

A ROAD MAP FOR LIVING IN THE ERA OF GLOBAL WARMING

SESSION I

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WHY THIS OLLI COURSE?

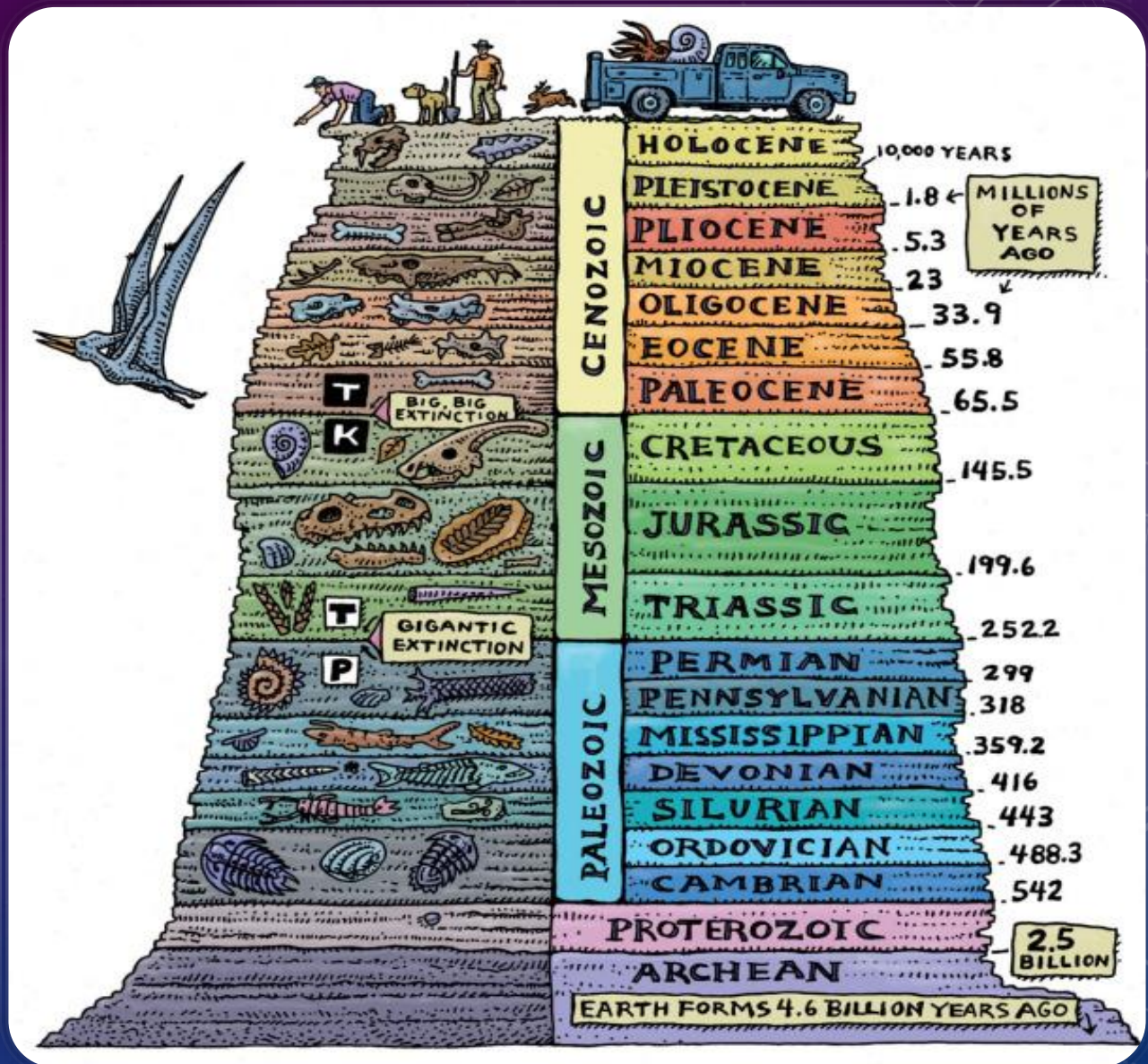
- We are facing an unprecedented challenge
- Global warming is a challenge is to our health, our society, our way of life, and to our moral values
- Our moral values define us; ethics is a window into the soul

THE TAKE-HOME MESSAGE:

WE MUST INVEST IN THE FUTURE OF OUR PLANET, FAR BEYOND OUR LIFESPANS AND THOSE OF OUR CHILDREN AND GRANDCHILDREN....

1. Anthropogenic climate change is the greatest challenge in our history as a species
2. Achieving moral integrity and avoiding despair requires honesty, imagination, hope, and collective action.

THE ANTHROPOCENE: THE GEOLOGICAL ERA IN WHICH HUMANS PLAY A MAJOR ROLE IN SHAPING EARTH AND ITS ENVIRONMENT.



CLIMATE SCIENCE: WHY WE NEED TO BE LITERATE

- There has been, and is, a lot of disinformation
- Climate literacy is health literacy
- The implications are profound and hard to take in
- There is a temptation to put our heads in the sand—yet not listening to the science is a form of denial
- The alternatives of apocalypticism and business-as-usual optimism are both deadly

GLOBAL WARMING AND SEA LEVEL RISE

PARIS ACCORDS AIM FOR MAXIMUM OF 1.5 DEGREES CELSIUS RISE BY 2100. WE ARE CLOSE TO 1.3 DEGREES C= 1.5-5 FT. RISE IN SEA LEVEL

- At 2 degrees C = 3-6 foot rise (130-245 million climate refugees)
- At 3 degrees C = 22-44 foot rise
- If all ice on Earth melts = 80-100 foot rise

Sources: Intergovernmental Panel on Climate Change (IPCC), NASA, European data

IPCC REPORT

APRIL 4, 2022

“It’s Now or Never”

“Limiting warming to around 1.5°C (2.7°F) requires global greenhouse gas (GHG) emissions to peak before 2025 at the latest, and be reduced by 43% by 2030”

--Intergovernmental Panel on Climate Change



Calgary

Ontario

Vancouver

Seattle

Washington

Montana

North Dakota

Minnesota

Oregon

Idaho

South Dakota

Wyoming

Wisconsin

Ottawa

Montreal

Maine

Toronto

Boston

Chicago

Detroit

New York

New York

UNITED STATES

Denver

Colorado

Illinois

St. Louis

Ohio

Philadelphia

Washington

San Francisco

Nevada

Utah

Kansas

Missouri

Kentucky

Virginia

California

Los Angeles

Arizona

New Mexico

Oklahoma

Arkansas

Tennessee

North Carolina

Texas

Dallas

Atlanta

Georgia

Houston

Monterrey

Miami

Gulf of Mexico

MÉXICO

Havana

CUBA

Guadalajara

Mexico City

Port-au-Prince

Santo Domingo

VULNERABLE CITIES: MOST LIKELY TO BE UNDERWATER

Underwater by 2030

Amsterdam, the Netherlands

Basra, Iraq

New Orleans, USA

Venice, Italy

Ho Chi Minh City, Vietnam

Kolkata, India

Bangkok, Thailand

Georgetown, Guyana

Savannah, USA

Underwater by 2050 (U.S. only)

- Miami
- Hoboken
- Honolulu
- New York
- Los Angeles
- San Diego
- Charleston
- Atlantic City
- Galveston
- Seattle

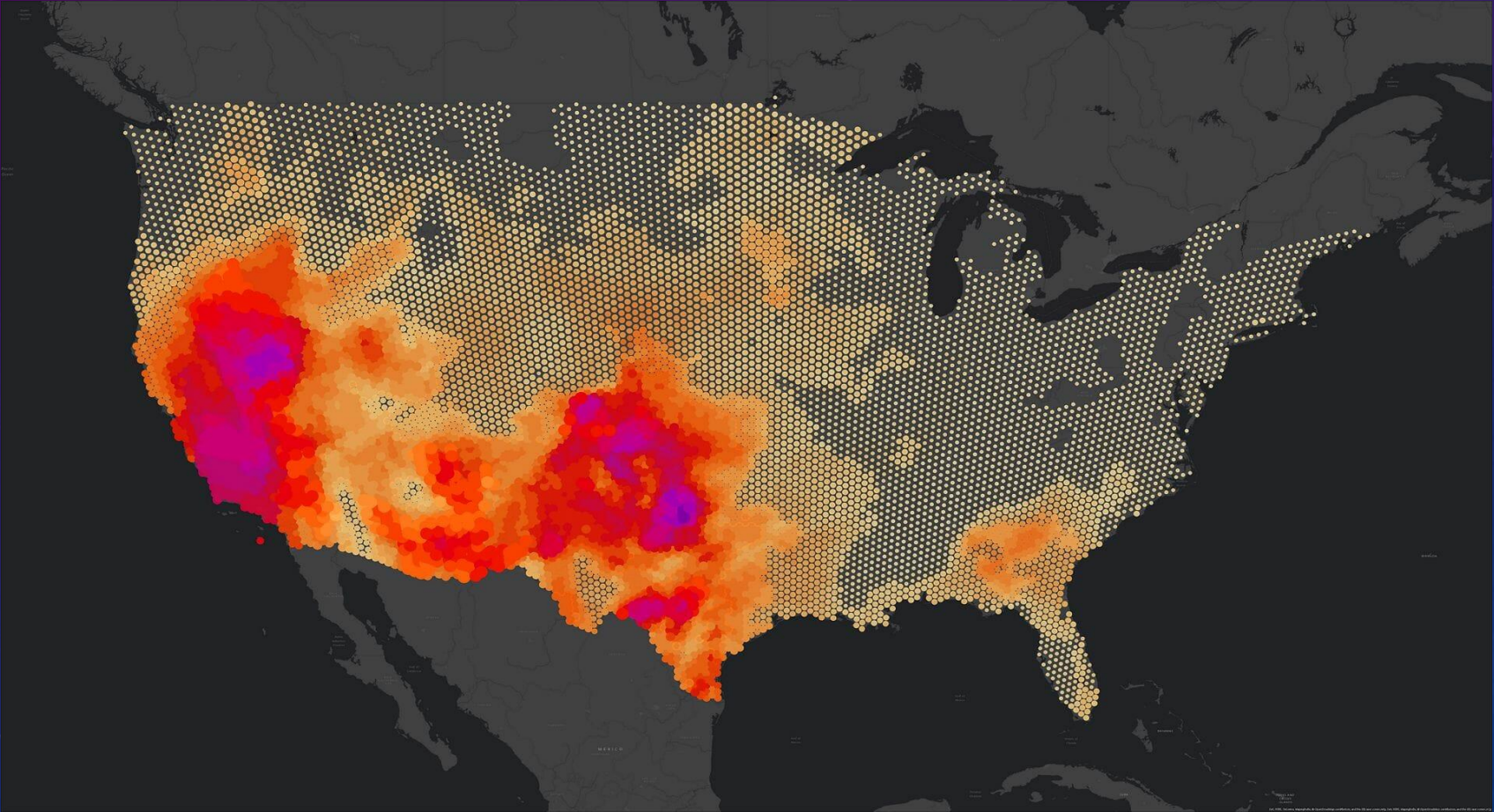


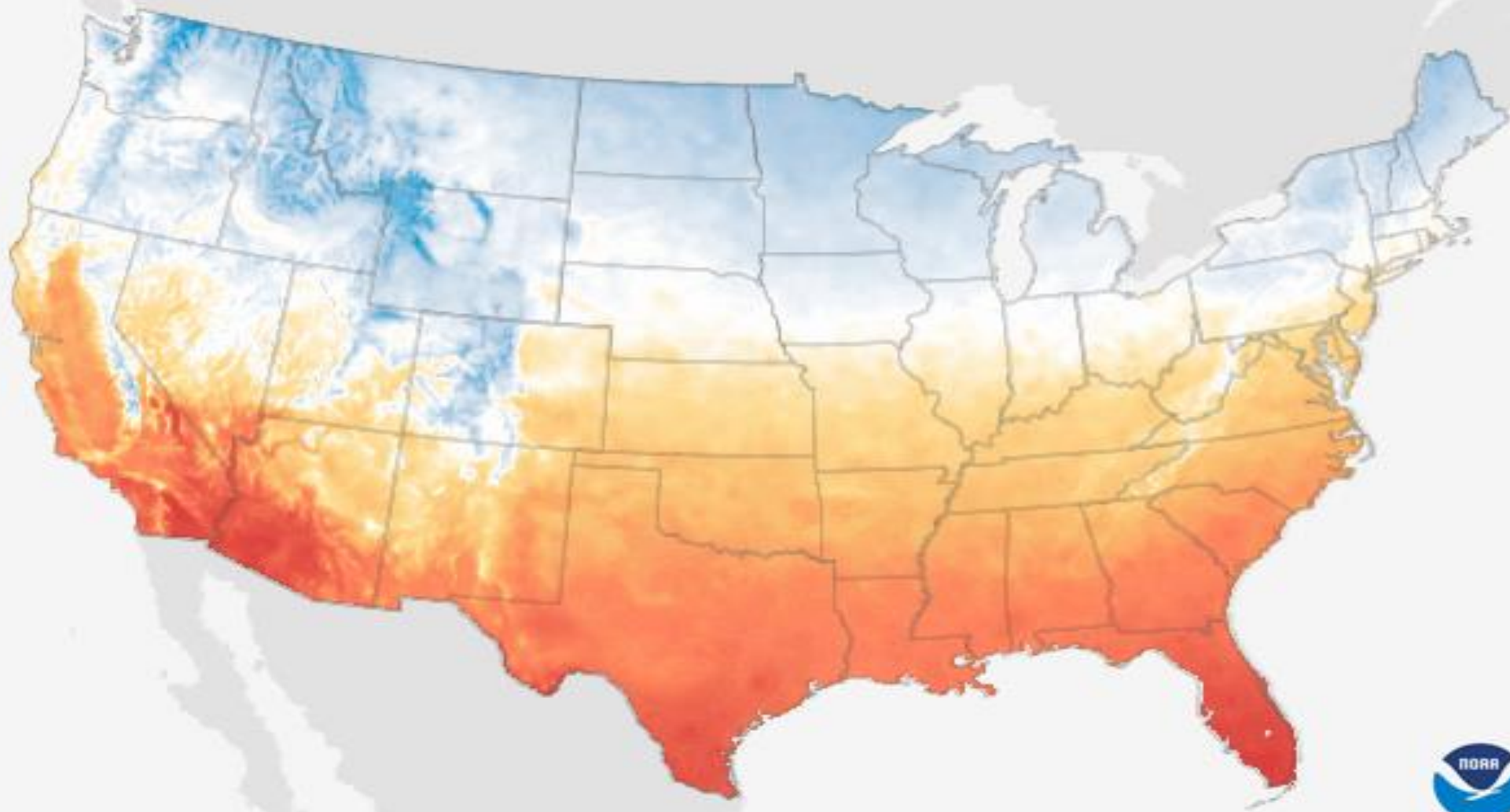
US NAVY map of future America

Blue show where new coastlines will be.



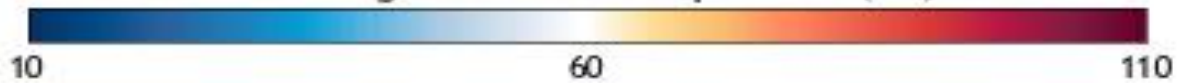
DROUGHT MAP FOR LAST 5 YEARS





November 2090-2099
High emissions
(RCP 8.5)

Average maximum temperature (°F)



Climate.gov
Data: LOCA

UNCHECKED
GLOBAL
WARMING ALSO
INCLUDES THE
FOLLOWING
WITHIN THE NEXT
30 YEARS

- Massive deaths in the world's most vulnerable populations
- Massive migrations due to uninhabitable land, food shortages, breakdown of governments and economies
- Water and food shortages almost everywhere
- Health crises: pandemics much worse than Covid-19; syndemics

THE HEALTH IMPACT

58% of all infectious diseases—including Lyme, West Nile, hantavirus, typhoid, HIV and influenza—have been worsened by climate hazards, such as warming, drought, wildfires, sea-level rise and extreme precipitation.

[Climate Change Is Supercharging Most Infectious Diseases, New Study Finds | HuffPost Impact](#) [August 9, 2022](#)

HEAT DEATHS

Europe 70,000 heat deaths in 2003

Russia 55,000 heat deaths in 2010

U.S. 12,600 heat deaths each year

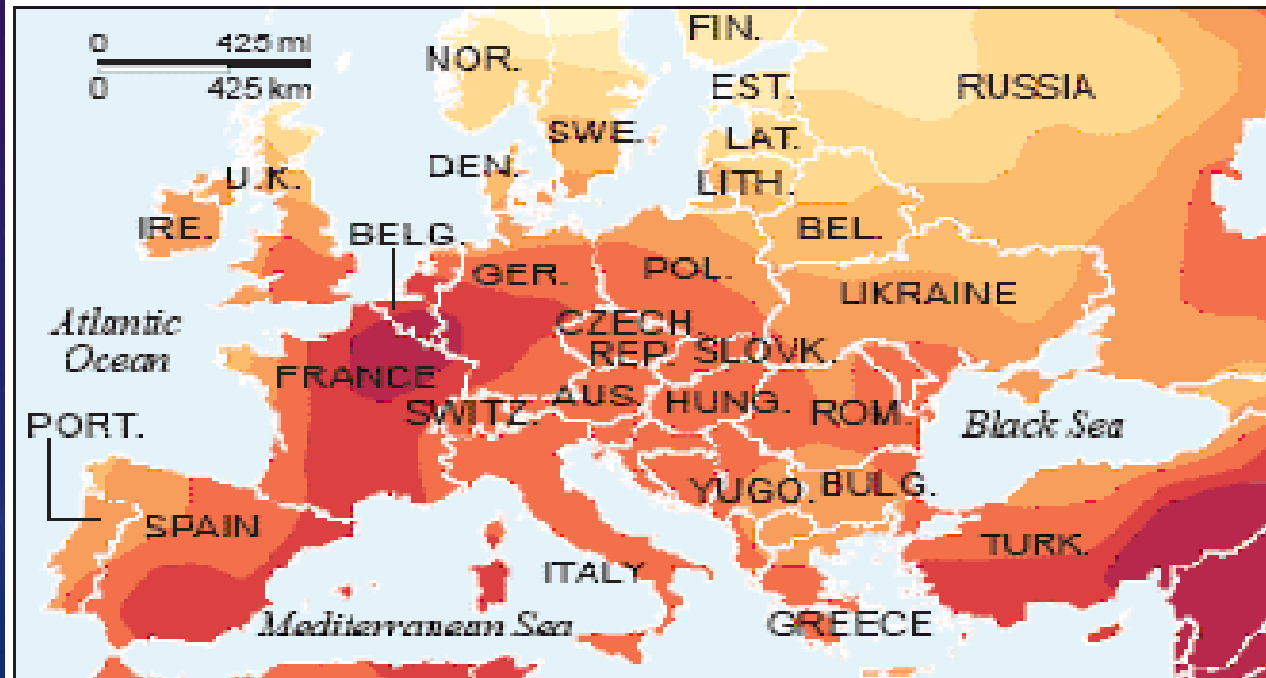
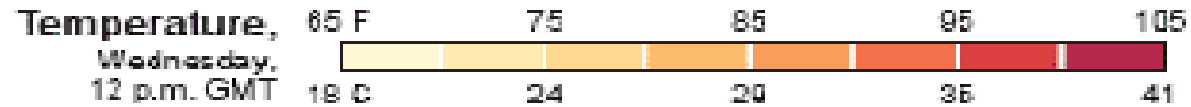
- 36,000 with moderate climate progress
- 97,000 with little climate progress



HEAT IN EUROPE IN SUMMER 2022

Oppressive heat across Europe

Officials throughout Europe warned people to stay out of the sun as many countries face temperatures approaching 100 degrees.



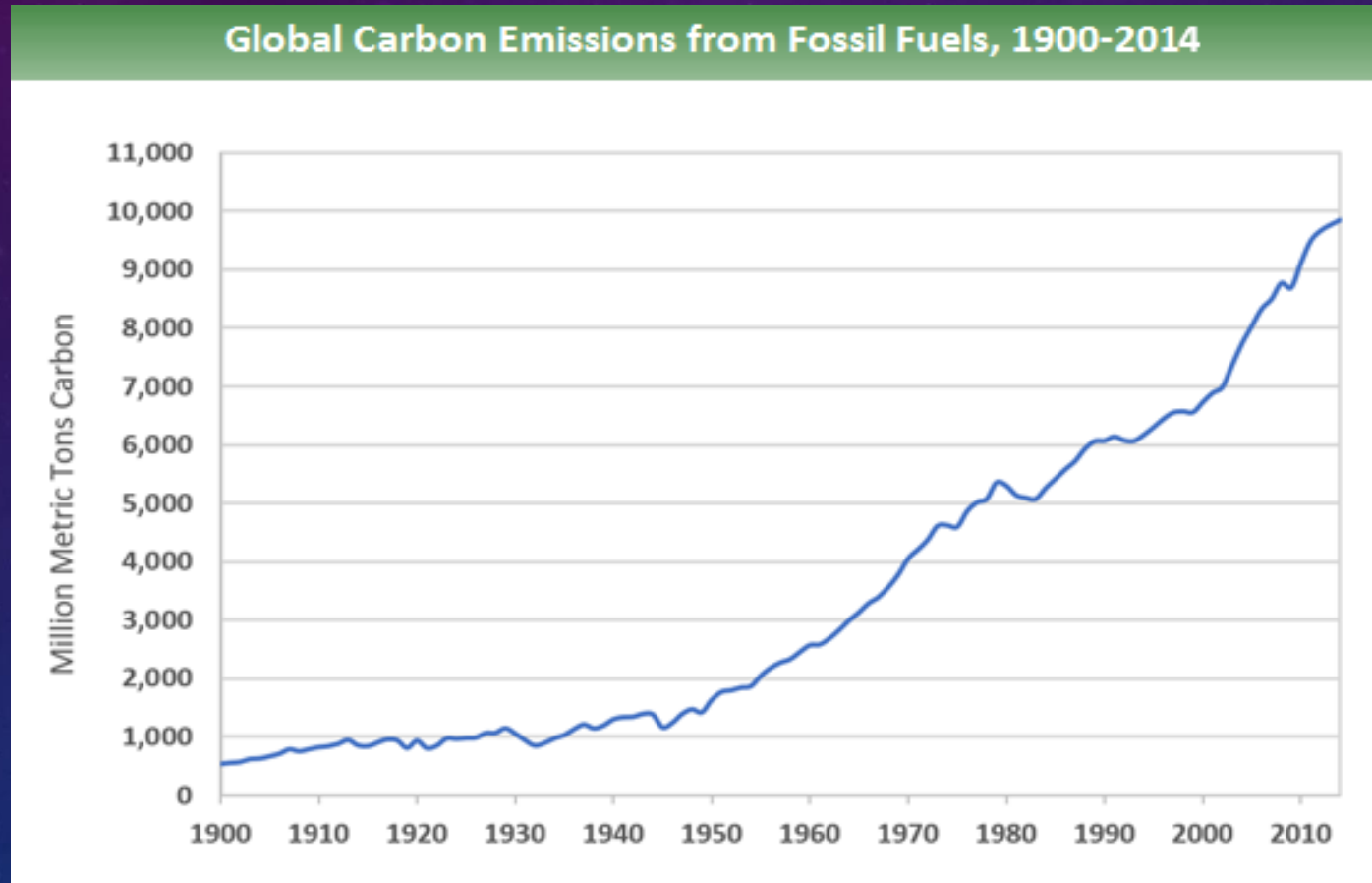
SOURCE: Weather Underground

AP

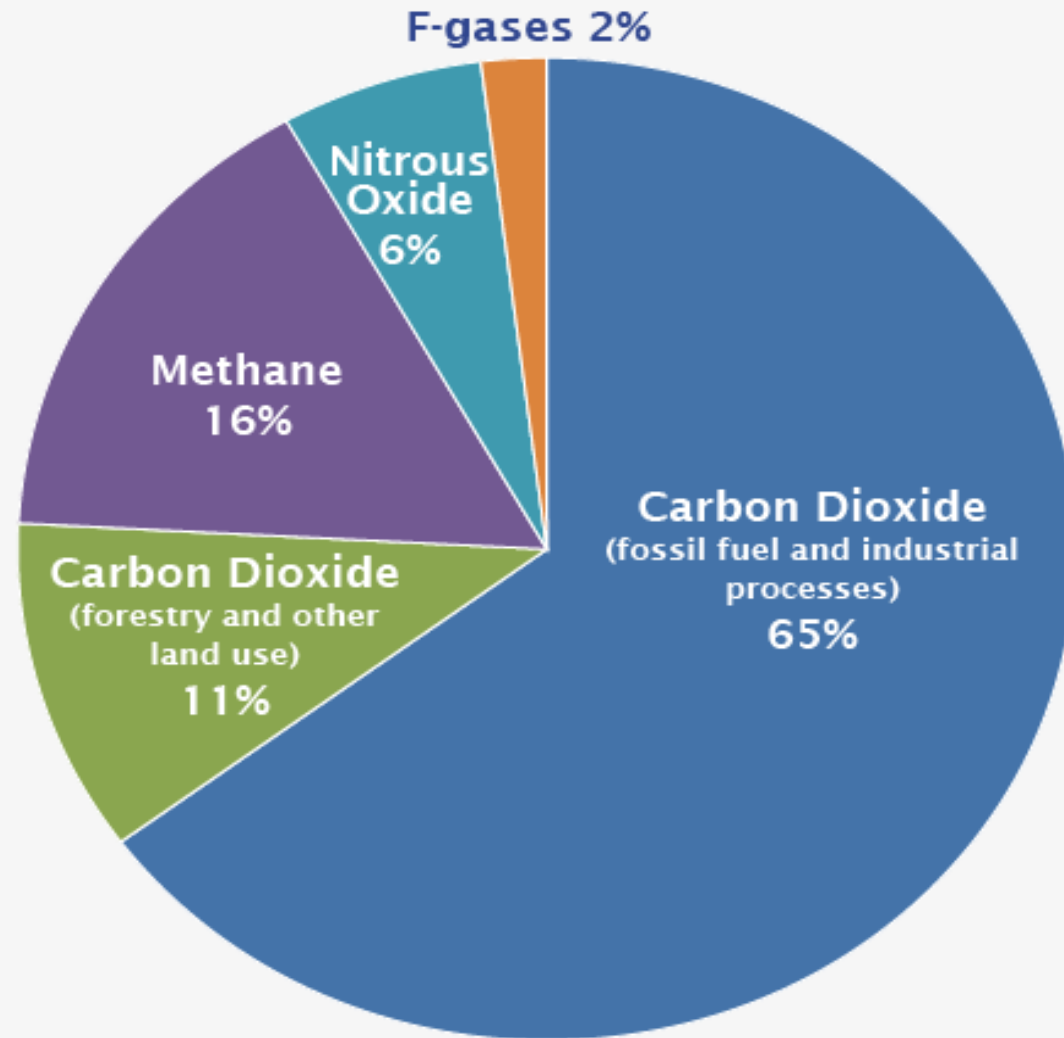
WHY IS THIS HAPPENING?

EMISSION OF GREENHOUSE GASES (GHG)

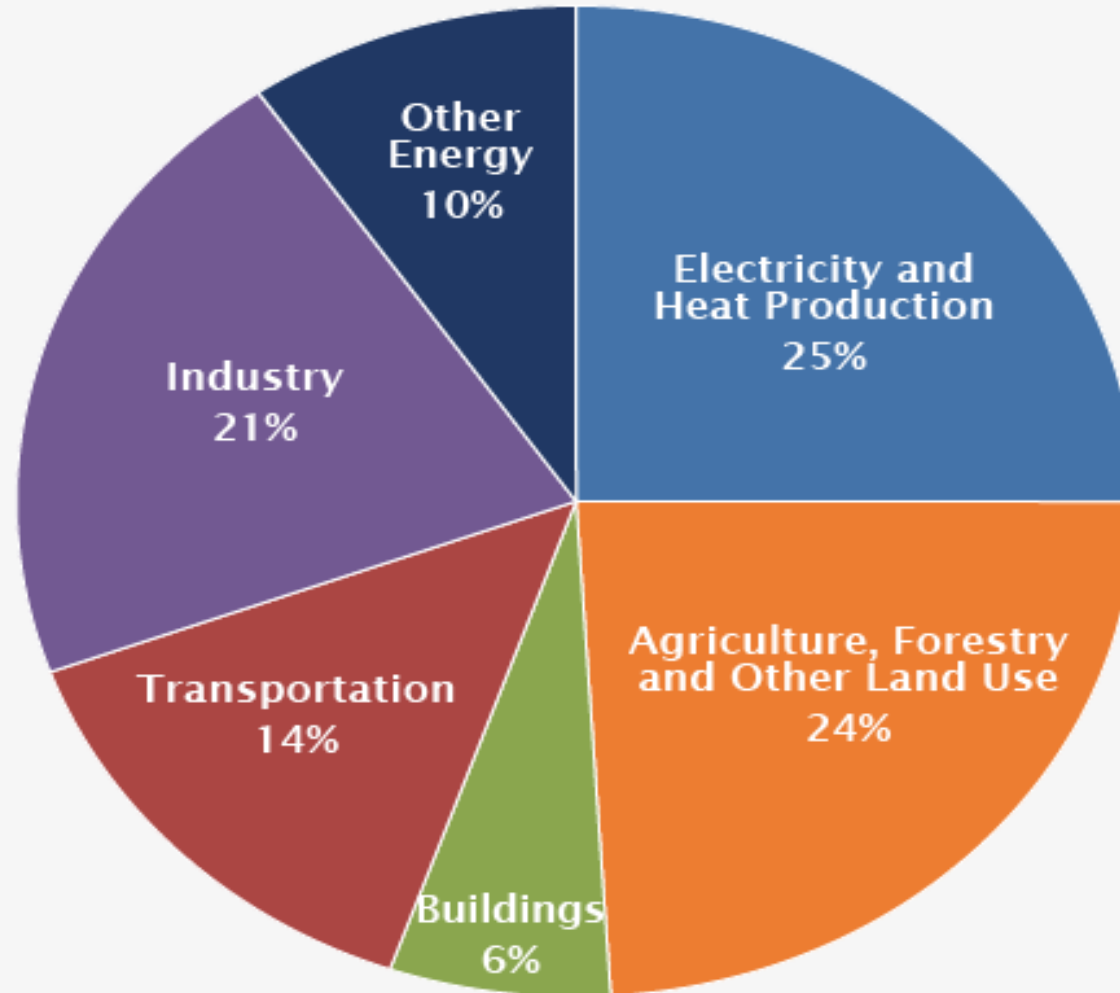
--CARBON DIOXIDE, METHANE, NITROUS OXIDE--



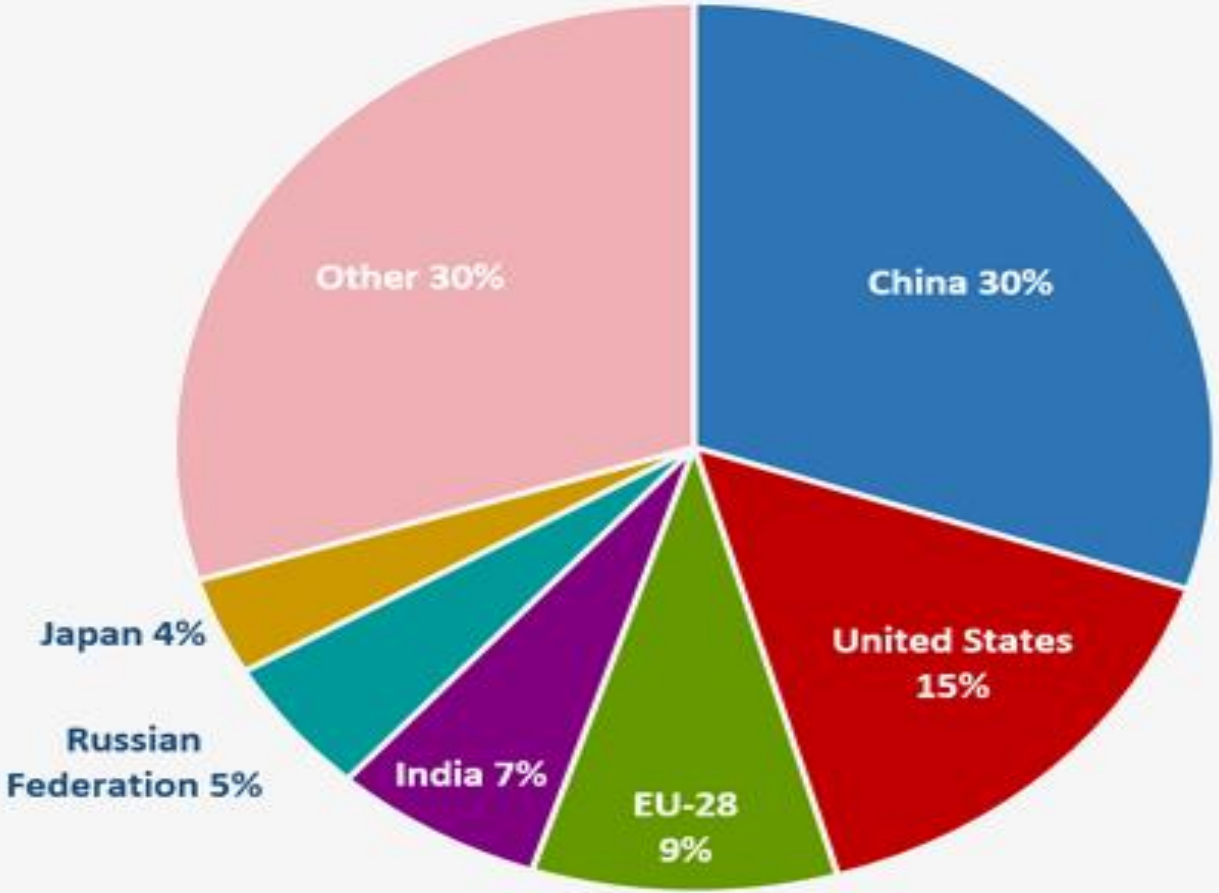
Global Greenhouse Gas Emissions by Gas



Global Greenhouse Gas Emissions by Economic Sector



2014 Global CO₂ Emissions from Fossil Fuel Combustion and Some Industrial Processes



GREENHOUSE EFFECTS ON THE ENVIRONMENT

- Polar ice melts
- Permafrost regions shrink
- Oceans warm and rise
- Hurricanes and typhoons grow in number and intensity
- Land is less arable
- Fresh water sources dry up
- Fires grow in number and destructiveness
- Habitats of many species destroyed
- Earth becomes less hospitable for human life



DROUGHTS



FLOODS



WILDFIRES

LIMITS OF PREDICTABILITY

CLIMATE SCIENCE
PREDICTIONS: LIKE
DRIVING A CAR IN THE
FOG ON AN UNKNOWN
ROAD.

MODELS MAY OR MAY
NOT BE ACCURATE;
HOW FAST IT WILL ALL
HAPPEN IS UNKNOWN;
FEEDBACK LOOPS
LIKELY

The Gap between what we can predict and what occurs

--Adriana Petryna, *Horizon Work*, 2022

EARTH HAS NOT
EXPERIENCED THIS
PHENOMENON IN
HUMAN HISTORY

- Similar conditions were millions of years ago
- Assumptions of a steady progression of warming are likely wrong; leaps are likely to be the norm
- What is predicted for 2050 might occur in 2030; what is predicted for 2100 could happen in 2060; Europe in summer 2022 was what was predicted for 2050

“most of the uncertainty involves the possibility of even greater warming.”

-- Joseph Romm, *Climate Change: What Everyone Needs to Know*, 3rd ed. 2022

WHAT IS BEING DONE IN THE U.S.?

Inflation Reduction Act (IRA) of 2022

- Incentives for carbon capture & storage, nuclear power, electric vehicles, solar and wind energy, a total of \$369 billion
- **Could reduce GHG by 40% over 2005 levels**

Revenue for the IRA

- 15% minimum tax on corporations—55 largest paid no taxes in 2022
- IRS enforcement and closing loopholes
- top 1% evades 160 billion in taxes annually

WHAT ARE OTHER COUNTRIES DOING?

China

- 1.4 billion people
- Bad air pollution
- Coal = 2/3 of energy source
- Urbanization + belt & road project
- Severe water shortages
- 1/5 of arable land is polluted by heavy metals

Pledge for 25% of energy from renewables by 2030

European Union

- Heating twice as fast as rest of planet
- 2020 more than half of energy from renewables
- Wind and hydro power the majority sources
- Norway gets 99% of power from renewables

Will Europe continue to invest in renewables or rely on American natural gas imports?

WHAT IS BEING DONE GLOBALLY, 2021?

The Glasgow Conference of 2021 (COP26) made modest advances on collective ambitions to moderate the crisis; renewal of goal of 1.5 degree C rise---but all voluntary and unenforceable.

As Greta Thunberg put it: “blah, blah, blah....”

WHAT IS BEING DONE GLOBALLY, 2022?

- The Egyptian Conference of 2022 (COP27) broke new ground, with an agreement on a resolution for a “damage and loss” understanding of justice. Essentially, richer countries who have done the most harm through polluting the environment (U.S. China, India, Europe) will assist those who have contributed the least and now suffer the greatest loss in health, (Africa) and have the least ability to adjust to clean energy sources.
- But this resolution has no teeth. It has yet to be decided who owes what to whom, no central collection and distribution bank to reallocate funds, no enforcement mechanisms. Also, there was no continuing resolution, as in COP26, to try to hold temperature rises to 1.5 degrees C.

CAN WE GET OUR HEADS AROUND IT?



THE TERRITORY AHEAD: FUTURE SESSIONS

Session 2. How we got here: the Anthropocene as a consequence of how we live, and a sampling of some responses to date...

Session 3. Is a new ethics needed, and/or renewal of an old one?

Session 4. Human virtues important for living in the Anthropocene

Session 5. Six maxims, plus nagging justice issues

Session 6. What we can do now. . . Plus an agenda based on your interests

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“Kiss the Ground,” Netflix documentary

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Nancy M.P. King, Gail E. Henderson, and Larry R. Churchill, UNC Press, 2022

ORGANIZATIONS WORKING FOR CHANGE

Health Care Without Harm, <https://noharm.org/>;

See Mildred Solomon's interview with Dr. Gary Cohen

- https://www.thehastingscenter.org/callahan-lecture/?utm_source=Master+List&utm_campaign=cf535e52d7-EMAIL_CAMPAIGN_2020_10_26_05_57_COPY_01&utm_medium=email&utm_term=0_5c9274ec4d-cf535e52d7-62166251

Practice Greenhealth, <https://practicegreenhealth.org/>;

Healthier Hospitals, <https://practicegreenhealth.org/healthierhospitals>

[Center for Climate Literacy](#)

SAVE OUR PLANET
*SACRIFICE COMFORT,
NOT CHILDREN*

