

Metadata for Tidal Data Exchange

Station Name **Nuku'alofa, Tonga**

Date of Supply Monday, 15 September 2025

| | | |
|---|---|--------|
| Identification | | |
| Station Number | BoM=200861 ATT=66600 WMO=91789 | |
| Name | Nuku'alofa, Tonga | |
| Latitude and Estimated Positional Uncertainty | -21.130243 | +/- 3m |
| Longitude and Estimated Positional Uncertainty | -175.196770 | +/- 3m |
| Map Name | N/A | |
| Map Number | N/A | |
| Map Grid Northing | N/A | |
| Map Grid Easting | N/A | |
| Type of Readings | | |
| Heights | Observations | |
| Progress * | See comments section. | |
| Update Frequency * | Real Time | |
| Available Format Type * | DIGITAL, text | |
| Measurement Units | | |
| Tidal Heights | metres | |
| Reference Frame | | |
| Time Zone | UTC | |
| Vertical Reference Frame | Tide Gauge Zero (m) | |
| TGBM Name/Number | TON1 | |
| TGBM Elevation relative to the vertical reference | 2.076 m TGZ (2013) | |
| Estimated Positional Uncertainty | +/- 2mm | |
| Horizontal Reference Frame Direction of Stream Readings Depth of Stream Readings (relative to Vertical Reference Frame) Estimated Positional Uncertainty | World Geodetic System 1984 (WGS84) | |
| Search Words * | Marine, Oceanography, Water, Nuku'alofa, Tonga | |
| Data Owner Details | | |
| Name | Bureau of Meteorology | |
| Postal Address | GPO Box 1289, Melbourne VIC 3001 | |
| Street Address | 700 Collins Street, Docklands, VIC 3008 | |
| Telephone | | |
| Facsimile | | |
| Email | tides@bom.gov.au | |
| Internet | www.bom.gov.au | |
| Contact Officer Details | | |
| Name | Marine and Antarctic, Environmental Prediction Services | |
| Position | Tidal Services | |
| Telephone | | |
| Email | tides@bom.gov.au | |
| Data Custodian Details | | |
| Name | Bureau of Meteorology | |
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| Email | tides@bom.gov.au |
| Internet | www.bom.gov.au |
| Contact Officer Details | |
| Name | Marine and Antarctic, Environmental Prediction Services |
| Position | Tidal Services |
| Telephone | |
| Email | tides@bom.gov.au |
| Details of the Readings Provided Herewith | |
| Date of readings supplied | |
| From | 1/21/1993 |
| To | Current |
| The time interval between readings (If the readings are for high & low water then enter "Zero") | 1-minute (average of 60, 1-second samples) 6-minutes (weighted average of 4, 1-minute readings) Hourly (filtered with a cut-off of 2 hours) |
| Are the readings averaged or filtered | See above. 1-minute samples are logged at the end of each minute, 6-minute centred on 0.1-hour increments |
| Are there any access constraints (such as commercial-in-confidence or constraint on the use or distribution to third parties). | No |
| Objective Quality Assessment of Tidal Observations (Height or Stream) | |
| Instrument | |
| Type | Digital data logger |
| Model | Sutron 9000 (1996-2011)/Telmet 320 RTU (2011-current) |
| Sensor | |
| Type | Acoustic-in-air sensor |
| Model | Aquatrak® Transducer |
| Frequency of System Calibrations | |
| Field calibration and Laboratory calibration | every 2 years every 2 years |
| Frequency of Water Level Checks | |
| Estimate of the Precision of the Water Level Checks | |
| Time (Std Dev in Minutes) | 1mm +/- |
| Height (Std Dev in metres) | |
| System Resolution | |
| Estimated Local Uncertainty | |
| Status of the Readings | |
| Description of the validation process including a statement detailing how: | |
| 1. The instrumental biases were treated | Standard deviations |
| 2. Outliers were selected and dealt with | Reported |
| 3. Breaks in the record were dealt with | Recovered where possible |
| Date of Validation | Checked each month, for previous month |
| Name of Person certifying the validation | Tidal Services |
| Details required with the supply of tidal constituent constants | |
| All of the details required above | |
| The name and version of the software used to calculate the constants | Tans |

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| The tidal constituent model used (particularly noting the treatment of the constituents Sa and Ssa) and specifying any related (inferred) constituent constants | Doodson's method |
| The date span used to prepare the constituent constants | 1993-2023 (for 2026) |
| The reference time zone for the constituents | Local (-1300) |
| The vertical datum to which the constituents apply | TGZ |
| A precision estimate of predictions based on the constituent constants (for example, standard deviation of the analysis residuals) | Standard Deviation is 0.09 |
| Additional details required with the supply of tidal predictions | |
| All of the details required above | |
| A statement describing the tidal prediction process used | Doodson's method |
| The name and version of the software used to calculate the predictions | Tipp5 |
| A list of the constituent constants used or if the list is not provided, the donor agency's identifier of the list | Standard 112 Constituent list |

Comments on data by Port Authority

- Pacific Sea Level and Geodetic Monitoring (PSLGM)
- Climate and Ocean Support Program for the Pacific (COSPPac)
- Tide gauge relocated in August 2022.
- Previous coordinates: lat -21.138, lon -175.1815 (Nov1996-Aug2022)