Supplementary Materials

Table S1. Distribution (first quartile, Q1, median, and third quartile, Q3) of absolute difference in yield estimates from averages obtained with 1, 2, 5, 10 and at least 40 points and the maximum number of points in a county; and from the differences between estimates obtained with models and the reference, for both soybean and maize.

	Model	Soybean			Maize		
N - Area (km^2)/point (Median; Q1-Q3)		Absolute Difference (kg ha^{-1}) (Median; Q1-Q3)	Standard Deviation of Differences (kg ha^{-1}) (Median; Q1-Q3)	Error (kg ha^{-1}) (Median; Q1-Q3)	Absolute Difference (kg ha^{-1}) (Median; Q1-Q3)	Standard Deviation of Differences (kg ha^{-1}) (Median; Q1-Q3)	Error (kg ha^{-1}) (Median; Q1-Q3)
1 - 326; (191-670)	ICTP_RegCM5_pbl1	184; (110-292)	122; (73-192)	567; (331-947)	183; (102-324)	121; (67-212)	718; (408-1150)
2- 163; (95-335)		124; (74-197)	87; (51-138)	537; (287-943)	122; (68-218)	86; (47-153)	683; (360-1138)
5 - 67; (40-138)		69; (39-113)	50; (28-83)	524; (253-938)	69; (36-127)	50; (26-92)	663; (324-1130)
10 - 42; (26-82)		44; (24-75)	32; (17-56)	520; (243-934)	45; (23-85)	33; (16-63)	654; (313-1121)
40 - 33; (23-60)		27; (14-44)	20; (11-33)	511; (228-929)	27; (14-51)	20; (10-38)	618; (281-1073)
1 - 326; (191-670)	ICTP_RegCM5_pbl2	170; (100-279)	112; (66-182)	692; (378-1184)	124; (62-236)	83; (40-154)	722; (359-1336)
2- 163; (95-335)		114; (67-188)	80; (46-132)	677; (336-1185)	84; (41-159)	59; (28-111)	703; (323-1333)
5 - 67; (40-138)		65; (36-109)	46; (25-80)	673; (312-1184)	47; (21-92)	34; (15-67)	703; (306-1340)
10 - 42; (26-82)		42; (22-73)	30; (15-54)	672; (306-1184)	31; (13-63)	22; (9-46)	716; (308-1377)
40 - 33; (23-60)		25; (14-42)	19; (10-32)	692; (327-1216)	20; (9-39)	15; (6-29)	781; (335-1413)

1 - 326; (191-670)	NCAR_WRF	202; (133-296)	137; (89-200)	543; (350-845)	172; (91-293)	116; (60-197)	637; (354-1088)
2- 163; (95-335)		137; (89-200)	97; (62-142)	504; (292-840)	115; (61-199)	81; (42-141)	600; (311-1075)
5 - 67; (40-138)		78; (47-116)	56; (34-85)	495; (252-840)	65; (32-115)	47; (23-84)	594; (284-1087)
10 - 42; (26-82)		49; (28-77)	36; (20-56)	493; (241-831)	41; (19-76)	30; (14-56)	609; (283-1101)
40 - 33; (23-60)		27; (16-40)	20; (12-30)	494; (247-805)	23; (11-42)	17; (8-31)	637; (301-1152)
1 - 326; (191-670)	UCAN_WRF	146; (91-226)	98; (61-151)	498; (293-847)	162; (92-276)	108; (61-183)	841; (492-1349)
2- 163; (95-335)		98; (61-153)	69; (42-108)	476; (252-845)	109; (61-187)	76; (42-131)	826; (452-1342)
5 - 67; (40-138)		55; (32-88)	40; (23-64)	470; (225-837)	61; (32-109)	44; (23-79)	812; (422-1332)
10 - 42; (26-82)		35; (19-59)	25; (14-43)	465; (217-826)	40; (20-74)	29; (14-55)	785; (399-1301)
40 - 33; (23-60)		21; (12-35)	16; (9-26)	460; (216-803)	25; (13-43)	19; (10-32)	666; (306-1124)
1 - 326; (191-670)	USP_ReGCM	192; (116-300)	127; (76-196)	551; (340-873)	180; (96-320)	118; (63-211)	846; (494-1314)
2- 163; (95-335)		128; (77-202)	90; (53-142)	511; (288-862)	121; (64-217)	84; (44-152)	822; (446-1301)
5 - 67; (40-138)		73; (41-117)	52; (29-85)	496; (248-855)	68; (34-126)	49; (24-92)	809; (416-1292)
10 - 42; (26-82)		46; (25-78)	33; (18-57)	491; (232-846)	45; (21-84)	32; (15-62)	803; (402-1284)
40 - 33; (23-60)		27; (15-43)	20; (11-32)	466; (216-830)	27; (14-48)	20; (10-36)	731; (352-1200)