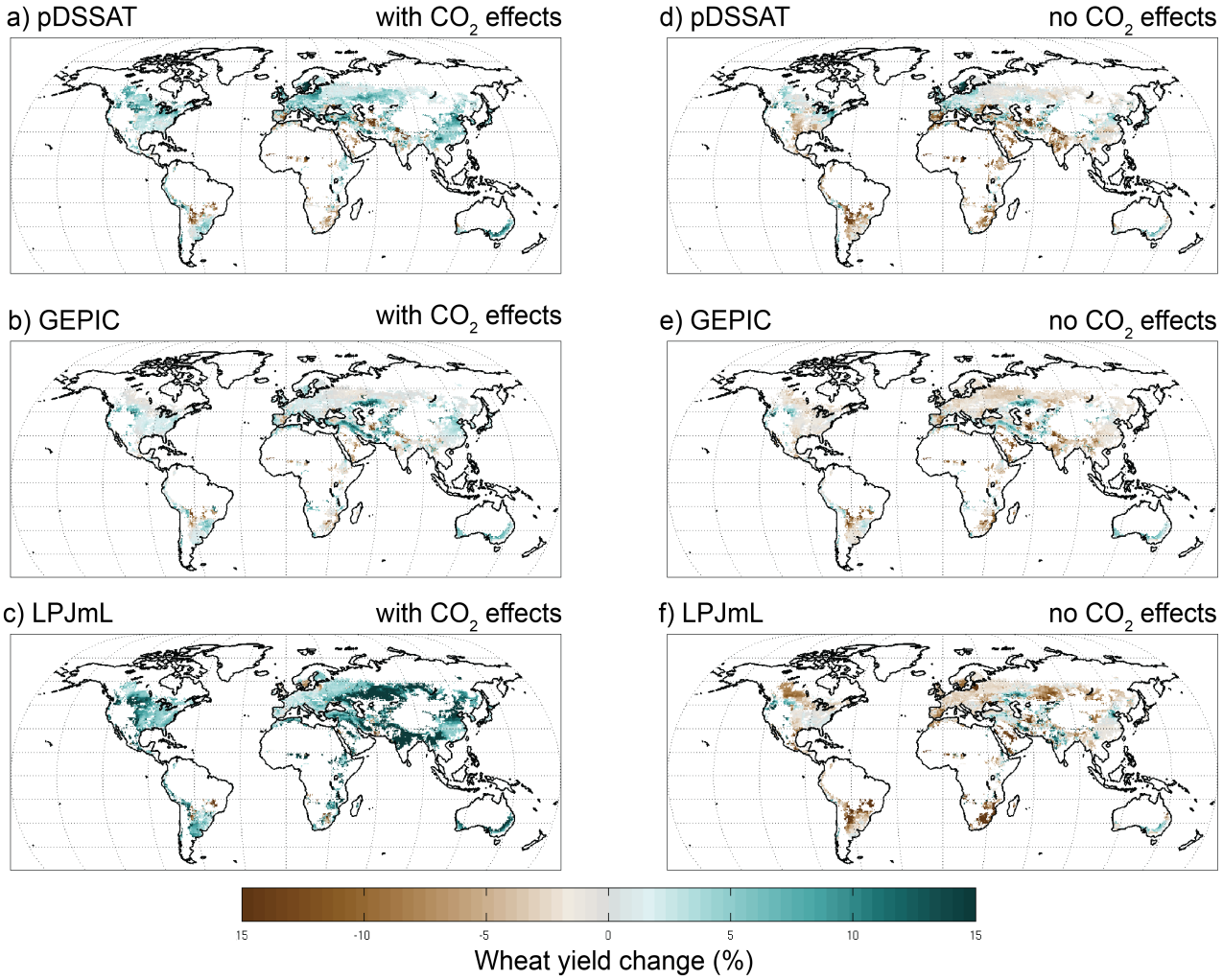
Rainfed Wheat With and Without CO_2 Effects
2.0 ºC – 1.5 ºC

Science Question: What effects will future climate changes have on rainfed wheat if we meet Paris Agreement goals?

Findings: At +1.5ºC and +2.0ºC above pre-industrial temperatures, results from the AgMIP Coordinated Global and Regional Assessment (CGRA) show mixed areas of positive and negative simulated wheat and maize yield changes, with declines in some breadbasket regions. Declines are especially evident in simulations that do not take into account direct CO2 effects on crops.

Impact: Global yield changes projected by AgMIP CGRA mostly result in increases in prices and cultivated areas of wheat and maize in two global economics models.

Why it Matters: This could lead to more unstable food security in a changing world.



Rosenzweig C et al. 2018 Coordinating AgMIP data and models across global and regional scales for 1.5ºC and 2.0ºC assessments. Phil. Trans. R. Soc. A 376: 20160455. http://dx.doi.org/10.1098/rsta.2016.0455