

High Tide Flooding Data Quality Analysis - hawaii

Analysis generated on: 2025-02-10 13:55:29

Overview

Analysis of high tide flooding data from 1920 to 2024.

Key Statistics

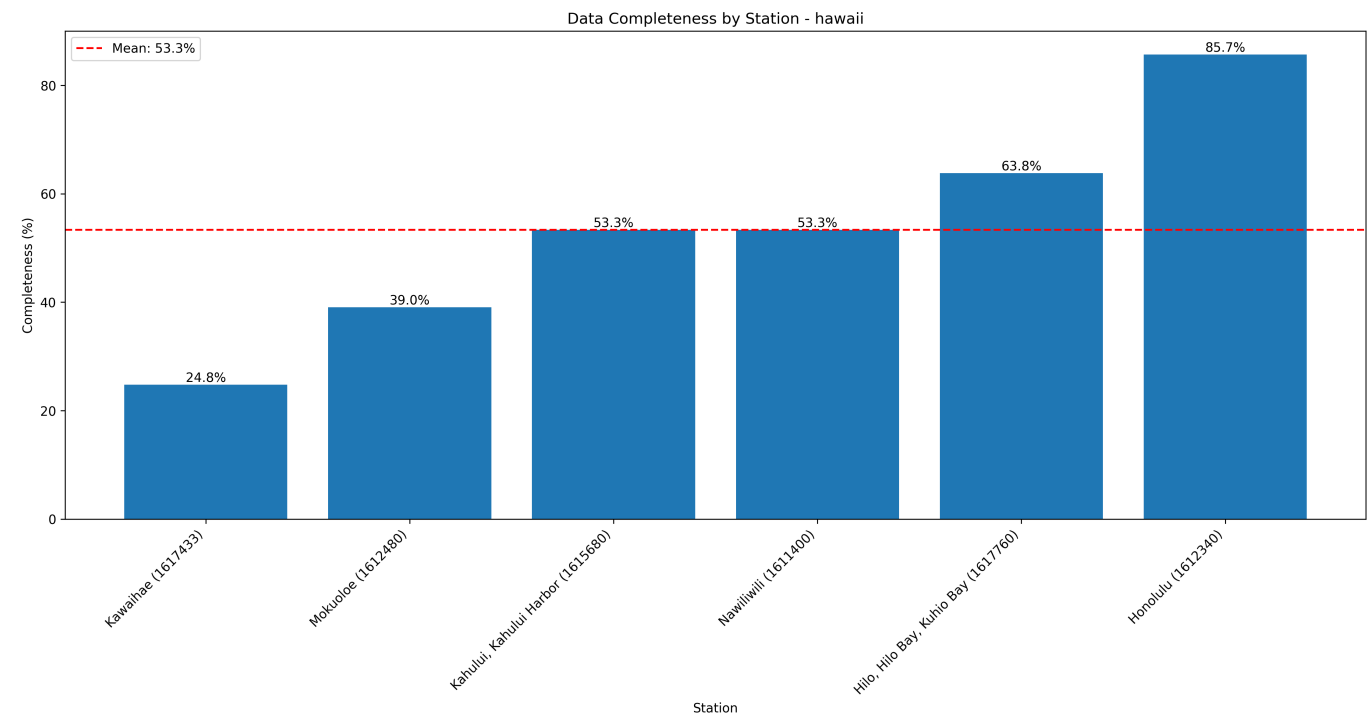
- Total records analyzed: 630
- Average flood days per year (excluding missing data): 3.61
- Overall data completeness: 53.3%

Monitoring Stations

Station ID	Name	Location	Sub-Region	Data Completeness
1611400	Nawiliwili	21.95°N, 159.36°W	Unknown	53.3%
1612340	Honolulu	21.30°N, 157.86°W	Unknown	85.7%
1612401	Pearl Harbor	21.37°N, 157.96°W	Unknown	0.0%
1612480	Mokuoloe	21.43°N, 157.79°W	Unknown	39.0%
1615680	Kahului, Kahului Harbor	20.89°N, 156.47°W	Unknown	53.3%
1617433	Kawaihae	20.04°N, 155.83°W	Unknown	24.8%
1617760	Hilo, Hilo Bay, Kuhio Bay	19.73°N, 155.06°W	Unknown	63.8%

Data Quality Analysis

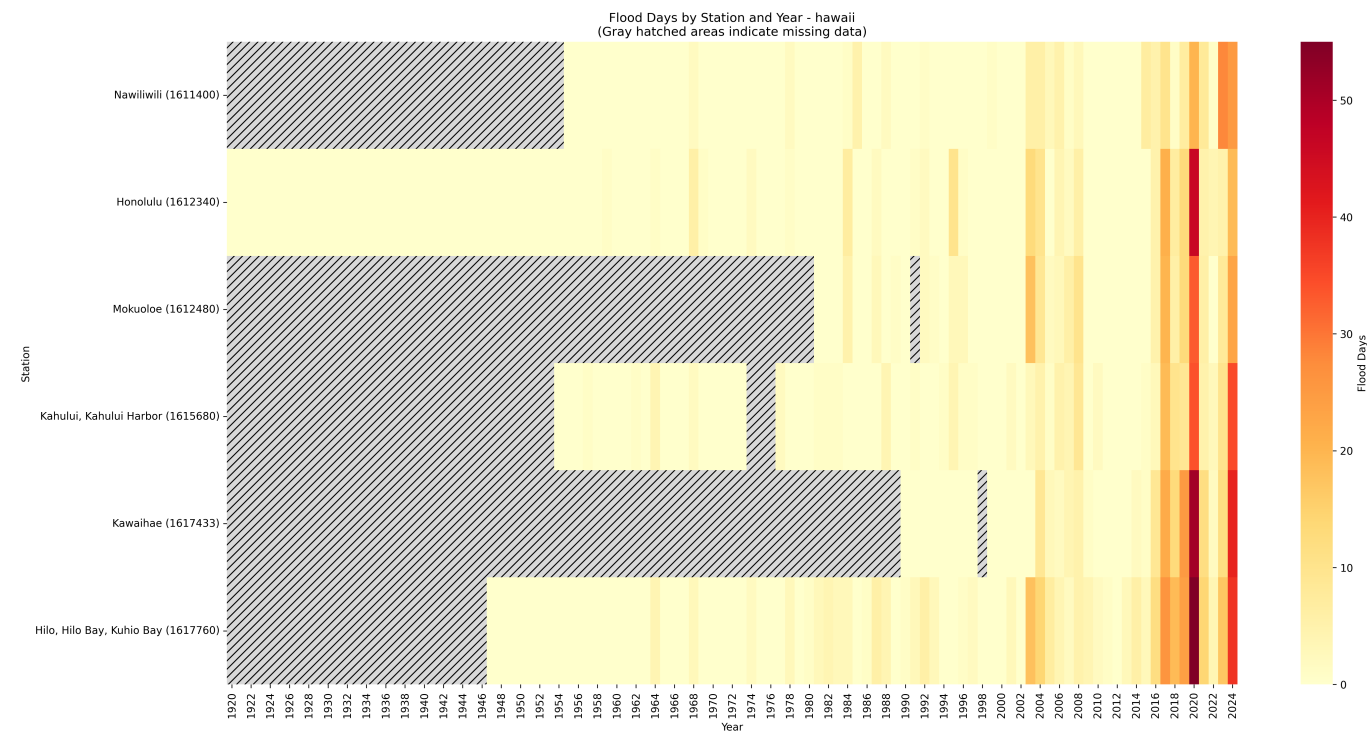
Data Completeness by Station



This visualization shows the percentage of days with valid data for each station:

- Stations are ordered by completeness percentage
- The red line indicates the regional mean completeness
- Regional mean completeness: 53.3%

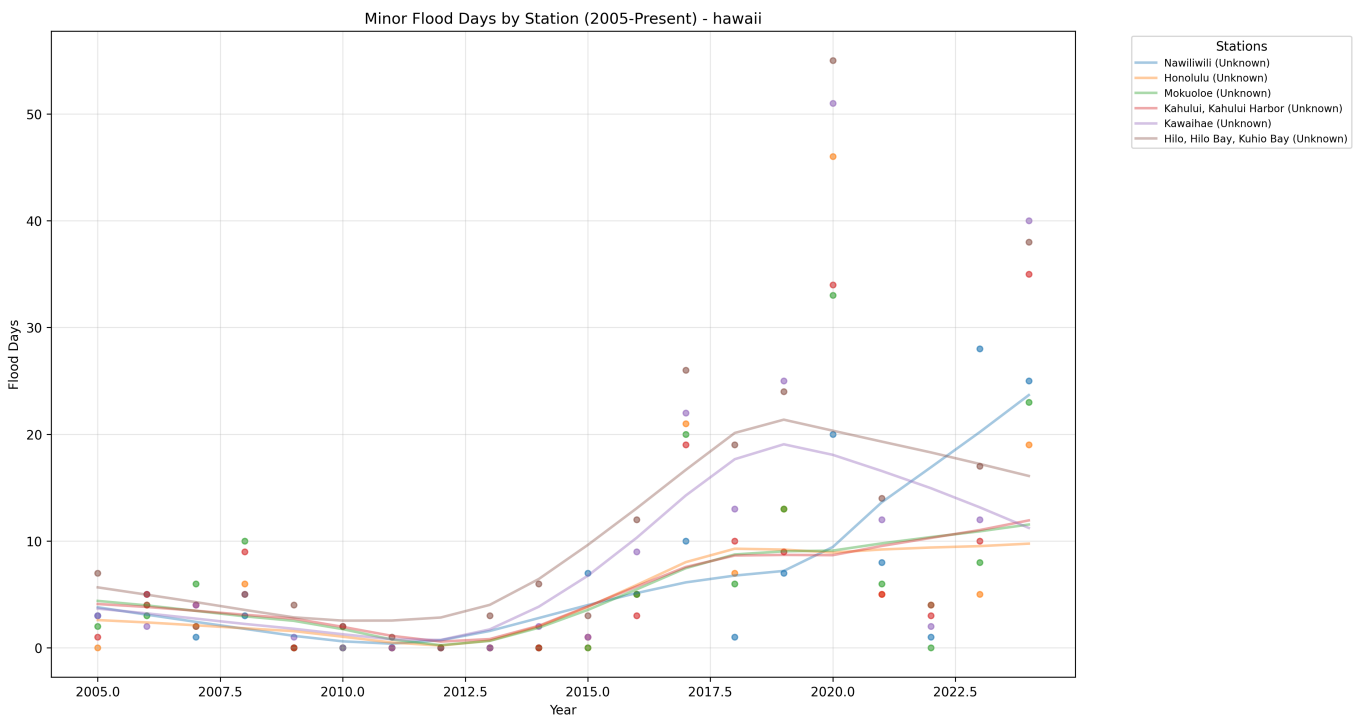
Flood Days Distribution



This heatmap shows the distribution of flood days across stations and years:

- Color intensity indicates number of flood days
- Gray hatched areas indicate missing data (>180 days missing in that year)
- White indicates zero flood days with complete data

Recent Flooding Trends (2005-Present)



This plot shows the trend in minor flood days for each station since 2005:

- Each line represents a different monitoring station
- Points indicate actual measurements
- Gaps in lines indicate missing data

Key Findings

Most Complete Records

- Honolulu (Unknown, Station 1612340): 85.7% complete
- Hilo, Hilo Bay, Kuhio Bay (Unknown, Station 1617760): 63.8% complete
- Nawiliwili (Unknown, Station 1611400): 53.3% complete

Highest Flooding Activity

- Kawaihae (Unknown, Station 1617433): 7.96 flood days per year
- Hilo, Hilo Bay, Kuhio Bay (Unknown, Station 1617760): 4.87 flood days per year
- Mokuoloe (Unknown, Station 1612480): 4.15 flood days per year