." We've heightened the risk. There's quite a bit more [here](#) on the updated findings.

Of course, the IPCC has been telling us this since 1990. So have the National Science Academies of all the major advanced economies, as well as scores of other institutes, universities, and NGOs. What's more, as Steffen and his co-authors on another, related study highlight, our earth and socioeconomic systems have both been trending toward a "[great acceleration](#)."



Do we know how to reverse these trends and to reduce the risk to the planet and all its life, including an obscure species known as *Homo sapiens sapiens*? Of course! **We** have done all this harm. It does seem eminently logical that we can undo it, or at least change course. Because humankind has been the progenitor of these unwelcome transformations, wrought over an incredibly short period of time, we are said to be living in the [Age of the Anthropocene](#). (See the video below for a good illustration of the concept.)

Here's another way of looking at our predicament, the heightened risk that we are engendering with our fossil fuel consumption, forest and wetland destruction, rampant meat and fish consumption, and other self-destructive behaviors: We are coming nearer to Doomsday. The Bulletin of the Atomic Scientists has been looking at our proximity to annihilation, originally, of

course, in the context of the threat of nuclear weaponry, since 1947. PlanetArk reports [here](#) that the minute hand was recently set closer to midnight on the [Doomsday Clock](#). Yes, nuclear weapons are still a threat, but so is climate change.

One particular component of the risk lies in the dangers from warming to our food production. Again, PlanetArk has a report: [Food diversity under siege from global warming, U.N. says](#).

Not got your attention yet? How about this? [Ocean Life Faces Mass Extinction, Broad Study Says](#). The NY Times quotes Douglas J. McCauley, a co-author of a new study: "We may be sitting on a precipice of a major extinction event." The study is called [Marine defaunation: Animal loss in the global ocean](#). I was glad when the IPCC's latest report strongly emphasized, for the first time really, the serious [dangers of the impacts on the ocean of climate change](#). This new report underscores those dangers but also says "...meaningful rehabilitation of affected marine animal populations remains within the reach of managers." Let's hope that's true in the face of our present industrialization of fish harvesting, not to mention marine wetland destruction with water pollution and land development, ocean acidification from carbon dioxide loading and, of course, the warming of our marine waters.

We must, very simply, change our ways. Can we do it? Certainly. Will we do it? You tell me.