

Climate Change in Portland and South Portland

Portland and South Portland have already been experiencing climate change and its impacts. Climate variability is a natural phenomenon, but the rate at which the global climate is changing is unprecedented. Global temperatures have increased as human activity released excess greenhouse gases that trap heat in our atmosphere. Climate projections predict that increasing temperatures, more rainfall and less snow, and rising sea levels are likely to continue into the next century. *One Climate Future* is Portland and South Portland's joint planning process to ensure we reduce our contribution to the intensity of climate change and adapt to the changes we can anticipate.

Portland & South Portland's Climate Trends, Projections, and Impacts



More Rainfall & Less Snow



Increasing Temperatures



Sea Level Rise



More Rainfall

The Northeast had the greatest increase in extreme precipitation compared to any other region in the U.S.

70%

increase in the amount of precipitation falling in very heavy events between 1958 and 2010 in the Northeast

6 in

increase in total annual precipitation since 1895 across Maine

7-14%

increase in total annual rainfall by the end of this century in Casco Bay



Less Snow

The snow season has declined on average across Maine since the late 1800s

15%

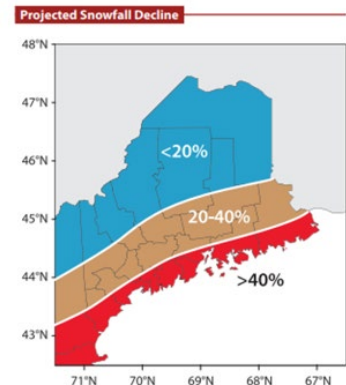
decline in snowfall since the late 1800s

40%

decline in total accumulated snow by 2050

**2
WEEKS**

lost in snowpack duration over the last century & another 2 week decrease expected by 2050

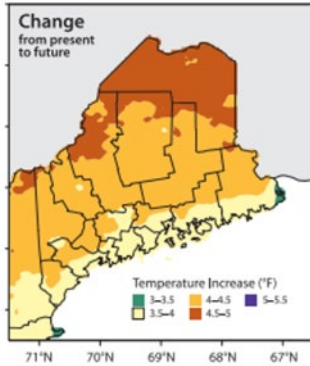


THE
IMPACTS

- Increased flooding
- Polluted lakes and streams
- Threatened plant and wildlife
- Costly repairs to roads and infrastructure
- Loss of winter recreation and revenue
- Opportunity and challenge to Maine's farming future



Increased Temperatures on Land and in the Ocean



ON LAND

Winter is warming at a faster rate than summer

3.0 °F Average annual temperature rise across Maine between 1895 and 2014

3-5 °F predicted increase between now and 2050

of average days above 95°F **4** in 2000s **13.5** in 2050s

IN THE OCEAN

The Gulf of Maine is warming faster than 99% of the world's oceans

0.41 °F increase per year in the average surface temperature in the Gulf of Maine since 2004

THE IMPACTS

- Increase in heat-related illness and death
- Rise in Lyme disease cases
- Threat to 2/3 of Maine's plant and animal species
- Disruption to maple syrup production timing



Sea Level Rise

Sea Level is rising much faster than any time in the past 5,000 years

0.07 inches per year
the current global rate of sea level rise

8 inches
of sea level rise since 1912 in Portland

1.5 - 3.4 feet
projected sea level rise in the Portland and South Portland Harbor in 2050

THE IMPACTS

- Salt marshes disappearing
- Beaches losing land
- Flood zones moving inland
- Insurance costs rising



Other Notable Climatic Trends & Impacts

- Increase in the intensity and frequency of nor'easters
- Ocean acidification
- Elevated chance of drought
- Economic challenges and opportunities

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