



Photo courtesy NASA

Unified in Stewardship

Perched in space for five months aboard a Russian space station, I saw planet Earth in all its majesty.

⋮ Jerry M. Linenger
⋮ Former NASA Astronaut

White clouds swirling above the churning ocean currents. Brown, green and sometimes reddish continents poking their heads out of the predominance of blue. Fault lines cracking and moving the land masses. Wind storms denuding the topsoil of drought-stricken Sub-Saharan Africa and depositing that same soil on the leeward side of the Andes. Africa's loss, South America's gain. A thousand points of light shining through the deep green jungles of Brazil as the trees are burned to make way for more farms. Alive, dynamic, burning, swirling, spewing planet Earth.

I have heard other astronauts talk about the delicacy of the Earth and its many inhabitants. Indeed, when viewing the delimiter at Earth sunrise or sunset, the band of atmosphere is narrow, thin, seemingly clutching to the curvature of the Earth. I have heard them talk about the lack of political borders. One land, one Earth, all shared. True also. But my overwhelming impression after closely observing Earth for over 150 days was that the Earth is alive. Alive, breathing and buffering. A remarkably regenerative miracle, the Earth is ever-so dynamic. Ever changing, always adapting and renewing itself. The Earth is incredible, an extremely complex, closed ecosystem that for millions of years has supported life. A system so intrinsically intertwined, so time-tested and fine-tuned, that it is beyond our comprehension.

The over-consumption and individual insults to our planet do add up, and the consequences are beginning to show themselves at an alarming rate.

A space station essentially tries to mimic the processes of the Earth. We try to create a closed ecosystem that will support life. To be frank, we are not very good at it, and the only way that we can accomplish the task, even for short periods of time, is to cheat. That is, we supplement the life-support systems onboard by bringing along supplies taken from the planet. We are more like a modern-day camper than a forager of old who truly lived off of the land. To date, we have only been able to keep a few people alive in space at a time, and only at great cost and by bringing most of the gear and supplies with us.

Given the challenges associated with maintaining life without the benefit of the Earth's many life-supporting systems, we need to recognize the Earth as a miracle—a blessing to us. We must also shift our perspective and begin to see the Earth as a whole.

Forget the “kumbaya” feeling of looking down at an Earth with no borders between nations. Forget the chants of “can't we all just love one another?” But think if all of us on Earth could move toward a common perspective for one common problem that concerns us all. This common goal, in all of our interests, can perhaps move us beyond our differences, shift our perspective and make us realize that we are all in this closed ecosystem together. Can we be united in at least this one reality? Can we strive to keep Earth healthy and to expand our territorial boundary to the curved edge of

the Earth? If not for us, then we must at least try for our children and our children's children.

For the record, I am not a fan of the “one world, one government” philosophy. A lot of our problems are local and need to be solved locally. Being cut off from mankind for five months taught me that one of the true blessings of the Earth is the diversity of our people and of our cultures. But after living in a closed ecosystem with two other people, all the while struggling to keep life-support systems functioning, I realized quickly that if we had one weak link in the chain, we would all suffer the consequences. One of the three of us not doing our job, one of us pushing the wrong button at the wrong time, one of us not “knowing our stuff” and improperly maintaining or repairing an oxygen generating system in a timely matter, and we all die. This underscored the importance of being there for each other as well.

In a closed ecosystem, with three on board, it is very easy to tell if you are the weak link in the chain. On our big, incredibly complex and self-correcting planet, populated with billions of people who for the most part are just trying to scratch out an existence, the effect of our individual actions are much more difficult to ascertain. But the consequences of our actions do exist. The over-consumption and individual insults to our planet do add up. And the consequences are beginning to show themselves at an alarming rate.

Indonesia is the most biodiverse region in the world, and unfortunately also has the highest rate of deforestation in the world, mainly due to our high demand for paper products and palm oil.



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Photo courtesy NASA

This NASA photo shows the vast reach of humanity on planet Earth.

It sure is easy to point fingers. But none of us should feel smug. We are the corporations, we are the governments, we are the citizens of our countries. We are the people of the Earth and taking action to conserve and live lighter on the planet can save forests, reduce climate impacts, prevent pollution, sustain communities, and preserve this planet's amazing diversity of life. Our voices and actions help to shape innovative government policies and business practices, and create a groundswell that will eventually permeate all of our institutions. Whether it's recycling or buying organic and local, helping to build a health clinic, getting rid of the second refrigerator and replacing light bulbs, driv-

ing less or not driving at all, eating less meat, serving those in need or being the environmental champion in a company or government position, or the myriad other options, every small or large step is meaningful. We as individuals can all be citizen-stewards.

And though the awareness and efforts to bring about these necessary changes are spreading, the pace of that unifying change is important as well. As individuals and as citizens of the nations of the world, we must quickly realize the balance needed on our planet before our efforts are too late. The pace of innovation needs to be laps ahead of the rate of degradation and extinction.

Taking action to conserve and live lighter on the planet can save forests, reduce climate impacts, prevent pollution & preserve this planet's amazing diversity of life.

I can tell you plainly that our Earth and the diversity of life and cultures within it are special. If we shift our perspective and broaden our territorial boundary to encompass the planet as a whole, individually, we will do the right thing. We must let common sense be our guide, treating our closed Earth ecosystem with the same care that we would if we were an astronaut aboard a space station, a space station that we can only marvel at, that has functioned for millions of years and

that we will never be able to replicate. The environment should not be a battleground between different political factions, nor should it be the cause of inter-governmental confrontation. Instead, it is a common ground that stretches across the entire political spectrum and, indeed, across all man-made boundaries. It is one issue that needs to unite us all.

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Dr. Jerry M. Linenger is a Naval Academy graduate holding a doctorate of medicine from Wayne State University and doctorate of philosophy from the University of North Carolina. In his mission on Mir, he logged 50 million miles in more than 2,000 orbits of Earth at 18,000 miles per hour. He was the first American to undock from the space station in Soyuz spacecraft and the first American to perform a spacewalk outside a foreign spacecraft; at the completion of the mission, he had spent more time in space than any American man.

