

気候変動と脱炭素の基礎知識

2025.8.3 (日)
第1回「脱炭素おおいそ町民会議第1回」

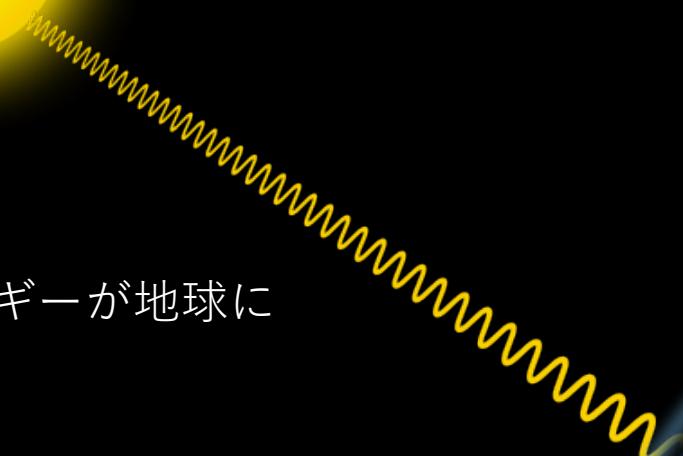
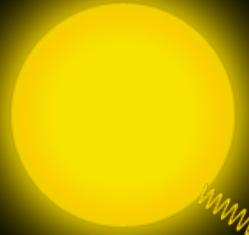
東京大学大学院新領域創成科学研究科 龜山康子

THE CLIMATE REALITY LEADERSHIP CORPS
GLOBAL TRAINING

48th in the Series

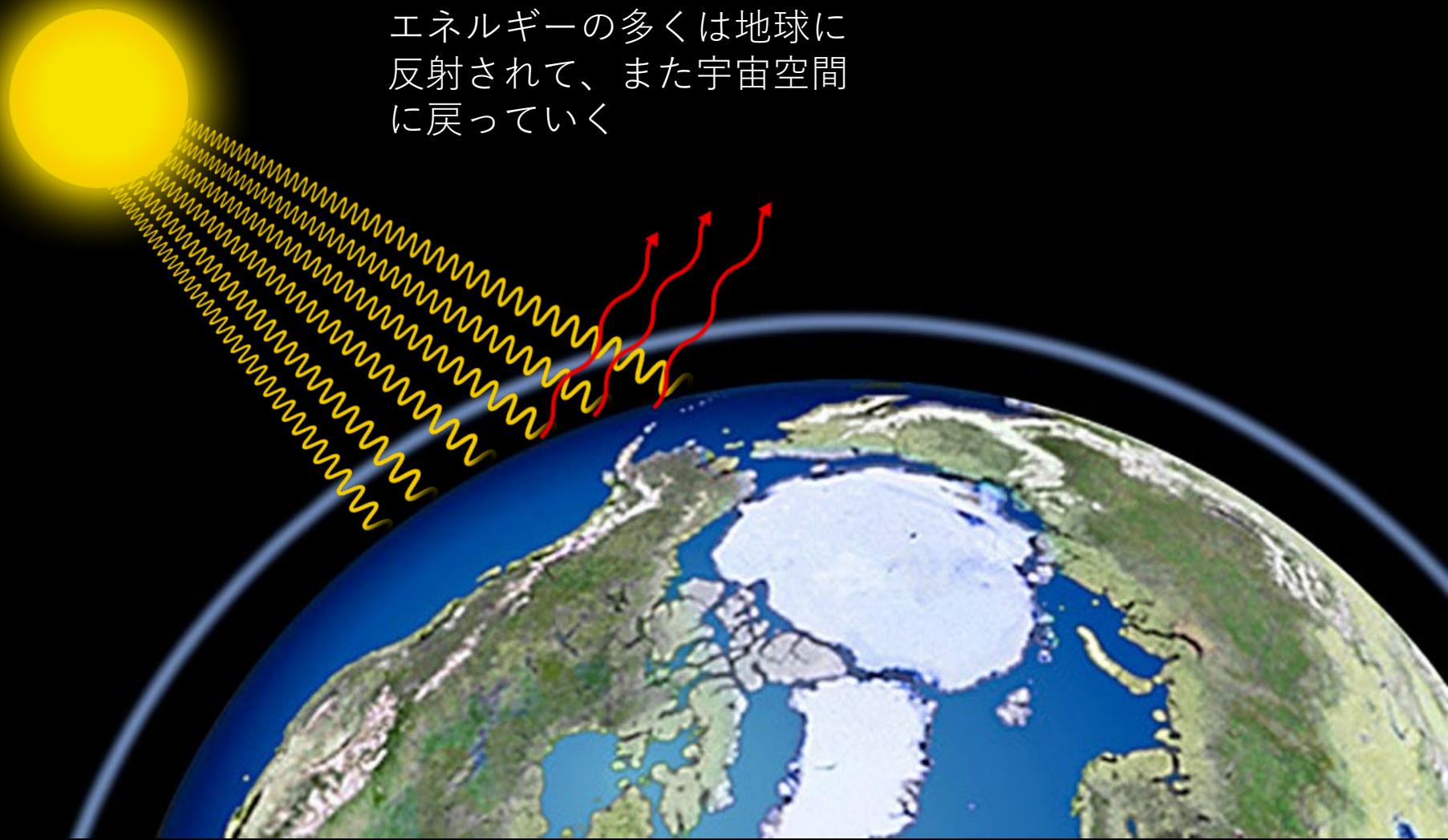


The Climate
Reality Project[®]



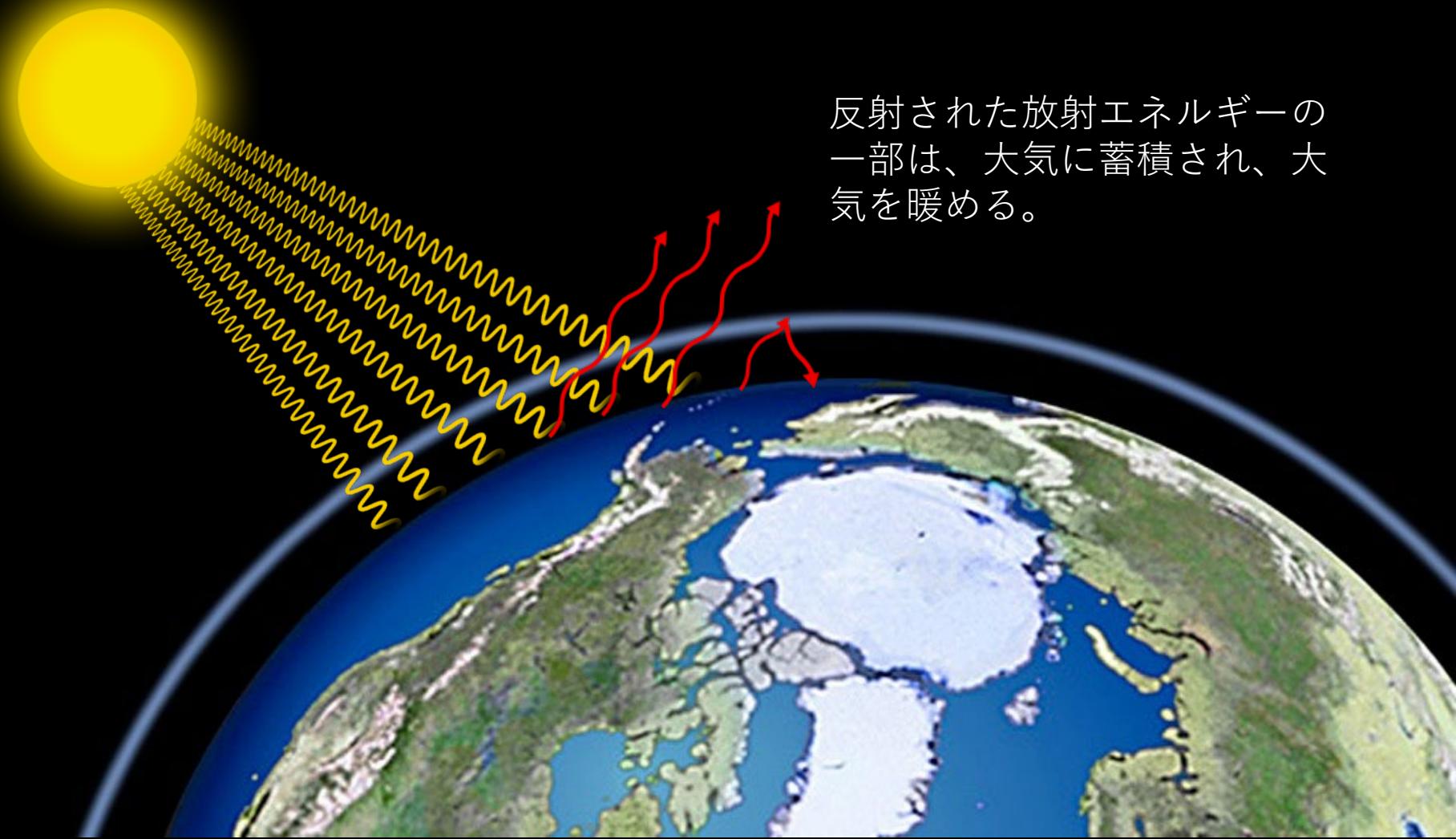
太陽からのエネルギーが地球に
到達する



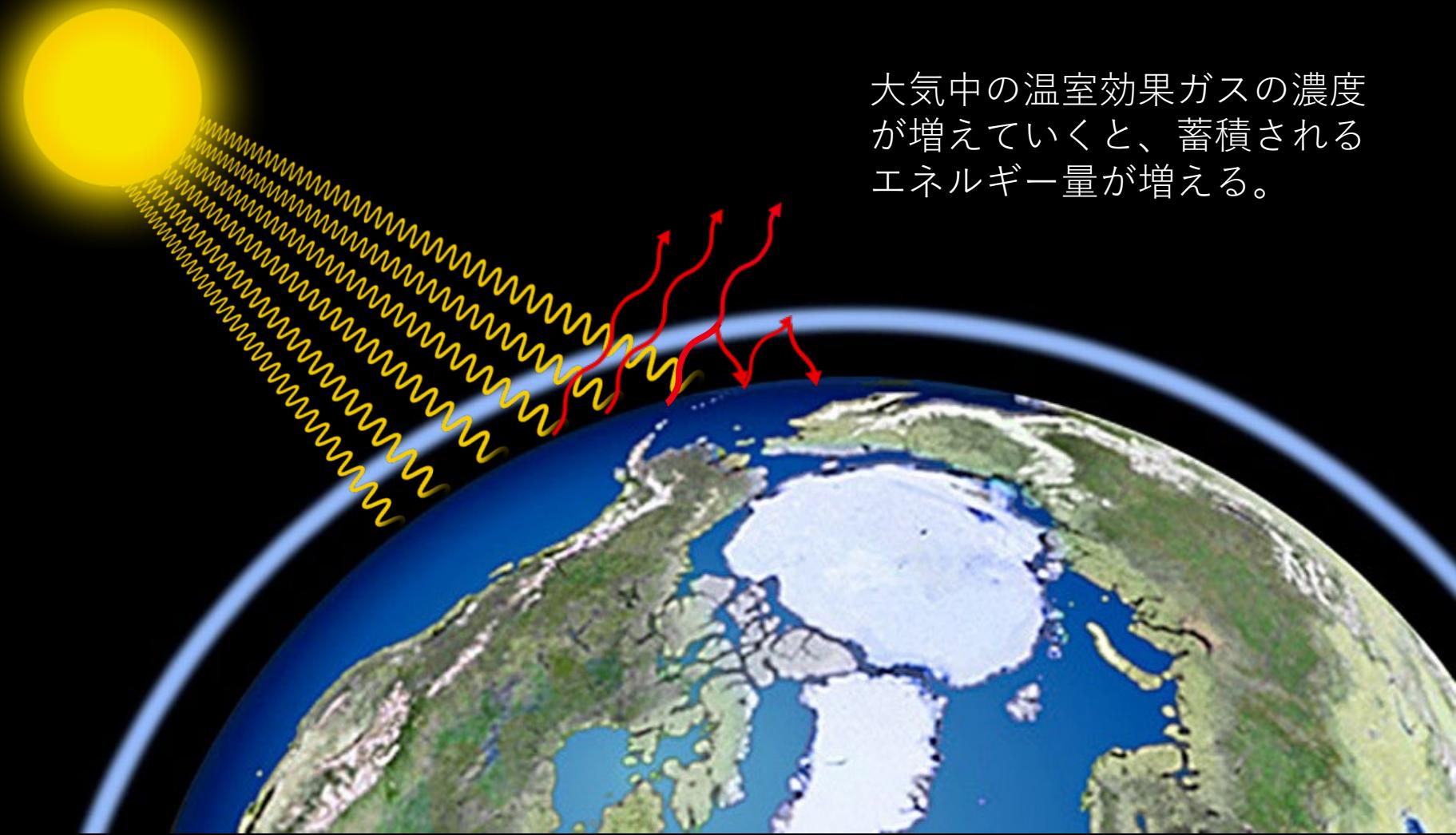


エネルギーの多くは地球に
反射されて、また宇宙空間
に戻っていく

The diagram illustrates the Earth's interaction with solar energy. A large yellow sun is positioned in the upper left, emitting a stream of yellow wavy lines representing solar radiation. These rays travel towards the Earth, which is shown as a blue and green globe. A portion of the rays is reflected back towards the sun as red wavy lines, representing the Earth's albedo. The Earth's atmosphere is depicted as a thin blue layer around the globe.



反射された放射エネルギーの一部は、大気に蓄積され、大気を暖める。



大気中の温室効果ガスの濃度
が増えていくと、蓄積される
エネルギー量が増える。

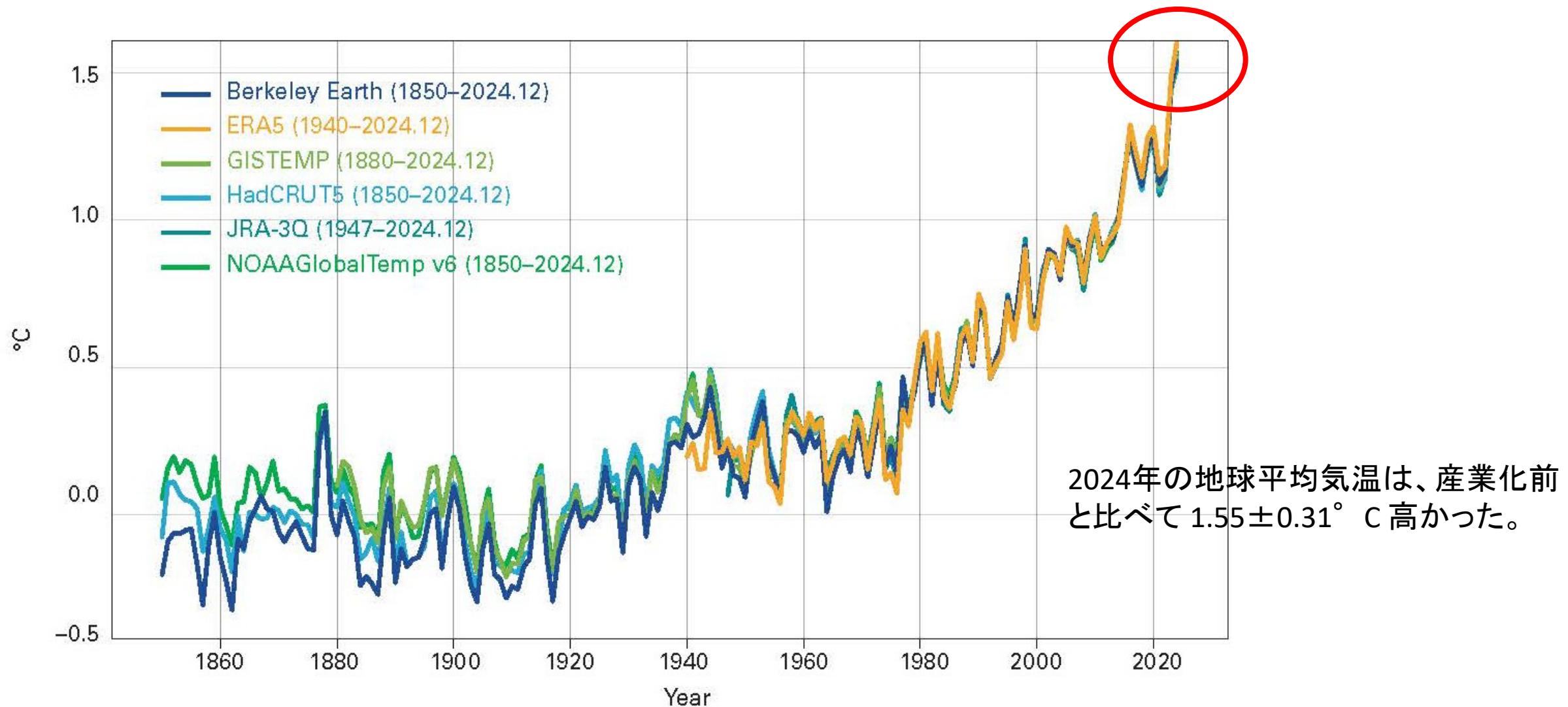
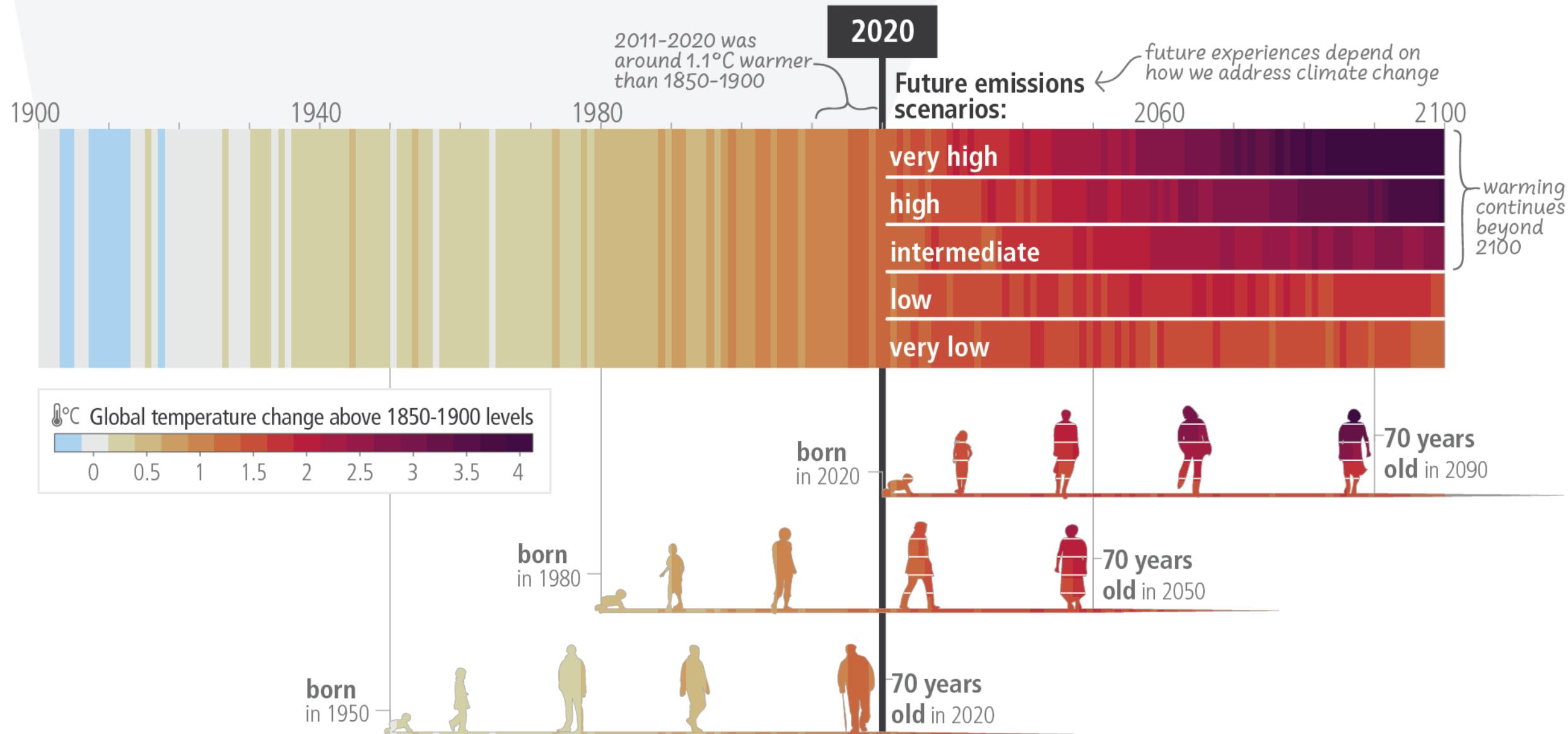


Figure 2. Annual global mean temperature anomalies relative to a pre-industrial (1850–1900) baseline shown from 1850 to 2024

Source: Data are from the six datasets indicated in the legend. For details see [Datasets and methods](#).

今後の気温上昇幅は、現在の対策次第

The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near-term



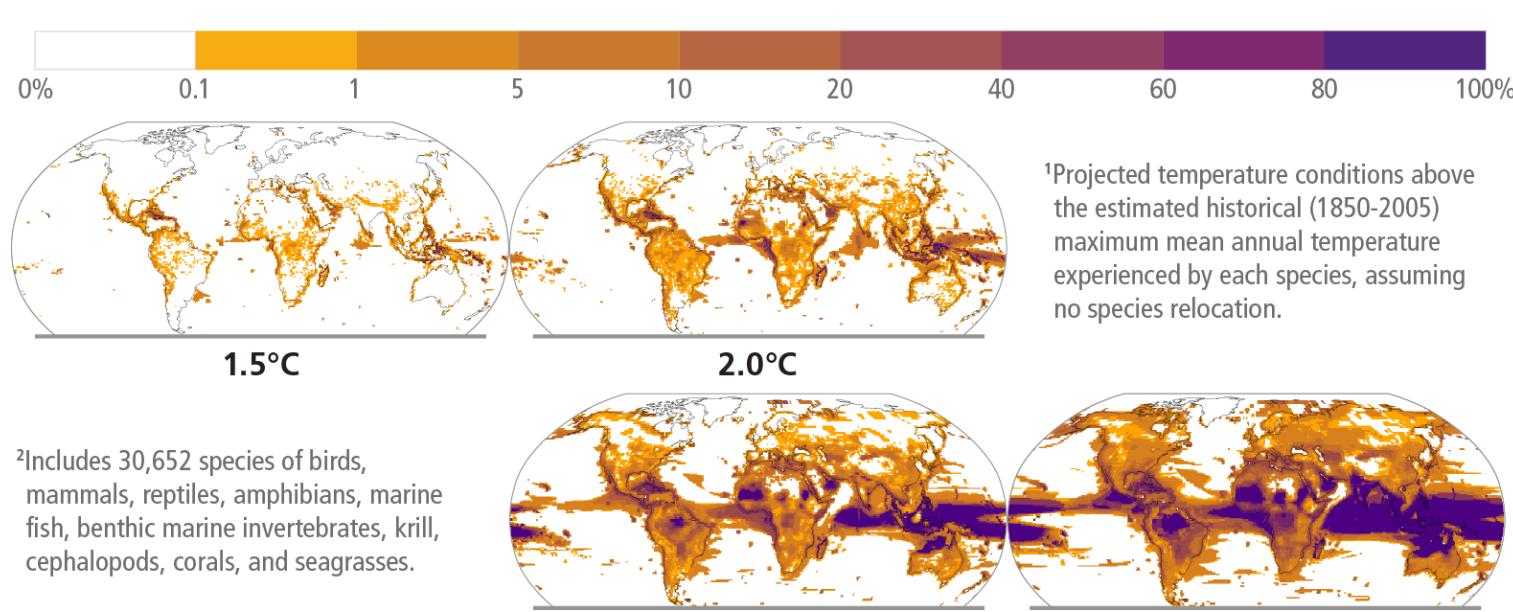
地球平均気温の上昇が、各地域にもたらす影響

Examples of impacts without additional adaptation

生物種損失
スル
絶滅に瀕する
生物種の割合

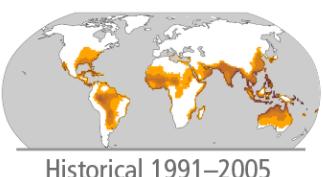
a) Risk of species losses

Percentage of animal species and seagrasses exposed to potentially dangerous temperature conditions^{1, 2}

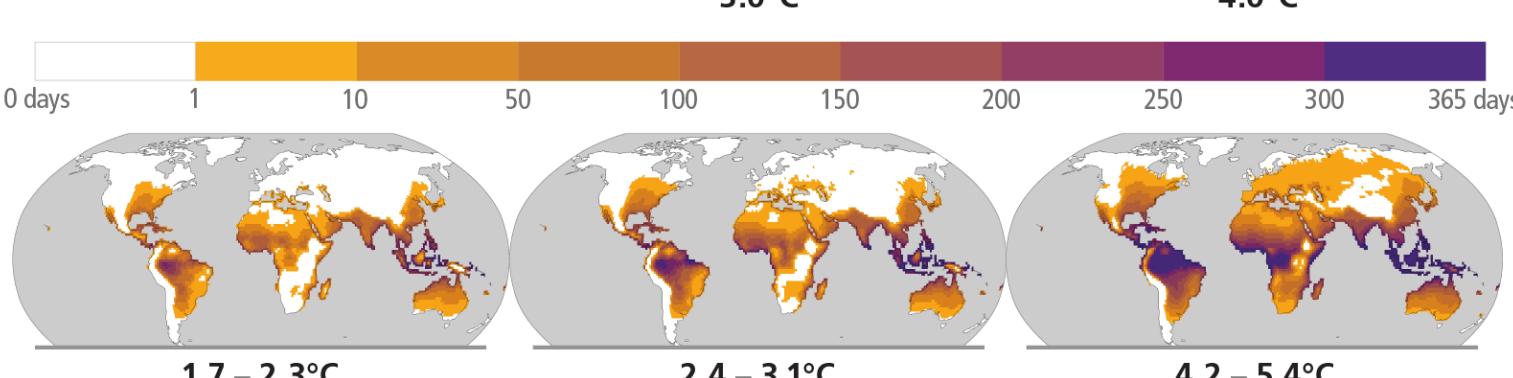


死亡に至る気
温と湿度の条
件に達する一
年あたりの日
数

b) Heat-humidity risks to human health



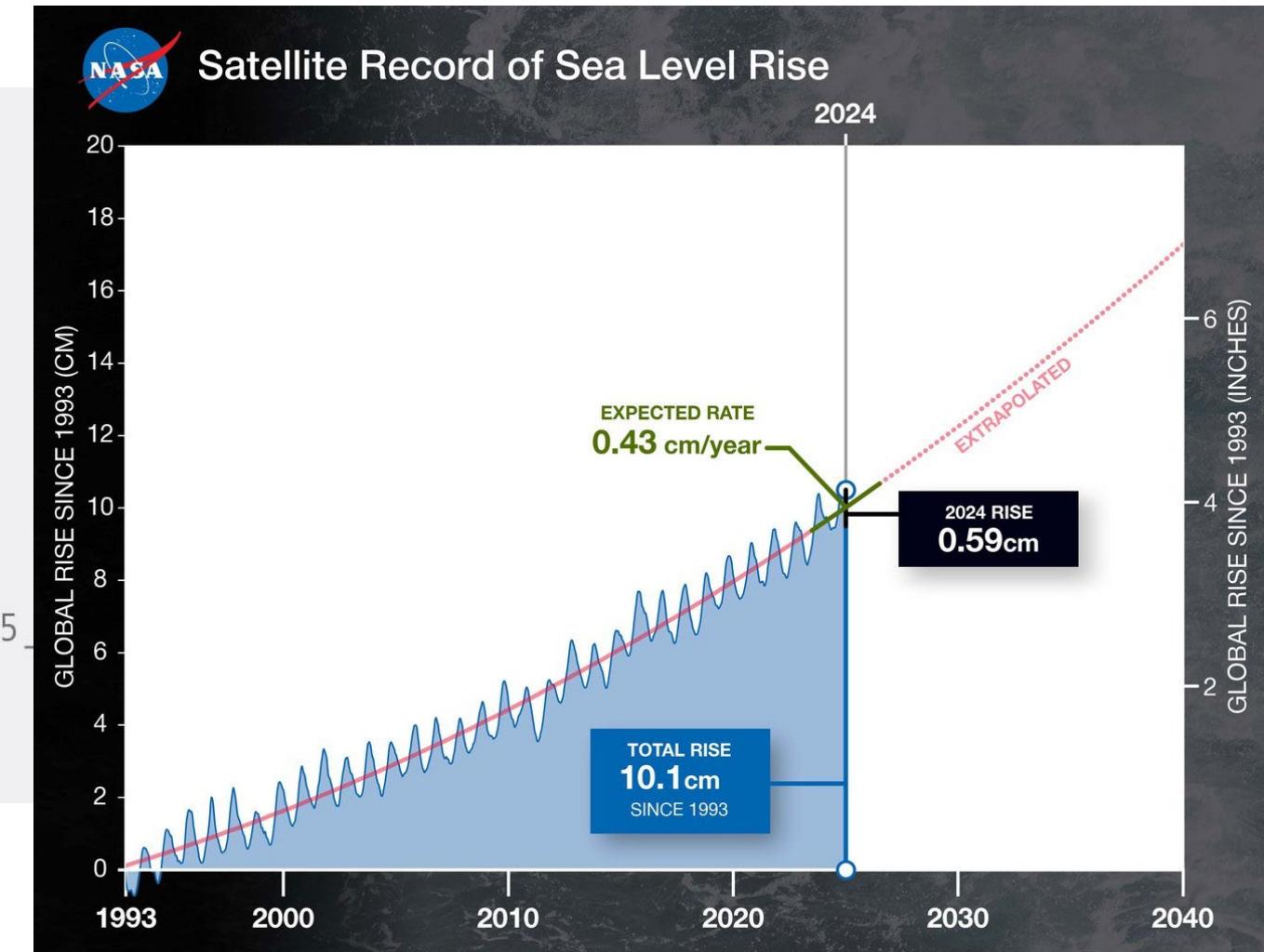
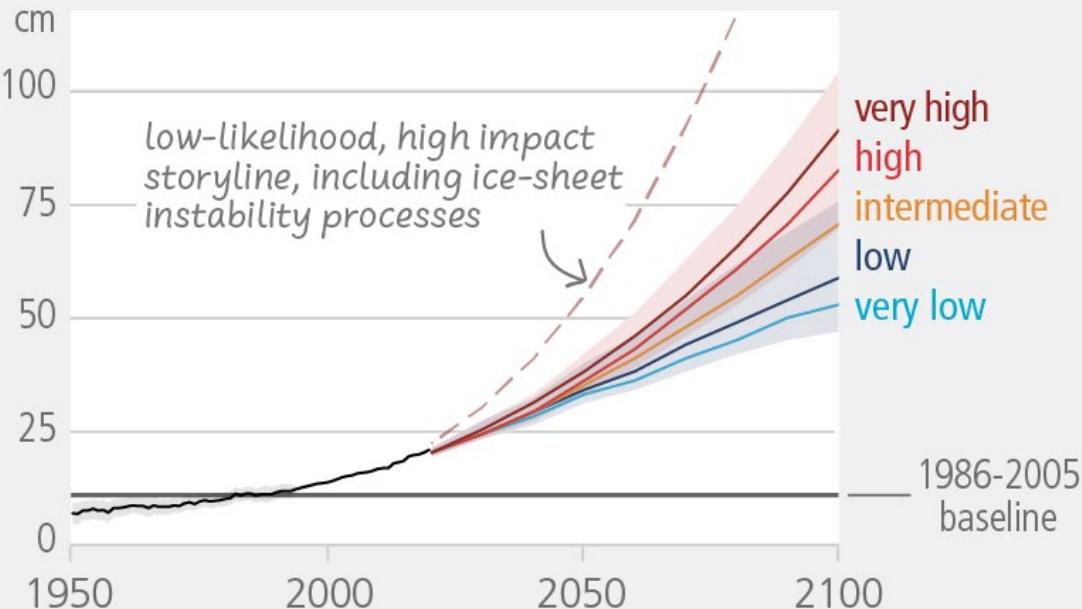
Days per year where combined temperature and humidity conditions pose a risk of mortality to individuals³



³Projected regional impacts utilize a global threshold beyond which daily mean surface air temperature and relative humidity may induce hyperthermia that poses a risk of mortality. The duration and intensity of heatwaves are not presented here. Heat-related health outcomes vary by location and are highly moderated by socio-economic, occupational and other non-climatic determinants of individual health and socio-economic vulnerability. The threshold used in these maps is based on a single study that synthesized data from 783 cases to determine the relationship between heat-humidity conditions and mortality drawn largely from observations in temperate climates.

海面上昇

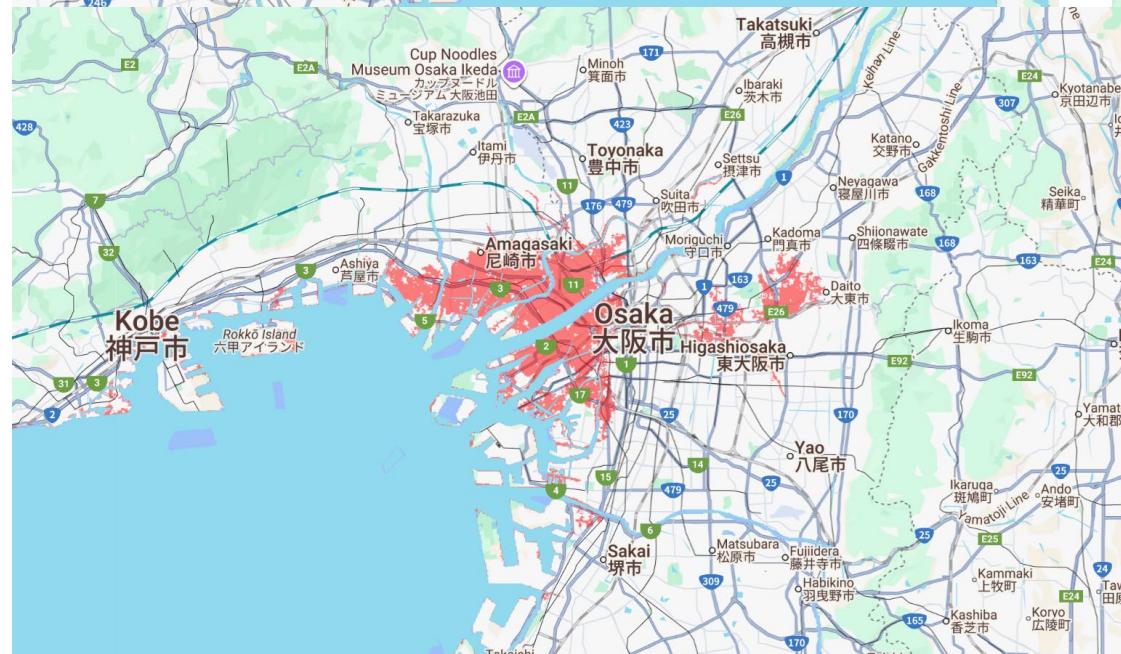
Global mean sea level rise relative to 1900



Source: IPCC (2023) AR6
Synthesis Report

Source: NASA (2025)
<https://sealevel.nasa.gov/news/282/nasa-analysis-shows-unexpected-amount-of-sea-level-rise-in-2024/>

日本大都市と海面上昇



Climate Centralのウェブサイトより
海拔が50cm以下の地域を赤く示している

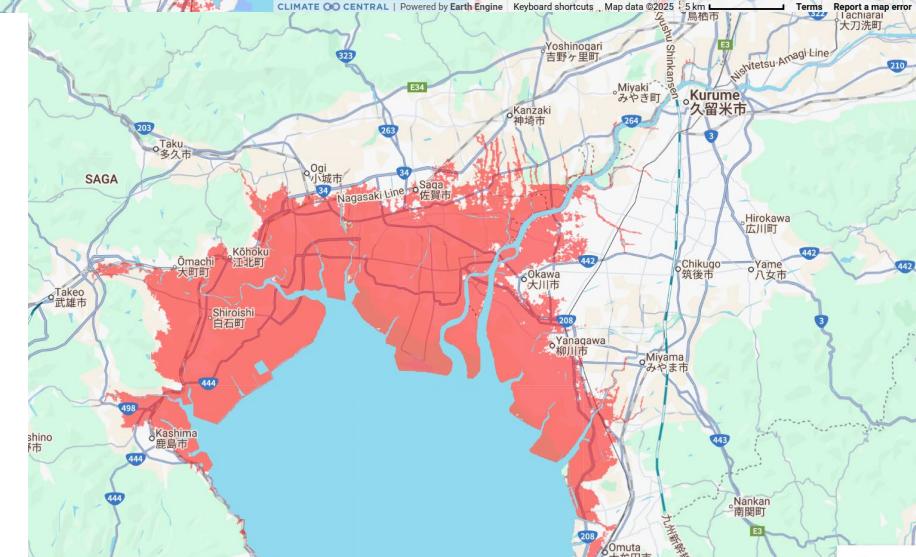
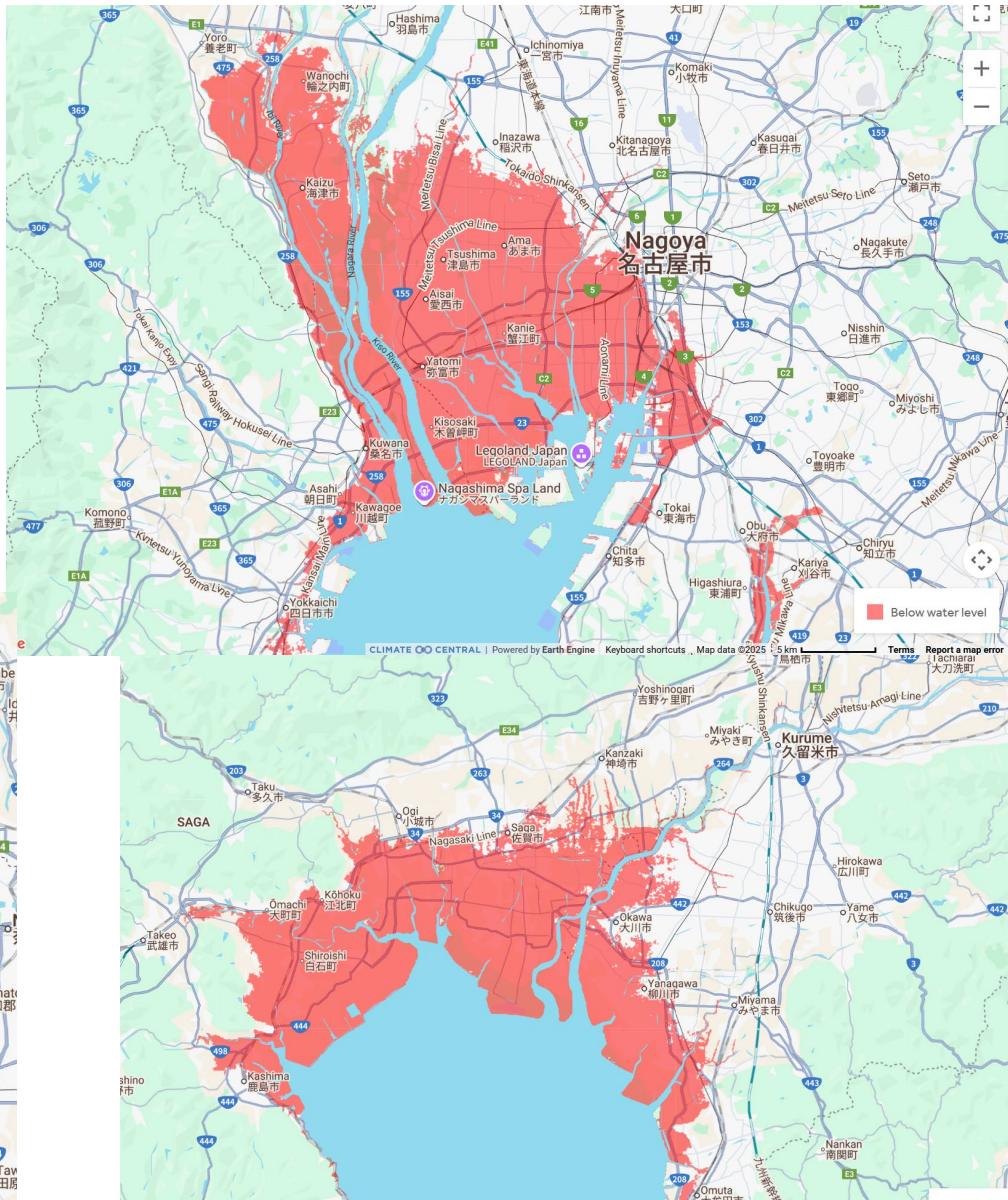


Figure ES.1 Total net anthropogenic GHG emissions, 1990–2022

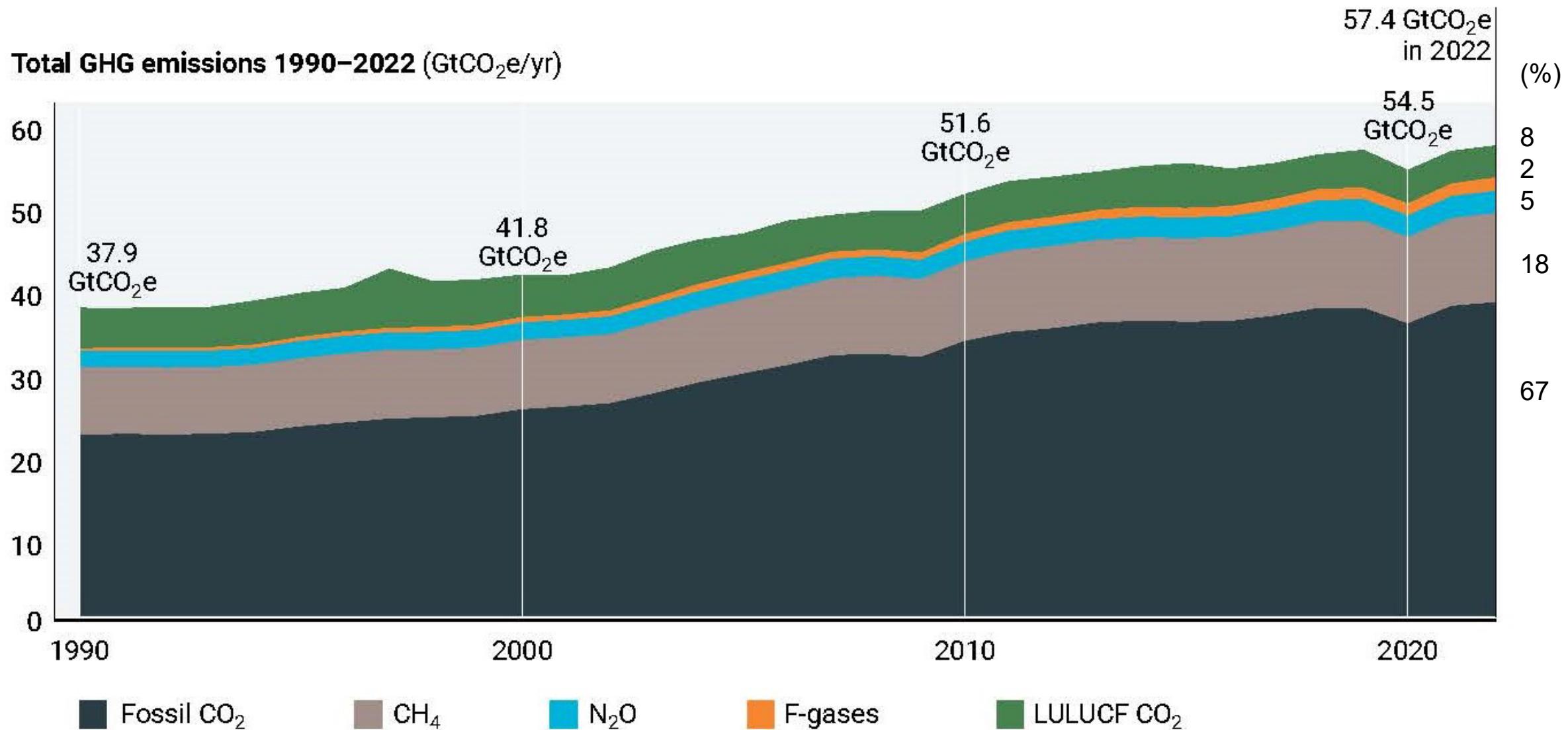
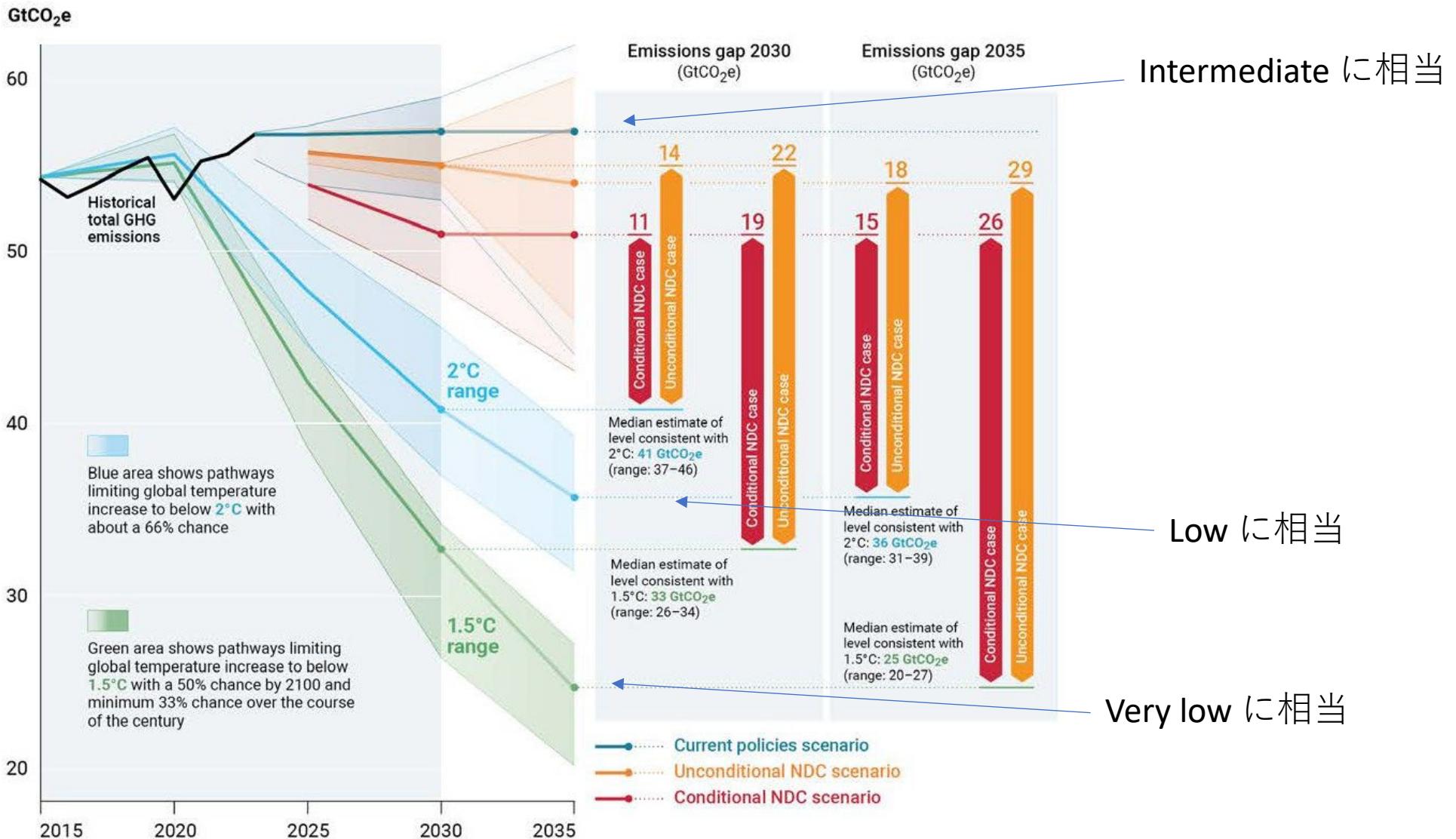
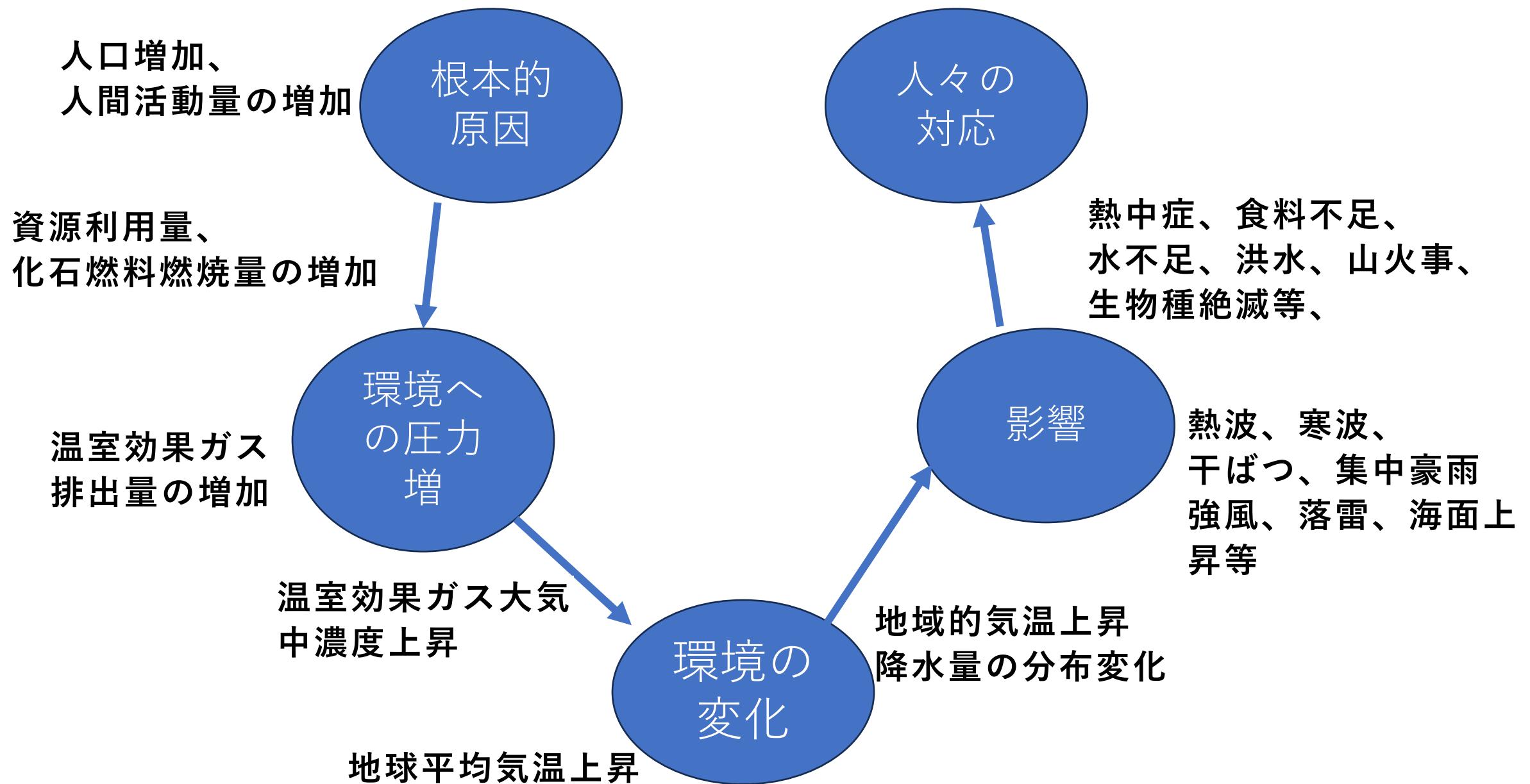


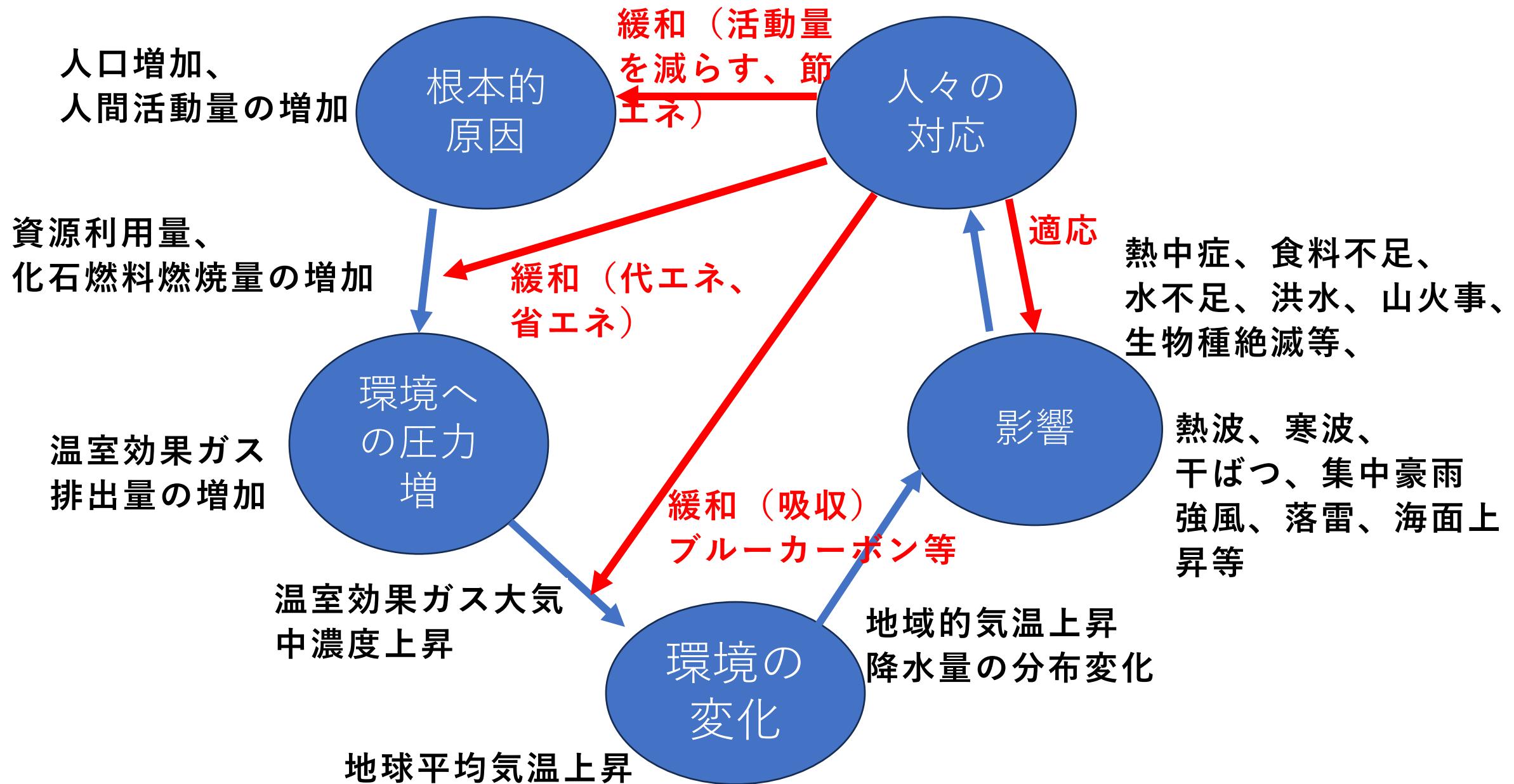
Figure ES.3 Global GHG emissions under different scenarios and the emissions gap in 2030 and 2035



気候変動の現象と、人間の対応



気候変動の現象と、人間の対応



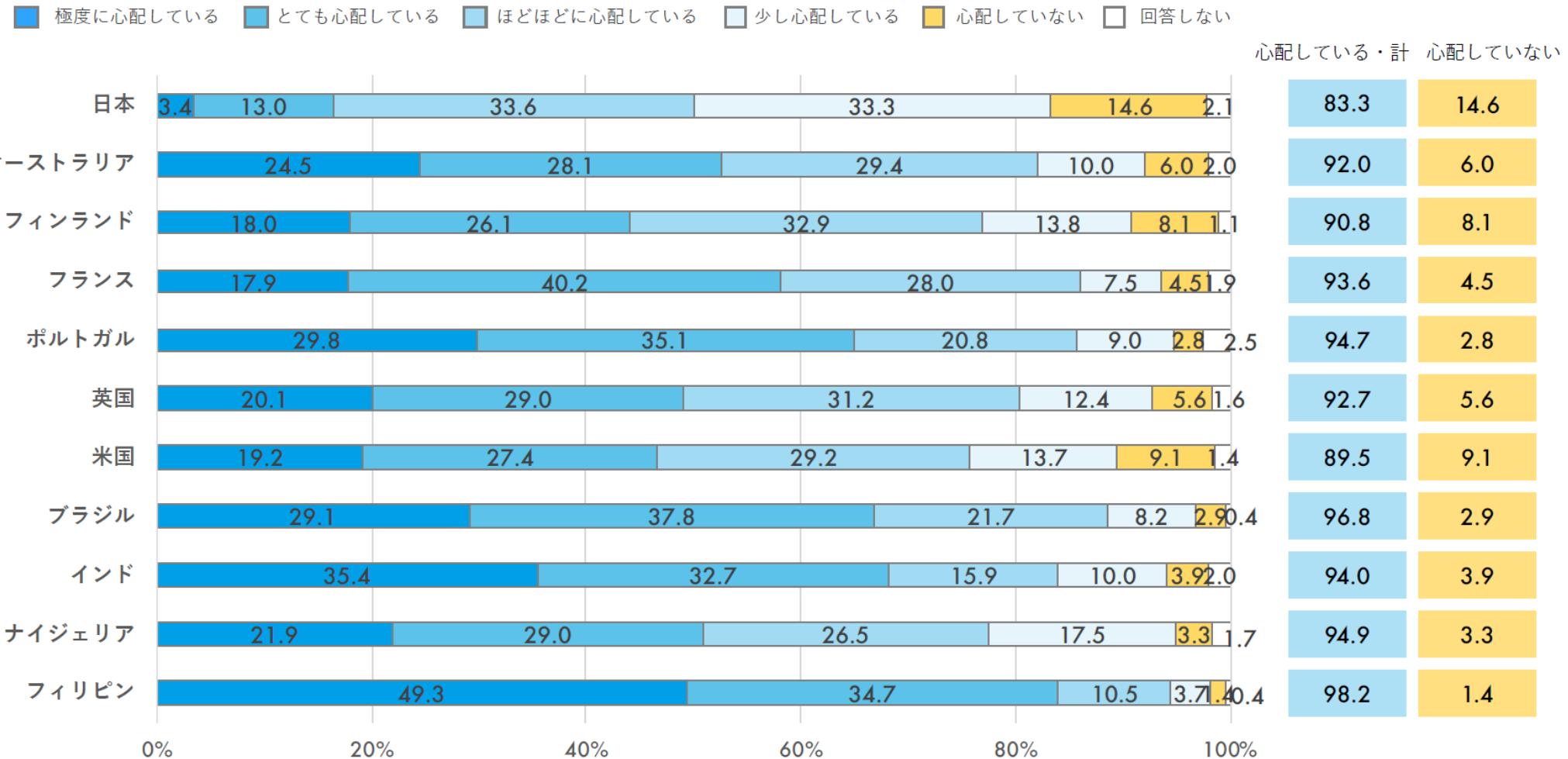
あと、もう一つ。個人（＝市民、消費者）の果たす役割

- ・市民として、気候変動に关心を持っているということを公言することで、自治体や国の意思決定を変えていく。
- ・消費者として、排出量の少ない製品を企業が売り出しても、消費者が買わなかつたら、企業は、そのような製品を作らなくなってしまう。
- ・私たちの日々の行動は、社会を変えるために、とても重要。
- ・個人の意識 → 政治や企業行動を変える → 国を変える



Q1

以下の文章を読んで、あなたに当てはまるかどうかお知らせください：
 「私は気候変動が人びとや地球を脅かすことを心配している。」



出典：電通総研第9回調査「気候不安に関する意識調査」（2023年）

ご清聴ありがとうございました