

ANA  AMERICAN NURSES ASSOCIATION
INNOVATION

iadc

innovation advisory committee

planetary and
global health

vision

Nurses are leading innovation in healthcare, increasing access to primary care and wellness through creative delivery platforms and through the measurable improvements in health equity and social determinants of health globally, these wins are drawing significant investment into grass roots organizations that are led by communities of color, and nursing and healthcare can rapidly adapt and respond to the complex challenges facing patients, communities and our sector.

Nurses, practicing as global citizens with a planetary health lens are advancing climate justice and health equity through policy, practice, research, and education. In addition to being evident in the values and statements of professional organizations, this change is most evident in both the existence of a successful nursing workforce that is as diverse as the individuals it serves, and in the dramatic improvements in health equity observed from restorative and reparative health delivery models and practices.

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In compiling these innovation resources our goal was to ensure unique information across all eight resource guides and to avoid redundancy. You may find additional content around **Planetary & Global Health** in the general resource guide. We thank the Planetary & Global Health committee for contributing content to advance nurse-led innovation.



general resources

General Resources

- ANA 2008 Position Statement on Global Climate Change [\[pdf\]](#)
- Planetary Health Education Framework [\[website\]](#)
- The Nine Planetary Health Boundaries [\[website\]](#)

Climate + Health Care Delivery

- AHR Primer Reducing Healthcare Carbon Emissions [\[website\]](#)
- Climate Impact Checkup [\[website\]](#)
- Climate Resilience for Frontline Clinics Toolkit [\[website\]](#)
- Comparison chart of hospital green teams and their structure [\[article\]](#)
- Delivering a Net Zero National Health Service [\[pdf\]](#)
- Global Road Map for Health Care Decarbonization [\[website\]](#)
- Healthcare's Climate Footprint [\[website\]](#)
- Healthcare Pollution and Public Health Damage in the United States [\[website\]](#)
- Health Care Without Harm Climate Series: Path to Climate-smart, Net-zero Emissions Health Care A Grand Rounds Series [\[events and recordings\]](#)
- It's impossible to have healthy people on a sick planet [\[video\]](#)
- Neighborhoods at Risk [\[website\]](#)

Climate + Nursing

- A CLIMATE: A Tool for Assessment of Climate-Change-Related Health Consequences in the Emergency Department [\[article\]](#)
- Climate, Health and Nursing Tool [\[website\]](#)
- Critical Environmental Justice Nursing for Planetary Health: A Guiding Framework [\[article\]](#)
- Defining Climate Justice in Nursing for Public and Planetary Health [\[website\]](#)
- Exclusive: ICD Coding and Climate-Related Psychiatry [\[article\]](#)
- How to support patients/communities in disaster preparedness [\[website\]](#)
- Incorporating environmental health data into your nursing assessment [\[website\]](#)
- ICD-10-CM Diagnosis Codes [\[website\]](#)
- Improving Assessments of Connection to Nature: A Participatory Approach [\[article\]](#)
- Nursing and Sustainable Development: Furthering the Global Agenda in Uncertain Times [\[article\]](#)
- Nursing's pivotal role in global climate action [\[article\]](#)



general resources

General Resources (cont.)

Environmental Health and Nursing

- Alliances of Nurses for Health Environments
Environmental Health Nurse Fellowship [[website](#)]
Incorporating environmental health data into your nursing assessment [[website](#)]
- Critical Environmental Justice Nursing for Planetary Health: A guiding framework [[article](#)]
- Nursing Strategies for environmental justice: A scoping review [[article](#)]
- Nurses Heal Environmental Injustice Through Community Partnerships [[article](#)]
- How to Conduct a GHG Emission Inventory for Your Organization [[website](#)]
- How the Non-Work Environment Can Affect Worker and Family Health [[article](#)]
- Working with an environmental justice community: Nurse observation, assessment, and intervention [[article](#)]

Healthcare Organizations Climate + Assessments

- How to Address Healthcare's Climate Emergency [[article](#)]
- How to Conduct a GHG Emission Inventory for Your Organization [[website](#)]
- How the US Health Care System Contributes to Climate Change [[article](#)]
- Practice Greenhealth Tools and Resources [[website](#)]

Planetary and Global Health Nursing

- Improving Assessments of Connections to Nature: A participatory approach [[article](#)]
- Nursing and Sustainable Development: Furthering the Global Agenda in Uncertain Times [[article](#)]
- Planetary Health: The Next Frontier in Nursing Education [[article](#)]
- Planetary Health: An Essential Framework for Nursing Education and Practice [[article](#)]
- Planetary Health Nursing [[article](#)]
- The Planet is Our Patient [podcast]
- Redesigning healthcare: Global insights for nurses [[article](#)]



general resources

General Resources (cont.)

Your Call To Action

- Call for Emergency Action to Limit Global Temperature Increases, Restore Biodiversity, and Protect Health [\[article\]](#)
- Climate Action Guide for Nurses [\[pdf\]](#)
- Climate Solutions at Work [\[article\]](#)
- Decarbonizing the U.S. Health Sector: A Call to Action [\[article\]](#)
- Everything's collapsing: Why now is the perfect time for planetary action [\[podcast\]](#)
- Freedom Community Clinic [\[website\]](#)
- HHS Launches 2022 Pledge Initiative to Mobilize Health Sector to Reduce Emissions [\[website\]](#)
- How to start an All We Can Save Circle where you work [\[article\]](#)
- Identify your role in climate action [\[video\]](#)
- Planetary Health and the Role of Nursing: A Call to Action [\[article\]](#)
- The Public Health Crisis is Planetary - And Nursing is Crucial to Addressing It [\[article\]](#)
- Weaving Traditional Ecological Knowledge into Biological Education: A Call to Action [\[article\]](#)



government

Government

- CDC Climate information on Health [\[website\]](#)
- CDC and Prevention Exposome and Exposomics [\[website\]](#)
- Federal Sustainability Plan [\[website\]](#)
- Green Climate Fund [\[website\]](#)
- Mayors' Sustainable Cities [\[website\]](#)
- Office of the Federal Chief Sustainability Officer [\[website\]](#)
- Office of Climate Change and Health Equity (OCCHE) [\[website\]](#)
- United Nations Environment Programme [\[website\]](#)
- United Nations Framework Convention on Climate Change (UNFCCC) [\[website\]](#)
- United Nations Sustainable Development Goals [\[website\]](#)
- US Environmental Protection Agency [\[website\]](#)
- WHO: Working for Health 2020-2030 Action plan [\[website\]](#)
- WHO Commercial determinants of health [\[website\]](#)
- WHO Environmentally Sustainable Health Care Facilities [\[website\]](#)
- World Bank [\[website\]](#)



legislation + policy

Legislation + Policy

- Climate Policy and Politics Presentation with Yale Policy Lab [\[video\]](#)
- CT State Next Generation Science Standards - Require Climate Change Education [\[article\]](#)
- Combining climate, economic, and social policy builds public support for climate action in the US [\[article\]](#)
- Decarbonization Policy Guide [\[podcast\]](#)
- Executive Action on Climate To Address Extreme Heat & Wind Energy [\[fact sheet\]](#)
- Executive Order on the Implementation of the Energy Infrastructure Provisions of the Inflation Reduction Act [\[article\]](#)
- UNFCCC
 - Key Policy Takeaways from COP27 [\[website\]](#)
 - Paris Agreement [\[website\]](#)
- State Climate Policy Maps [\[website\]](#)
- US Climate Action Policy Tracker [\[website\]](#)



universities + academia

Universities and Academia

- George Mason University Center for Climate Change Communication [\[website\]](#)
- Nurses Climate Challenge: School of Nursing Commitment [\[website\]](#)
- Penn State School of Nursing [\[website\]](#)
- Penn State Sustainability Institute [\[website\]](#)
- Stanford Doerr School of Sustainability [\[website\]](#)
- University of Maryland School of Nursing [\[website\]](#)
- University of Massachusetts Amherst School of Earth and Sustainability [\[website\]](#)
- University of Minnesota School of Nursing Planetary Health [\[website\]](#)
- University of Wisconsin-Madison Planetary Health & Justice Initiative [\[website\]](#)
- Vanderbilt University's Climate, Health, and Energy Equity Lab [\[website\]](#)
- Yale School of Nursing Office of Global Affairs and Planetary Health [\[website\]](#) [\[website\]](#)



businesses + philanthropy

Businesses, Non-Profits, and Programs

- National Academy of Medicine Action Collaborative on Decarbonizing the U.S. Health Sector [\[website\]](#)
- The Center for Climate Change, Climate Justice, and Health at MGH Institute of Health Professions [\[website\]](#)

Philanthropy

- Bill and Melinda Gates Foundation [\[website\]](#)
- Bloomberg Philanthropies [\[website\]](#)
- Climateworks Foundation [\[website\]](#)
- Commonwealth Fund [\[website\]](#)
- Gordon and Betty Moore Foundation [\[website\]](#)
- Kresge Foundation [\[website\]](#)
- Rockefeller Foundation [\[website\]](#)
- Tennessee Weatherization Assistance Program [\[website\]](#)



organizations + conferences

Organizations

- American Holistic Nurses Association (AHNA) Planetary Health Task Force [\[website\]](#)
- Alliance of Nurses for Healthy Environments (ANHE) [\[website\]](#)
- American Holistic Nurses Association [\[website\]](#)
- Canadian Association of Nurses for the Environment [\[website\]](#)
- Center for Nature and Health [\[website\]](#)
- Center for Sustainable Healthcare [\[website\]](#)
- Global Climate and Health Alliance [\[website\]](#)
- Global Consortium on Climate and Health Education [\[website\]](#)
- Harvard T. H. Chan School of Public Health [\[website\]](#)
- Intergovernmental Panel on Climate Change (IPCC) [\[website\]](#)
- International Council of Nurses [\[website\]](#)
- Partners in Health [\[website\]](#)
- Project Drawdown [\[website\]](#)
- World Economic Forum [\[website\]](#)

Conferences

- AHNA conference [\[website\]](#)
- CleanMed [\[website\]](#)
- COP UN Climate Summit [\[website\]](#)
- COP 15/Biodiversity Conference [\[website\]](#)
- GreenBuild Conference [\[website\]](#)
- Healthy Kitchens, Healthy Live [\[website\]](#)
- Planetary Health Alliance Annual Meeting [\[website\]](#)



education + training

Education and Training

- All We Can Save [\[website\]](#)
- ANHE Education Forum [\[website\]](#)
- Coursera: Planetary Health for Nurses [\[website\]](#)
- Do Lessons in Nature Boost Subsequent Classroom Engagement? Global Consortium on Climate and Health Education [\[website\]](#)
- External climate change. . . Internal physiologic evolution [\[article\]](#)
- Health in Harmony: Planetary Health in Action Course [\[website\]](#)
- Hope, Health, and the Climate Crisis [\[article\]](#)
- International Family Nursing Association Top Ten Resources for Teaching Future Nurses about Planetary Health [\[website\]](#)
- Let's Talk Climate: Communication Guidance for Health Professionals [\[pdf\]](#)
- National Institute of Environmental Health Sciences (NIEHS) Climate Change and Human Health Lesson Plans [\[website\]](#)
- Nurses Climate Challenge [\[website\]](#)
- Planetary Health Case Studies: An Anthology of Solutions [\[website\]](#)
- Planetary Health Report Card [\[website\]](#)
- The Journal of Climate Change and Health [\[journal\]](#)
- The Planetary Health Education Framework [\[article\]](#)
- The Relational Work of Systems Change [\[website\]](#)
- Refueling Students in Flight [\[article\]](#)
- Room to Heal [\[website\]](#)
- Transforming curriculum using the Planetary Health Education Framework: A case study from nursing [\[poster\]](#)



JEDI (Justice, Equity, Diversity, Inclusion)

- America's Most Destructive Habit [\[article\]](#)
- An Episode on Climate Justice & Queer and Trans Liberation [\[podcast\]](#)
- Confronting Racial and Economic Disparities in the Destruction and Protection of Nature in America [\[article\]](#)
- COP26 and False Solutions to Climate Change [\[website\]](#)
- Coronavirus and Climate Change [\[website\]](#)
- COVID-19 and Climate Change: Crises of Structural Racism [\[article\]](#)
- Environmental Justice is Racial Justice: The Whitewashing of the Environmental Movement [\[website\]](#)
- Failing to address racism: A commentary on "From Florence to Fossil Fuels Nursing Has Always Been About Environmental Health" [\[article\]](#)
- Illuminating Antiracist Pedagogy in Nursing Education [\[article\]](#)
- Indigenous perspective n education for sustainable healthcare [\[article\]](#)
- Indigenous & Tribal Sovereignty Policy Stances and Priorities [\[website\]](#)
- Malala Fund Publishes Report on Climate Change and Girls' Education [\[website\]](#)
- Mapping Survival [\[video\]](#)
- Molecular decolonization: An indigenous microcosm perspective of planetary health [\[article\]](#)
- Native Perspectives on Sustainability: Dennis Martinez (O'odham/Chicano/Anglo) [\[article\]](#)
- None Of Us Is Free Until All of Us Are Free [\[website\]](#)
- Nurses promoting inclusive, safe, resilient, and sustainable cities and communities: Taking action on COVID-19, systemic racism, and climate change [\[article\]](#)
- Nursing With the People: Reimagining Futures for Nursing [\[book\]](#)
- One Health of Peripheries: Biopolitics, Social Determination, and Field of Praxis [\[article\]](#)
- Paul Farmer Believed Global Health and Health Equity Were About Teamwork [\[article\]](#)
- Placed Here, In This Calling [\[website\]](#)
- The Determinants of Planetary Health: an Indigenous Consensus Perspective [\[article\]](#)



jedi

JEDI (cont.)

- The Interconnectedness of People and Planet [\[case study\]](#)
- Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing [\[article\]](#)
- UMN School of Nursing Planetary Health Guest Lecture: Indigenous Perspectives on Planetary Health [\[video\]](#)
- We Have Never Been Nurses Nursing in the Anthropocene, Undoing the Capitalocene [\[article\]](#)
- What Conservation Efforts Can Learn from Indigenous Communities [\[article\]](#)



journals + textbooks

Journals, Publications + Literature Search

- Creative Nursing – Promoting Planetary Health [\[book\]](#)
- Journal of Climate Change & Health [\[website\]](#)
- Lancet Commission on Planetary Health: Safeguarding Human Health [\[website\]](#)
- Planetary Health Literature Search [\[website\]](#)

Textbooks

- A New Era in Global Health [\[book\]](#)
- Alliance of Nurses for Healthy Environments (ANHE) Environmental Health Nursing Textbook [\[book\]](#)
- United Nations Declaration on the Rights of Indigenous Peoples [\[book\]](#)



articles + research

Articles + Research

Air

- Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US [\[article\]](#)
- Association Between COVID-19, Air Pollution, and Climate Change [\[article\]](#)
- Environmental Defense Fund Clean air initiatives [\[website\]](#)
- Health Care Pollution And Public Health Damage In The United States: An Update [\[article\]](#)
- Mapping Cancer-Causing Industrial Air Pollution [\[article\]](#)
- World Health Organization: Air pollution [\[website\]](#)

Climate Change and Health Outcomes

- Climate change and influenza: A scoping review [\[article\]](#)
- Climate change and cancer [\[article\]](#)
- Climate Change and Health at COP27 [\[website\]](#)
- COP26: Looking forward from Glasgow by placing health at the center of climate action [\[article\]](#)
- Cradle to grave: The health harms of fossil fuel dependence and the case for a just phase-out [\[pdf\]](#)
- Impact of extreme weather events on Sub-Saharan African child and adolescent mental health: The implications of a systematic review of sparse research findings [\[article\]](#)
- Increased pulmonary circulatory disease diagnosis risk associated with heatwave [\[article\]](#)
- Measuring The Impact Of Air Pollution On Health Care Costs [\[article\]](#)
- Meteorological linkage of Malaria cases in the eastern state of India [\[article\]](#)
- The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels [\[article\]](#)
- Nursing's pivotal role in global climate action [\[article\]](#)
- When disaster strikes: The role of disaster planning and management in cancer care delivery [\[article\]](#)
- The Future of Nursing 2020-2030 [\[report\]](#)
- The planet is the patient now: how doctors and nurses are the front-line solution to climate change [\[article\]](#)



articles + research

Articles + Research (cont.)

Climate and Planetary Solutions

- Drawdown solutions library [\[website\]](#)
- Improving rural health care reduces illegal logging and conserves carbon in a tropical forest [\[article\]](#)
- Malala Fund—Climate Change and Educational Equity [\[report\]](#)
- Net zero America decarbonization study [\[website\]](#)
- Regenerative organic agriculture and climate change [\[pdf\]](#)
- Rodale institute soil health and farming research [\[website\]](#)
- The role of Indigenous peoples and local communities in effective and equitable conversation [\[article\]](#)
- The ozone layer is slowly, but surely, healing [\[article\]](#)

Ecological Footprint/Identity

- Beyond the Slogans: Understanding the Ecological Consciousness of Nurses to Advance Ecological Knowledge and Practice [\[article\]](#)
- Building Kincentric Awareness in Planetary Health Education: A Rapid Evidence Review [\[article\]](#)
- Ecological Footprint Calculator [\[website\]](#)
- The planet is the patient now; how doctors and nurses are the front-line solution to climate change [\[article\]](#)
- Traditional knowledge guides protection of planetary health in Finland [\[article\]](#)
- Researchers hope to mobilize nurses to help tackle climate change [\[article\]](#)

Environmental Exposures and Health Outcomes

- Effects of microplastics on fish and human health [\[article\]](#)
- High risk groups and sources of PFAS [\[website\]](#)
- PFAS and Health [\[article\]](#)
- When land is under pressure health is under stress [\[article\]](#)

Nature + Health

- Ecopsychology: How Immersion in Nature Benefits Your Health [\[article\]](#)
- EmotiPlant: Human-Plant Interaction for Older Adults [\[article\]](#)



articles + research

Articles + Research (cont.)

Nature + Health

- Evidence Supporting Enhanced Action on Connecting People With Nature [\[article\]](#)
- Minimum Time Dose in Nature to Positively Impact the Mental Health of College Aged Students, and How to Measure It: A Scoping Review [\[article\]](#)
- Nature Contact and Human Health: A Research Agenda [\[article\]](#)
- Nature's Role in Outdoor Therapies: An Umbrella Review [\[article\]](#)
- People With Dementia Can Work on Farms in Holland [\[article\]](#)
- Prescribing Nature: A Physician's Perspective on Wellness and the Outdoors [\[blog\]](#)
- This is Your Mind/Body on Nature [\[article\]](#)
- The Healing Power of Nature [\[article\]](#)
- The physiological and psychosocial effects of forest therapy: A systematic review [\[website\]](#)
- Understanding the impacts of care farms on health and well-being of disadvantaged populations: a protocol of the Evaluating Community Orders (ECO) pilot study [\[article\]](#)
- What are the Benefits of Interacting with Nature? [\[article\]](#)
- What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-Study Analysis [\[article\]](#)



interprofessional

Interprofessional

- Clinicians for Planetary Health (C4PH) [\[website\]](#)
- Climate for Health [\[website\]](#)
- Integrating planetary health into clinical guidelines to sustainably transform health care [\[article\]](#)
- Nutrition Facts – Dr. Michael Greger [\[website\]](#)
- WHO Initiative, Alliance for Transformative Action on Climate and Health [\[website\]](#)
- Roles of health professionals in addressing health consequences of climate change in interprofessional education: A scoping review [\[article\]](#)



transdisciplinary

Transdisciplinary

- Blue Zones [\[website\]](#)
- Chickasaw Nation – Tribal Leadership on Climate Solutions: April Taylor, GISP [\[website\]](#)
- Climate Justice Alliance [\[website\]](#)
- Deep Medicine Circle [\[website\]](#)
- EcoAmerica [\[website\]](#)
- Global Carbon Project [\[website\]](#)
- Greenroots [\[website\]](#)
- Green Wave [\[website\]](#)
- Indigenous Environmental Network [\[website\]](#)
- International Union for Conservation of Nature [\[website\]](#)
- Menus of Change [\[website\]](#)
- The Richmond Listening Project [\[website\]](#)
- Teaching Kitchens [\[website\]](#)
- WE ACT [\[website\]](#)



person, patient, families

Person, Patient, Families

- Climate and planetary health patient education resources [[website](#)]
- Educating patients and communities on climate and health [[website](#)]
- Educating patients and communities on nature and health [[website](#)]
- Helping patients and families prepare for disasters [[website](#)]
- Joy Is The Justice We Give Ourselves [[website](#)]
- What If We Get This Right? [[article](#)]



definitions

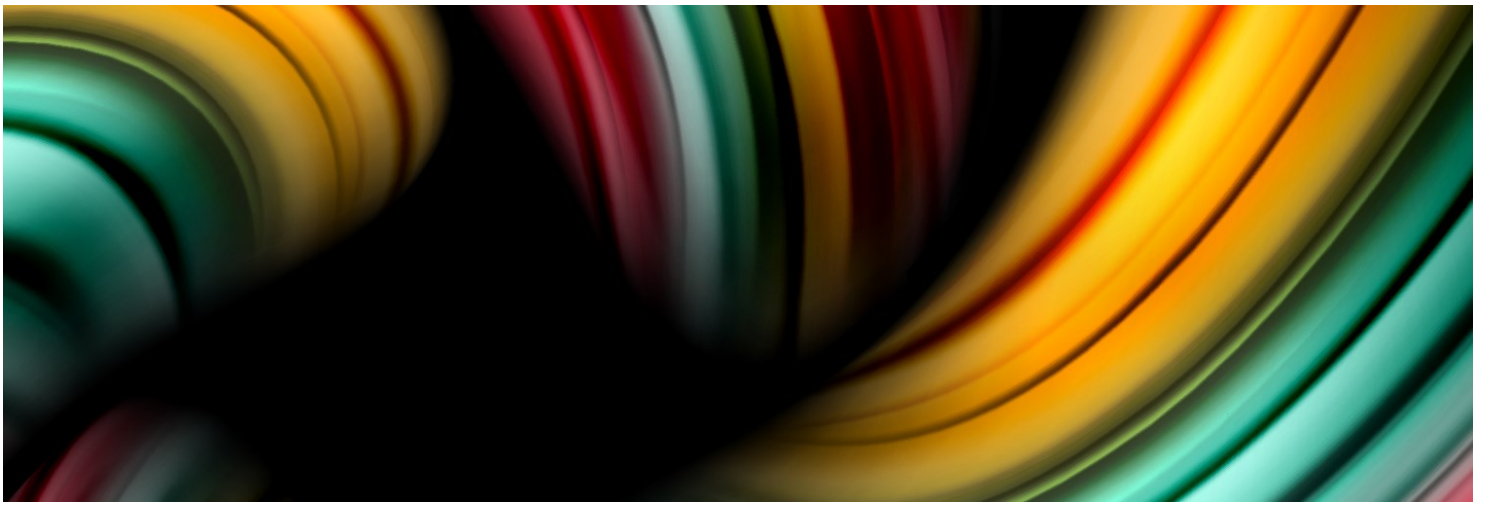
| Term | Definition |
|-----------------------------------|---|
| Adaptation | “Taking action to prepare for and adjust to both the current and projected impacts of climate change” [Environmental Protection Agency, 2021] |
| Anthropogenic Climate Change | The human impact on Earth's climate caused by “the amount of fossil fuels burned, aerosols released and land alteration from agriculture and deforestation,” [University of Calgary, n.d.] |
| Carbon Emissions | The release of greenhouse gases (CO ₂ , methane, nitrous oxide, fluorinated gases) into the atmosphere stemming from the burning of fossil fuels |
| Carbon Offsets | An action intended to compensate for the emission of carbon dioxide into the atmosphere as a result of industrial or other human activity, especially when quantified and traded as part of a commercial program [definition by Oxford Languages] |
| Climate Justice | “Climate justice” is a term, and more than that a movement, that acknowledges climate change can have differing social, economic, public health, and other adverse impacts on underprivileged populations [website] |
| Commercial Determinants of Health | Commercial determinants of health (CDoH) are the private sector activities impacting public health, either positively or negatively, and the enabling political economic systems and norms. |
| Decolonizing Global Health | “To remove all forms of supremacy within all spaces of global health practice, within countries, between countries, and at the global level,” [Abimbola & Pai, 2020] |



definitions

| Term | Definition |
|--------------------------------------|--|
| Mitigation | “Efforts to reduce or prevent emissions of greenhouse gases,” [United Nations Environment Programme, n.d] |
| Planetary Health | “The health of human civilization and the state of natural systems on which it depends,” [Whitmee et al., 2015] |
| Planetary Boundaries | <p>“A set of 9 planetary boundaries within which humanity can continue to develop and thrive for generations to come,” [Stockholm Resilience Center, n.d.]</p> <p>“Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes,” [Stockholm Resilience Center, n.d.]</p> <ul style="list-style-type: none"> - Stratospheric ozone depletion - Biodiversity loss and extinctions - Chemical pollution and the loss of novel entities - Climate change - Ocean acidification - Freshwater consumption - Land system change - Nitrogen and phosphorous flows - Atmospheric aerosol loading |
| Sustainable Development Goals (SDGs) | 17 global goals “adopted by the UN in 2015 as a universal call to action to end poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity,” [United Nations Development Programme, 2022] |





i d c

planetary + global health

The views and opinions expressed within these resources may not reflect the positions or policies of the American Nurses Association. The resources are provided for the sole purpose of highlighting innovative work across the nursing profession. Listing of links to organizations or groups shall not be construed as an endorsement of said organizations or groups. If you have any questions or concerns, please contact us [here](#).

