# Spring 2022 conditions in CMIP6 climate projections



#### **Matthew Rogers**

Research Scientist, Climate Impacts Group

Image Justin Cron



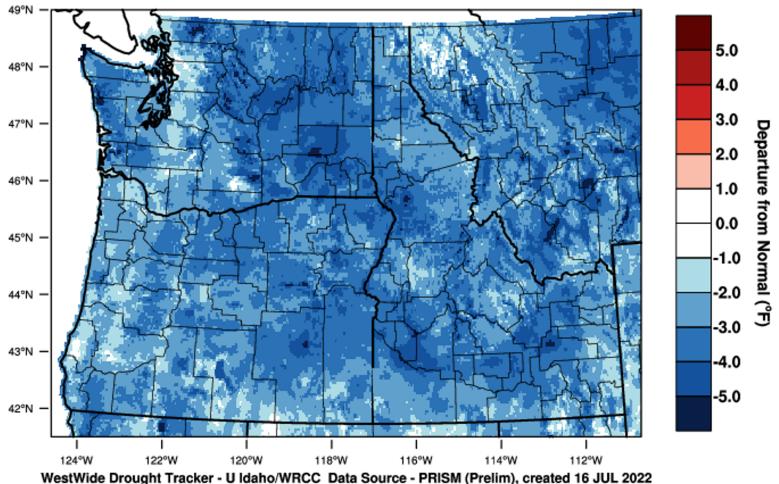
#### EARTHLAB UNIVERSITY of WASHINGTON

## Spring 2022 Conditions



Pacific Northwest - Mean Temperature

April-June 2022 Departure from 1981-2010 Normal

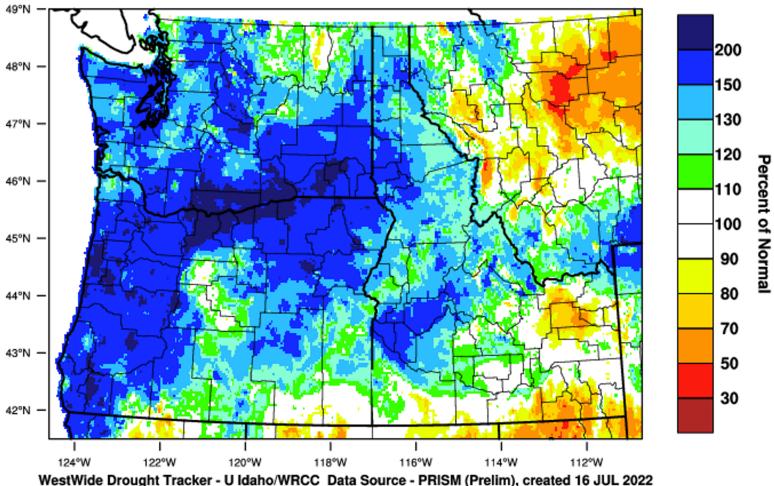


## Spring 2022 Conditions



Pacific Northwest - Precipitation

April-June 2022 Percent of 1981-2010 Normal



## Spring 2022 Conditions



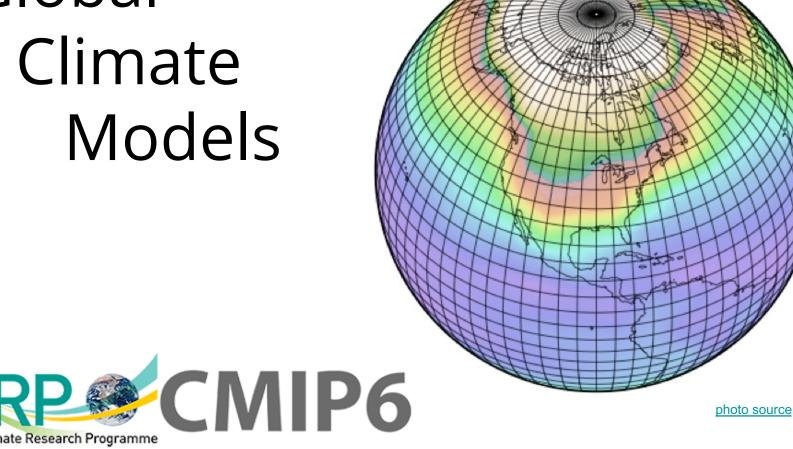


#### Will we experience this in the future?

## If so, how often?

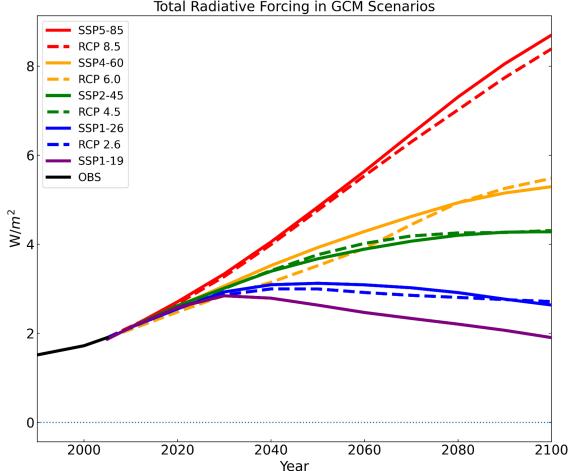


## Global Climate Models



World Climate Research Programme





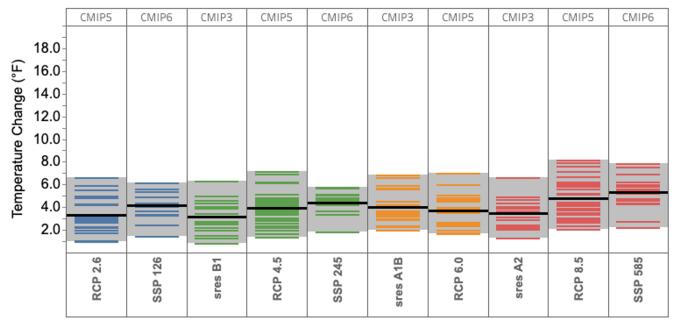
Total Radiative Forcing in GCM Scenarios



Climate

**Projection Tool** 

Projected change in average spring Temperature (°F) for the Pacific Northwest in the 2050s relative to 1950-1999



Warming is projected for all scenarios. Differences among the scenarios are greatest at the end of the century, and the warming will be greatest during summer months.

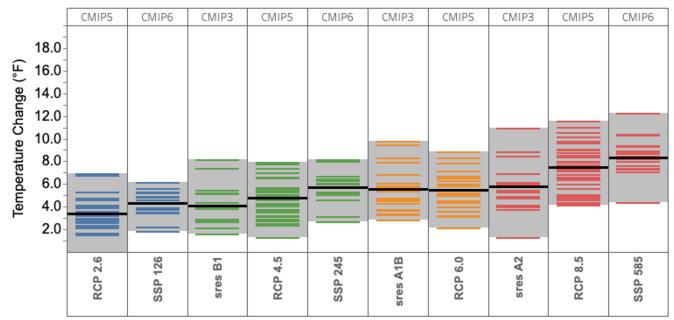
|                             | GHG Scenario          | Location                                 | Year    | Season                     | Q |
|-----------------------------|-----------------------|--|---------|----------------------------|---|
| CLIMATE<br>IMPACTS<br>GROUF | Very Low              | <ul> <li>Global</li> </ul>               | 2050s   | <ul> <li>Annual</li> </ul> |   |
|                             | Low<br>Medium<br>High | <ul> <li>Pacific Northwest</li> </ul>    | ○ 2080s | <ul> <li>Winter</li> </ul> |   |
|                             |                       | <ul> <li>West of the Cascades</li> </ul> |         | <ul> <li>Spring</li> </ul> |   |
|                             |                       | <ul> <li>East of the Cascades</li> </ul> |         | Summer                     |   |
|                             |                       |  |         | ○ Fall                     |   |



Climate

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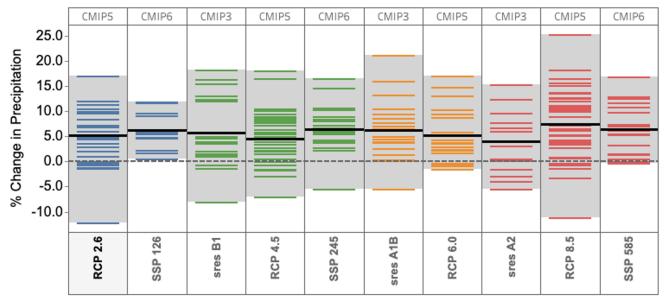


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|                             | GHG Scenario          | Location                                 | Year    | Q | Season                     |
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| CLIMATE<br>IMPACTS<br>GROUP | Very Low              | ⊖ Global                                 | ○ 2050s |   | <ul> <li>Annual</li> </ul> |
|                             | Low<br>Medium<br>High | <ul> <li>Pacific Northwest</li> </ul>    |         |   | ○ Winter                   |
|                             |                       | <ul> <li>West of the Cascades</li> </ul> |         |   | <ul> <li>Spring</li> </ul> |
|                             |                       | <ul> <li>East of the Cascades</li> </ul> |         |   | ⊖ Summer                   |
|                             |                       |  |         |   | ○ Fall                     |



Projected change in total spring Precipitation (%) for the Pacific Northwest in the 2050s relative to 1950-1999



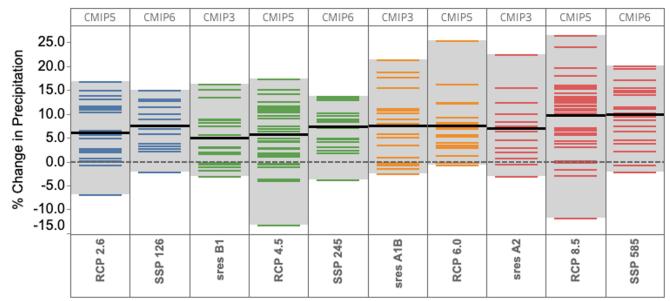
**Precipitation Projections are mixed, with some models projecting wetter conditions and some projecting drier.** However, a majority of models project increases in precipitation for winter, spring, and fall precipitation and decreases in summer precipitation.

|                             | GHG Scenario  | Location                                 | Year    | Season                     |
|-----------------------------|---|--|---------|----------------------------|
| CLIMATE<br>INPACTS<br>GROUP | Very Low  | <ul> <li>Global</li> </ul>               | 2050s   | <ul> <li>Annual</li> </ul> |
|                             | <ul> <li>Low</li> <li>Medium</li> <li>High</li> </ul> | <ul> <li>Pacific Northwest</li> </ul>    | ○ 2080s | <ul> <li>Winter</li> </ul> |
|                             |   | <ul> <li>West of the Cascades</li> </ul> |         | <ul> <li>Spring</li> </ul> |
|                             |   | <ul> <li>East of the Cascades</li> </ul> |         | O Summer                   |
|                             |   |  |         | ○ Fall                     |





Projected change in total spring Precipitation (%) for the Pacific Northwest in the 2080s relative to 1950-1999

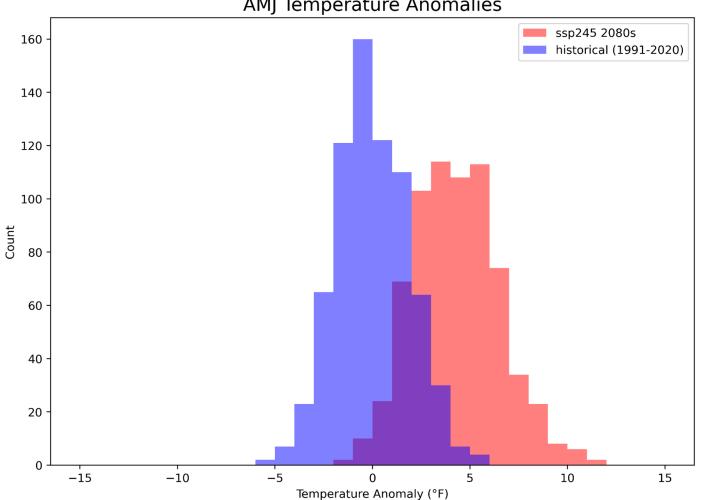


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|                             | GHG Scenario          | Location                                 | Q | Year  | Season                     |
|-----------------------------|-----------------------|--|---|---|----------------------------|
| CLIMATE<br>IMPACTS<br>GROUP | Very Low              | ⊖ Global                                 |   | ○ 2050s   | <ul> <li>Annual</li> </ul> |
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|                             |                       |  |   |   | ○ Fall                     |

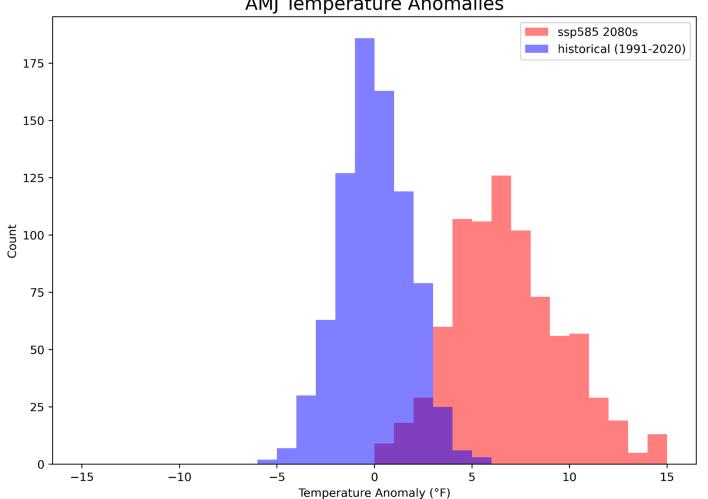
<u>Climate</u> Projection Tool





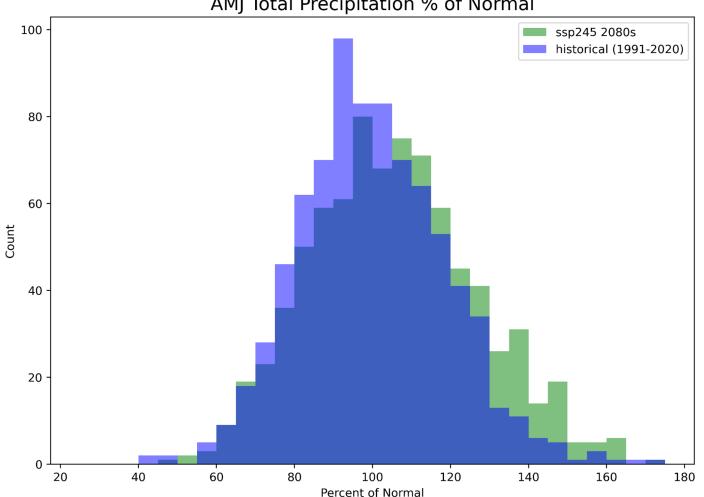
#### AMJ Temperature Anomalies





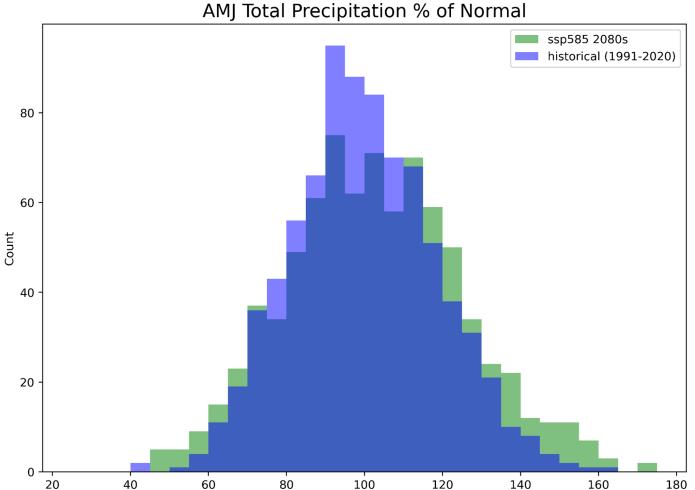
#### AMJ Temperature Anomalies





#### AMJ Total Precipitation % of Normal





#### MI Tatal Dracinitation % of Normal

Percent of Normal

#### Summary













...only slightly, and includes uncertainty!



The Climate Impacts Group <u>www.cig.uw.edu</u>

Matt Rogers <u>rawrgers@uw.edu</u>

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UNIVERSITY of WASHINGTON