

Climate Change and its Impact on Biodiversity

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Disampaikan pada 'Pojok Iklim':
Desain Insentif untuk Penanganan Perubahan Iklim melalui
Konservasi Keanekaragaman Hayati
Jakarta, 14 Februari 2019





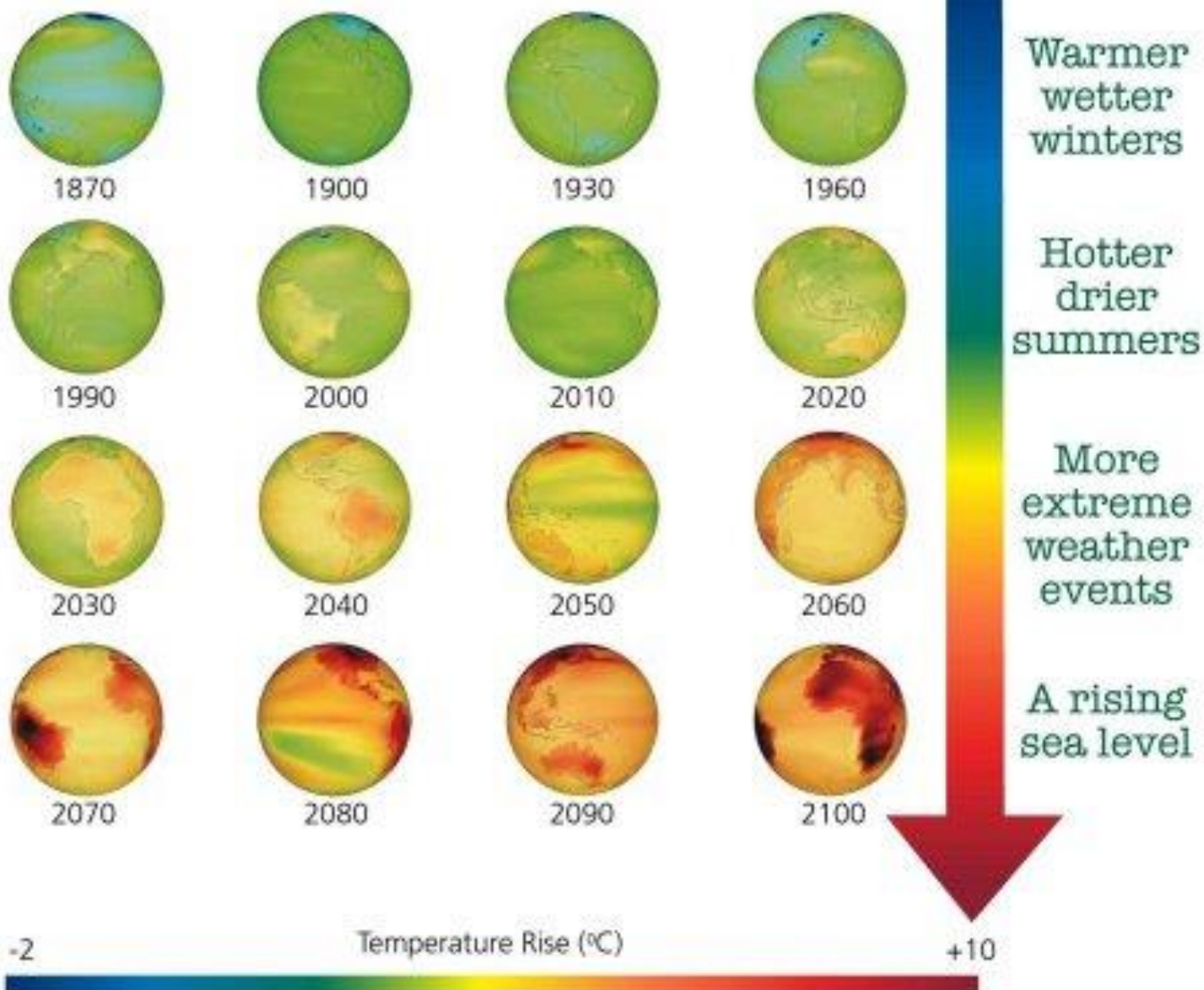
Hurricane Katrina



Climate Change

- Direct impact:
 - higher temperature rising → sea level rise
- Secondary impact:
 1. Wet → wetter
 2. Dry → dryer
 3. Extreme weather events
 4. Unpredictable weather pattern

Climate change timeline



Projected Impacts of Climate Change

Global temperature change (relative to pre-industrial)

0°C

1°C

2°C

3°C

4°C

5°C

Food

Falling crop yields in many areas, particularly developing regions

Possible rising yields in some high latitude regions

Falling yields in many developed regions

Water

Small mountain glaciers disappear – water supplies threatened in several areas

Significant decreases in water availability in many areas, including Mediterranean and Southern Africa

Sea level rise threatens major cities

Ecosystems

Extensive Damage to Coral Reefs

Rising number of species face extinction

Extreme Weather Events

Rising intensity of storms, forest fires, droughts, flooding and heat waves

Risk of Abrupt and Major Irreversible Changes

Increasing risk of dangerous feedbacks and abrupt, large-scale shifts in the climate system

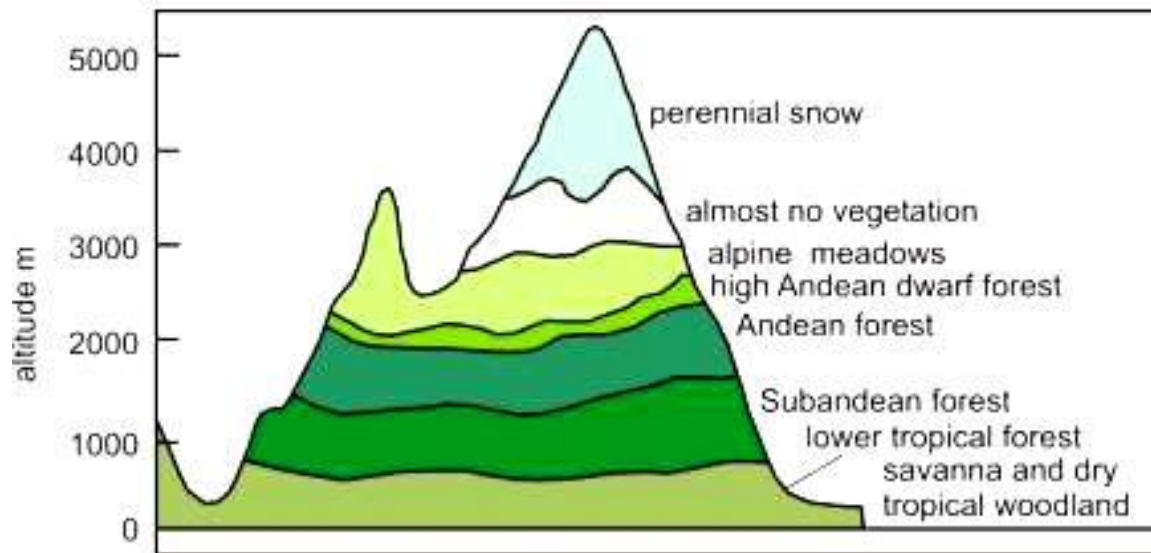
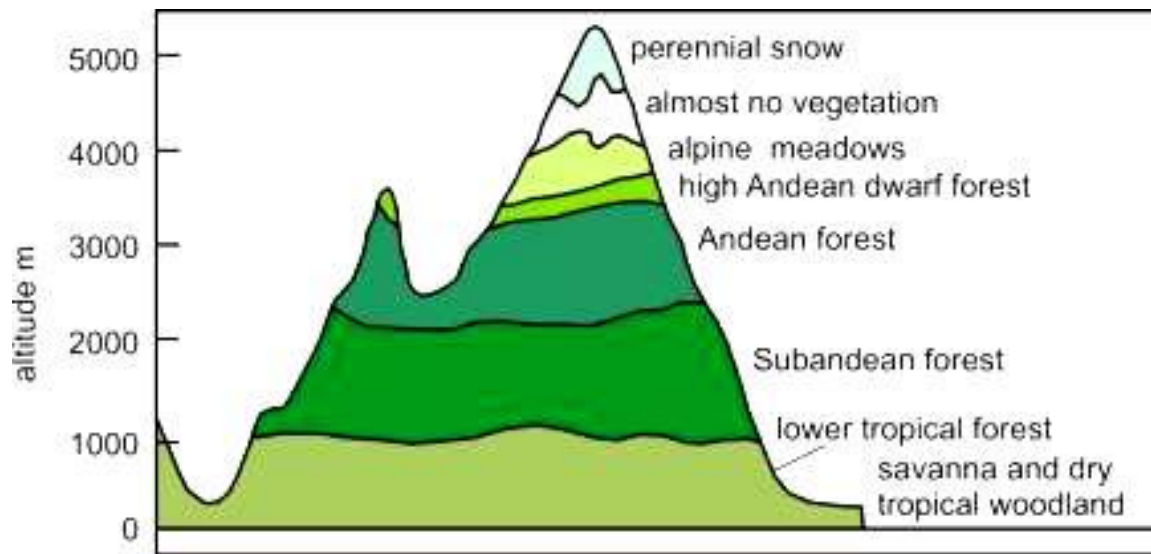
Climate Change: Impact on Biodiversity

1. Altered ecosystems and landscape
2. Change in phenology
3. Changes in species distribution, composition and interaction
4. Conflicts: human-wildlife-livestock
5. Wildland fires
6. Wildlife health and disease
7. Invasive species and pests

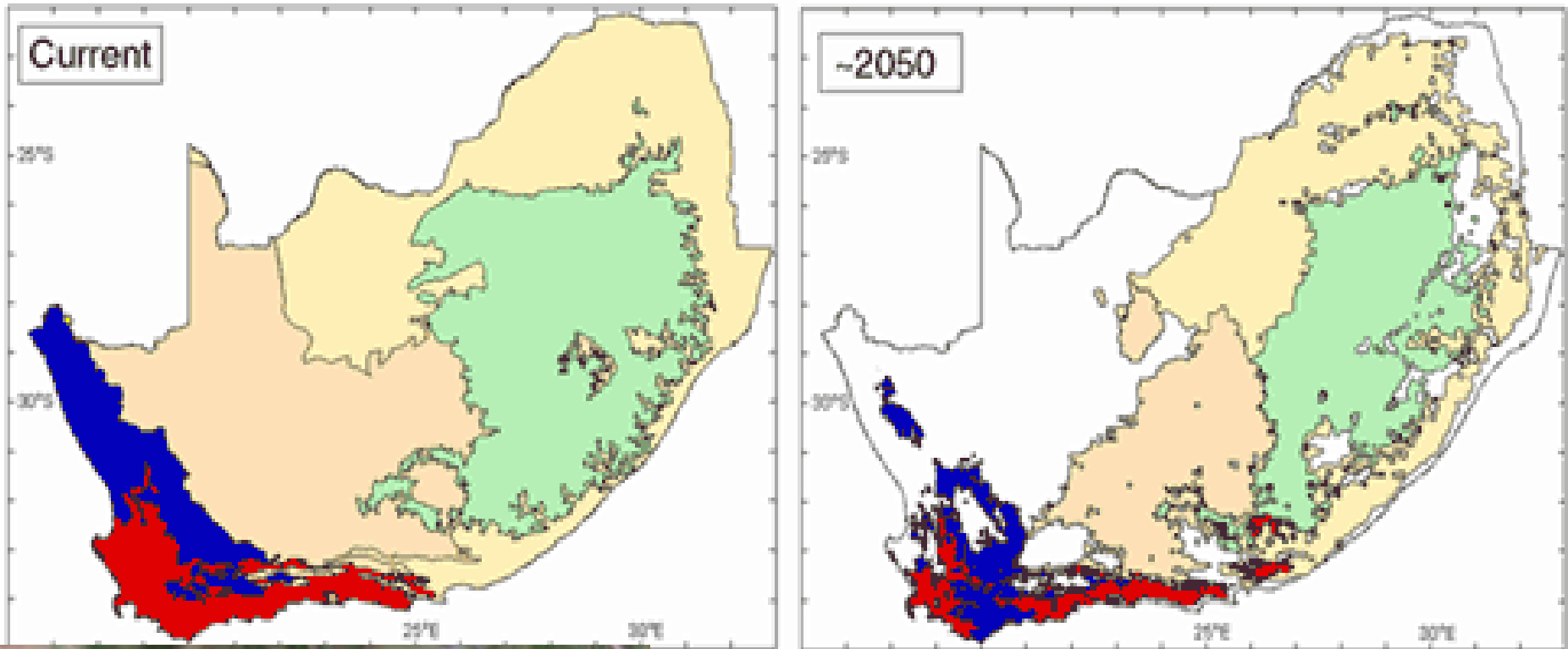


***INI DIA JADWAL MEKAR BUNGA
SAKURA DI JEPANG 2019***

Vegetation Changes Due to Climate Andes Mt



Change in the distribution of species, and the areas designed to protect them: South Africa



South African Biomes

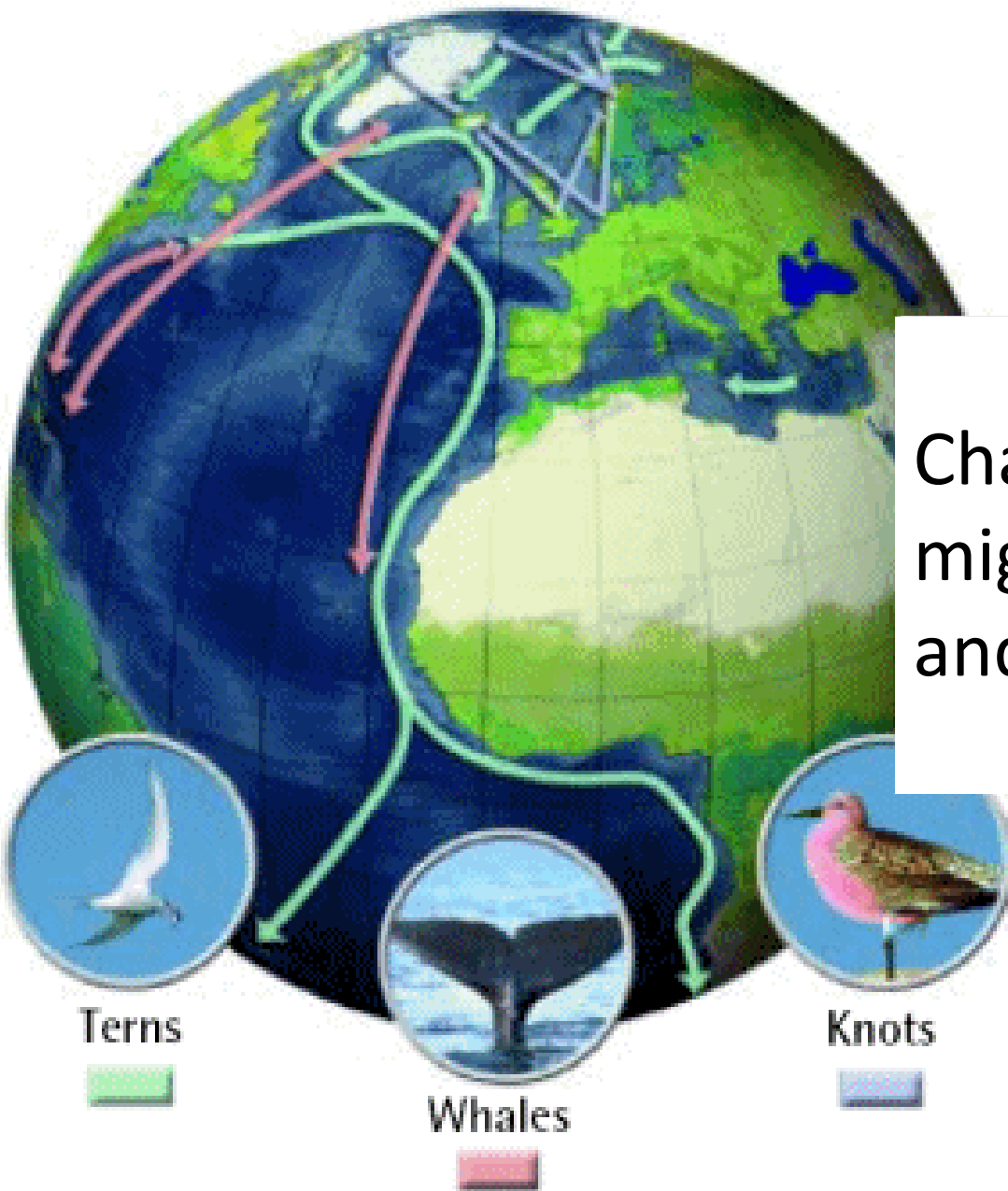
- Desert
- Forest
- Fynbos
- Grassland
- Nema-Karoo
- Savanna
- Succulent Karoo
- Undefined



Change in breeding pattern



Change in migration pattern, route and destination



Frog collected on Mount Kinabalu, Malaysia



1980s

2008

Climate Change: Wildland fires



Climate Change: Invasive species and pests



Climate Change: health and disease



Figure 6.34 Re-infestation by *Aedes aegypti* in Latin America and the Caribbean

1970

2002



MASS
EXTINCTION



BUSH
FIRES



SEVERE
DROUGHT

NEXT 100 YEARS