IPCC Special Report On Climate Change, Desertification, land Degradation, sustainable land management, food security and greenhouse gas fluxes in terrestrial ecosystems

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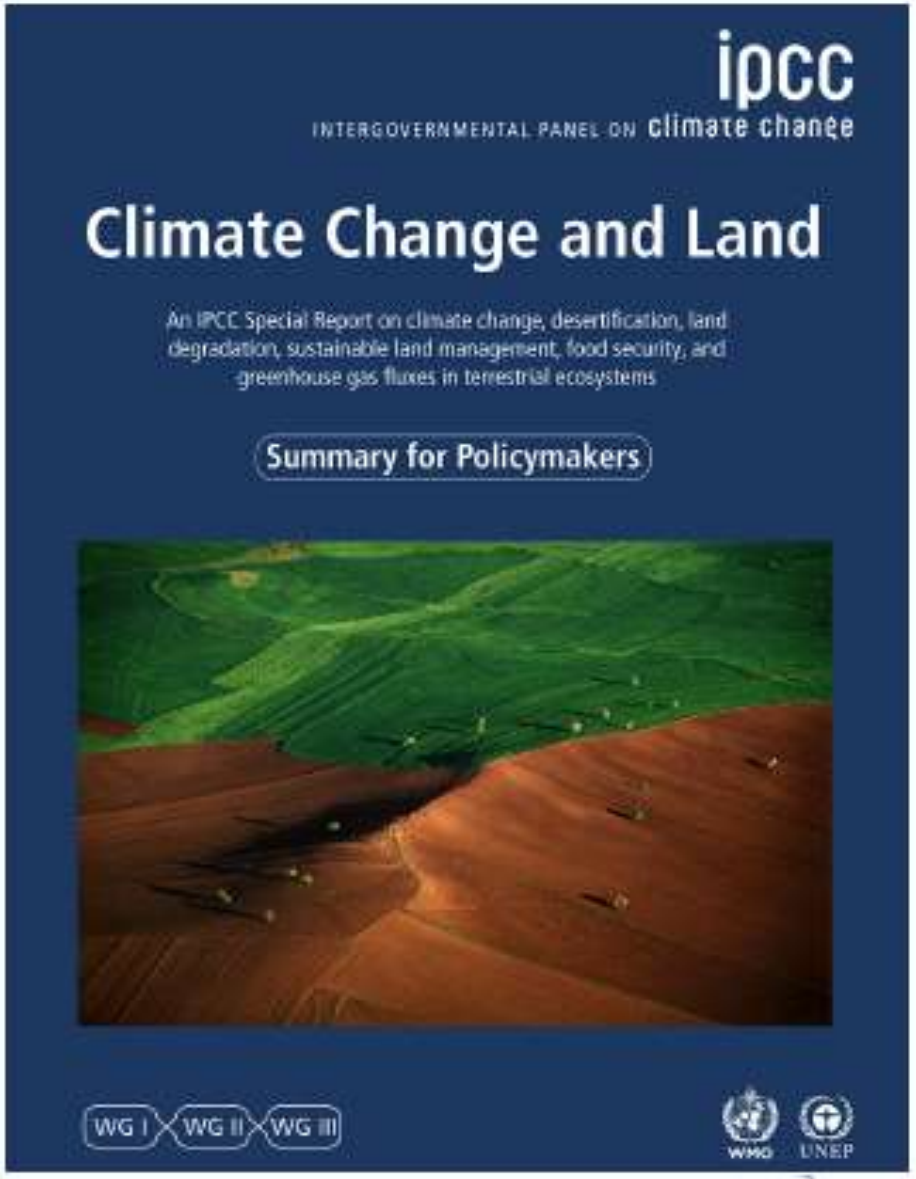


SRCCL was the result of extensive work by many scientists from around the world.

107 Authors

52 Countries

53% Developing Countries

7,000 references assessed

More than 28,000 comments


Land is under growing human pressure
Land is part of the solution
But Land can’t do it all

Figure SPM.2

Risks to land-related human systems and ecosystems from global climate change and socio-economic development

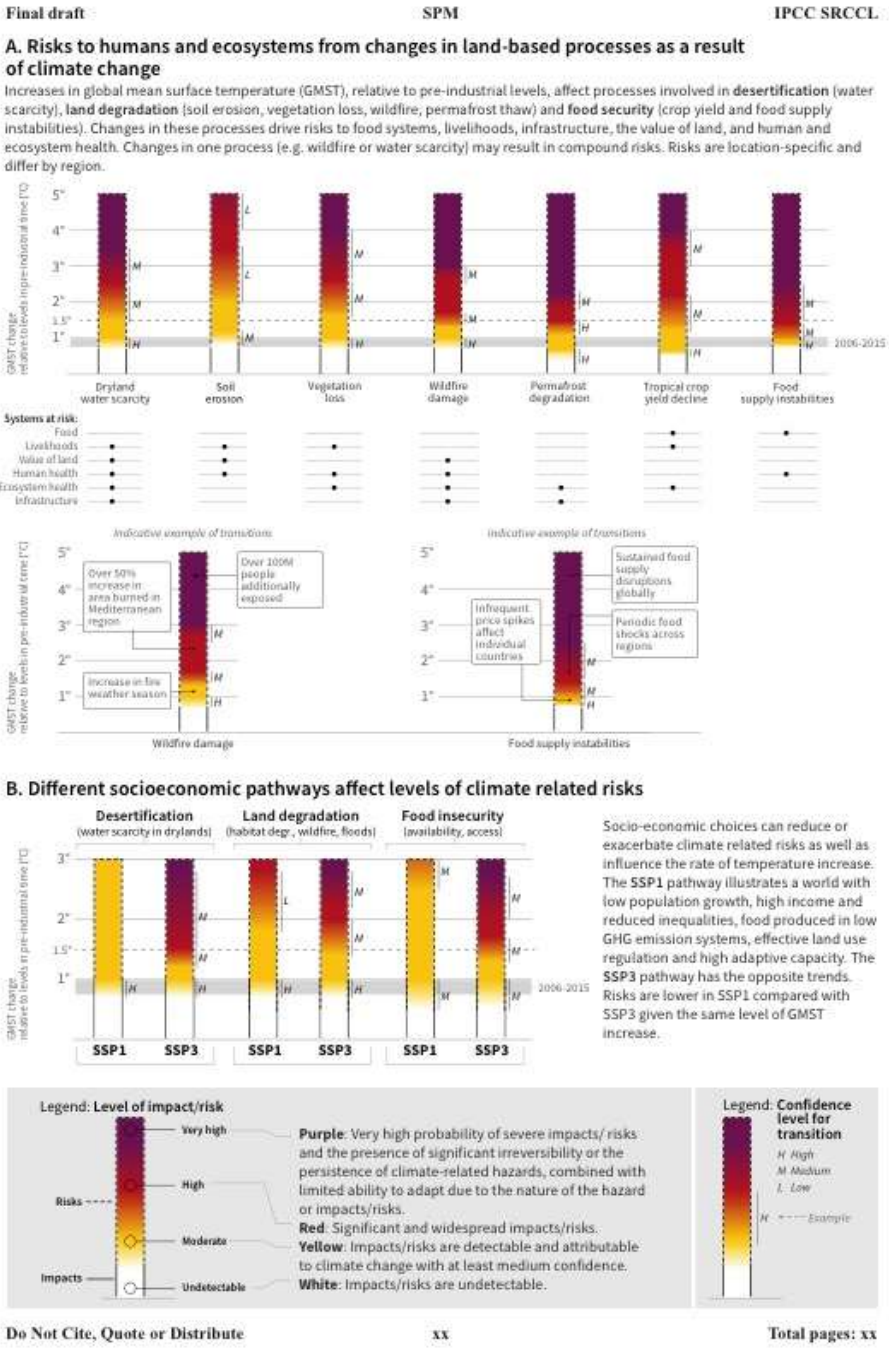
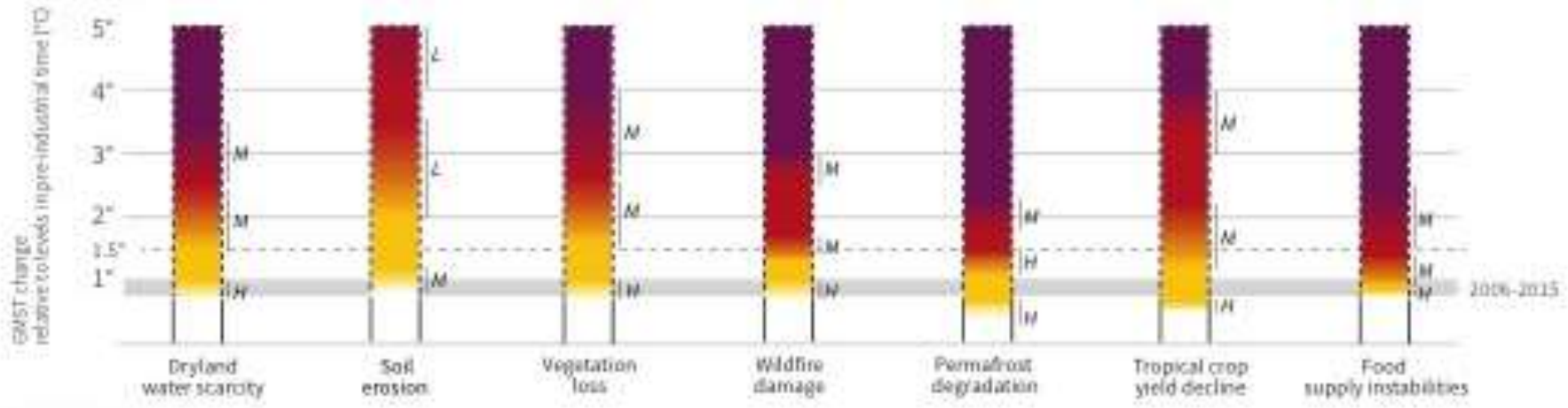


Figure SPM.2: Panel A



- Around 1.5°C GMST high risks from **dryland water scarcity, fire damage, permafrost degradation and food supply instability**
- By 2 degrees **very high risks** are identified from **permafrost degradation** and **food system instability**
- Severe and irreversible risks identified across almost all processes by 3^{o}C GMST increase.

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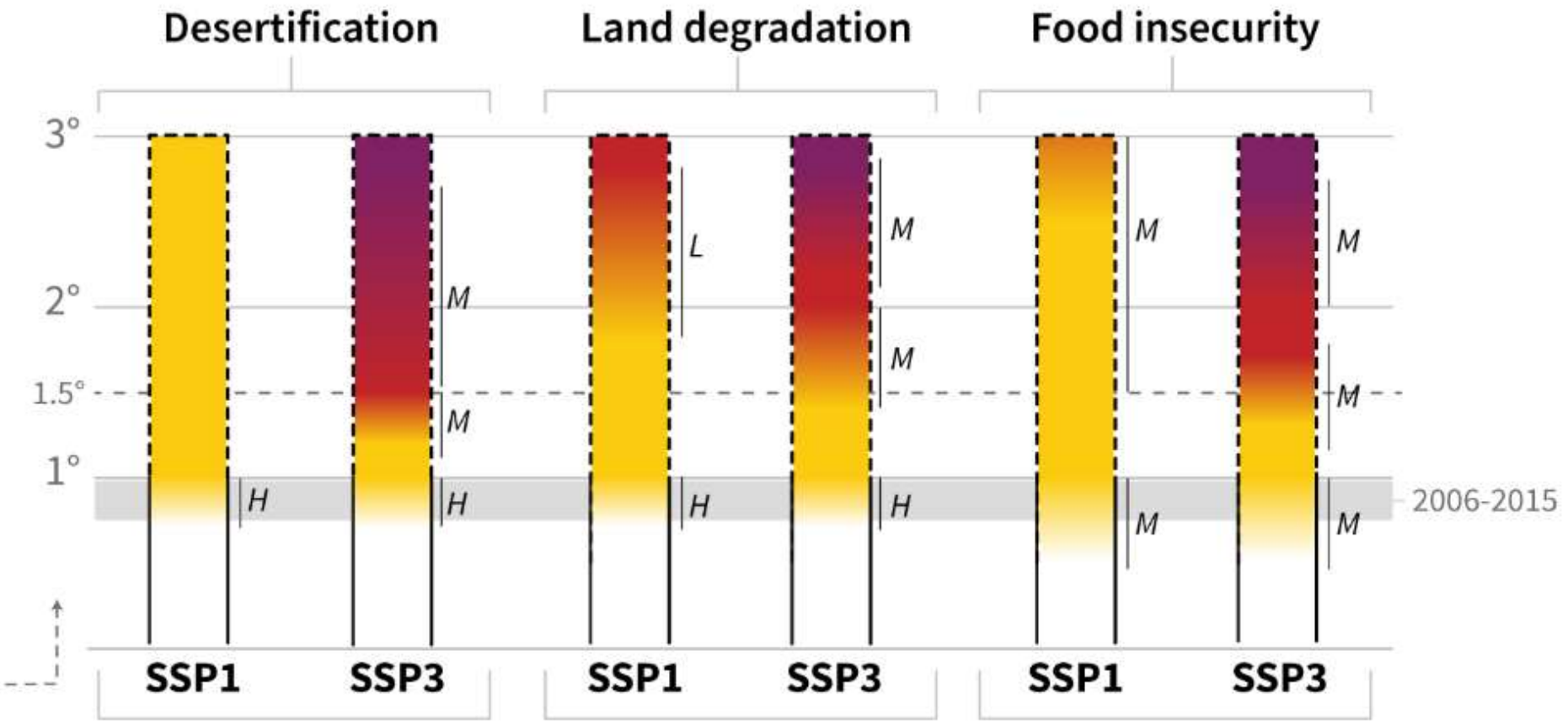
The Shared Socioeconomic Pathways (SSPs)

- **SSP1** includes:
  - a peak and decline in population (~7 billion in 2100),
  - high income and reduced inequalities
  - effective land-use regulation
  - less resource intensive consumption, including food produced in low-GHG emission systems and lower food waste
  - free trade and environmentally-friendly technologies and lifestyles
- **SSP3** includes:
  - high population (~13 billion in 2100)
  - low income and continued inequalities
  - material-intensive consumption
  - barriers to trade and slow rates of technological change

Figure SPM.2: Panel B



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Thank you for your attention
Questions?
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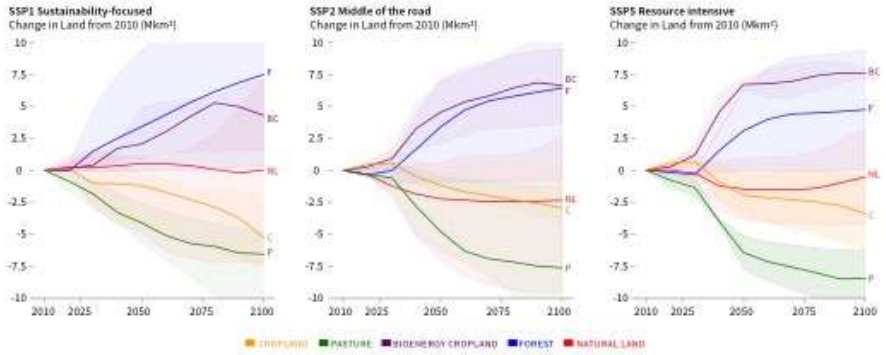
A. Pathways linking socioeconomic development, mitigation responses and land

Socioeconomic development and land management influence the evolution of the land system including the relative amount of land allocated to CROPLAND, PASTURE, BIOENERGY CROPLAND, FOREST, and NATURAL LAND. The lines show the median across Integrated Assessment Models (IAMs) for three alternative shared socioeconomic pathways (**SSP1**, **SSP2** and **SSP5** at **RCP1.9**); shaded areas show the range across models. Note that pathways illustrate the effects of climate change mitigation but not those of climate change impacts or adaptation.

A. Sustainability-focused (SSP1)
Sustainability in land management, agricultural intensification, production and consumption patterns result in reduced need for agricultural land, despite increases in per capita food consumption. This land can instead be used for reforestation, afforestation, and bioenergy.

B. Middle of the road (SSP2)
Societal as well as technological development follows historical patterns. Increased demand for land mitigation options such as bioenergy, reduced deforestation or afforestation decreases availability of agricultural land for food, feed and fibre.

C. Resource intensive (SSP5)
Resource-intensive production and consumption patterns, results in high baseline emissions. Mitigation focuses on technological solutions including substantial bioenergy and BECCS . Intensification and competing land uses contribute to declines in agricultural land.



Land use under different socio-economic pathways

Differences in change in forests, bioenergy crops and food production

All assessed pathways that limit warming to well below 2C require land-based mitigation and land-use change