

## PROPOSED NEW FORMAT FOR TABULATING PREDICTIONS OF TIDAL HIGH AND LOW WATERS AND TIDAL CURRENT PHASES

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The U.S. Coast and Geodetic Survey now issues separate tables of predictions for daily tidal high and low waters and for daily tidal current phases and is considering a change in publishing format.

The present form for tabulating daily high and low waters in which such heights are listed in separate columns is well established in many countries. There are minor differences in the tables of various countries but they are in the same general form.

This is not necessarily true of tables of tidal current predictions, principally because such predictions are not widely published by all maritime nations. In the present form of the U.S. Coast and Geodetic Survey tables each phase of the tidal current — slack before flood, maximum flood, slack before ebb, maximum ebb — is listed in a separate column.

The present procedure of grouping high waters, low waters and various phases of the tidal current in columns results in interruption of the daily time sequence of the occurrence of such phenomena. In the case of tidal heights the time sequence occurs in some instances from left to right on the same line and in other instances from right to left; while for the tidal current phases tabulation is such that timing of the first event of the day may occur in any one of the four columns.

For many years the possibility of automatic tabulation directly from the tide predicting machine has been considered. But consultants who have been called in relative to automatic recording have invariably shied away from a solution because they considered automatic tabulation in columns requiring the present irregular sequence to be too involved and expensive, since the procedure would be limited to a one purpose machine and not be applicable to other uses.

If a procedure is set up whereby daily maximum and minimum heights of the tide and various phases of the tidal current are tabulated vertically in sequence as shown in the accompanying tables, the problem of automatic tabulation would be simplified and possibly manuscript could be prepared readily for transmission directly from the predicting machine to the printer.

However before making such a radical change in the tables of predictions it is desirable that the opinion of users of such tables be considered. There has been considerable feeling that the new form might be preferred because the present form, especially for tidal current predictions, presents such an irregular picture of the daily timing sequence that it is sometimes quite annoying and may be conducive to error in selecting data from the tables.

The new format is being circulated among the users of such tables, for example the U.S. Navy and U.S. Coast Guard, commercial shipping, yachtsmen, etc. It will be some time before returns from all of these activities can be expected, but many returns have been received and the reaction so far is overwhelmingly in favor of the change. The new format will not be adopted until returns from all sources are considered and in any event cannot be put into practice earlier than the 1958 editions because tables for 1956 are all in the printing stage, and manuscripts for 1957 tables in the present form are too far advanced to make the change.

If the change eventually is made it will cause considerable additional processing in transposing exchange predictions from other countries but this loss of time would be overcome by automatic tabulation of predictions. Furthermore more extensive use of the machine would be possible. Other countries in turn would be required to transpose such copy, unless they also might consider the change advisable for their own predictions.

It might be appropriate at this time also to reconsider the title of present tables of predictions. Those engaged in the study and prediction of tides have used and advocated that the use of the term « tide » be applied only to the rise and fall of the water. On the other hand, the majority of navigators and others associated with tidal waters apply the term « tide » indiscriminately to the height and flow, in fact more often to the latter which is what they more readily see happening. This is quite natural and it may be too much to expect that the term « tide » will ever be applied only to the rise and fall of the water by the general user of tide data. From letters of inquiry it is evident that many people using « tides tables » are confused because they consider that the timing indicated for high or low water should denote the timing of the flow of the current. Perhaps it would be advisable at least to designate the tables of height and flow predictions more definitely, for example — « Tidal High and Low Waters » for the present « Tide Tables » and « Tidal Currents » for the present « Current Tables ».

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## Daily High and Low Tide Predictions

JULY			AUGUST						SEPTEMBER								
Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.
	<i>h.m.</i>	<i>ft.</i>		<i>h.m.</i>	<i>ft.</i>		<i>h.m.</i>	<i>ft.</i>		<i>h.m.</i>	<i>ft.</i>		<i>h.m.</i>	<i>ft.</i>		<i>h.m.</i>	<i>ft.</i>
1	0535	3.7	16	0501	4.1	1	0040	0.4	16	0045	-0.3	1	0131	0.0	16	0157	-0.5
F	1136	0.5	Sa	1111	0.0	M	0644	4.0	Tu	0652	4.9	Th	0733	4.7	F	0806	5.4
	1800	4.9		1734	5.5		1241	0.6		1257	-0.3		1342	0.2		1420	-0.4
							1857	5.0		1913	5.7		1944	5.2		2025	5.3
2	0022	0.4	17	0009	-0.1	2	0124	0.2	17	0136	-0.5	2	0209	-0.1	17	0239	-0.5
Sa	0626	3.8	Sa	0606	4.4	Tu	0726	4.2	W	0741	5.1	F	0807	4.9	Sa	0849	5.4
	1221	0.5		1211	-0.2		1326	0.5		1350	-0.4		1423	0.0		1504	-0.3
	1842	5.0		1833	5.8		1935	5.1		2001	5.7		2020	5.2		2107	5.0
3	0108	0.2	18	0104	-0.4	3	0205	0.0	18	0223	-0.6	3	0245	-0.2	18	0319	-0.3
Su	0710	3.9	M	0704	4.7	W	0804	4.3	Th	0829	5.3	Sa	0842	5.1	Su	0931	5.3
	1306	0.5		1309	-0.3		1408	0.4		1439	-0.4		1502	-0.1		1546	-0.1
	1923	5.1		1926	5.9		2012	5.2		2048	5.6		2055	5.1		2150	4.7
4	0152	0.1	19	0156	-0.6	4	0243	-0.1	19	0307	-0.6	4	0319	-0.2	19	0356	-0.1
M	0752	4.0	Tu	0758	4.9	Th	0841	4.5	F	0917	5.3	Su	0919	5.2	M	1015	5.1
	1350	0.5		1404	-0.4		1447	0.3		1525	-0.3		1541	-0.1		1626	0.1
	2000	5.1		2018	5.9		2046	5.1		2134	5.4		2133	4.9		2234	4.4
5	0233	0.0	20	0245	-0.8	5	0318	-0.1	20	0349	-0.5	5	0352	-0.2	20	0431	0.2
Tu	0831	4.0	W	0851	5.0	F	0918	4.6	Sa	1005	5.2	M	1001	5.2	Tu	1059	4.9
	1431	0.5		1456	-0.5		1523	0.2		1610	-0.1		1621	0.0		1707	0.5
	2036	5.0		2109	5.8		2120	5.0		2221	5.0		2218	4.7		2320	4.1
6	0312	-0.1	21	0333	-0.8	6	0350	-0.1	21	0429	-0.3	6	0427	-0.1	21	0506	0.6
W	0911	4.1	Th	0944	5.1	Sa	0953	4.7	Su	1053	5.1	Tu	1050	5.2	W	1143	4.6
	1509	0.5		1546	-0.4		1559	0.2		1653	0.2		1706	0.2		1752	0.8
	2111	5.0		2201	5.5		2156	4.9		2308	4.7		2311	4.5			
7	0347	-0.1	22	0417	-0.7	7	0420	0.0	22	0508	0.1	7	0506	0.1	22	0007	3.8
Th	0950	4.1	F	1036	5.1	Su	1032	4.8	M	1140	4.9	W	1146	5.2	Th	0542	0.9
	1543	0.5		1634	-0.1		1635	0.3		1740	0.5		1800	0.4		1230	4.4
	2144	4.9		2252	5.2		2236	4.7		2355	4.3					1848	1.1
8	0419	0.0	23	0501	-0.4	8	0449	0.0	23	0548	0.4	8	0010	4.3	23	0057	3.6
F	1029	4.2	Sa	1129	5.0	M	1115	4.9	Tu	1226	4.7	Th	0556	0.4	F	0632	1.2
	1615	0.5		1723	0.2		1715	0.4		1832	0.9		1246	5.1		1317	4.3
	2219	4.7		2342	4.9		2323	4.5					1915	0.6		1957	1.2
9	0448	0.1	24	0547	-0.1	9	0524	0.2	24	0042	4.0	9	0114	4.1	24	0150	3.5
Sa	1109	4.3	Su	1217	4.9	Tu	1205	4.9	W	0636	0.8	F	0717	0.6	Sa	0759	1.4
	1647	0.6		1816	0.5		1808	0.6		1312	4.5		1348	5.0		1408	4.2
	2258	4.6								1936	1.1		2035	0.7		2103	1.1
10	0517	0.2	25	0030	4.5	10	0015	4.3	25	0129	3.7	10	0221	4.0	25	0248	3.5
Su	1148	4.4	M	0636	0.2	W	0608	0.3	Th	0738	1.1	Sa	0845	0.7	Su	0912	1.4
	1727	0.7		1306	4.8		1258	5.0		1402	4.4		1455	4.9		1505	4.1
	2342	4.5		1916	0.8		1926	0.8		2042	1.2		2143	0.5		2157	1.0
11	0550	0.2	26	0118	4.2	11	0113	4.1	26	0223	3.5	11	0334	4.1	26	0349	3.6
M	1231	4.6	Tu	0731	0.5	Th	0720	0.5	F	0847	1.2	Su	0956	0.5	M	1009	1.2
	1822	0.8		1353	4.6		1358	5.0		1454	4.3		1606	5.0		1605	4.2
				2020	1.0		2049	0.7		2142	1.1		2241	0.2		2245	0.7
12	0031	4.3	27	0206	3.8	12	0220	4.0	27	0325	3.5	12	0443	4.4	27	0446	3.9
Tu	0636	0.3	W	0830	0.7	F	0850	0.5	Sa	0947	1.2	M	1056	0.2	Tu	1058	0.9
	1320	4.7		1444	4.5		1505	5.0		1553	4.3		1710	5.1		1702	4.4
	1946	0.8		2121	1.0		2158	0.5		2235	0.9		2334	-0.1		2330	0.4
13	0125	4.2	28	0301	3.6	13	0337	4.0	28	0428	3.6	13	0544	4.7	28	0536	4.2
W	0746	0.4	Th	0926	0.8	Sa	1002	0.4	Su	1040	1.1	Tu	1151	0.0	W	1144	0.6
	1415	4.9		1538	4.5		1616	5.2		1651	4.5		1807	5.3		1750	4.6
	2107	0.7		2216	0.9		2257	0.3		2322	0.7						
14	0229	4.0	29	0401	3.5	14	0452	4.2	29	0526	3.8	14	0024	-0.3	29	0011	0.2
Th	0904	0.3	F	1018	0.8	Su	1104	0.2	M	1129	0.9	W	0636	5.1	Th	0619	4.6
	1520	5.0		1634	4.5		1723	5.4		1742	4.7		1243	-0.2		1229	0.3
	2212	0.5		2306	0.7		2352	0.0					1856	5.4		1834	4.8
15	0344	4.0	30	0502	3.6	15	0556	4.5	30	0007	0.5	15	0112	-0.4	30	0052	0.0
F	1010	0.2	Sa	1107	0.8	M	1202	0.0	Tu	0614	4.1	Th	0723	5.3	F	0656	5.0
	1629	5.3		1728	4.7		1822	5.6		1215	0.6		1333	-0.4		1314	0.0
	2311	0.2		2354	0.6					1827	4.9		1942	5.4		1914	5.0
			31	0558	3.7				31	0050	0.2						
			Su	1153	0.7				W	0655	4.4						
				1815	4.9					1259	0.4						
										1906	5.1						

Time Meridian 75° W. 00<sup>h</sup> is midnight, 12<sup>h</sup> is noon.

Heights are reckoned from the datum of soundings on charts of the locality which is mean low water.

The above table is a rearrangement of page 64 of the U.S.C.&G.S. Tide Tables, East Coast, North and South America, 1955 with successive high and low waters listed vertically. Please send your comments on this proposed change in format to the Director U.S. Coast & Geodetic Survey, Washington 25, D.C.

NOTE. The type is the largest that can be used because of the fixed limits of page size.