climate change impacts on food systems

Myers et al. (2017)
projected maize yield losses in main growing regions

Tigchelaar et al., (2018)
increased probability of synchronized production losses of >10%

<table>
<thead>
<tr>
<th>Countries</th>
<th>Present-day</th>
<th>2°C warming</th>
<th>4°C warming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 4 Producing (USA, CHN, BRA, ARG)</td>
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<tr>
<td>Top 4 Exporting (USA, BRA, ARG, UKR)</td>
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<tr>
<td>Top Exporters + Importers (USA, BRA, ARG, MEX, CHN)</td>
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</tbody>
</table>

Tigchelaar et al., (2018)
crop workers in the United States
exposure above safe working limits

Hourly Work Allowance

Heat Index (HI) [°F]

- Work Time / 60 min [min]
  - Heavy
  - Moderate
  - Light/Moderate
  - Light
  - V Light

Maps showing present-day conditions and temperature increments of +2°C and +4°C.

Tigchelaar et al., in prep.
efficacy of adaptation measures

Adaptations
base: none
ef: reduce effort (mins/hour worked) to 50%
pa: reduce pace (metabolic rate) to low
cl: wear single-layer clothing
ac: rest in air-conditioning at 20C