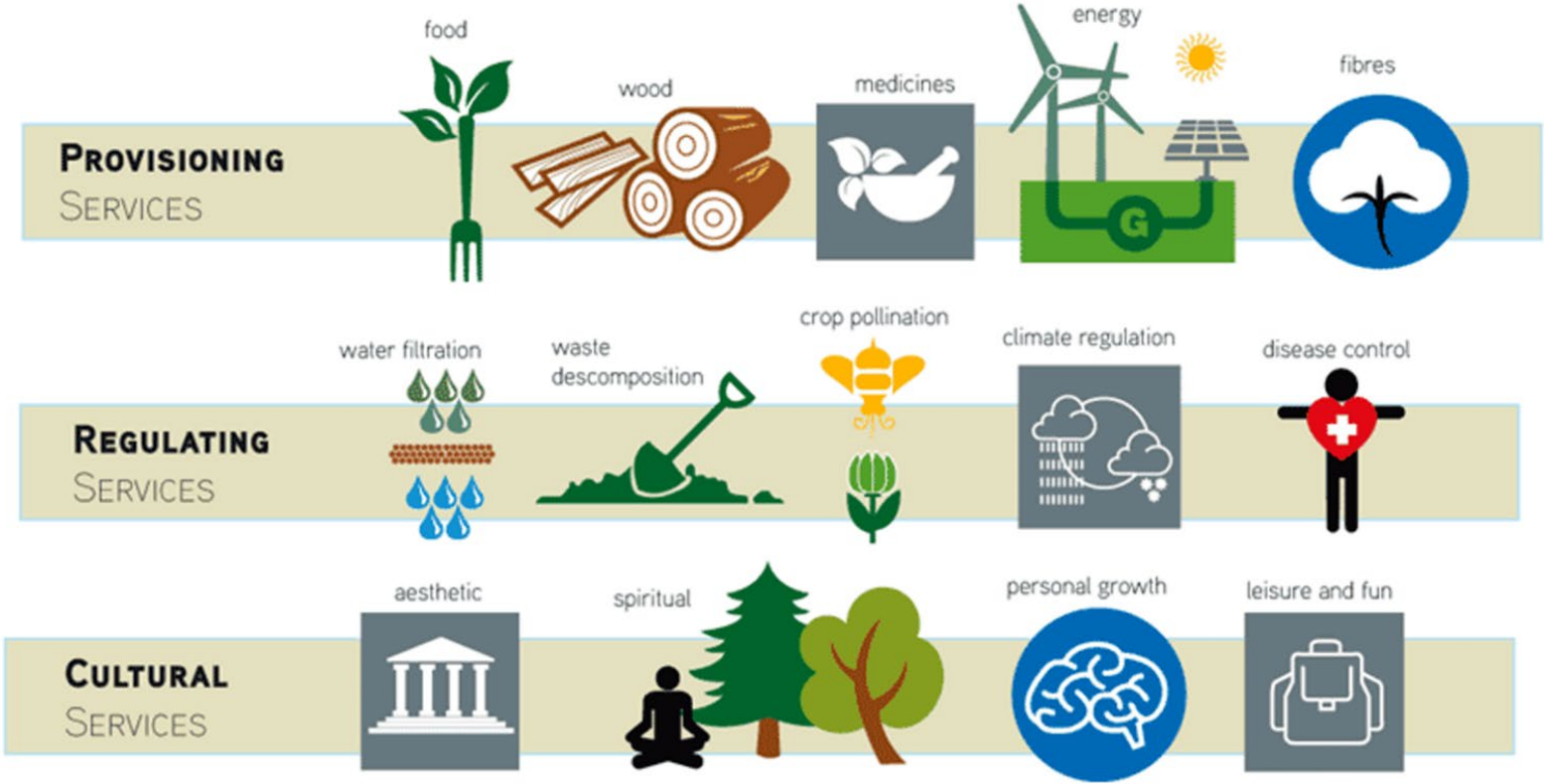
Overview of a Center for Human and Planetary Health at Stanford

Steve Luby

Woods Institute Advisory Council Meeting
April 24, 2024

What Do People Gain From Ecosystems?



Earth as a Complex Interrelated System

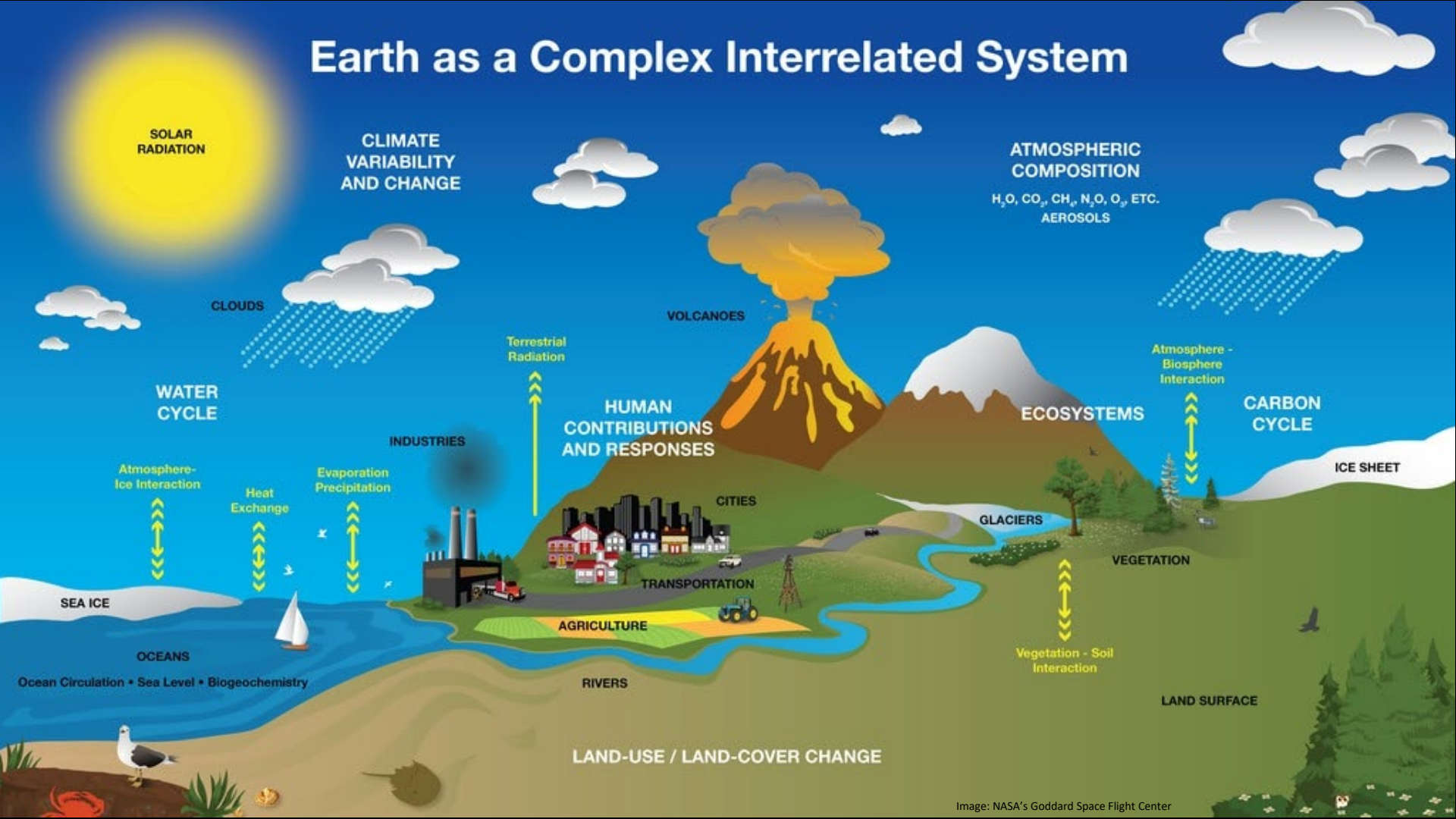
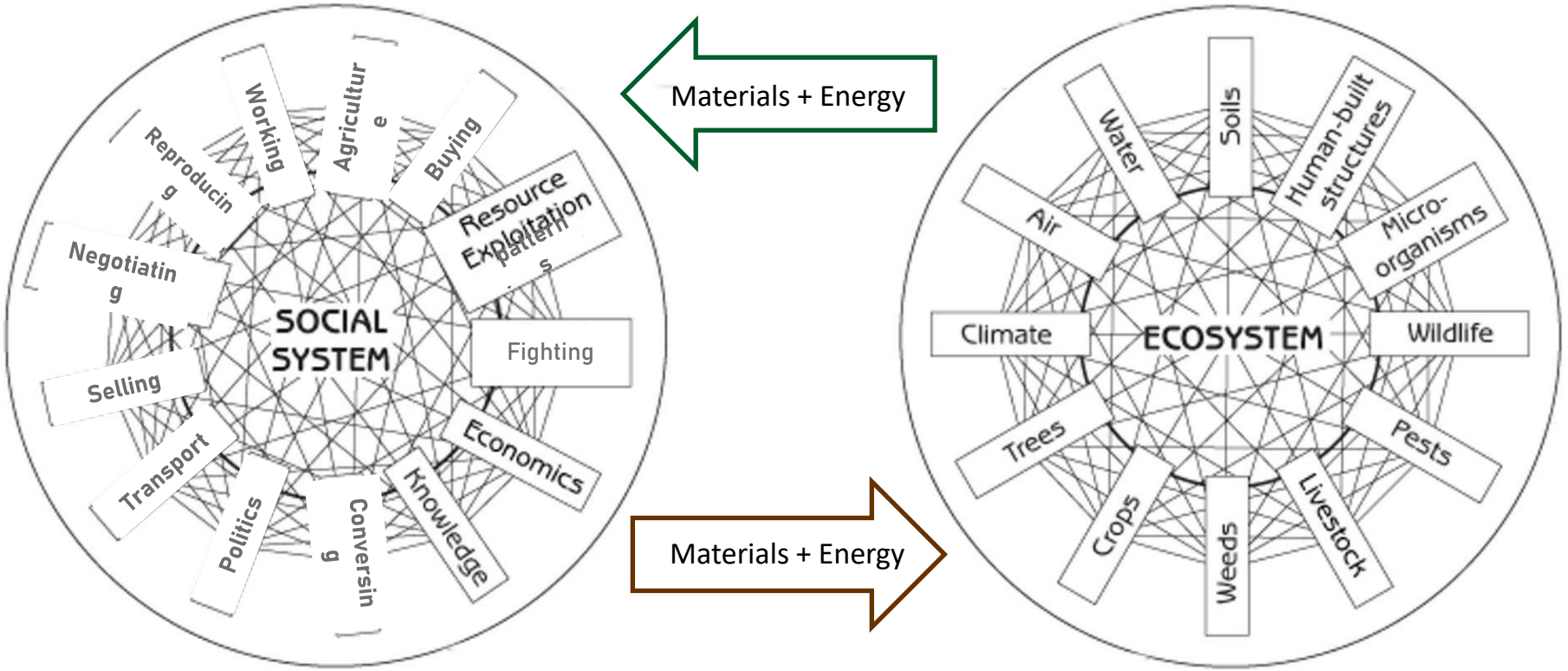


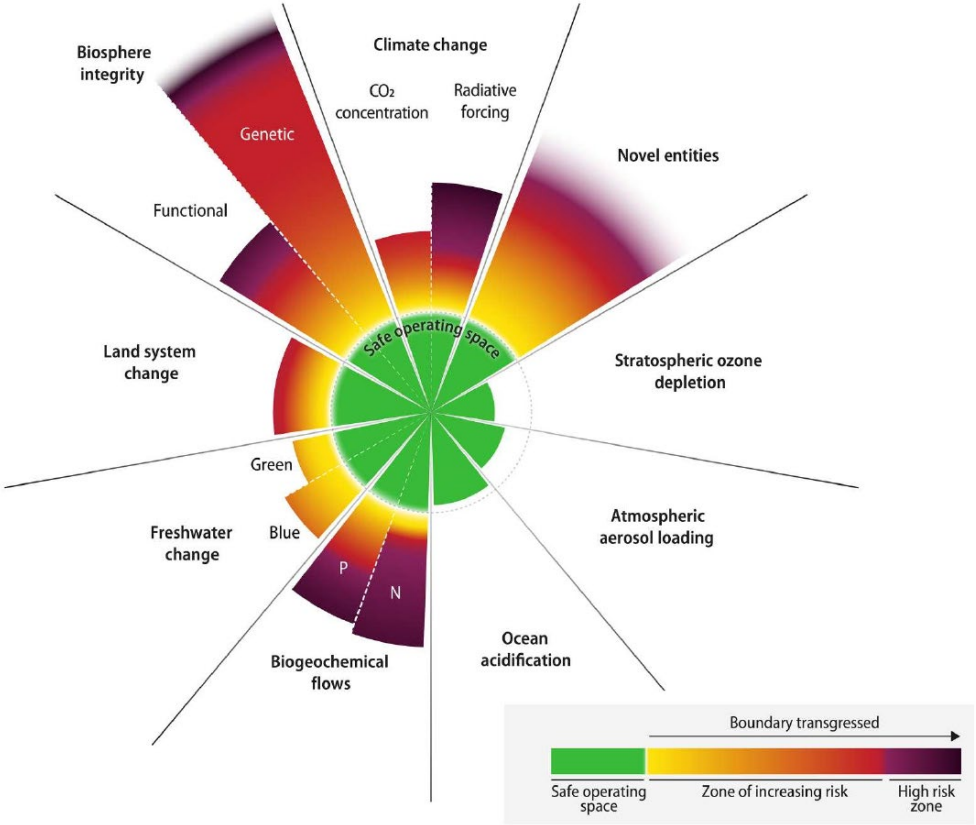
Image: NASA's Goddard Space Flight Center



Adapted from Marten G. Human Ecology. 2001

Planetary boundaries: A safe operating space for humanity

Steffen W. *Science*, 2015
Richardson K, *Science Advances*, 2023

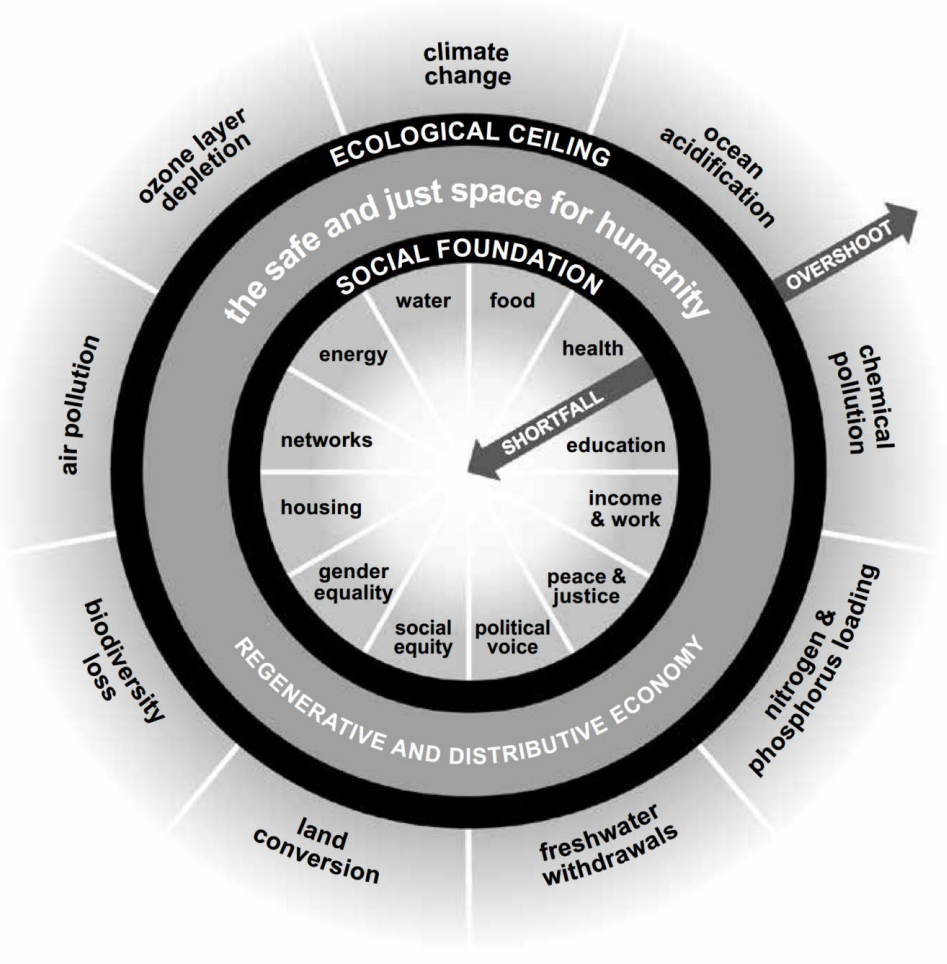


The earth's biosphere is a complex interactive ecological system.

Resilient to countless perturbations

Anthropogenic actions risk permanently destabilizing longstanding resilient earth systems

Without a healthy thriving environment, we cannot have healthy thriving human communities



Raworth K, *Doughnut Economics: 7 Ways to think like 21st Century Economist*. 2017

Planetary Health

- A field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems

- Engages
  - Climate change
  - Declining biodiversity
  - Oceans
  - Pollution
  - Shortages of arable land and freshwater
  - Changing biogeochemical flows

PLANETARY HEALTH ALLIANCE

Center for Human & Planetary Health

VISION

A thriving future for our planet and all who call it home.

MISSION

Create knowledge, prepare leaders, and drive impact in human and planetary health.

Stanford | Human and Planetary Health Initiative
Woods Institute for the Environment

HPH Center Objectives

Drive Solutions-Oriented Research	*Through providing seed funding opportunities, enabling community-engaged partnerships, and catalyzing interdisciplinary collaborations.*
Prepare Future Leaders	*Through teaching and scholarship with new educational offerings, experiential learning opportunities, and career development opportunities.*
Accelerate Impact by Engaging with Stakeholders	*Through policy development, strategic communications, private sector innovations, coalition building, and community engaged solutions.*
Build Community at Stanford	*By coordinating across all 7 schools, supporting faculty and student interests, and fostering purpose and belonging.*

Structure of the Center for Human & Planetary Health

HPH Research Examples Across Four Focus Areas

Eco-Anxiety Among Youth

Climate & Health

Brick Kilns in South Asia

Pollution & Health

Schistosomiasis Transmission

Disease Ecology in a Changing World

Plant-based Diets

Food Systems, Health, & the Environment

HPH Research at Stanford

100+ HPH research projects

at intersections of environment & health led by Stanford faculty in last 2 years

6 HPH postdoctoral research fellows

in joint Stanford / LSHTM program since 2020

3 HPH early career research grants

to junior Faculty doing HPH research last year

21 HPH Seed Grants

to interdisciplinary research teams since 2014

HPH Education at Stanford

In Focus: SUSTAIN 103

Course enrollment of more than 130, with a consistent increase in enrollment of 30-100% each year since course creation.

40+

HPH Courses across Stanford each year

~2000

Cumulative Enrollment in HPH courses 2021-2023

"You might be surprised about how many different ways there are to approach climate change, but in fact, they all enrich each other. When I first started this class, I found myself engulfed in cynicism, but hearing from researchers, professors, writers, and doctors with so many creative ideas gave me more hope."

Education Spotlight: HPH Action Labs

HPH Action Labs:
Students work with
clients to tackle climate -
sustainability -health challenges

SUSTAIN121
Blue Foods for Indonesia:
A Human and Planetary
Health Action Lab

Stanford
Center for
Ocean Solutions

Stanford
LawSchool

Next HPH Action Lab:
Clean Energy in the Rural US

Stanford
MEDICINE
Pediatrics

Stanford
LawSchool

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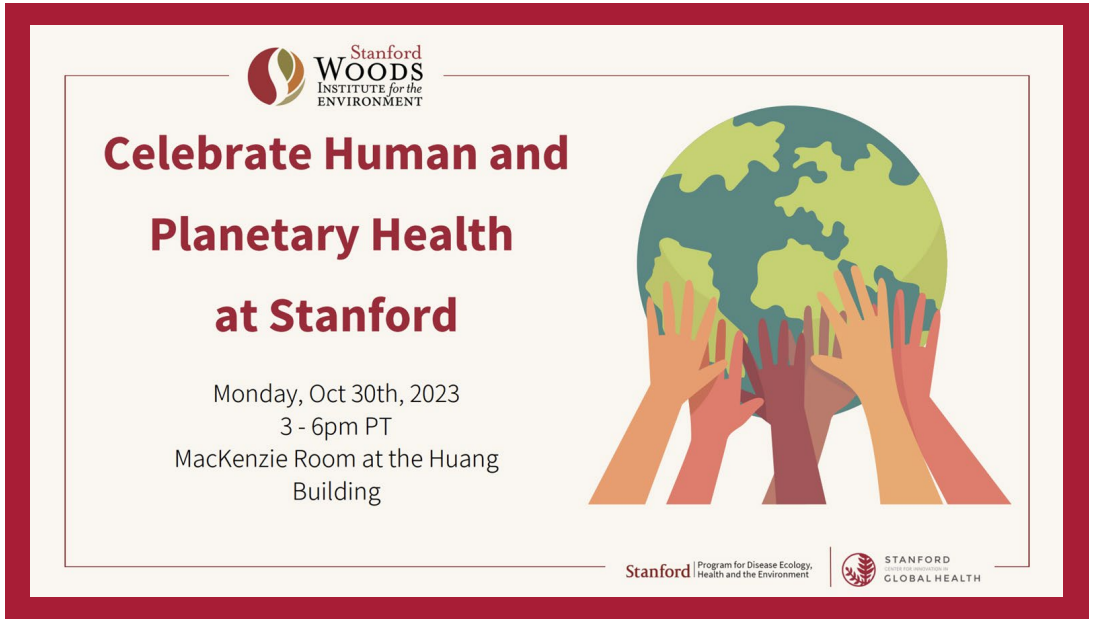
Building the HPH Community at Stanford



Upcoming HPH Pollution & Health Conference

May 20 - May 21, 2024
Graduate School of Business / SDSS Conference Series

Conference Objectives:

1. Brainstorm solutions for three major sources of pollution while emphasizing their effects on human health: coal-fired industry, wildfires, and plastic.

2. Develop a solutions-oriented interdisciplinary research agenda to foster a healthier and more sustainable future.

Coal-fired Industry

Wildfires

Plastics

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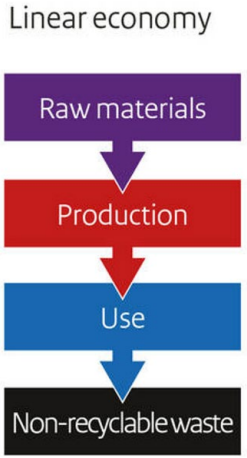
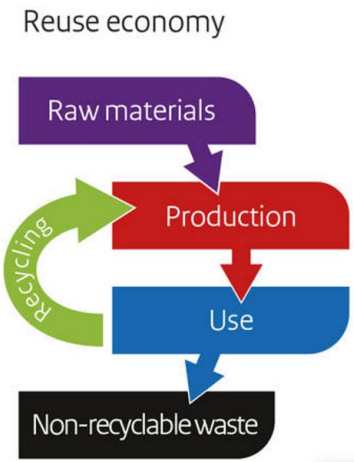
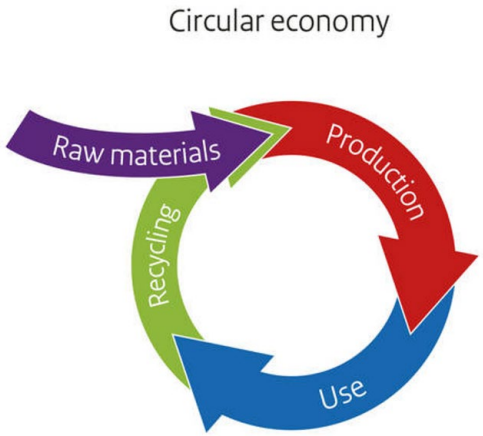
Woods Institute for the Environment

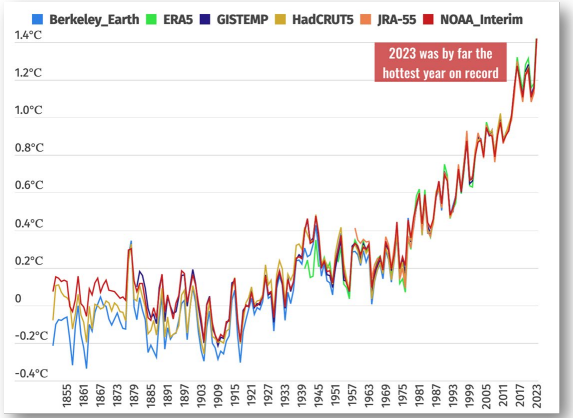
What to do in the face of progressive environmental destruction?

Option 2: Move from a linear to a **circular** economy





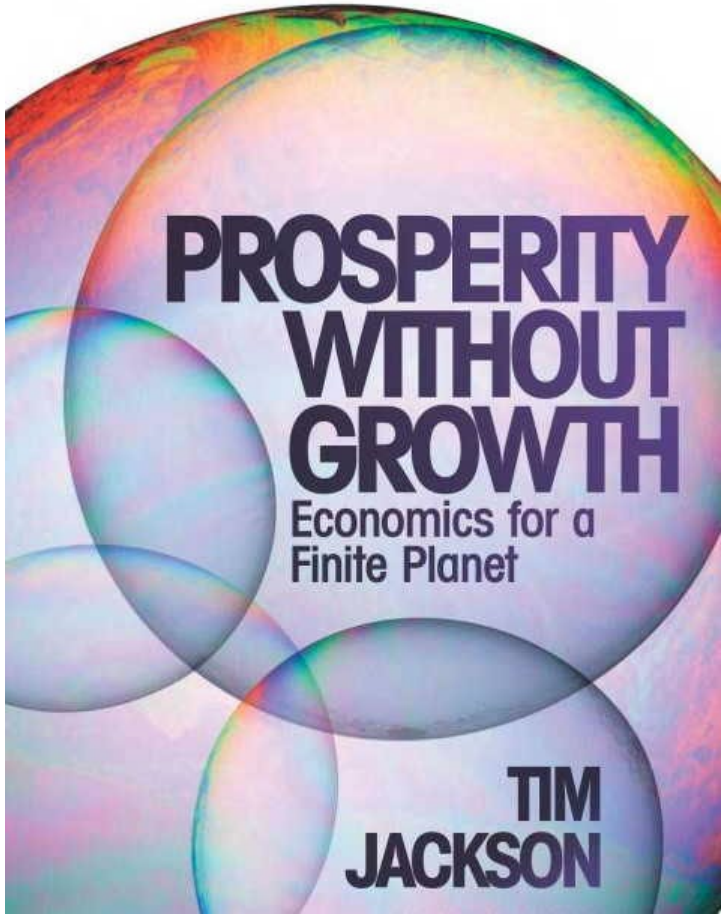




- Improve
  - technology
  - business models
- Minimize environmental impact
- Retain profit motive
- Questions:
  - Can we make sufficient changes soon enough to secure a thriving future?
  - Can economic growth be maintained with zero increase in ecological footprint?

What to do in the face of progressive environmental destruction?

Option 3: Prosperity without growth

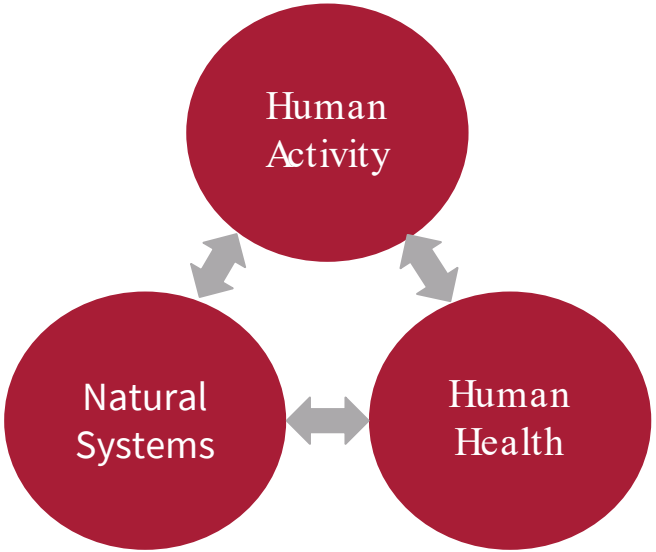


- Exponential exploitation of resources is impossible on a finite planet
- Human flourishing
  - Does not require ever increasing material consumption
    - Rising prosperity ≠ Rising GDP
    - (We can reject consumerism as the organizing model of our lives)
  - Requires
    - Security from violence
    - Basic material needs are met
    - A meaningful role in society
- A post-growth macroeconomics
  - More services, fewer goods
  - Capital assets maintained by material throughput within the regenerative capacity of the ecosystem.
  - Investments target cornerstones of flourishing – nutrition, health, education, enjoyment, ecological resilience

Human and Planetary Health at Stanford

Emphasizes the human health dimension of environmental considerations

- Supports solutions-oriented, community-engaged research
- Educates & inspires students through range of experiences
- Facilitates Stanford HPH experts to partner with external stakeholders and partners

Moving from an Initiative to a Center

- Administrative foot within SDSS / Woods
- Other foot within the Center for Innovation in Global Health in the School of Medicine
- Builds community across Stanford and across disciplines