

Astrobiology News April 2017

Reflections for Earth Day: toward a Sustainable Future

With our planet being the focus of so many events and activities this month, it seems appropriate to make Earth the focus of this month's news. After all, one of Astrobiology's guiding questions asks, "What is Life's Future on Earth and Beyond?" Earth Day coincides with the March for Science on April 22nd. My own community of astronomers, the American Astronomical Society (AAS), has joined with more than 100 other organizations across all scientific disciplines to become an official partner of the March for Science (#ScienceMarch). The AAS has launched a social media campaign through which members have expressed why science is important to them.¹ On April 29th, just one week after the Science March, people of diverse faiths around the country will participate in the People's Climate March.²

Although people of good conscience are divided regarding the efficacy of participating in a march, I suspect we all share a deep concern with preserving and protecting our beautiful planet for future generations, and improving conditions for the poor and marginalized today, so let's take a brief look at one of the major challenges we face moving forward. Those of us who celebrate Easter this month might reflect on the world at the time of Jesus, when Earth's population was roughly 300 million people. One thousand years later, the population had increased by only 10 million. By the time of the Renaissance, at the birth of modern science, there were still fewer than a half-billion people on Earth. By 1999, however, at the dawn of the new millennium, Earth's population reached 6 billion, and at present, we are close to 7.5 billion.³

The Global Footprint Network reports that humanity has been in "ecological overshoot" since the 1970s, when the annual demand on resources began to exceed what the Earth can regenerate each year. Continued economic growth places a huge strain on Earth's resources. Today, humanity uses the equivalent of 1.6 Earths to provide the resources we use.⁴ If trends continue, we'll be using the equivalent of 3 Earths by 2050, when the world's population is expected to surpass 9 billion. In the words of TED fellow, Paul Gilding, "What happens when you operate a system past its limits and keep on going at an ever-accelerating rate is that the system stops working and breaks down."⁵

Gilding's TED talk ends on a hopeful note, "We can choose life over fear." Of course, solving a problem requires raising awareness of the problem and acknowledging it. Human beings are a creative and innovative species. For example, the Earth Institute at Columbia University is blending research, education, and practical solutions to help guide the world onto a path toward sustainability.⁶ By bringing leading scientists and economists together with experts in law, public health and policy, the institute creates collaborations to address issues of global sustainability, and to develop policy and engineer practical solutions to our many challenges.

Whether or not you plan to participate in a Science March, I hope you can join one of the many celebrations of our planet on Earth Day. If you live in or near Chicago, please consider coming to Earthfest (#ADLEREARTHFEST) at the Adler Planetarium on April 22nd, where you can engage in discussions with local scientists.⁷ With proof of residency, Illinois residents can enjoy FREE general admission.

As Michael often says, together we can make (and are making) a difference!

Until next month,

Grace

¹ See, for example, https://twitter.com/AAS_Office

² <https://faith.peoplesclimate.org/>

³ <https://www.census.gov/popclock/>

⁴ <http://www.footprintnetwork.org/>

⁵ https://www.ted.com/talks/paul_gilding_the_earth_is_full#t-186129

⁶ <http://www.earth.columbia.edu/articles/view/1791>

⁷ <http://www.adlerplanetarium.org/events/earthfest-2017/>