



H103

南海海区

SOUTH CHINA SEA

2009

潮汐表

TIDE TABLES



中国人民解放军海军司令部航海保证部

THE NAVIGATION GUARANTEE DEPARTMENT OF THE CHINESE NAVY HEADQUARTERS

2008 年

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中国人民解放军海军司令部航海保证部编制的《潮汐表》共分四册,包括黄、渤海海区(H101),东海海区(H102),南海海区(H103),太平洋北西部(H104)。

概述

潮汐表中刊载每日潮汐发生时间和高度的港口称为主港,通常为重要港口或能代表某类潮汐特征。如果两个港口的潮汐特征类似,其间有近似不变的潮差比和潮时差,并能利用其中一个主港的每日高、低潮预报,通过两港之间的差比关系推算另一港口的潮汐,则根据这种关系推算潮汐的港口称为附港。

在本表中,列出了主港每日高、低潮的潮高极值和时间,并对部分主港更详细地列出了每日正点潮高。表中日期下面的●☾○☾符号分别表示月亮的朔、上弦、望、下弦四种月相;S、N、E字母分别表示月亮的赤纬最南、最北、最小三个极值。

潮高基准面是潮汐表预报潮高起算面,海图深度基准面是海图水深的起算面。我部出版的《潮汐表》与海图,其潮高基准面和海图深度基准面是一致的,因此某一时刻的实际水深等于大比例尺海图上标注的水深与该时刻的潮高值之和。

如果发现潮高基准面与所使用的海图深度基准面不一致,实际计算水深时须加以订正:某地某时实际水深 = 当地大比例尺海图上标注的水深 + 该时预报潮高 + (当地海图深度基准面 - 潮高基准面)。

平均海面是一定时期内海水面的平均位置,用潮高基准面至平均海面的高度来表示。一般经过长时期的潮汐观测计算得来。

各港站所列时间均以各自所在地区的标准时为准。其中中国沿海各港站潮高预报及月赤纬极值、月相、月中天发生时间均采用北京标准时,即东8时区时。

正常情况下,《潮汐表》预报潮时误差在20~30分钟以内,潮高误差在20~30厘米以内。在预报值中不包括由于气象及其它随机因素而引起的误差,特殊情况下,如处在江、河口的预报点或有台风、寒潮、洪水等因素影响时误差较大,使用时请注意。

潮汐要素

海水由于受到月亮和太阳的引力作用而产生周期性的升降(涨落)运动的现象叫做潮汐。在潮汐升降的每一周期中,当海面涨至最高时为高潮,当海面降至最低时为低潮。从低潮到高潮的过程中,海面逐渐升涨为涨潮;从高潮到低潮的过程中,海面逐渐下落为落潮。相邻的高潮与低潮的水位高度差为潮差。从低潮时至高潮时所经历的时间为涨潮时间;从高潮时至低潮时所经历的时间为落潮时间。

在朔或望(农历初一或十五)后的2~3天达到半个月中的潮差最大为大潮;在上弦或下弦(农历初七、初八或廿二、廿三)后的2~3天达到半个月中的潮差最小为小潮。

潮汐类型

潮汐的性质可以分为四种类型:

1、半日潮:在一个太阴日内(约24小时50分钟),发生两次高潮和低潮,且相邻的高潮(低潮)的潮高大致相等,涨落潮持续时间亦很接近。

2、全日潮:在半个月中,一天出现一次高潮和一次低潮的天数超过7天,而其余天数为混

合潮性质。

3、不正规半日混合潮:它基本具有半日潮的特征,在一个太阴日内,有两次高潮和低潮,但相邻的高潮(低潮)的潮高相差很大,涨潮和落潮持续时间也不相等。

4、不正规日潮混合潮:在半个月中,一天出现一次高潮和一次低潮的天数不超过7天,而多数天为一天两次高潮和两次低潮的不正规半日潮。

海图潮信表

海图上刊载的潮信表为航海人员提供了部分主、附港的潮汐情况,对半日潮港列出了平均潮汐间隙和平均大(小)潮升等数据;对混合潮港和日潮港分别列出了回归潮期间的平均潮汐间隙和潮高及分点潮期间的平均潮汐间隙和潮高等数据。

高潮间隙就是某地月上(下)中天时刻至发生高潮时的时间间隔;低潮间隙就是某地月上(下)中天时刻至发生低潮时的时间间隔。平均大潮升即自深度基准面至平均大潮高潮面的高度,是大潮期间高潮的平均潮高;平均小潮升即自深度基准面至平均小潮高潮面的高度,是小潮期间高潮的平均潮高。

日潮不等就是两相邻高潮的潮高或两相邻低潮的潮高常有不平等的现象;回归潮就是当月球赤纬位于最北或最南附近时(月赤纬最大时),所产生的日潮不等为最大时的潮汐;分点潮则为当月球位于赤道附近时(月赤纬最小时),日潮不等很小,两相邻高潮或低潮的潮高约相等时的潮汐。

潮信表使用

根据潮信表提供的数据可以粗略地推算出该海区的潮时和潮高,但有一定的误差,有时甚至与实测水位相差较大,使用时请注意。现把推算方法介绍如下:

1、半日潮型潮信表

(1)求潮时

高潮时 = 月上(下)中天时 + 平均高潮间隙

低潮时 = 月上(下)中天时 + 平均低潮间隙

(2)求潮高

高潮高 = 大潮升 - (大潮升 - 小潮升) / 7 × 日数 (日数指与大潮时相隔天数)

低潮高 = 2 × 平均海面 - 高潮高

例:求南鹏岛 2009 年 8 月 8 日的大概潮时和潮高。

解:根据海图查得南鹏岛潮信表为

地点	位置	平均高潮间隙	平均低潮间隙	大潮升	小潮升	平均海面
南鹏岛	21°33'N 112°11'E	09h25min	03h35min	2.40m	1.94m	1.60m

从潮汐表中查知 2009 年 8 月 8 日的月上中天时刻为 01 时 13 分,月下中天时刻为 13 时 34 分。则:

(1)求潮时

第一次低潮时 = 01 时 13 分 + 03 时 35 分 = 04 时 48 分

第一次高潮时 = 01 时 13 分 + 09 时 25 分 = 10 时 38 分

第二次低潮时 = 13 时 34 分 + 03 时 35 分 = 17 时 09 分

第二次高潮时 = 13 时 34 分 + 09 时 25 分 = 22 时 59 分

(2) 求潮高

从潮汐表中查知, 8 月 8 日在大潮后的天数大约为 1 天, 则:

$$\text{高潮高} = 240 - (240 - 194) / 7 \times 1 = 233 \text{ 厘米}$$

$$\text{低潮高} = 2 \times 160 - 233 = 87 \text{ 厘米}$$

2、混合潮型和日潮型潮信表

(1) 求潮时

① 当所求日期在月赤纬 0° 或接近 0° 时

$$\text{高潮时} = \text{月上(下)中天时} + \text{平均高潮间隙}$$

$$\text{低潮时} = \text{月上(下)中天时} + \text{平均低潮间隙}$$

② 当所求日期在月赤纬最大或接近最大时

$$\text{高(低)高潮潮时} = \text{月上(下)中天时} + \text{平均高(低)高潮间隙}$$

$$\text{高(低)低潮潮时} = \text{月上(下)中天时} + \text{平均高(低)低潮间隙}$$

(2) 求潮高

① 当所求日期在月赤纬最大或最小时, 则推算潮高为潮信表所列潮高;

② 当所求日期在月赤纬最小(最大)与最大(最小)之间时, 则分别用下列各式计算:

A、若所求日期在月赤纬最小与最大之间

$$\text{高(低)高潮潮高} = \text{月赤纬 } 0^\circ \text{ 的平均高潮潮高} - T \cdot \Delta h$$

$$\text{高(低)低潮潮高} = \text{月赤纬 } 0^\circ \text{ 的平均低潮潮高} - T \cdot \Delta h$$

B、若所求日期在月赤纬最大与最小之间

$$\text{高(低)高潮潮高} = \text{月赤纬最大时的平均高(低)高潮潮高} + T \cdot \Delta h$$

$$\text{高(低)低潮潮高} = \text{月赤纬最大时的平均高(低)低潮潮高} + T \cdot \Delta h$$

其中: T 为月赤纬最小(或最大)至所求日期的时间间隔天数;

Δh = 潮位日差 = (月赤纬 0° 的平均潮高 - 月赤纬最大时的平均潮高) / D , D 为月赤纬最小(最大)与最大(最小)的时间间隔天数。

例: 求北津港 2009 年 5 月 10 日的大概潮时和潮高。

解: 根据海图查得北津港潮信表为

地 点	位 置	潮面	月赤纬 0°时		潮面	月赤纬最大时(月上中天)			平均海面
			平均 潮汐间隙	平均 潮高		平均潮汐间隙		平均 潮高	
						北赤纬	南赤纬		
北津港	21°48′ N 112°01′ E	高潮	09h46min	2.12m	高高潮	21h42min	09h17min	2.59m	1.40m
		低潮	04h15min	0.69m	低高潮	10h41min	23h06min	1.34m	
					低低潮	05h08min	17h32min	0.36m	
					高低潮	15h18min	02h54min	1.22m	

从潮汐表中查知 2009 年 5 月 10 日在月球赤纬最南时的前 2 天, 月上中天时刻为 00 时 15 分。则:

(1) 求潮时

$$\text{高高潮潮时} = 00 \text{ 时 } 15 \text{ 分} + 09 \text{ 时 } 17 \text{ 分} = 09 \text{ 时 } 32 \text{ 分}$$

低高潮潮时 = 00 时 15 分 + 23 时 06 分 = 23 时 21 分

低低潮潮时 = 00 时 15 分 + 17 时 32 分 = 17 时 47 分

高低潮潮时 = 00 时 15 分 + 02 时 54 分 = 03 时 09 分

(2) 求潮高

从潮汐表中查知, 5 月 10 日在月赤纬最小和最大之间, $T=6$, $D=8$, 按 A 式计算潮高。则:

高高潮潮高 = $212 - T \cdot \Delta h_1 = 212 - 6 \times [(212 - 259)/8] = 247$ 厘米

低高潮潮高 = $212 - T \cdot \Delta h_2 = 212 - 6 \times [(212 - 134)/8] = 154$ 厘米

低低潮潮高 = $69 - T \cdot \Delta h_3 = 69 - 6 \times [(69 - 36)/8] = 44$ 厘米

高低潮潮高 = $69 - T \cdot \Delta h_4 = 69 - 6 \times [(69 - 122)/8] = 109$ 厘米

Operation Manual

The Chinese Tide Tables are compiled by the Navigation Guarantee Department of the Chinese Navy Headquarters in four volumes including:

Bohai Sea and Yellow Sea: (Pub No. H101)

East China Sea: (Pub No. H102)

South China Sea: (Pub No. H103)

Northwest Pacific Ocean: (Pub No. H104)

Summarization

Ports published the time and the height of daily tide in Tide Tables are called Standard Ports, which usually to be important ports or represent some kinds of tidal characters. If the tidal characters between the two ports is similar or there exists almost the same ratio of tidal ranges and time difference of tide, moreover, according to daily high low water predictions of one of the standard ports and difference relation between the two ports, the tide of the other port can be calculated, so those ports are called Secondary Ports, tide of which can be calculated through the above connections.

The tidal height extrema and times of daily high low water of standard ports are listed in this table and the daily height of tide at the expected time is shown more particularly at some standard ports. The symbols ● ☾ ○ ☾ S N E below the dates in these tables indicate respectively New Moon, First Quarter, Full Moon, Last Quarter, Declination Maximum South, Declination Maximum North and Declination Minimum.

All predicted heights are given above Tide Height Datum and chart depths are given above Chart Depth Datum. Tide Height Datum is the same as Chart Depth Datum between Tide Tables published by our department and charts, so the actual depth is the sum of depth on large - scale chart and tidal height.

When Tidal Datum is not the same as Chart Depth Datum, the actual depth should be calculated as follows: the actual depth = depth on large - scale chart + predicted height + (Chart Depth Datum - Tidal Datum).

MSL (mean sea level) is the average level of the sea surface in a certain period of time. MSL is to be shown by the height from Tide Height Datum to MSL and generally calculated from tidal observations over a long period.

All times of predictions are given in the official standard time kept at the place. Those times of predictions of height of tide at ports and places of China coast, moon declination extremum, lunar phases and moon culmination are given in Beijing Standard Time, i. e. time zone: -0800.

Normally in Tide Tables, errors in predicted tidal times is within 20 ~ 30 minutes and errors in predicted heights is within 20 ~ 30 cm. The effects of meteorological conditions and other random factors on tidal heights are not included in all predicted heights. Errors might be large in special circumstances such as at predicted station of estuary or under the effects of typhoon, cold wave and floodwater and so on factors. Caution should be taken in use.

Tidal Factors

Tide is the regular and continuous fluctuating change in the level of the sea affected by gravitation of moon and sun. In the tidal cycle, the maximum height reached in a rising tide is to be called High Tide and the minimum height reached in a falling tide is to be called Low Tide. In the course of low tide to high tide, when the sea level is rising to a higher level, it is called Flood Tide. In the course of high tide to low tide, when the sea level is falling to a lower level, it is called Ebb Tide.

Tidal Range is the difference in height between a high tide and the succeeding or preceding low tide. The Duration of Flood is the length of time from low tide to high tide; the Duration of Ebb is the length of time from high tide to low tide.

Spring Tides: semi – diurnal tides of the largest range occurring 2 – 3 days after the moon is new or full; Neap Tides: tides of the smallest range occurring 2 – 3 days after the moon is at its first or last quarter.

Tidal Pattern

There are four tidal patterns as follows:

1. Semi – diurnal Tide: there are two high tides and two low tides in a lunar day (about 24hrs and 50mins). The height of tide between a high tide (low tide) and the succeeding or preceding high tide (low tide) is approximately the same; the duration of flood and ebb is also approximate.
2. Diurnal Tide: In half a month, the number of days is more than 7 days in which there appears one high tide and one low tide, other days are compound tide.
3. Irregular Semi – diurnal Compound Tide: Basically its characters is as much as semi – diurnal tide. There are two high tides and two low tides in a lunar day. The height of tide between a high tide (low tide) and the succeeding or preceding high tide (low tide) is different; the duration of flood and ebb is not equal, too.
4. Irregular Diurnal Tide: In half a month, the number of days is less than 7 days in which there appears one high tide and one low tide, other majority of days are irregular semi – diurnal tide in which there appear two high tides and two low tides.

Table of Tidal Signal on Chart

Table of tidal signal on chart provides many data for navigators: tide situations of parts of standard ports and secondary ports, mean – tidal intervals and mean tidal rise, etc for semi – diurnal tide ports, mean – tidal intervals and heights during tropical tide and equinoctial tide respectively for compound tide ports and diurnal tide ports, etc.

High Tide Interval is the time interval from lunar upper (lower) culmination to high tide; Low Tide Interval is the time interval from lunar upper (lower) culmination to low tide; Mean Spring Rise is the height between depth datum and mean high water springs level and the mean height of high tide during spring tide; Mean Neap Rise is the height between depth datum and mean high water neaps level and the mean height of high tide during neap tide.

Diurnal Inequality of Tide is the phenomenon that the height of tide between a high tide (low tide) and the succeeding or preceding high tide (low tide) is constant inequality. Tropical Tide is the tide when diurnal inequality of tide is maximal caused while the maximal moon declination coming. Equinoctial Tide is the tide when the moon declination is minimal, diurnal inequality of tide is much little, the height of tide between a high tide (low tide) and the succeeding or preceding high tide (low tide) is approximately the same.

Tide Tables

According to the data shown in tide tables, time of tide and height of tide for certain sea area can be approximately calculated, however there exists some errors and sometimes differs greatly from the actual surveyed water levels. Care should be taken when using it. Calculating methods are listed as follows:

1. Tabular statement of semidiurnal tide

(1) to find the time of tide

time of high water = upper (lower) culmination time + mean high water lunitidal interval

time of low water = upper (lower) culmination time + mean low water lunitidal interval

(2) to find the height of tide

height of high water = spring rise - (spring rise - neap rise) / 7 × days (days refer to the interval days with the time of spring tide)

height of low water = 2 × MSL - height of high water

For example: to calculate the approximate time and height of tide of Nanpeng Dao on August 8, 2009.

Analysis: The tide table of Nanpeng Dao consulted from chart is listed as follows:

place	position	MHW lunitidal interval	MLW lunitidal interval	spring rise	neap rise	MSL
Nanpeng Dao	21°33'N 112°11'E	09h25min	03h35min	2.40m	1.94m	1.60m

As shown in tide table, upper culmination time on August 8, 2009 is 01h13min, lower culmination time is 13h34min, thus:

(1) to find the time of tide

the first time of low water = 01h13min + 03h35min = 04h48min

the first time of high water = 01h13min + 09h25min = 10h38min

the second time of low water = 13h34min + 03h35min = 17h09min

the second time of high water = 13h34min + 09h25min = 22h59min

(2) to find the height of tide

As shown in tide table, approximate days after spring tide on August 8 is 1 day, thus:

height of high water = 240 - (240 - 194) / 7 × 1 = 233cm

height of low water = 2 × 160 - 233 = 87cm

2. Tabular statement of mixed tide and diurnal tide

(1) to find the time of tide

① to find the date at 0° or approaching to 0° of the moon declination

time of high water = upper (lower) culmination time + MHW lunitidal interval

time of low water = upper (lower) culmination time + MLW lunitidal interval

② to find the date at the maximum or approaching to maximum of the moon declination

time of HHW(LHW) = upper (lower) culmination time + MHHW (MLHW) lunitidal interval

time of HLW(LLW) = upper (lower) culmination time + MHLW (MLLW) lunitidal interval

(2) to find the height of tide

① to find the date at the maximum or minimum of the moon declination, the calculating height of tide is listed in this table;

② to find the date between the minimum (maximum) and maximum (minimum) of the moon declination, the calculating methods are listed follows:

A. to find the date between the minimum and maximum of the moon declination

height of HHW(LHW) = mean height of high tide at 0° of moon declination - T · Δh

height of HLW(LLW) = mean height of low tide at 0° of moon declination - T · Δh

B. to find the date between the maximum and minimum of the moon declination

height of HHW(LHW) = mean height of HHW (LHW) of moon declination at maximum + T · Δh

height of HLW(LLW) = mean height of HLW (LLW) of moon declination at maximum + T · Δh

Thereinto: T represents the interval days from moon declination at minimum (or maximum) to the time as requested;

Δh = tidal level range per day = (mean height of the tide at 0° - mean height of the tide at

maximum of moon declination δ / D, D represents the interval days from minimum (maximum) to maximum of moon declination.

For example: to calculate the approximate time and height of tide of Beijin Gang on May 10, 2009.

Analysis: the tide table of Beijin Gang consulted from charts is listed as follows:

place	position	tide level	moon declination at 0°		tide level	moon declination at maximum (upper culmination)			MSL
			mean tide interval	mean height tide		mean tide interval		mean height tide	
						N declination	S declination		
Beijin Gang	21°48′ N 112°01′ E	HW	09h46min	2. 12m	HHW	21h42min	09h17min	2. 59m	1. 40m
		LW	04h15min	0. 69m	LHW	10h41min	23h06min	1. 34m	
					LLW	05h08min	17h32min	0. 36m	
					HLW	15h18min	02h54min	1. 22m	

As shown in tide table, May 10, 2009 is 2 days previous to the Moon Declination Maximum South, upper culmination time is 00h15min, thus:

(1) to find the time of tide

time of HHW = 00h15min + 09h17min = 09h32min

time of LHW = 00h15min + 23h06min = 23h21min

time of LLW = 00h15min + 17h32min = 17h47min

time of HLW = 00h15min + 02h54min = 03h09min

(2) to find the height of tide

As shown in tide table, May 10 is between the minimum and maximum of moon declination,

T = 6, D = 8, calculating the height of tide should follow the calculating way of A, thus:

height of HHW = $212 - T \cdot \Delta h_1 = 212 - 6 \times [(212 - 259)/8] = 247\text{cm}$

height of LHW = $212 - T \cdot \Delta h_2 = 212 - 6 \times [(212 - 134)/8] = 154\text{cm}$

height of LLW = $69 - T \cdot \Delta h_3 = 69 - 6 \times [(69 - 36)/8] = 44\text{cm}$

height of HLW = $69 - T \cdot \Delta h_4 = 69 - 6 \times [(69 - 122)/8] = 109\text{cm}$

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2. 汕 头 港	4 - 12	25. 三 洲 湾	127 - 129
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3. 海 门 港	13 - 15	26. 北 津 港	130 - 132
HAIMEN GANG		BEIJIN GANG	
4. 甲 子 港	16 - 18	27. 闸 坡 港	133 - 135
JIAZI GANG		ZHAPO GANG	
5. 汕 尾 港	19 - 27	28. 博 贺 港	136 - 138
SHANWEI GANG		BOHE GANG	
6. 盐 田 港	28 - 36	29. 水东港(西葛)	139 - 141
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15. 黄 埔 港	79 - 87	38. 北 海 港	178 - 186
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16. 广 州 港	88 - 96	39. 钦州港(龙门岛)	187 - 189
GUANGZHOU GANG		QINZHOU GANG(LONGMEN DAO)	
17. 三 沙 口	97 - 99	40. 企 沙 港	190 - 192
SANSHA KOU		QISHA GANG	
18. 南 沙	100 - 102	41. 防 城 港	193 - 201
NANSHA		FANGCHENG GANG	
19. 横 门	103 - 105	42. 白 龙 尾	202 - 204
HENG MEN		BAILONG WEI	
20. 珠海(香洲)	106 - 114	43. 海 口 港	205 - 213
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云 澳 湾

YUN'AO WAN

2009 年

纬度:23°24'N

经度:117°06'E

潮汐表

1 月 Jan.				2 月 Feb.				3 月 Mar.				4 月 Apr.			
潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高
Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm
1	03 06 211 08 40 66 16 35 237 20 51 145	17	05 09 207 10 07 83 17 37 228 23 18 93	1	04 42 218 09 23 87 16 55 236 21 51 92	17	06 32 190 11 16 125 17 42 205	1	03 50 216 08 32 78 15 52 206 20 55 55	17	05 30 202 10 07 116 16 15 196 22 58 41	1	05 27 231 09 53 121 16 14 203 22 25 21	17	06 34 180 11 13 126 16 35 165
2	03 54 213 09 26 76 17 08 238 21 44 136	18	06 05 194 11 00 98 18 11 217	2	05 33 215 10 03 99 17 23 234 22 43 80	18	00 46 56 07 36 176 12 22 135 18 15 191	2	04 40 206 09 10 80 16 22 197 21 41 37	18	06 13 193 10 57 124 16 30 190 23 55 44	2	06 19 221 10 45 127 16 49 199 23 25 25	18	00 09 45 07 37 175 12 30 131 17 51 159
3	04 47 206 10 11 79 17 42 231 22 38 117	19	00 35 76 07 09 182 12 01 114 18 45 207	3	06 32 210 10 49 114 17 49 228 23 47 68	19	01 58 52 09 12 164 13 47 143 18 55 178	3	05 33 200 09 53 88 16 52 194 22 31 28	19	07 03 178 11 58 130 16 57 178	3	07 19 211 11 52 133 17 30 194	19	01 17 57 08 45 178 14 00 133 19 15 159
4	05 49 195 10 55 81 18 15 222 23 35 96	20	01 45 63 08 30 175 13 18 131 19 22 197	4	07 42 204 11 49 132 18 13 220	20	03 11 48 11 30 168 15 45 144 19 50 168	4	06 30 197 10 43 102 17 19 194 23 32 28	20	01 01 46 08 15 162 13 21 133 17 40 162	4	00 36 35 08 38 204 13 16 135 18 30 186	20	02 24 68 09 52 183 15 18 127 20 30 163
5	06 58 187 11 42 90 18 46 214	21	02 52 54 10 16 177 14 55 144 20 00 190	5	01 09 55 09 05 200 13 13 145 18 39 211	21	04 11 43 12 30 178 16 50 139 21 00 167	5	07 34 196 11 45 121 17 41 195	21	02 20 45 10 45 158 15 12 129 18 50 149	5	01 59 45 10 03 205 14 40 128 21 04 179	21	03 21 74 10 49 187 16 02 113 22 46 171
6	00 43 77 08 12 186 12 40 108 19 13 210	22	03 49 48 12 01 192 16 19 151 20 45 186	6	02 26 40 10 39 205 14 34 149 19 30 202	22	04 59 40 13 06 189 17 31 135 22 30 175	6	00 42 33 08 50 198 13 01 137 18 15 193	22	03 28 41 11 49 164 16 19 118 20 05 145	6	03 14 50 11 09 206 15 52 110 22 58 183	22	04 09 75 11 30 187 16 35 92
7	01 56 60 09 37 194 13 55 128 19 30 209	23	04 40 44 12 54 209 17 15 152 22 05 187	7	03 32 27 11 50 217 15 41 148 21 30 199	23	05 35 43 13 30 201 17 56 134 23 50 191	7	01 59 38 10 22 204 14 22 143 20 30 189	23	04 19 37 12 30 172 17 00 107 22 00 148	7	04 14 51 12 03 201 16 47 86	23	00 08 185 04 50 76 12 14 185 17 07 70
8	03 01 44 11 02 211 15 05 143 19 57 211	24	05 24 40 13 30 220 17 54 149 23 14 192	8	04 30 22 12 47 227 16 41 143 23 15 208	24	06 04 51 13 50 213 18 10 133	8	03 20 40 11 33 212 15 40 137 22 28 188	24	05 00 37 13 00 180 17 26 97	8	00 12 189 05 05 51 12 51 194 17 33 60	24	00 59 200 05 30 80 12 45 182 17 42 49
9	03 57 30 12 11 228 16 06 150 20 43 212	25	06 00 37 13 59 226 18 22 145	9	05 22 23 13 37 237 17 36 137	25	00 53 208 06 30 62 14 08 223 18 30 128	9	04 23 37 12 31 214 16 45 122 23 57 192	25	00 30 166 05 33 42 13 22 187 17 48 87	9	01 11 198 05 49 57 13 29 190 18 15 42	25	01 40 214 06 07 87 13 12 180 18 20 31
10	04 48 19 13 08 238 17 02 151 21 45 213	26	00 08 197 06 29 37 14 22 228 18 38 141	10	00 28 220 06 10 32 14 19 245 18 24 129	26	01 39 221 06 55 72 14 30 227 18 56 117	10	05 15 35 13 21 212 17 37 100	26	01 15 187 06 05 52 13 42 193 18 15 77	10	01 59 210 06 31 71 14 00 190 18 55 33	26	02 20 225 06 46 97 13 31 179 19 01 17
11	05 39 12 14 00 242 17 56 146 22 51 212	27	00 58 203 06 51 39 14 43 228 18 52 134	11	01 34 232 06 52 46 14 55 249 19 09 120	27	02 22 227 07 24 77 14 55 225 19 30 99	11	01 04 196 06 01 35 14 02 206 18 23 77	27	01 51 206 06 37 66 14 01 199 18 46 68	11	02 41 222 07 12 92 14 25 194 19 35 33	27	03 03 231 07 30 108 11 47 185 19 47 8
12	06 30 10 14 47 244 18 45 138	28	01 43 208 07 14 45 15 04 229 19 14 128	12	02 30 239 07 32 63 15 26 249 19 53 110	28	03 05 225 07 57 79 15 23 216 20 11 77	12	02 00 200 06 44 41 14 38 199 19 06 58	28	02 29 223 07 12 83 14 25 204 19 24 59	12	03 19 231 07 51 112 14 47 198 20 15 36	28	03 48 234 08 15 117 12 29 190 20 34 5
13	01 03 212 07 15 16 15 29 247 19 30 131	29	02 27 212 07 40 54 15 30 232 19 44 122	13	03 18 239 08 10 81 15 53 244 20 40 99			13	02 46 202 07 24 53 15 07 193 19 50 46	29	03 08 235 07 48 98 14 49 207 20 05 48	13	03 55 233 08 26 126 15 06 198 20 53 37	29	04 36 235 09 00 125 13 20 192 21 23 8
14	02 30 217 07 58 30 16 04 247 20 13 124	30	03 09 216 08 10 65 15 57 235 20 21 115	14	04 03 231 08 48 95 16 19 236 21 34 86			14	03 30 204 08 04 70 15 32 191 20 35 40	30	03 51 240 08 30 109 15 15 208 20 49 36	14	04 30 225 08 58 130 15 19 194 21 30 34	30	05 24 233 09 47 132 15 30 193 22 16 18
15	03 27 221 08 39 48 16 36 244 21 00 117	31	03 54 218 08 45 76 16 26 236 21 05 105	15	04 50 218 09 30 106 16 45 227 22 38 73			15	04 11 206 08 44 89 15 54 192 21 20 39	31	04 38 238 09 09 117 15 44 206 21 35 26	15	05 04 210 09 32 127 15 30 185 22 13 32		
16	04 17 217 09 21 66 17 06 237 21 59 107			16	05 39 204 10 21 116 17 12 217 23 43 62			16	04 50 206 09 24 104 16 08 195 22 06 39			16	05 45 193 10 15 124 15 00 172 23 06 35		

时 区:东 8 时区
Time Zone: +0800

潮高基准面:在平均海面下 145 厘米。
Tidal datum: 145cm below mean sea level.

云 澳 湾

YUN'AO WAN

2009 年

纬度:23°24'N

经度:117°06'E

潮汐表

5 月 May				6 月 Jun.				7 月 Jul.				8 月 Aug.			
潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高
Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm	Time	cm
1	06 15 227 10 45 136 16 39 192 23 18 31	17 C	07 03 186 11 59 109 17 59 149	1 E	00 12 50 07 49 210 13 11 96 19 56 177	17	00 23 59 07 47 189 13 10 73 20 30 162	1	00 36 74 07 54 198 13 37 53 21 04 184	17	00 30 79 06 45 177 13 19 27 21 15 170	1 S	02 20 119 07 42 167 15 15 24 23 25 175	17	02 21 151 06 49 210 15 07 31 23 27 231
2	07 13 218 11 59 135 17 53 184	18	00 18 37 07 51 178 12 59 98 19 30 144	2	01 14 67 08 44 200 14 27 76 21 24 177	18	01 18 75 08 18 180 14 11 55 21 54 168	2	01 38 100 08 30 192 14 42 47 22 22 193	18	01 35 96 06 50 174 15 30 13 22 39 185	2	03 58 126 08 21 161 16 17 21	18	03 35 153 07 57 210 16 13 27
3	00 27 45 08 22 209 13 24 123 19 30 174	19 E	01 12 49 08 36 177 14 03 90 20 50 151	3	02 24 84 09 36 190 15 27 56 22 45 182	19	02 25 89 08 30 171 15 12 33 23 15 185	3	02 51 125 09 04 189 15 41 47 23 47 211	19 N	02 49 115 07 19 179 15 30 6 23 52 211	3	00 38 188 05 03 127 09 10 159 17 10 19	19	00 31 244 04 38 150 09 30 214 17 10 27
4	01 44 55 09 30 200 14 49 102 21 30 170	20	02 16 67 09 21 179 15 08 79 22 30 166	4	03 30 97 10 23 180 16 15 37 23 57 189	20	03 30 101 08 03 172 16 04 17	4	04 12 147 08 00 191 16 37 52	20	03 58 132 08 06 190 16 30 4	4	01 26 201 05 51 125 10 10 162 17 52 18	20 ●	01 26 254 05 32 141 12 22 221 18 01 31
5	02 58 62 10 29 192 15 52 77 22 57 176	21 E	03 21 83 10 15 181 15 59 63 23 47 190	5	04 31 106 11 02 170 17 00 23	21	00 18 210 04 30 116 08 35 182 16 54 9	5 S	00 58 235 05 18 162 09 30 200 17 30 56	21	00 56 234 05 00 142 09 06 202 17 27 4	5	02 01 210 06 26 123 11 54 169 18 27 21	21	02 13 258 06 22 126 13 40 230 18 47 37
6	03 58 68 11 18 184 16 38 53	22	04 15 94 11 11 181 16 42 43	6	01 00 198 05 27 112 11 39 164 17 45 13	22 N	01 14 235 05 25 132 09 22 198 17 45 7	6	01 46 255 06 10 168 10 30 205 18 15 53	22 ●	01 51 248 05 57 143 10 05 210 18 21 4	6 O	02 30 216 06 51 121 13 16 179 18 54 28	22 E	02 52 254 07 08 106 14 36 235 19 31 46
7	00 05 187 04 48 77 12 00 179 17 17 36	23	00 42 213 05 04 102 11 50 179 17 24 21	7	01 49 208 06 16 117 12 20 164 18 30 10	23 ●	02 06 253 06 18 143 10 12 211 18 37 5	7 O	02 25 260 06 50 161 10 44 203 18 53 41	23	02 41 255 06 47 134 11 00 212 19 13 6	7	02 53 218 07 09 119 14 00 188 19 20 35	23	03 27 244 07 53 85 15 26 234 20 15 59
8	01 01 201 05 34 90 12 33 178 17 56 26	24 ●	01 28 227 05 51 109 10 04 181 18 06 4	8 OS	02 32 218 07 01 122 13 05 168 19 10 11	24	02 58 259 07 09 142 11 00 213 19 30 0	8	02 56 248 07 22 145 11 23 191 19 26 25	24	03 25 254 07 35 121 14 30 208 20 00 13	8	03 15 218 07 30 112 14 40 193 19 50 43	24	03 59 233 08 39 69 16 12 230 20 57 77
9	01 48 216 06 17 105 13 00 182 18 35 23	25	02 13 236 06 36 116 10 45 189 18 52 -5	9	03 08 225 07 39 127 13 46 173 19 46 16	25	03 45 256 07 58 130 11 52 202 20 21 -6	9	03 21 227 07 45 125 12 30 175 19 53 13	25 E	04 04 248 08 22 105 15 30 212 20 46 26	9 E	03 37 216 08 00 101 15 19 196 20 26 49	25	04 27 225 09 27 60 16 59 228 21 38 98
10	02 29 229 07 00 121 13 30 188 19 15 25	26 N	03 00 243 07 22 125 11 30 199 19 41 -4	10	03 40 225 08 08 129 14 19 175 20 19 20	26	04 30 244 08 46 112 13 03 183 21 12 -6	10	03 45 207 08 06 107 14 16 165 20 22 9	26	04 39 238 09 11 90 16 25 210 21 31 42	10	04 03 213 08 41 88 16 03 196 21 05 56	26	04 55 224 10 17 59 17 45 227 22 21 121
11	03 06 239 07 38 135 14 00 194 19 53 31	27	03 48 249 08 09 135 12 15 206 20 31 3	11	04 09 219 08 34 126 14 49 173 20 51 21	27	05 11 230 09 37 95 16 30 180 22 00 3	11	04 09 197 08 33 97 15 07 165 20 55 17	27	05 11 226 10 01 74 17 17 202 22 17 59	11	04 33 209 09 23 75 16 51 197 21 44 66	27 D	05 22 225 11 12 62 18 34 225 23 12 141
12	03 41 242 08 11 144 14 30 198 20 27 36	28	04 35 252 08 57 140 13 30 206 21 24 14	12	04 40 209 09 04 118 15 23 167 21 30 22	28 E	05 50 218 10 32 81 17 30 178 22 50 22	12	04 38 199 09 12 95 15 59 171 21 35 32	28	05 42 212 10 58 58 18 13 191 23 04 74	12	05 00 207 10 05 63 17 43 201 22 21 80	28	05 53 223 12 13 66 19 30 217
13	04 15 240 08 39 148 14 55 199 21 02 40	29	05 21 248 09 49 139 15 44 204 22 19 25	13	05 14 201 09 45 110 16 03 161 22 13 25	29 D	06 30 209 11 32 70 18 38 178 23 41 47	13 E	05 10 205 09 55 92 16 52 177 22 16 46	29 D	06 12 199 11 56 43 19 15 181 23 56 89	13	05 25 207 10 48 54 18 36 205 23 02 99	29 S	00 15 156 06 27 213 13 23 67 20 45 205
14	04 48 231 09 12 144 15 20 194 21 45 39	30	06 07 237 10 49 130 17 01 196 23 15 37	14	05 52 196 10 35 102 17 00 157 22 56 33	30	07 12 204 12 34 61 19 51 180	14	05 43 206 10 40 83 17 53 178 22 56 57	30	06 42 187 12 57 32 20 21 172	14 C	05 39 208 11 39 48 19 34 209 23 53 121	30	01 45 162 07 06 198 14 39 63 22 37 200
15	05 27 217 09 57 135 15 53 181 22 34 36	31 D	06 56 223 11 57 115 18 27 185	15 E	06 33 195 11 25 95 18 18 157 23 38 45			15 C	06 13 200 11 28 66 18 54 174 23 38 66	31	00 00 112 07 10 176 14 05 27 21 45 169	15	05 34 211 12 39 44 20 42 211	31	03 30 159 08 02 185 15 46 58 23 00 202
16	06 12 200 10 55 123 16 30 164 23 30 34			16 C	07 14 194 12 15 86 19 28 159			16	06 36 188 12 19 45 19 59 169			16 N	01 00 140 05 59 212 13 51 38 22 08 218		

时 区:东 8 时区
Time Zone: +0800

潮高基准面:在平均海面下 145 厘米。
Tidal datum:145cm below mean sea level.

云 澳 湾

YUN'AO WAN

2009 年

纬度:23°24'N

经度:117°06'E

潮汐表

9 月 Sept.				10 月 Oct.				11 月 Nov.				12 月				Dec.								
潮时		潮高		潮时		潮高		潮时		潮高		潮时		潮高		潮时		潮高						
Time		cm		Time		cm		Time		cm		Time		cm		Time		cm						
1	04 40 09 38 16 40	153 182 56	17	04 19 11 17 16 50	147 222 62	1	04 30 11 03 16 30	131 186 69	17	04 52 12 24 17 06	112 256 118	1	04 55 12 46 17 10	78 211 105	17	00 24 06 00 14 00 18 20	195 26 234 133	1	04 53 13 00 17 13 23 30	21 215 117 182	17	00 04 06 35 14 37 19 00	187 18 219 137	
2	00 45 05 21 11 25 17 21	220 148 192 59	18 ^E	00 46 05 09 12 30 17 32	242 127 232 69	2 ^E	00 14 04 59 12 12 17 04	212 115 199 71	18 [•]	00 36 05 34 13 16 17 47	249 91 266 127	2	00 20 05 25 13 24 17 45	198 63 227 116	18	00 57 06 41 14 42 19 04	194 22 240 139	2 [○]	05 29 13 41 17 51 23 30	8 229 126 189	18	00 50 07 12 15 10 19 27	180 11 213 129	
3	01 20 05 49 12 30 17 52	233 145 210 64	19 [•]	01 27 05 52 13 28 18 12	241 109 245 82	3	00 46 05 20 12 57 17 36	218 102 217 80	19	01 09 06 15 14 01 18 30	244 70 270 133	3 [○]	00 42 05 57 13 58 18 19	200 51 240 128	19 ^s	01 30 07 21 15 19 19 45	195 22 241 141	3 ^N	06 06 14 24 18 32 23 30	1 238 135 199	19	01 30 07 41 15 33 19 45	179 13 211 127	
4	01 45 06 08 13 18 18 18	242 139 224 70	20	02 01 06 31 14 16 18 48	242 95 258 102	4 [○]	01 12 05 45 13 33 18 06	223 91 235 92	20	01 41 06 58 14 44 19 12	237 53 266 137	4	00 57 06 30 14 35 18 55	206 42 251 140	20	02 10 08 00 15 55 20 17	194 24 236 141	4	06 48 15 09 19 14	1 245 143	20	02 18 08 08 16 06 20 10	184 25 215 130	
5 ^{○E}	02 08 06 26 13 53 18 45	243 126 233 72	21	02 30 07 12 15 00 19 23	246 87 269 125	5	01 36 06 15 14 08 18 37	226 79 247 104	21	02 14 07 39 15 25 19 51	227 41 257 138	5 ^N	01 06 07 10 15 15 19 34	214 37 257 150	21	02 42 08 34 16 30 20 52	192 28 228 139	5	00 46 07 35 15 55 20 00	207 8 249 148	21	02 59 08 39 16 35 20 48	192 42 221 133	
6	02 29 06 52 14 27 19 15	238 106 234 73	22	02 58 07 51 15 40 19 56	251 85 276 147	6	02 00 06 48 14 45 19 11	225 67 253 114	22 ^s	02 46 08 19 16 06 20 29	217 34 245 137	6	01 30 07 52 15 58 20 17	221 36 259 158	22	03 12 09 15 17 04 21 38	188 35 220 137	6	02 09 08 26 16 39 20 50	212 21 251 150	22	03 39 09 22 17 08 21 40	196 58 223 132	
7	02 50 07 23 15 03 19 47	230 86 233 77	23	03 25 08 30 16 19 20 30	257 85 277 162	7	02 23 07 26 15 23 19 46	221 53 252 120	23	03 19 09 00 16 45 21 09	207 33 232 139	7	02 23 08 39 16 44 21 03	226 38 257 162	23	03 42 10 07 17 45 22 42	185 45 215 136	7	03 15 09 19 17 23 21 46	215 36 249 146	23 ^E	04 26 10 10 17 45 22 38	191 69 221 121	
8	03 15 08 00 15 43 20 22	223 69 233 86	24	03 52 09 12 17 00 21 10	259 86 272 171	8	02 50 08 05 16 06 20 27	217 40 247 127	24	03 48 09 47 17 30 22 02	200 40 220 143	8	03 15 09 30 17 32 22 00	227 46 252 164	24	04 21 11 03 18 30 23 51	180 57 213 132	8	04 23 10 16 18 07 22 55	212 52 242 136	24	05 25 10 54 18 22 23 35	181 75 214 105	
9	03 41 08 40 16 26 20 00	220 58 235 110	25 ^s	04 18 09 59 17 42 21 57	256 88 260 176	9 ^N	03 20 08 50 16 52 21 09	214 33 243 135	25	04 15 10 48 18 24 23 19	194 51 211 147	9 [⊙]	04 08 10 33 18 26 23 15	225 57 245 161	25 [⊙]	05 17 11 55 19 17 23 51	174 70 212 132	9 ^{⊙E}	05 35 11 11 18 55 23 32	204 69 232 136	25 [⊙]	06 33 11 36 18 58 23 35	171 82 207 105	
10	04 07 09 20 17 13 21 36	222 53 238 119	26 [⊙]	04 45 10 59 18 31 22 59	247 90 243 179	10	03 55 09 38 17 42 21 59	215 34 240 146	26 [⊙]	04 44 11 55 19 30 23 15	186 63 206 161	10	05 04 11 40 19 30 23 15	216 70 237 161	26 ^E	00 51 06 55 12 46 19 59	123 169 83 208	10	00 20 06 55 12 12 19 45	118 195 87 223	26	00 32 07 41 12 21 19 30	89 167 95 203	
11	04 30 10 03 18 02 22 18	227 54 240 139	27	05 14 12 12 19 37 22 4	231 91 224 211	11 [⊙]	04 30 10 35 18 38 23 10	219 44 239 158	27	00 35 05 30 12 54 20 37	146 177 73 205	11	00 37 06 38 12 47 20 36	150 205 84 231	27	01 51 08 23 13 45 20 30	110 167 94 200	11	01 38 08 30 13 17 20 38	97 191 107 216	27	01 38 08 57 13 27 20 59	75 171 114 196	
12 ^{⊙N}	05 01 10 56 18 59 23 13	232 58 239 159	28	00 30 05 55 13 30 21 04	177 210 88 211	12	05 17 11 50 19 45	222 59 239	28	01 42 08 12 13 55 21 39	141 171 82 205	12 ^E	01 57 08 37 14 00 21 39	132 199 96 225	28	02 49 10 02 14 47 21 13	90 169 101 191	12	02 42 09 56 14 27 21 30	77 199 127 211	28	02 45 10 30 14 45 20 30	60 185 130 202	
13	05 30 12 06 20 07	234 64 236	29	02 04 07 30 14 42 22 30	167 190 82 207	13	00 37 06 18 13 06 21 03	164 221 75 243	29	02 51 09 30 14 55 22 30	130 174 88 203	13	03 07 10 13 15 07 22 30	107 203 104 216	29	03 36 11 21 15 44 22 06	65 181 105 182	13	03 31 11 09 15 30 22 13	63 211 144 208	29	03 38 11 36 15 47 21 14	43 205 139 202	
14	00 36 06 13 13 30 21 36	173 230 67 235	30	03 40 09 30 15 43 23 30	150 182 74 209	14	01 53 08 15 14 19 22 15	162 220 88 249	30 ^E	03 48 11 00 15 47 23 16	114 181 92 201	14	04 00 11 26 16 00 23 16	79 210 110 207	30	04 16 12 15 16 31 23 59	41 198 110 174	14	04 18 12 15 16 30 22 49	53 222 156 203	30 ^N	04 25 12 33 16 38 21 51	27 221 142 205	
15	02 09 07 21 14 53 22 55	173 222 64 239				15	03 04 10 03 15 26 23 10	151 229 99 252	31	04 24 12 02 16 30 23 52	96 195 97 199	15	04 39 12 26 16 48 23 53	55 218 117 198				15	05 03 13 12 17 30 23 23	43 227 157 196	31	05 08 13 24 17 24 22 30	14 231 144 210	
16	03 20 09 30 15 58 23 56	163 217 61 242				16 ^E	04 04 11 21 16 21 23 57	133 243 109 252				16	05 18 13 15 17 34	36 227 125				16 ^{•s}	05 51 13 58 18 22	31 225 149				

时 区:东 8 时区
Time Zone: +0800

潮高基准面:在平均海面下 145 厘米。
Tidal datum: 145cm below mean sea level.

汕 头 港

SHANTOU GANG

2009 年

纬度:23°20'N

经度:116°45'E

潮汐表

1 月 Jan.		2 月 Feb.		3 月 Mar.		4 月 Apr.	
潮时	潮高	潮时	潮高	潮时	潮高	潮时	潮高
Time	cm	Time	cm	Time	cm	Time	cm
1 02 30 158	17	05 21 185	17	00 30 49	1	06 18 172	17
09 56 46		09 55 102	17	07 21 150	1	10 04 112	17
17 45 190		17 45 203	17	16 45 173	1	14 36 151	17
22 15 125		22 52 108	17	22 13 72	1	23 39 16	17
2 04 36 155	18	06 03 192	18	01 26 41	2	07 18 166	18
10 30 55	18	10 19 120	18	08 30 137	2	10 54 123	18
18 08 185	18	18 08 209	18	11 48 119	2	15 36 155	18
22 52 118	18	23 54 102	18	17 11 149	2		18
3 05 21 156	19	06 57 194	19	02 23 40	3	00 37 24	19
11 00 69	19	10 55 136	19	10 30 136	3	08 30 169	19
18 28 184	19	18 30 212	19	12 49 134	3	12 49 139	19
23 35 111	19		19	17 41 149	3	17 30 161	19
4 06 06 161	20	01 05 91	20	03 23 44	4	01 39 39	20
11 30 87	20	08 08 190	20	12 30 154	4	10 00 179	20
18 50 186	20	11 40 151	20	15 30 144	4	12 44 139	20
		18 42 211	20	18 35 150	4	20 00 155	20
5 00 35 103	21	02 16 76	21	04 30 51	5	02 21 59	21
06 59 165	21	09 27 185	21	13 07 173	5	10 34 163	21
11 55 106	21	12 41 164	21	17 30 147	5	14 55 143	21
19 15 188	21	19 09 206	21	23 11 154	5	21 25 157	21
6 01 45 93	22	03 30 59	22	05 30 56	6	03 22 65	22
08 24 167	22	11 30 183	22	13 42 188	6	11 48 170	22
12 35 125	22	14 51 171	22	18 21 145	6	16 21 136	22
19 30 188	22	20 18 200	22		6	22 35 158	22
7 02 49 79	23	04 37 45	23	00 11 163	7	04 30 66	23
10 06 172	23	13 04 193	23	06 13 58	7	12 37 174	23
13 30 143	23	16 14 166	23	14 14 194	7	17 50 123	23
19 30 187	23	21 39 198	23	18 52 139	7	23 41 158	23
8 03 53 63	24	05 36 37	24	01 06 169	8	05 26 66	24
11 32 179	24	13 56 204	24	06 47 60	8	13 16 175	24
15 06 157	24	17 15 158	24	14 43 193	8	18 16 110	24
20 10 187	24	22 48 199	24	19 17 130	8		24
9 04 56 46	25	06 26 38	25	01 55 171	9	00 52 162	25
12 53 189	25	14 39 212	25	07 18 61	9	06 06 70	25
16 21 162	25	18 10 150	25	15 10 187	9	13 53 176	25
21 06 188	25	23 52 200	25	19 41 119	9	18 42 102	25
10 05 54 33	26	07 09 47	26	02 38 173	10	01 50 173	26
14 03 201	26	15 16 217	26	07 48 63	10	06 41 80	26
17 23 163	26	19 03 140	26	15 36 181	10	14 27 179	26
22 05 191	26	20 08 106	26		10	19 12 96	26
11 06 45 26	27	01 30 201	27	03 18 175	11	02 37 189	27
14 59 212	27	07 48 60	27	08 19 69	11	07 14 94	27
18 22 159	27	15 49 219	27	16 00 176	11	14 59 183	27
23 11 192	27	19 58 128	27	20 44 94	11	19 45 88	27
12 07 34 25	28	03 09 207	28	03 56 178	12	03 18 201	28
15 44 218	28	08 25 74	28	08 47 79	12	07 45 106	28
19 30 151	28	16 18 216	28	16 24 174	12	15 30 182	28
		20 20 112	28	21 27 83	12	20 27 76	28
13 00 30 188	29	04 00 208	29	03 30 205	13	03 59 206	29
08 20 28	29	08 57 87	29	08 14 101	13	08 16 112	29
16 24 217	29	16 45 210	29	15 56 199	13	15 58 174	29
20 30 136	29	21 48 98	29	20 52 90	13	21 11 57	29
14 02 30 178	30	04 48 200	30	04 10 213	14	04 40 199	30
09 05 33	30	09 25 96	30	08 44 120	14	08 48 112	30
17 00 210	30	17 15 201	30	16 20 199	14	16 25 162	30
21 29 116	30	22 43 80	30	21 37 82	14	21 59 37	30
15 04 15 171	31	05 35 186	31	04 49 209	15	05 26 185	31
09 47 40	31	09 53 102	31	09 15 128	15	09 24 109	31
17 35 200	31	17 45 187	31	16 47 191	15	13 39 152	31
22 20 96	31	23 36 63	31	22 23 67	15	22 47 21	31
16 05 16 165		06 25 167	16	05 30 195	16	06 36 179	16
10 26 51		10 30 106	16	09 48 128	16	10 38 135	16
18 10 191		18 17 172	16	17 20 178	16	14 10 156	16
23 12 80			16	23 08 52	16	23 46 43	16

时 区:东 8 时区
Time Zone: +0800

潮高基准面:在平均海面下 137 厘米。
Tidal datum: 137cm below mean sea level.