

Table S1. LPJmL and WOFOST simulated yields changes in 2030 for wheat, maize, soybean and rapeseed under different climate scenarios (% change relative to baseline).

Country^[1]	Climate scenarios							
WHEAT	45_HAD_CO2	85_HAD_CO2	45_IPSL_CO2	85_IPSL_CO2	45_HAD_noCO2	85_HAD_noCO2	45_IPSL_noCO2	85_IPSL_noCO2
EU-28	6.1	2.0	2.5	1.8	0.3	-5.2	-2.9	-5.3
USA	0.1	6.1	2.4	1.2	-4.9	-0.4	-2.8	-5.2
CAN	14.5	10.7	-4.3	4.0	7.9	2.2	-10.3	-3.9
ANZ	3.4	-4.9	0.6	-0.8	-1.6	-11.0	-4.4	-7.1
JAP	2.5	6.7	3.2	4.6	-4.0	-1.0	-0.1	0.5
BRA	3.4	1.5	1.8	1.6	-4.6	-8.9	-5.5	-8.1
MAIZE	45_HAD_CO2	85_HAD_CO2	45_IPSL_CO2	85_IPSL_CO2	45_HAD_noCO2	85_HAD_noCO2	45_IPSL_noCO2	85_IPSL_noCO2
USA	6.0	2.3	0.2	3.4	1.6	-3.8	-4.2	-2.1
ARG	1.5	13.8	-5.7	4.0	-3.5	7.4	-10.	-1.7
BRA	-1.7	-1.8	-2.6	-3.3	-2.4	-2.8	-3.2	-4.2
MEX	8.0	5.1	-2.1	2.1	5.6	2.2	-5.0	-1.7
JAP	2.0	1.1	2.0	4.1	0.1	-1.0	1.2	2.8
EU-28	-17.61	-9.87	-2.06	-4.57	-17.87	-10.27	-2.46	-5.06
SOYBEAN	45_HAD_CO2	85_HAD_CO2	45_IPSL_CO2	85_IPSL_CO2	45_HAD_noCO2	85_HAD_noCO2	45_IPSL_noCO2	85_IPSL_noCO2
USA	14.8	11.5	5.1	8.5	4.3	-2.3	-5.1	-4.6
BRA	6.0	2.9	3.8	2.6	-5.8	-12.3	-7.1	-11.2
ARG	13.4	25.6	-8.0	14.7	-1.4	6.1	-22.7	-6.0
EU-28	4.5	7.3	7.6	9.4	-2.8	-1.8	1.0	1.1
CHI	10.8	10.0	9.0	9.1	1.2	-1.8	0.6	-1.5
RAPE	45_HAD_CO2	85_HAD_CO2	45_IPSL_CO2	85_IPSL_CO2	45_HAD_noCO2	85_HAD_noCO2	45_IPSL_noCO2	85_IPSL_noCO2
CAN	15.6	12.1	-7.2	5.1	8.3	2.5	-13.6	-3.7
EU-28	1.2	1.8	3.8	4.0	-6.2	-7.7	-3.4	-5.5
ANZ	4.9	-6.8	-5.3	-5.1	-1.0	-14.0	-10.9	-12.5
CHI	6.1	7.2	8.3	7.7	0.4	-0.2	2.8	0.7

^[1]Country/Regions: European Union (EU-28), Canada (CAN), United States (USA), Australia and New Zealand (ANZ), Japon (JAP), Brazil (BRA), Argentina (ARG), Mexico (MEX), China (CHI).

Table S2. Wheat exports from major exporters under different climate scenarios (% change relative to baseline in 2030). Baseline values in thousand tons. Source: CAPRI model.

	Baseline	45 Had CO ₂	85 Had CO ₂	45 Had noCO ₂	85 Had noCO ₂
From EU to					
REU	1025	-5.7%	-9.4%	-1.0%	-4.0%
MENA	16739	-13.5%	-21.5%	2.6%	-5.5%
SSA	7715	-12.3%	-19.6%	-2.8%	-10.6%
OSA	463	-19.9%	-39.7%	0.1%	-21.8%
IND	32	-84.9%	-81.5%	22.3%	63.9%
SEA	1300	-25.7%	-29.4%	-0.2%	-5.0%
OAS	1505	-44.3%	-48.3%	4.9%	-0.6%
From USA to					
EU28	556	27.4%	64.4%	7.1%	34.5%
REU	5	52.0%	66.4%	-1.6%	6.5%
MENA	1691	19.0%	47.3%	2.2%	24.0%
SSA	3181	11.0%	24.4%	-0.6%	10.2%
CAN	312	-25.8%	-8.7%	-24.4%	-7.5%
BRA	895	-4.4%	-2.8%	-1.4%	0.0%
OSA	8584	0.5%	5.0%	-4.4%	-0.6%
SEA	11180	-1.1%	2.7%	-0.1%	3.0%
OAS	3438.1	-32.8%	-30.2%	-1.8%	2.6%
From Canada to					
EU28	29	42.2%	54.2%	34.7%	45.9%
REU	80	32.0%	28.4%	-0.7%	1.1%
MENA	12438	20.1%	14.5%	14.0%	6.1%
SSA	1141	44.2%	41.9%	26.1%	20.5%
USA	3123	2.0%	-9.7%	19.4%	9.4%
BRA	524	36.8%	15.6%	20.2%	-1.9%
OSA	3548	23.5%	17.3%	10.2%	2.8%
SEA	806	24.0%	19.1%	23.8%	15.0%
OAS	383	-21.1%	-21.8%	33.2%	23.3%
From Australian and New Zealand to					
EU28	28	14.4%	8.7%	11.3%	9.6%
MENA	944	-6.0%	-22.7%	-8.9%	-23.3%
SSA	2259	8.3%	-9.3%	1.3%	-14.1%
SEA	9707	-2.2%	-8.9%	0.6%	-5.9%
OAS	2028	-1.1%	-26.6%	5.1%	-19.9%

Country/Regions: Rest of European Union (REU), Middle East and North Africa (MENA), Sub-Saharan Africa (SSA), Canada (CAN), Brazil (BRA), Argentina (ARG), Other South and Central America (OSA), South East Asia (SEA), India (IND), China (CHI), Other Asia (OAS).