



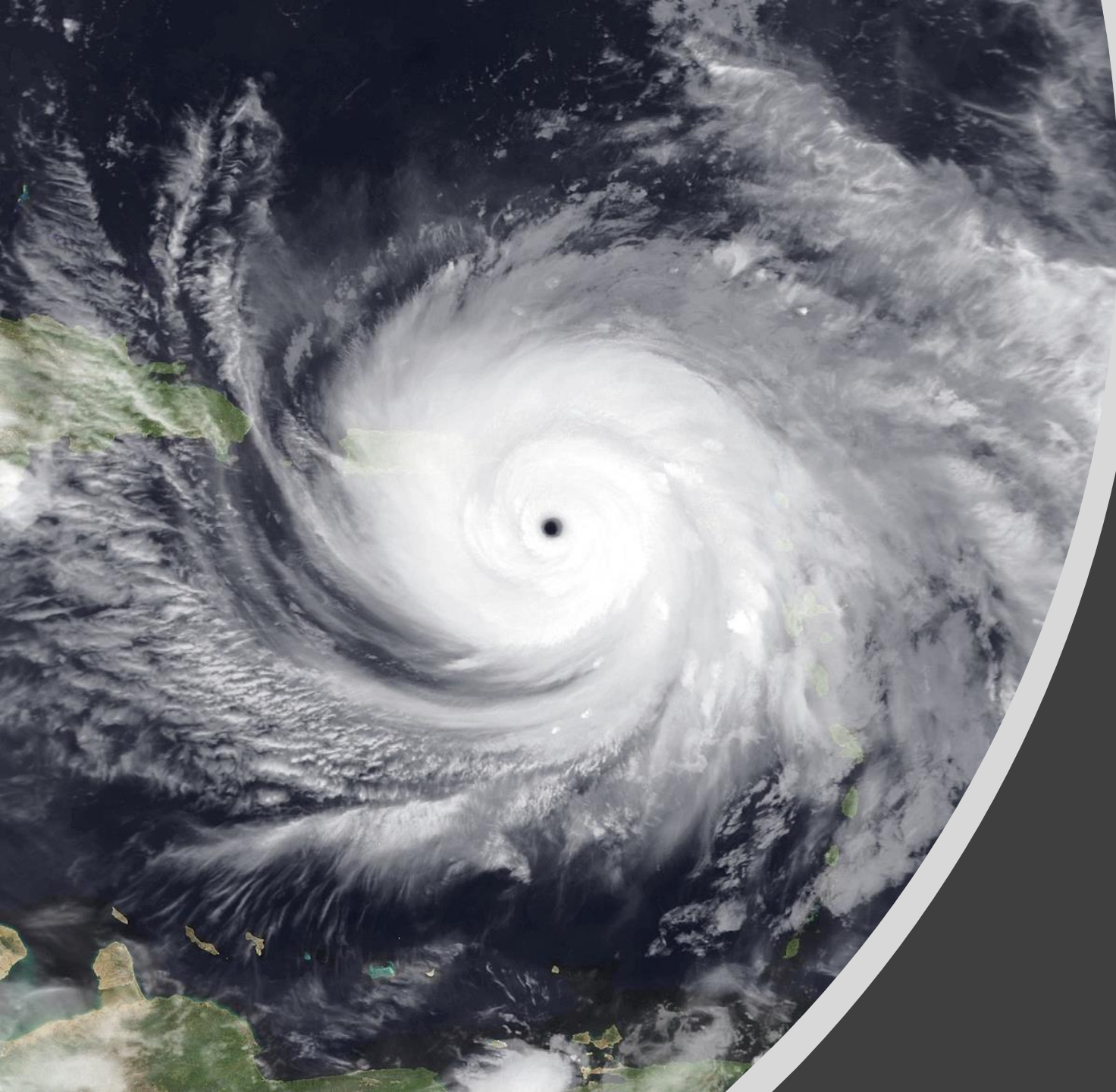
# House Preventive Health Policy Division and Climate & Energy Finance and Policy Committee

## **Teddie Potter PhD, RN, FAAN**

- Clinical Professor and Director of Planetary Health School of Nursing, University of Minnesota
- Chair, Clinicians for Planetary Health- Planetary Health Alliance, Harvard
- Chair, Environment and Public Health Expert Panel, American Academy of Nurses
- Steering Committee- Global Consortium on Climate and Health Education, Columbia University



GLOBAL = LOCAL |



Global = Local:  
Hurricane  
Maria

# Our environment is changing – and it's not just our climate.

- Forests are being cleared
- Biodiversity is rapidly disappearing
- The ocean is acidifying
- Land is desertifying
- Soil, air, and water ecosystems are being polluted
- Biogeochemical cycles are being altered
- Rivers are drying up and being dammed
- Extreme weather events wreak havoc on communities
- Temperatures are increasing
- Sea levels are rising



These changes in our environment severely **affect our health** and jeopardize decades of public health gains:

**Human health impacts include, but aren't limited to:**

- Cardiovascular diseases
- Respiratory diseases, like asthma and COPD
- Infectious zoonotic and diarrheal diseases
- Antimicrobial resistance
- Toxic and dioxin exposures
- Heat strokes
- Mental health effects
- Malnutrition
- Forced displacement and migration
- Civil strife and trauma



**PLANETARY  
HEALTH  
ALLIANCE**

# Why am I here today?

## The Executive Summary of the 2019

### *Lancet Countdown* report warns:

“The life of every child born today will be profoundly affected by climate change, with populations around the world increasingly facing extremes of weather, food and water insecurity, changing patterns of infectious disease, and a less certain future. Without accelerated intervention, this new era will come to define the health of people at every stage of their lives.”



“Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress alone. The direct damage costs to health is estimated to be between USD 2-4 billion per year by 2030.”

(World Health Organization, 2021b)

# DESTRUCTION OF HABITAT AND LOSS OF BIODIVERSITY ARE CREATING THE PERFECT CONDITIONS FOR DISEASES LIKE COVID-19 TO EMERGE

*As habitat and biodiversity loss increase globally, the novel coronavirus outbreak may be just the beginning of mass pandemics*



Climate Related Biodiversity Loss  
and Rise of Zoonotic Diseases





## Climate Related Malnutrition

“Rising levels of carbon dioxide (CO<sub>2</sub>) from human activity are making staple crops such as rice and wheat less nutritious and could result in 175 million people becoming zinc deficient and 122 million people becoming protein deficient by 2050.” (Smith & Myers, 2018)



# Climate Related Forced Displacement and Migration

Achieving planetary health will require a **Great Transition** where we all learn to do nearly everything differently, such as:

- How we produce and consume food, manufactured products, and energy;
- How we construct and live in our cities;
- How we manage our natural landscapes and resources;
- And the stories we tell ourselves about our place in the world, our relationship to Nature, and what it means to live a good life.



## The Great Transition will require both:

Major **innovation** across fields:

- Energy and waste infrastructure
- Food systems and agriculture
- Land use and conservation
- Healthcare and biotechnology
- Manufacturing and supply chains
- Chemistry and materials science
- Business and economics
- Technology and digital media
- Urban planning and architecture

Profound **collaboration** across social sectors:

- Policy and governance
- Business and economics
- Natural sciences
- Health sciences
- Faith leaders
- Indigenous communities
- Tech and entrepreneurship
- Arts and humanities
- Education



PLANETARY  
HEALTH  
ALLIANCE



MINNESOTA:  
Lighting the way for the  
Great Transition

# References

Planetary Health Alliance. (n.d.). Planetary health. <https://www.planetaryhealthalliance.org/planetary-health>

Smith, M.R., & Myers, S.S. (2018). Impact of anthropogenic CO<sub>2</sub> emissions on global human nutrition. *Nature Climate Change*, 8, 834-839. [https://www.nature.com/articles/s41558-018-0253-3.epdf?referrer\\_access\\_token=U9I9ylghWQszPPMsbuOs5tRgN0jAjWel9jnR3ZoTv005J0oP\\_LhVUOgym62AyF5ghuOS5aOCa4g0Agd33biHRPVzshTEll8s6f0432vmaDtwx28IbA\\_1rUF6bUFrcpPQmlkW8ylrssl3hK9jpJ8kZzTEluIQmPgiyqj0FPn0ncunCPKX2u6ikr5IkKTJfRKB6Nk\\_AJt0lw9Z701SZMI9BwrSre6lOjBS9yodCaoCZb27oS0b16hW-aotQByRPF9Q5WAUeDWZwmZqFd6sg34DavohtVDVExWGF3wNLJFM0pqwjzXG9ULrw7uEV5geLZT&tracking\\_referrer=www.theguardian.com](https://www.nature.com/articles/s41558-018-0253-3.epdf?referrer_access_token=U9I9ylghWQszPPMsbuOs5tRgN0jAjWel9jnR3ZoTv005J0oP_LhVUOgym62AyF5ghuOS5aOCa4g0Agd33biHRPVzshTEll8s6f0432vmaDtwx28IbA_1rUF6bUFrcpPQmlkW8ylrssl3hK9jpJ8kZzTEluIQmPgiyqj0FPn0ncunCPKX2u6ikr5IkKTJfRKB6Nk_AJt0lw9Z701SZMI9BwrSre6lOjBS9yodCaoCZb27oS0b16hW-aotQByRPF9Q5WAUeDWZwmZqFd6sg34DavohtVDVExWGF3wNLJFM0pqwjzXG9ULrw7uEV5geLZT&tracking_referrer=www.theguardian.com)

UNHCR: The United Nations Refugee Agency. (n.d.). Climate change and disaster displacement. <https://www.unhcr.org/en-us/climate-change-and-disasters.html>

Watts, N., Amann, M., Arnell, N., Ayeb-Karlsson, S., Belesoviva, K., Boykoff, M. et al. (2019). The 2019 report of The *Lancet* Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. *The Lancet*, 394(10211), 1836-1878. DOI:[https://doi.org/10.1016/S0140-6736\(19\)32596-6](https://doi.org/10.1016/S0140-6736(19)32596-6)

World Health Organization. (2021). Biodiversity and health. <https://www.who.int/news-room/factsheets/detail/biodiversity-and-health>

World Health Organization. (2021b). Climate change. [https://www.who.int/health-topics/climate-change#tab=tab\\_1](https://www.who.int/health-topics/climate-change#tab=tab_1)