

PREDICTION OF HIGH AND LOW TIDES

LOCATION: _____ No. _____

REF. STA. _____

DATE: _____ DESIRED TIME: _____ Std Time

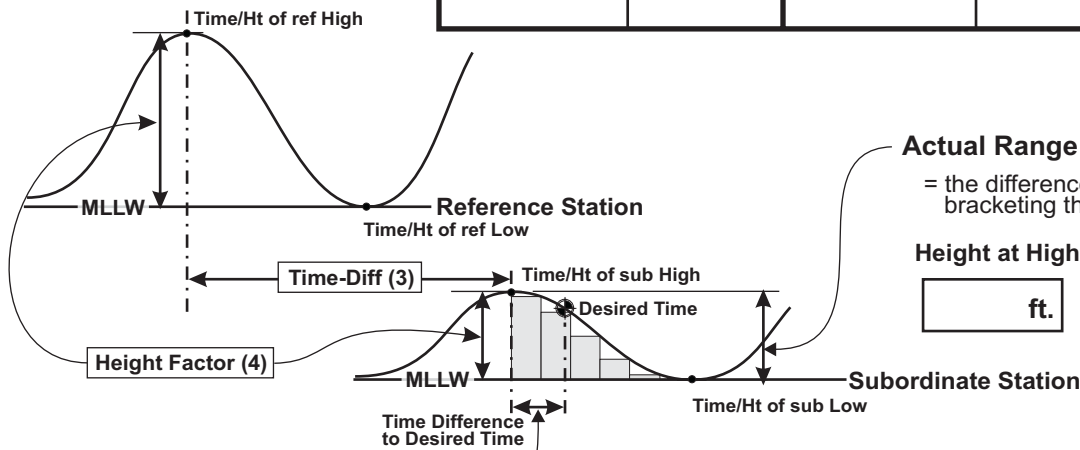
Time & Height of Local Tides

Table 2: record the Time-Diff and Height Ratios [col (3),(4)] Identify Reference Station

Table 1: record the Times and Heights [col (1),(2)] of High and Low tides for Date

Compute: Times and Heights [col (5),(6)] of Tides at Local Subordinate Station

Table 1			Table 2		Calculate					
(1)		(2)	(3)		(4)		(5)		(6)	
REFERENCE STATION			SUBORDINATE STATION		SUBORDINATE STATION		SUBORDINATE STATION			
Time		Height	Time-Diff		Height Factor ¹		Time		Height	
h	m	H/L	h	m	H/L		h	m	H/L	ft.



Actual Range

= the difference between High and Low tides bracketing the Desired Time.

Height at High Height at Low Actual Range

$$\boxed{\text{ft.}} - \boxed{\text{ft.}} = \boxed{\text{ft.}}$$

Time Difference to Desired Time

Determine time interval from preceding High (or Low) to the Desired Time
Round that interval to the nearest whole number of hours

Desired Time Time of prior H/L Time Difference ROUNDED

$$\boxed{\text{h}} \ \boxed{\text{m}} - \boxed{\text{h}} \ \boxed{\text{m}} = \boxed{\text{h}} \ \boxed{\text{m}} \quad 1-2-3-4-5-6$$

Rule of Twelfths

Look up the percentage of change from Table below under ROUNDED hours

Rounded Hours	1hr	2hrs	3hrs	4hrs	5hrs	6hrs
Percent Change	5%	25%	50%	75%	95%	100%

Calculate Height of Tide at Desired Time

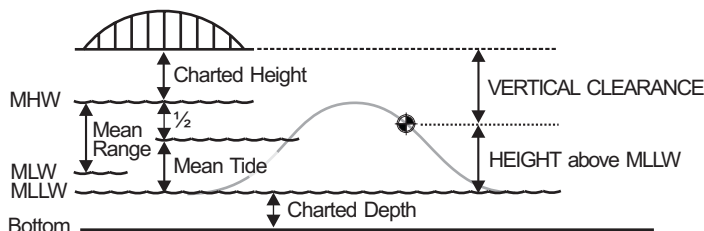
Apply that percentage to the Actual Range to get estimate of the change in Tide Height at desired time
Then add/subtract that from prior high/low to get Height of Tide at Desired Time

Percentage Actual Range Change in Height from High/Low

$$\boxed{\%} \times \boxed{\text{ft.}} = \boxed{\text{ft.}}$$

Height of prior High/Low Change in Height from High/Low HEIGHT above MLLW

$$\boxed{\text{ft.}} + \boxed{\text{ft.}} = \boxed{\text{ft.}}$$



Vertical Clearance

Determine vertical clearance at the desired time (if needed)

Charted Height Ht of MHW above MLLW² HEIGHT above MLLW VERTICAL CLEARANCE

$$\boxed{\text{ft.}} + \boxed{\text{ft.}} - \boxed{\text{ft.}} = \boxed{\text{ft.}}$$

¹ **Height Factor:** If Table 2 has an [*] before the height difference multiply the Table 1 height by this factor to get subordinate height. If Table 2 has a [+ or -] before the height difference add or subtract that difference to get subordinate height.

² **Height of MHW above MLLW:** Look on chart for Table of Heights above MLLW, or calculate using one-half of the Mean Range plus the Mean Tide height from the tide tables.