

## 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.

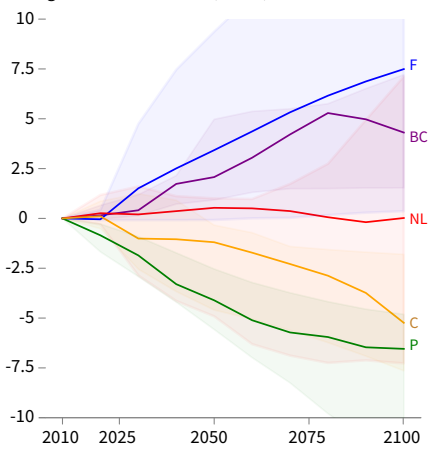
### B. Middle of the road (SSP2)

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.

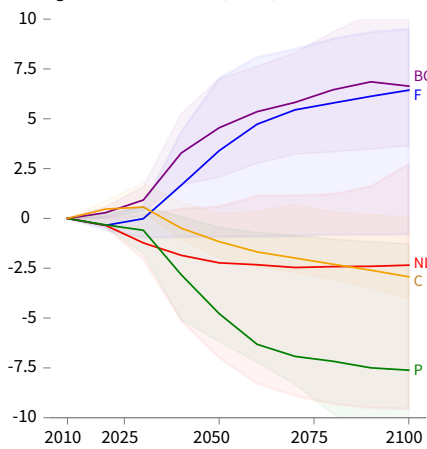
### C. Resource intensive (SSP5)

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.

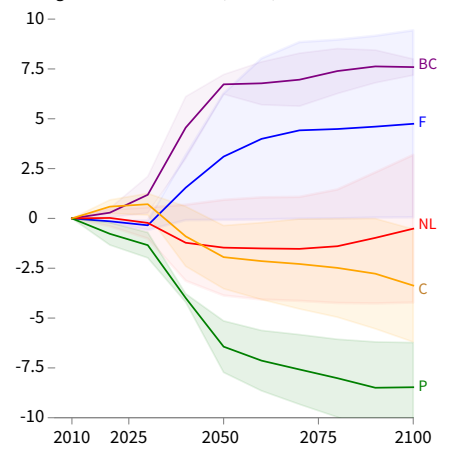
SSP1 Sustainability-focused  
Change in Land from 2010 (Mkm<sup>2</sup>)



SSP2 Middle of the road  
Change in Land from 2010 (Mkm<sup>2</sup>)



SSP5 Resource intensive  
Change in Land from 2010 (Mkm<sup>2</sup>)



■ CROPLAND ■ PASTURE ■ BIOENERGY CROPLAND ■ FOREST ■ NATURAL LAND

