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2 A modeling System for Identification of Maize Ideotypes, optimal sowing dates and nitrogen
3 fertilization under climate change - PREPCLIM
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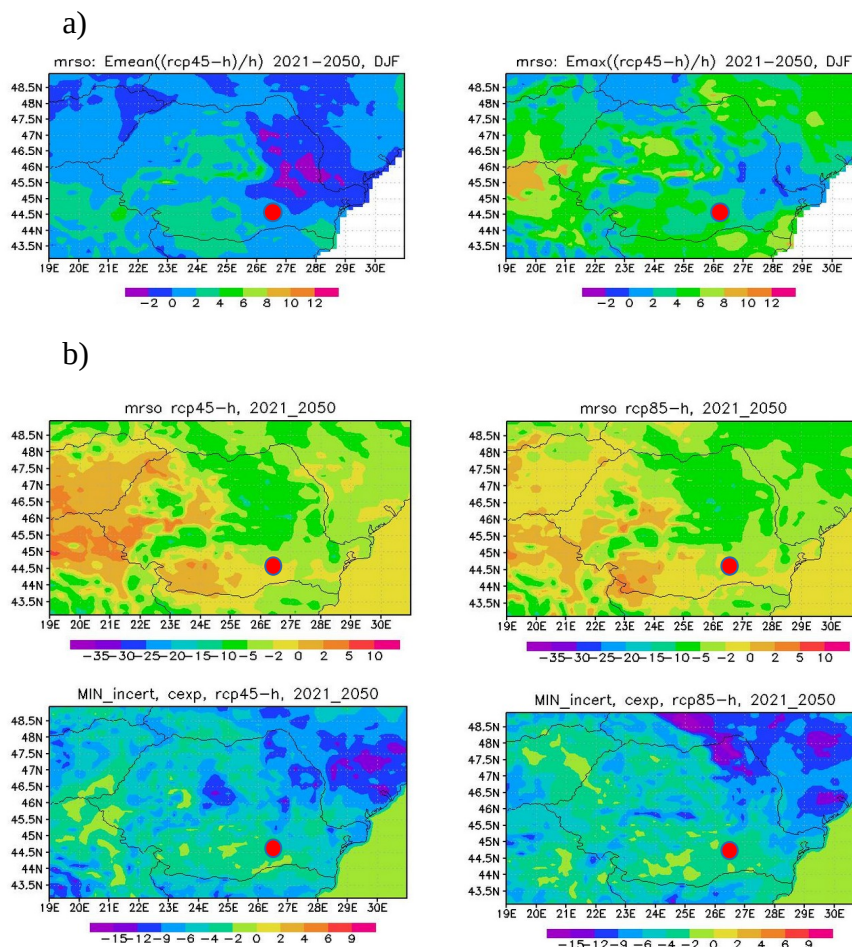
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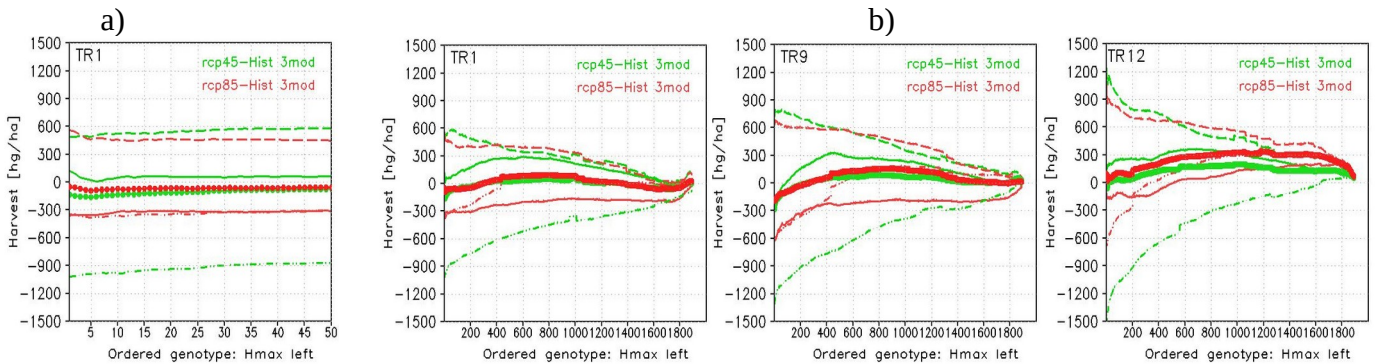
19 **Supplementary Material**
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Fig. 1S: Differences in soil water content [kg/m²] in scenario Rcp45 2021-2050 versus Hist, as: a) mean ensemble percentual change (left) and maximum ensemble percentual change (right) RCP45 relative to hist in winter DJF; b) summer agro-season (AMJJAS) changes in soil moisture in scenarios relative to Hist, for: RCP45 (left) and RCP85 (right), for the ensemble mean (top line); the highest decrease in models is shown in the bottom line; red area is centered over the pilot region of simulations.

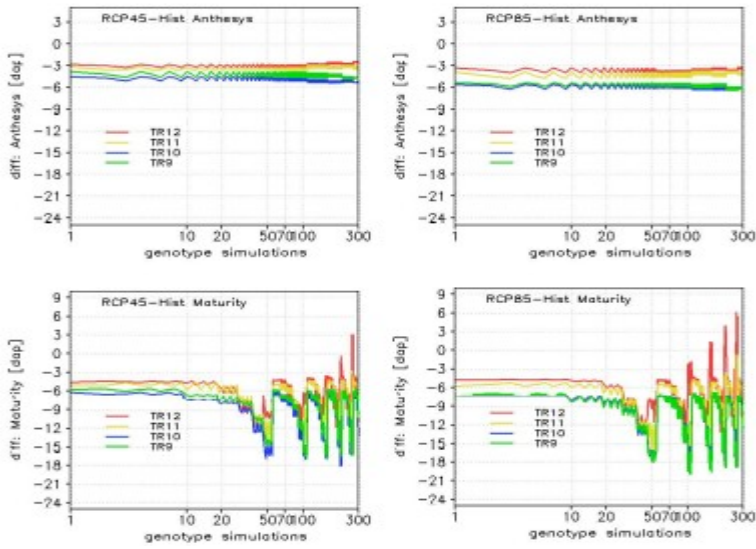
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69 Fig. 2S: a) Model's spread for the first 50 H-ranked genotypes, treatment TR1. Green lines show
70 differences between Rcp45 and Hist, red lines same for Rcp85-Hist, thick lines are ensemble mean; b):
71 Differences of H ordered from highest (low value on Ox, linear axis) to lowest (high value on Ox)
72 for three models (full, dash, dot lines), between climate scenario and Hist, for RCP45-Hist (green)
73 and RCP85-Hist (red); full thick lines are ensemble mean values found on Fig. 9 a. From left to right
74 differences are shown for TR1, TR9, TR12.

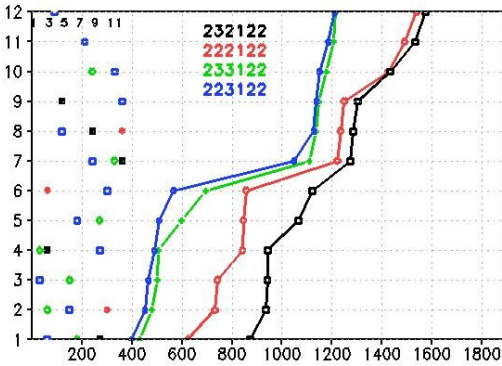
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Fig. 3S: As in Fig. 2S, for anthesis (top) and maturity (bottom) dates ([dap]) differences between scenarios (RCP45 left, RCP85 right) and Hist. First 100 genotypes are shown. Note that both anthesis and maturity dates are earlier in warmer climate (valid for all genotypes) and the season length is shortening.



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Fig. 4S: The G-range (Ox) for the closest 4 genotypes (colors) to the one of the Control simulations, for 12 treatments. Note that best H is obtained for lower P2 and higher P3 as demonstrated in section 3.b. Dots in the left hand side are the number of the treatment TR for which the G-range (in isolines) is obtained. (Oy: ordered agro-management from highest H (1) to lowest H (12), each having the TR number shown by the dot lines.)

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