
Global warming

Global warming: Causes and effects

Earth's temperature has risen about 1 degree Fahrenheit in the last century. The past 50 years of warming has been attributed to human activity.

Greenhouse gases are emissions that rise into the atmosphere and trap the sun's energy, keeping heat from escaping.

During the past 100 years global sea levels have risen 4 to 8 inches.

Burning fuels such as coal, natural gas and oil produces greenhouse gases in excessive amounts.

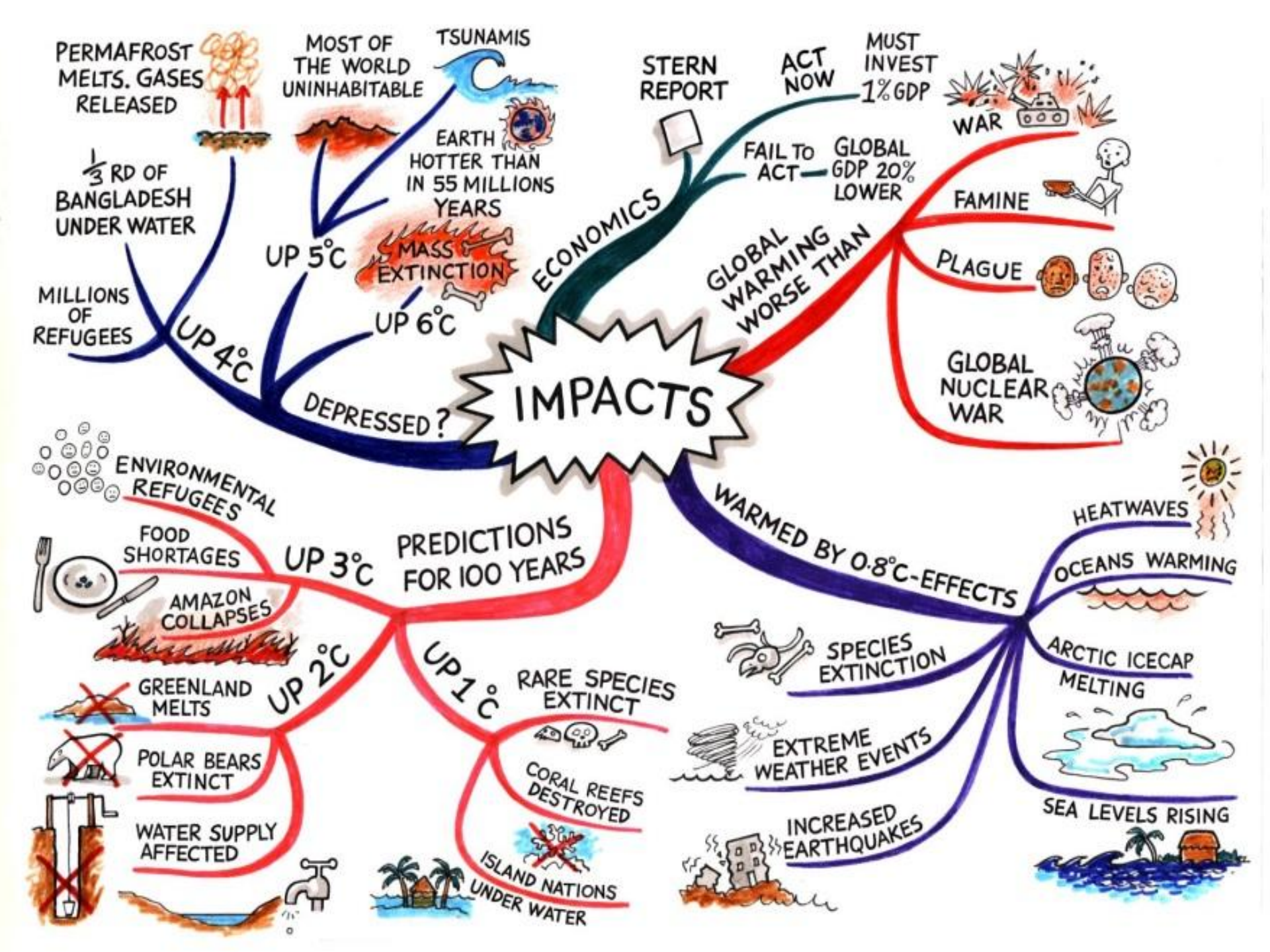
The United States was responsible for 20 percent of the global greenhouse gases emitted in 1997.

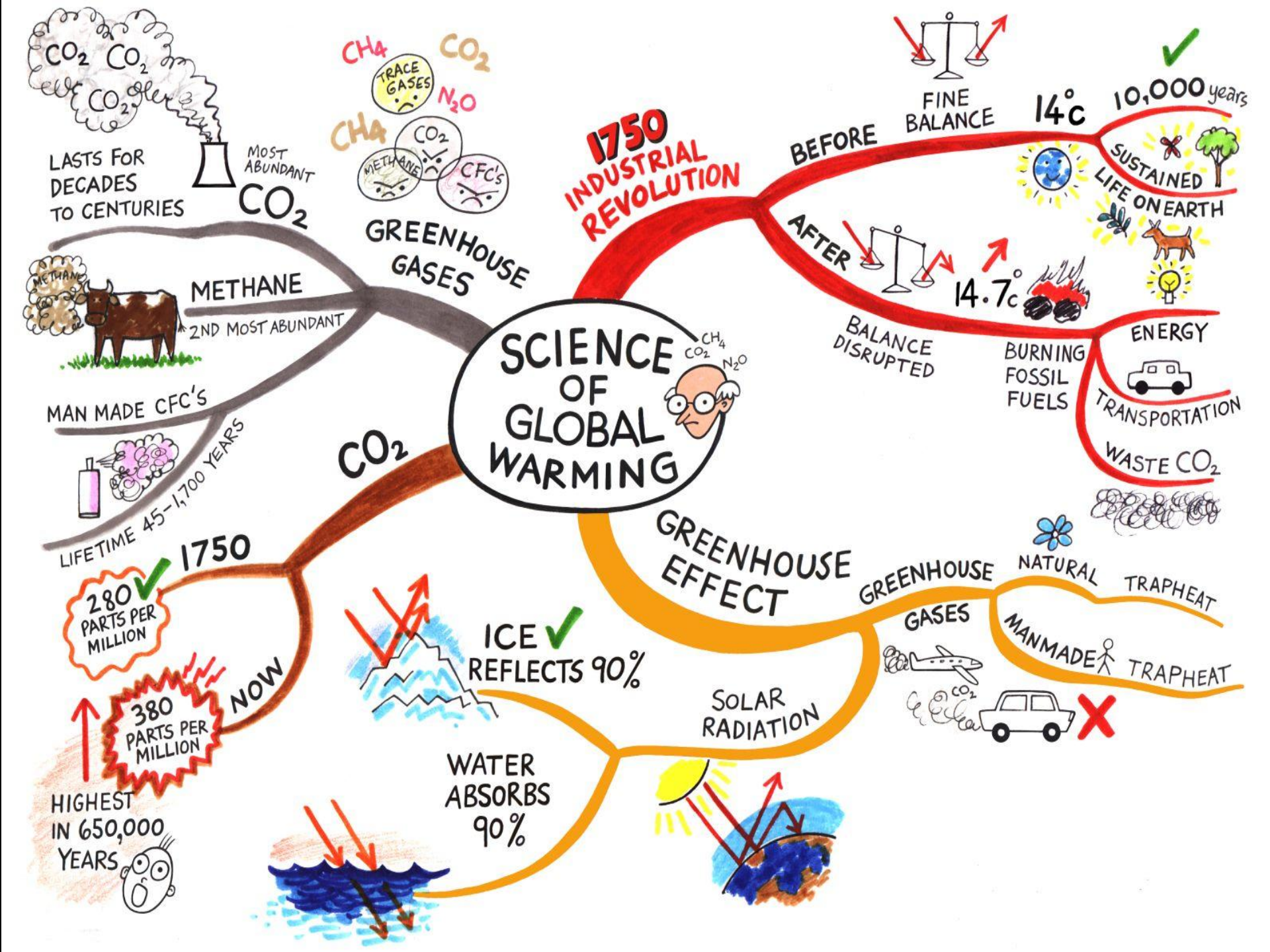
Most of the world's emissions are attributed to the United States' large-scale use of fuels in vehicles and factories.

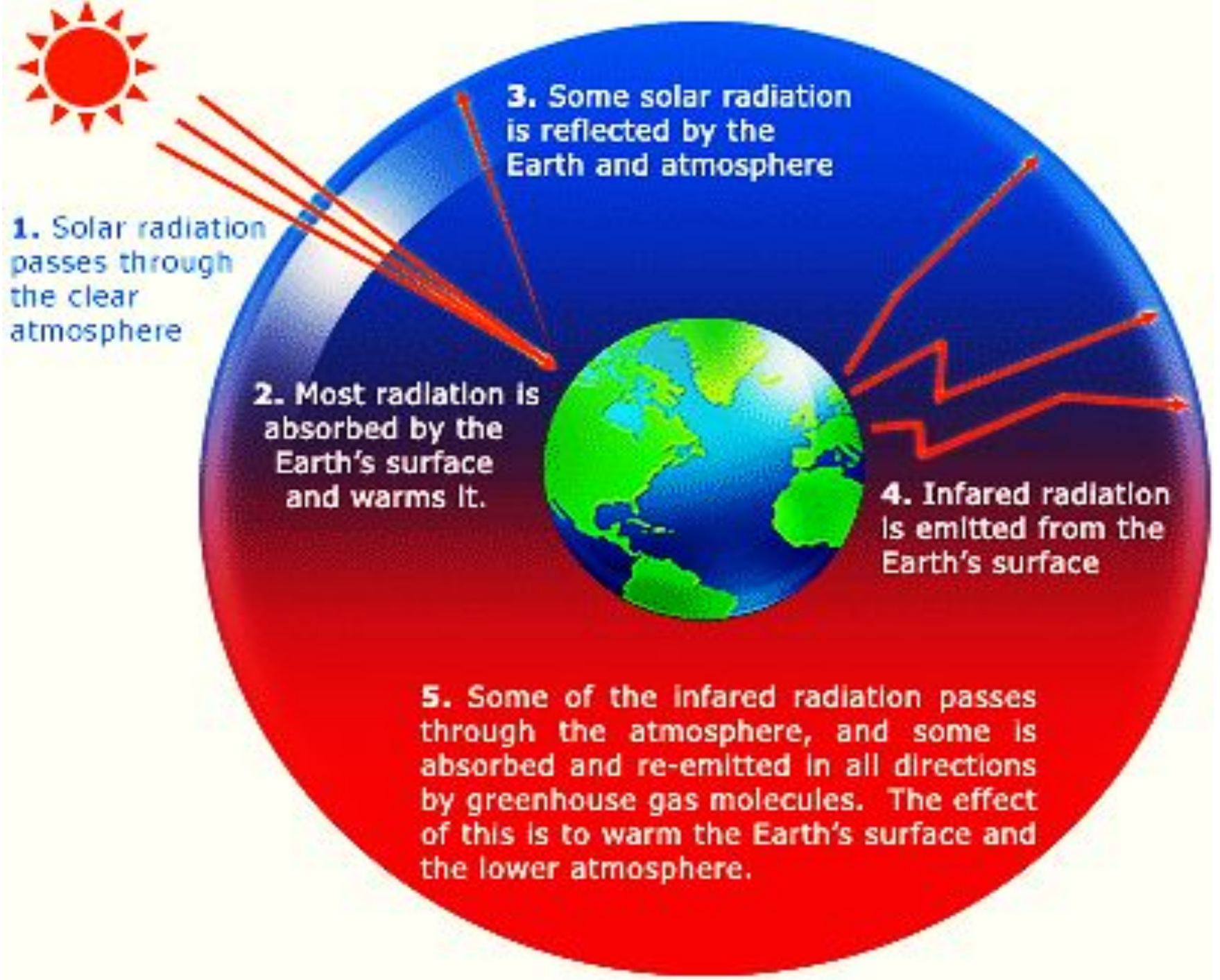
Some predictions for local changes include increasingly hot summers and intense thunderstorms.

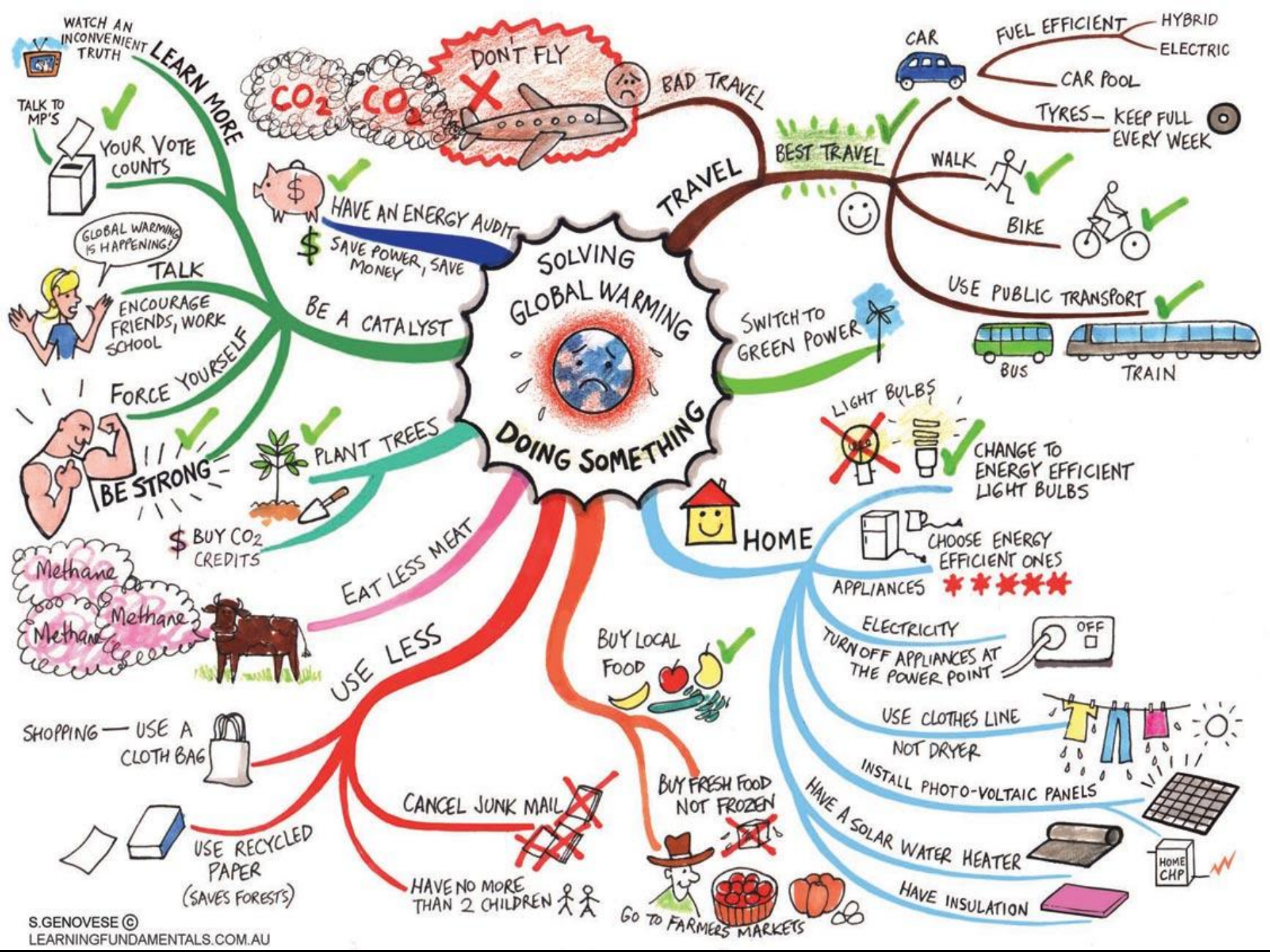
Damaging storms, droughts and related weather phenomena cause an increase in economic and health problems. Warmer weather provides breeding grounds for insects such as malaria-carrying mosquitoes.

Source: Environmental Protection Agency

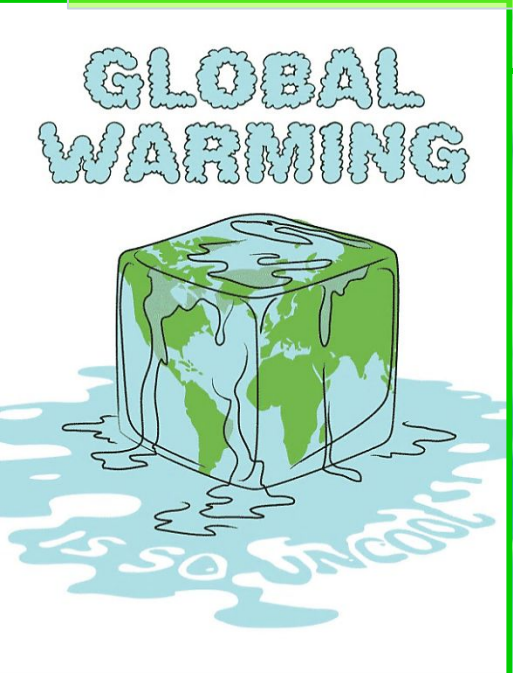

IMPACTS
PERMAFROST MELTS. GASES RELEASED
MOST OF THE WORLD UNINHABITABLE
TSUNAMIS
EARTH HOTTER THAN IN 55 MILLIONS YEARS
1/3RD OF BANGLADESH UNDER WATER
MILLIONS OF REFUGEES
UP 4°C
UP 5°C
MASS EXTINCTION
UP 6°C
DEPRESSED?
ECONOMICS
STERN REPORT
ACT NOW
MUST INVEST 1% GDP
FAIL TO ACT
GLOBAL GDP 20% LOWER
GLOBAL WARMING WORSE THAN
WAR
FAMINE
PLAGUE
GLOBAL NUCLEAR WAR
ENVIRONMENTAL REFUGEES
FOOD SHORTAGES
UP 3°C
AMAZON COLLAPSES
PREDICTIONS FOR 100 YEARS
GREENLAND MELTS
UP 2°C
POLAR BEARS EXTINCT
WATER SUPPLY AFFECTED
UP 1°C
RARE SPECIES EXTINCT
CORAL REEFS DESTROYED
ISLAND NATIONS UNDER WATER
WARMED BY 0.8°C-EFFECTS
HEATWAVES
OCEANS WARMING
SPECIES EXTINCTION
ARCTIC ICECAP MELTING
EXTREME WEATHER EVENTS
INCREASED EARTHQUAKES
SEA LEVELS RISING


SCIENCE OF GLOBAL WARMING
GREENHOUSE GASES
CO_2 CO_2 CO_2
LASTS FOR DECADES TO CENTURIES
MOST ABUNDANT CO_2
CH_4 CO_2
TRACE GASES
N_2O
CH_4 CO_2
METHANE
CFC's
METHANE
2ND MOST ABUNDANT
MAN MADE CFC's
LIFETIME 45-1,700 YEARS
CO_2
1750
280 PARTS PER MILLION
NOW
380 PARTS PER MILLION
HIGHEST IN 650,000 YEARS
1750 INDUSTRIAL REVOLUTION
BEFORE
FINE BALANCE
14°c
10,000 years
SUSTAINED LIFE ON EARTH
AFTER
14.7°c
BALANCE DISRUPTED
BURNING FOSSIL FUELS
ENERGY
TRANSPORTATION
WASTE CO_2
GREENHOUSE EFFECT
GREENHOUSE GASES
NATURAL
TRAPHEAT
MANMADE
TRAPHEAT
CO_2
ICE
REFLECTS 90%
SOLAR RADIATION
WATER ABSORBS 90%


1. Solar radiation passes through the clear atmosphere
2. Most radiation is absorbed by the Earth's surface and warms it.
3. Some solar radiation is reflected by the Earth and atmosphere
4. Infared radiation is emitted from the Earth's surface
5. Some of the infared radiation passes through the atmosphere, and some is absorbed and re-emitted in all directions by greenhouse gas molecules. The effect of this is to warm the Earth's surface and the lower atmosphere.



Stop global warming before it stops you



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Form 7A
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