Supplemental Table 1. Historical tsunamis and cyclone record for Sāmoa.

|  |
| --- |
| Historical Tsunamisa |
| Year | Observation location | Max water height (m) | Max inundation distance (m) | Tsunami source |
| 1868 | Apia, ʽUpolu | 3 |  | Earthquake (8.50) |
| 1907 | Matautu, ʽUpolu | 3.6 | 110 | Volcanob |
| 1917 | Apia, & S. coast ʽUpolu | 12.2 |  | Earthquake (8.3)b |
| 1960 | Apia, ʻUpolu | 4.9 |  | Earthquake (9.5) |
| 2009 | Samoa | 17.59 | 620 | Earthquake (8.0)b |
| Historical Cyclonesc |
|

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Year | Pressure (mbar) | Wind speed (km/h) | Closest approach to Satitoa (km) | Max Cyclone category |
| min | ave | max | ave |
| Tusi | 1987 | 955.0 | 969.0 | 156.5 | 131.0 | 295.1 | 2 |
| Ofa | 1990 | 925.0 | 944.4 | 186.3 | 169.0 | 203.7 | 3 |
| Val | 1991 | 940.0 | 943.5 | 185.2 | 167.9 | 35.1 | 3 |
| Ron | 1998 | 925.0 | 956.4 | 188.7 | 140.9 | 295.1 | 3 |
| Heta | 2004 | 909.3 | 920.7 | 218.0 | 204.3 | 235.2 | 3 |
| Olaf | 2005 | 907.3 | 915.7 | 226.9 | 213.8 | 140.5 | 4 |
| Rene | 2010 | 945.0 | 984.6 | 157.4 | 85.4 | 102.5 | 2 |
| Evan | 2012 | 960.0 | 972.5 | 166.7 | 128.8 | 4.6 | 2 |

 |

aTsunami data was updated from Richmond et al. (2011) and historical cyclone data was provided by Southwest Pacific Enhanced Archive of Tropical Cyclones (Diamond et al., 2011).

bindicates Sāmoa or Kermadec-Tonga trench source.

cHistorical cyclones are defined as category 2 or greater tropical cyclones that tracked within 300 km of Apia, ʻUpolu.