

2025

**SOUTH AFRICAN
TIDE TABLES**

PUBLISHED BY
THE SOUTH AFRICAN NATIONAL HYDROGRAPHER
SOUTH AFRICAN NAVY
PRIVATE BAG X1
TOKAI, 7966

COPYRIGHT RESERVED

ISBN 978-0-9947002-9-2

Intentionally left blank

CONTENTS

| | |
|-------------------------------|--------|
| Preface | (v) |
| Tidal Levels | (vi) |
| HATOY & LATOY | (vii) |
| Heights of Chart Datums | (vii) |
| Seasons | (viii) |
| Eclipses | (viii) |
| Moon Phases | (viii) |
| Perigee | (viii) |

| | Tide Tables | Hourly Tidal Predictions |
|---------------------------------|------------------------|-------------------------------------|
| Walvis Bay | 1 | 53 |
| Lüderitz | 5 | 65 |
| Port Nolloth | 9 | 77 |
| Saldanha | 13 | 89 |
| Cape Town | 17 | 101 |
| Simon's Town | 21 | 113 |
| Hermanus | 25 | 125 |
| Mossel Bay | 29 | 137 |
| Knysna | 33 | 149 |
| Gqeberha (Port Elizabeth) | 37 | 161 |
| East London | 41 | 173 |
| Durban | 45 | 185 |
| Richards Bay | 49 | 197 |

| | Sunrise & Sunset | Moonrise & Moonset |
|---------------------------------|---------------------------------|-----------------------------------|
| Walvis Bay | 209 | 235 |
| Lüderitz | 211 | 237 |
| Port Nolloth | 213 | 239 |
| Saldanha | 215 | 241 |
| Cape Town | 217 | 243 |
| Simon's Town | 219 | 245 |
| Hermanus | 221 | 247 |
| Mossel Bay | 223 | 249 |
| Knysna | 225 | 251 |
| Gqeberha (Port Elizabeth) | 227 | 253 |
| East London | 229 | 255 |
| Durban | 231 | 257 |
| Richards Bay | 233 | 259 |

Intentionally left blank

PREFACE

1. The tables contained in this publication give daily predictions of the times of heights and high and low water and hourly predictions of heights of the tide for certain ports as well as sunrise, sunset, moonrise and moonset tables.
2. In using these tables it should be remembered that meteorological conditions can cause considerable differences between predicted and actual tides.
 - a. **Atmospheric pressure.** Variations of atmospheric pressure cause the level of the sea to change by approximately 1cm per millibar. Mean atmospheric pressure at sea level on the South African coast is 1017.0mb. Highs of 1040.0mb and lows of 990.0mb are attained very occasionally.
 - b. **Wind.** The effect of wind depends on the topography in question. In general strong onshore winds pile up the water and offshore winds will lower it. Winds blowing along the coast tend to set up long waves which travel along the coast, known as "storm surges". Variations of water level caused by storm surges of more than 0.3m about the mean tidal curve have been recorded at ports on the SE coast of the Republic.
3. All predicted heights are given in metres above Chart Datum, which is the Datum to which all soundings on the largest scale navigational chart of the area have been reduced. Chart Datum is now Lowest Astronomical Tide (LAT) in all ports of the Republic of South Africa and Namibia. The relationship between Chart Datum and Land Levelling Datum prior to 1 January 2003 is given on page (vii). The term Land Levelling Datum used in these tables refers to the Datum adopted by the Chief Director, Surveys and Mapping for the Precise Levelling of the Republic of South Africa. It is commonly called Mean Sea Level by land surveyors.
4. The data for Moon Phases, Seasons and Eclipses was supplied by the South African Astronomical Observatory.
5. Rising and setting times for Sun and Moon are those when the upper limbs of these bodies appear to coincide with the horizon. They are those times when the centres of these bodies are 90° from the zenith with allowances made for mean refraction (+ 34') and semi-diameter (+ 16') for the Sun and semi-diameter minus horizontal parallax for the Moon. They are independent of altitude but should be corrected if necessary for dip, the height of eye of the observer above the plane of the horizon.
6. Users are requested to inform this office of any errors or omissions noted.
7. All times given are South African Standard Time (Time Zone - 2).

C. Theunissen
Commander (SA Navy)
ACTING SOUTH AFRICAN NATIONAL HYDROGRAPHER
South African Navy
Private Bag X1
Tokai
7966

Tel : +27 (0)21 787 2408
Fax : +27 (0)21 787 2233

February 2023

TIDAL LEVELS

The values of Lowest Astronomical Tide (LAT) and Highest Astronomical Tide (HAT) are computed from 19 years' predictions. The Mean Levels are computed from the predictions of a recent year when the moon's average maximum declination was $23\frac{1}{2}^{\circ}$. The definitions of the several levels are given below.

- a. **HAT** and **LAT** are the highest and lowest levels respectively which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions. These levels will not be reached every year. HAT and LAT are not the extreme levels which can be reached, as storm surges and other meteorological conditions may cause considerably higher and lower levels to occur. **HAT** and **LAT** are the HAT and LAT for the year in question.
- b. **MHWS** (Mean High Water Springs). **MLWS** (Mean Low Water Springs). The height of mean high water springs is the average, throughout a year when the average maximum declination of the moon is $23\frac{1}{2}^{\circ}$, of the heights of two successive high waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest. The height of mean low water springs is the average height obtained by the two successive low waters during the same periods.
- c. **MHWN** (Mean High Water Neaps). **MLWN** (Mean Low Water Neaps). The height of mean high water neaps is the average, throughout a year as defined in b. above, of the heights of two successive high waters during those periods (approximately once a fortnight) when the range of the tide is least. The height of mean low water neaps is the average height obtained from the two successive low waters during the same periods.

Note: The values of MHWS etc vary from year to year in a cycle of approximately 18,61 years. The mean tidal levels given in this table are computed average values for the whole cycle.

- d. **ML** (Mean Level) as given in this table, is the mean of the heights of MHWS, MHWN, MLWS and MLWN.
- e. **Years of observations.** Tidal predictions of South African ports are generally based on more than forty years' observations.
- f. **General.** Tides on the Southern African coasts are regular, semi-diurnal and their range seldom exceeds 2.2m

| PLACE | LAT | MLWS | MLWN | ML | MHWN | MHWS | HAT |
|---------------------------|-----|------|------|------|------|------|------|
| Walvis Bay | 0 | 0.27 | 0.67 | 0.98 | 1.29 | 1.69 | 1.97 |
| Lüderitz | 0 | 0.23 | 0.65 | 0.94 | 1.22 | 1.65 | 1.99 |
| Port Nolloth | 0 | 0.28 | 0.78 | 1.09 | 1.40 | 1.91 | 2.25 |
| Saldanha | 0 | 0.24 | 0.70 | 0.99 | 1.27 | 1.75 | 2.03 |
| Cape Town | 0 | 0.25 | 0.70 | 0.98 | 1.26 | 1.74 | 2.02 |
| Simon's Town | 0 | 0.24 | 0.73 | 1.00 | 1.29 | 1.79 | 2.09 |
| Hermanus | 0 | 0.27 | 0.75 | 1.02 | 1.29 | 1.78 | 2.07 |
| Mossel Bay | 0 | 0.26 | 0.88 | 1.17 | 1.46 | 2.10 | 2.44 |
| Knysna | 0 | 0.22 | 0.82 | 1.06 | 1.32 | 1.91 | 2.21 |
| Gqeberha (Port Elizabeth) | 0 | 0.21 | 0.79 | 1.04 | 1.29 | 1.86 | 2.14 |
| East London | 0 | 0.23 | 0.78 | 1.02 | 1.25 | 1.82 | 2.08 |
| Durban | 0 | 0.21 | 0.87 | 1.11 | 1.36 | 2.01 | 2.30 |
| Richards Bay | 0 | 0.27 | 0.97 | 1.20 | 1.48 | 2.11 | 2.47 |

The above levels are all referred to CHART DATUM

2025

LATOY

HATOY

| Port | Height | Time | Date | Height | Time | Date |
|---------------------------|--------|------|--------|--------|------|--------|
| Walvis Bay | 0.045 | 2129 | 07 Oct | 1.945 | 0348 | 30 Mar |
| Lüderitz | 0.003 | 2124 | 07 Oct | 1.920 | 0339 | 30 Mar |
| Port Nolloth | 0.048 | 2122 | 07 Oct | 2.213 | 0336 | 30 Mar |
| Saldanha | 0.043 | 2156 | 30 Mar | 2.035 | 0341 | 30 Mar |
| Cape Town | 0.041 | 2133 | 07 Oct | 2.011 | 0344 | 30 Mar |
| Simon's Town | 0.030 | 2129 | 07 Oct | 2.071 | 0340 | 30 Mar |
| Hermanus | 0.096 | 2154 | 30 Mar | 2.062 | 1514 | 07 Oct |
| Mossel Bay | 0.045 | 1020 | 30 Mar | 2.420 | 0408 | 30 Mar |
| Knysna | 0.037 | 2211 | 29 Mar | 2.201 | 1610 | 07 Oct |
| Gqeberha (Port Elizabeth) | 0.039 | 2155 | 29 Mar | 2.142 | 0411 | 30 Mar |
| East London | 0.043 | 2300 | 01 Mar | 2.091 | 1551 | 07 Oct |
| Durban | 0.017 | 2235 | 30 Mar | 2.290 | 0417 | 30 Mar |
| Richards Bay | 0.017 | 2239 | 30 Mar | 2.440 | 1627 | 08 Oct |

The above levels are all referred to CHART DATUM.

HEIGHTS OF CHART DATUM RELATIVE TO LAND LEVELLING DATUM IN SOUTH AFRICA AND NAMIBIA

| Port | Up to 31 Dec 1978 | 1 Jan 1979 to 31 Dec 1997 | 1 Jan 1998 to 31 Dec 2002 | 1 Jan 2003 onwards |
|---------------------------|----------------------|---------------------------------|---------------------------------|-----------------------|
| Walvis Bay | -0.913 | -0.900 | -0.966 | -0.966 |
| Lüderitz | -0.865* | -0.900 | -0.935 | -1.055 |
| Port Nolloth | -0.718* | -0.900 | -1.075 | -0.925 |
| Saldanha | -0.582 | -0.900 | -0.975 | -0.865 |
| Cape Town | -0.829 | -0.900 | -0.975 | -0.825 |
| Simon's Town | -0.651 | -0.900 | -1.003 | -0.843 |
| Hermanus | -0.619 | -0.900 | -0.978 | -0.788 |
| Mossel Bay | -0.761 | -0.900 | -1.163 | -0.933 |
| Knysna | -0.625 | -0.900 | -1.048 | -0.788 |
| Gqeberha (Port Elizabeth) | -0.838 | -0.900 | -1.026 | -0.836 |
| East London | -0.762 | -0.900 | -1.006 | -0.716 |
| Durban | -0.838 | -0.900 | -1.113 | -0.913 |
| Richards Bay | -0.900 | -0.900 | -1.205 | -1.015 |

*In use until 1 January 1994.

2025

SEASONS

| | | | | | | | | |
|------------|-----|----------|----------|----------|-----|----------|----------|----------|
| | | d | H | m | | d | H | m |
| Equinoxes: | Mar | 20 | 11 | 00 | Sep | 22 | 20 | 33 |
| Solstices: | Jun | 21 | 04 | 47 | Dec | 21 | 17 | 10 |

Good Friday – 18 April 2025





ECLIPSES

| | | |
|------------------------|----|-----|
| Total Lunar Eclipse** | 14 | Mar |
| Partial Solar Eclipse* | 29 | Mar |
| Total Lunar Eclipse** | 07 | Sep |
| Partial Solar Eclipse* | 21 | Sep |

** Partially visible in SA

* Not visible in SA

MOON PHASES

| New Moon  | | | | First Quarter  | | | | Full Moon  | | | | Last Quarter  | | | |
|--|----|----|----|---|----|----|----|---|----|----|----|--|----|----|----|
| | d | H | m | | d | H | m | | d | H | m | | d | H | m |
| | | | | Jan | 07 | 01 | 56 | Jan | 14 | 00 | 27 | Jan | 21 | 22 | 31 |
| Jan | 29 | 14 | 36 | Feb | 05 | 10 | 02 | Feb | 12 | 15 | 53 | Feb | 20 | 19 | 33 |
| Feb | 28 | 02 | 45 | Mar | 06 | 18 | 32 | Mar | 14 | 08 | 55 | Mar | 22 | 13 | 30 |
| Mar | 29 | 12 | 58 | Apr | 05 | 04 | 15 | Apr | 13 | 02 | 22 | Apr | 21 | 03 | 36 |
| Apr | 27 | 21 | 31 | May | 04 | 15 | 52 | May | 12 | 18 | 56 | May | 20 | 13 | 59 |
| May | 27 | 05 | 02 | Jun | 03 | 05 | 41 | Jun | 11 | 09 | 44 | Jun | 18 | 21 | 19 |
| Jun | 25 | 12 | 31 | Jul | 02 | 21 | 30 | Jul | 10 | 22 | 37 | Jul | 18 | 02 | 38 |
| Jul | 24 | 21 | 11 | Aug | 01 | 14 | 41 | Aug | 09 | 09 | 55 | Aug | 16 | 07 | 12 |
| Aug | 23 | 08 | 06 | Aug | 31 | 08 | 25 | Sep | 07 | 20 | 09 | Sep | 14 | 12 | 33 |
| Sep | 21 | 21 | 54 | Sep | 30 | 01 | 54 | Oct | 07 | 05 | 47 | Oct | 13 | 20 | 13 |
| Oct | 21 | 14 | 25 | Oct | 29 | 18 | 21 | Nov | 05 | 15 | 19 | Nov | 12 | 07 | 28 |
| Nov | 20 | 08 | 47 | Nov | 28 | 08 | 59 | Dec | 05 | 01 | 14 | Dec | 11 | 22 | 52 |
| Dec | 20 | 03 | 43 | Dec | 27 | 21 | 10 | | | | | | | | |

Note: These times are Terrestrial Dynamical Time (TDT) plus 2 hrs. This corresponds to SA standard time (SAST) within 3 minutes.

MOON AT PERIGEE

| Date | Hour | Date | Hour |
|--------|------|--------|------|
| Jan 08 | 01 | Jul 20 | 15 |
| Feb 02 | 04 | Aug 14 | 20 |
| Mar 01 | 23 | Sep 10 | 14 |
| Mar 30 | 07 | Oct 08 | 14 |
| Apr 27 | 18 | Nov 06 | 00 |
| May 26 | 03 | Dec 04 | 13 |
| Jun 23 | 06 | | |