



## CLIMATE QUICK REFERENCE GUIDE | Oahu

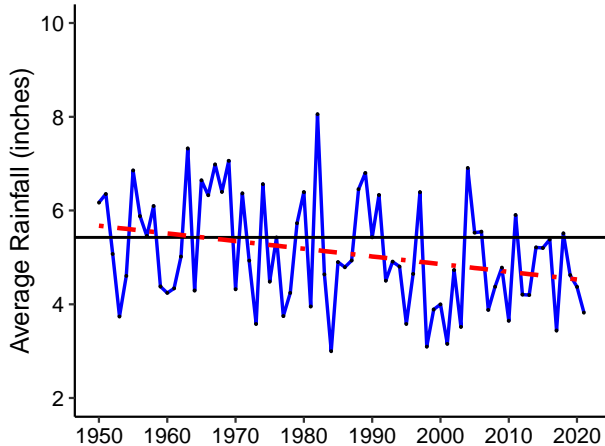
### Historic Changes

#### Temperature:

Since 1950, temperatures (statewide) have risen by about 2°F. From 1990 to 2022, average annual temperature has increased by 1°F in Oahu.

#### Rainfall:

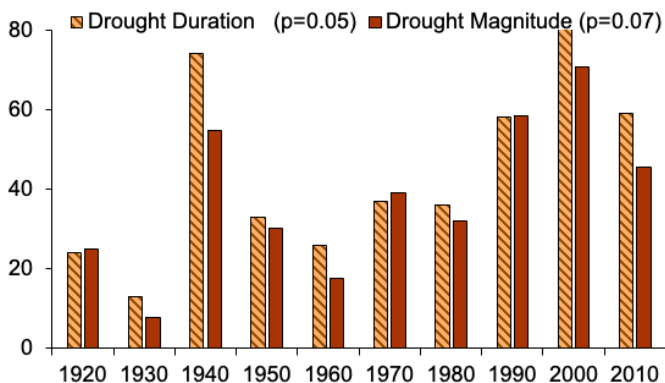
Despite significant year-to-year variation, long-term trends show a decline in average annual rainfall, with the driest years occurring during a strong El Niño event.



**Average Rainfall:** Shown in water years from 1950-2020. Rainfall = blue solid line, 30-year average (1951-1980)= black horizontal line, and long-term linear trend= red dot-dash line. **Source:** [www.hawaii.edu/climate-data-portal](http://www.hawaii.edu/climate-data-portal)

#### Drought:

From 1920 to 2020, drought duration and magnitude trends have increased, particularly over the last few decades.



**Drought Magnitude and Drought Duration:** Drought Duration = hatched bars, and Drought Magnitude = unhatched bars. Shown in Standardized Precipitation Index for a 12-month period (SPI-12) per decade from 1920 – 2020.

**Source:** <https://doi.org/10.3390/su141912023>

#### Sea Level Rise:

Long-term observational data (1950-2020) show that sea level is rising by about 0.6 inches per decade.

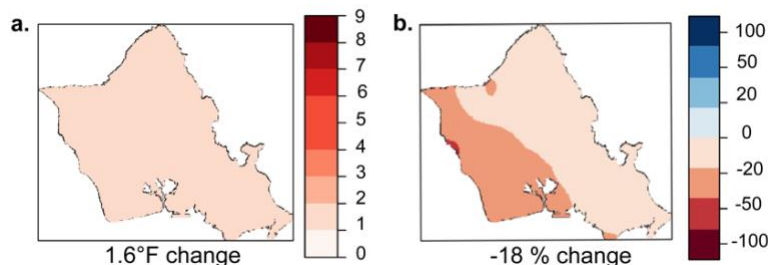
### Projected Changes

#### Temperature:

Future temperature projections suggest an increase of 1.6°F (2% from present) by mid-century.

#### Rainfall:

Future rainfall projections are highly uncertain, but one projection suggests annual rainfall may decline by 12 inches (-18% change from present) by mid-century.



**Temperature and rainfall projections for mid-century (2040-2070), Representative Concentration Pathway 4.5 (RCP 4.5, moderate greenhouse gas emission scenario), statistical downscaling:**

Temperature (a.; °F change from present) and Rainfall (b.; % change in inches per year from present). **Source:**

<http://www.soest.hawaii.edu/pdke/products/climate-portfolios/>

#### Sea Level Rise:

The intermediate sea level rise scenario suggests that levels will rise by about 1 foot by 2050 (statewide).

Within the mid-to-latter half of this century, low-lying coastal areas in Oahu may become chronically flooded, with 9,400 acres at risk. Visit the [Hawaii Sea Level Rise Viewer](#) to explore the vulnerability of a specific region.

### Resources:

#### USDA Climate Resources:

[www.usda.gov/climate-solutions](http://www.usda.gov/climate-solutions)

#### Pacific Drought Knowledge Exchange:

<http://www.soest.hawaii.edu/pdke/>

#### Hawaii Climate Data Portal:

<https://www.hawaii.edu/climate-data-portal/>

#### Fifth National Climate Assessment: Hawaii and U.S.

#### Affiliated Pacific Islands

<https://nca2023.globalchange.gov/chapter/30/>

