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

Comments prepared by Captain H.E. FINNEGAN, Chief, Division of Tides and Currents, U.S. Coast and Geodetic Survey.

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 becauses 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 ».

Daily Current Predictions

| JULY | | | | | | | | | AUGUST | | | | | | | | |
|----------------|--------------------------------------|------------------------------------|----------|--------------------------------------|------------------------------------|----------|---------------------------------------|---|---------|--------------------------------------|------------------------------------|----------|--------------------------------------|------------------------------------|----------|--------------------------------------|---------------------------------------|
| Day | Time h m | Vel. | Day | Time h.m. | Vel. | Day | Time h.m | Vel. | Dav | Time | Vel. kn. | Day | Time h.m. | Vel. | Day | Time h.m. | Vel. kn. |
| l F | 0303 0535 0821 1146 | 0.0 2.3f 0.0 3.5e | I I M | 0013 0254 0629 0942 | 3.1f 0.0 4.0e 0.0 | 21 Th | 0009 0331 0648 0938 | 0.0 5.3- 0.0 4.2f | i M | 0036 0423 0643 0927 | 3.8e 0.0 2.6f 0.0 | 11 Th | 0138 0417 0753 1105 | 2.8f 0.0 3.8e 0.0 | 21 Su | 0110 0435 0748 1043 | 0.0 4.6e 0.0 3.8 f |
| | 1502 1756 2058 | 0.0 | | 1242 1531 1901 2212 | 3.3f 0.0 3.8e 0.0 | 20 | 1232 1553 1905 2200 | 0.0 5.0r 0.0 4.2f | 2 | 1252 1605 1859 2154 0119 | 3.6e 0.0 3.2f 0.0 4.1e | 12 | 1410 1703 2036 2355 0245 | 3.3f 0.0 3.8e 0.0 2.6f | 22 | 1338 1701 2015 2304 0152 | 4.4e 0.0 3.3f 0.0 |
| Se Se | 0029 0348 0624 0910 1233 | 3.8e 0.0 2.4f 0.0 3.5e | 12 Tu | 0106 0345 0722 1033 | 2.9f 0.0 3.9e 0.0 3.3f | 22 F | 0055 0418 0734 1026 1322 | 0.0 5.1 0.0 4.0 f | Tu | 0442 0725 1011 1335 | 0.0 2.9f 0.0 3.9e | 'F | 0522 0900 1211 1517 | 0.0 3.8 0.0 3.3f | M | 0519 0832 1129 1423 | 4.3e 0.0 3.4f 0.0 |
| 3 | 1545 1840 2141 0104 | 0.0 3.11 0.0 3.9e | 13 | 1627 1959 2312 0205 | 0.0 3.8e 0.0 2.8f | 23 | 1643 1955 2248 0140 | 4.8e 0.0 3.9f 0.6 | 3 | 16 43 1938 2232 0200 | 0.0 3.4f 0.0 4.3* | 13 | 1813 2145 0106 0351 | 3.9e | 23 Tu | 1747 2102 2350 0233 0605 | 4.0e 0.0 2.9f 0.0 3.8e |
| Su | 0431 0709 0954 1317 | 0.0 2.6f 0.0 3.6e | ₩ | 0441 0819 1130 1435 1729 | 0.0 3.8e 0.0 3.4f 0.0 | Sa | 0505 0821 1115 1410 1732 | 4.8e 0.0 3.8f 0.0 4.4e | ¥ | 0518 0804 1049 1414 1721 | 0.0 3.1f 0.0 4.0e | Sa | 0632 1008 1320 | 0.0 3.9= 0.0 3.4f | | 0919 1216 1509 1836 | 0.0 3.0f 0.0 3.6e |
| 4 M | 1628 1923 2219 0146 0511 | 0.0 3.2f 0.0 4.1e | 14 Th | 2101 0016 0307 | 3.9e 0.0 2.7f | 24 Su | 2045 2336 0225 0552 | 0.0 3-4f 0.0 4.4e | 4 Th | 2018 2310 0238 0552 | 3.5f 0.0 4.4e 0.0 3.3f | 14 Su | 1623 1922 2250 0213 0456 | 0.0 4.1e 0.0 3.0f | 24 W | 2153 0039 0318 | 0.0 2.5f 0.0 |
| er. | 0751 1036 1400 1707 | 2.8f 0.0 3.7e 0.0 3.3f | • | 0543 0921 1230 1536 | 0.0 3.9e 0.0 3.5f | | 1203 1500 1823 | 0.0 3.5f 0.0 4.0 | | 0843 1128 1453 1759 2057 | 3.3f 0.0 4.2e 0.0 3.7f | | 0742 1113 1425 1726 2027 | 0.0 4.2e 0.0 3.7f 0.0 | | 0655 1010 1308 1558 1930 | 3.4- 0.0 2.71 0.0 3.2e |
| 5 Ծս | 2003 2256 0226 0546 0830 | 3.31 0.0 4.2e 0.0 2.9f | 15 F | 1833 2204 0122 0410 0649 | 0.0 4.1e 0.0 2.8f 0.0 | 25 M | 2138 0026 0310 0642 | 3.0f 0.0 | 5 F | 2346 0315 0627 0920 | 0.0 4.5 0.0 3.5f | 15 M | 2351 0312 0557 0846 | 4.5e 0.0 3.3f 0.0 | 25 Th | 2249 0133 0410 0750 1107 | 0.0 2.1f 0.0 3.1e 0.0 |
| | 1116 1440 1744 2043 | 0.0 3.8e 0.0 3.3f | | 1023 1332 1639 1937 2306 | 4.0e 0.6 3.7f 0.0 4.4e | | 0958 1254 1551 1915 2234 | 0.0 3.2(0.0 3.7e 0.0 | | 1205 1531 1837 2135 | 0.0 4.3e 0.0 3.7f | | 1213 1526 1824 2126 | 4.5e 0.0 4.0f 0.0 | | 1403 1653 2028 2353 | 2.4f 0.0 3.0e 0.0 |
| 6 | 2333 0305 0623 0910 1153 | 4.3e 0.0 3.0f 0.0 | 16 S∎ | 0226 0512 0755 1125 | 0.0 3.1f 0.0 4.3e | 26 Tu | 0118 0358 0733 1052 | 2.5f 0.0 4.6e 0.0 | 6 Sa | 0022 0352 0704 0959 | 0.0 4.6e 0.0 3.6f | 16 Tu | 0405 0405 0652 0944 | 4.8e 0.0 3.7f 0.0 | 26 F | 0232 0509 0850 1208 | 1.9f 0.0 2.9e 0.0 |
| | 1519 1823 2121 | 3.8e 0.0 3.4f | | 1433 1739 2038 | 0.0 4.0f 0.0 | | 1347 1644 2910 2334 | 2.9 f 0.0 3.3c 0.0 | | 1244 1611 1918 2216 | 0.0 4.4e 0.0 .3.7f | ,,, | 1306 1621 1918 2217 0135 | 4.8e 0.0 4.2f 0.0 5.1e | 27 | 1502 1753 2127 0056 | 2.3f 0.0 3.0e |
| Th. | 0010 0343 0658 0949 1232 | 0.0 4.3e 0.0 3.1f 0.0 | 17 Su | 0005 0326 0611 0856 1224 | 4.7e 0.0 3.4f 0.0 4.6e | 27 | 0212 0451 0829 1149 | 2.2f 0.0 3.3e 0.0 2.6f | 7 Su | 0101 0431 0742 1039 | 0.0 4.5- 0.0 3.7f | 17 ₩ | 0454 0743 1036 1357 | 0.0 4.0f 0.0 5.1e | Sa | 0332 0612 0950 1309 | 1.9f 0.0 2.9e |
| 8 | 1558 1902 2201 0047 | 4.9e 0.0 3.4f | 18 | 1533 1836 2136 0101 0420 | 0.0 4.3f 0.0 5.0e | 28 | 1742 2107 0035 0319 | 0.0 3.2e | 8 | 1653 2001 2258 0143 0514 | 4.3a 0.0 3.5f 0.0 4.4e | 18 Th | 1712 2006 2305 6223 053? | 0.0 4.3f 9.0 5.2e 0.0 | 28 Su | 1600 1855 2224 0154 0430 | 2.3f 0.0 3.1e 0.0 2.1f |
| r | 0421 0735 1029 1311 1638 | 4.3e 0.0 3.2f 0.0 3.9e | M | 0707 0955 1320 1629 1931 | 0.0 3.7f 0.0 4.8e 0.0 | Th | 0548 0925 1246 1540 | 2.0 f 0.0 3.2e 0.6 2.5 f | " | 0823 1123 1412 1739 | 0.0 3.66 0.0 4.2e | | 0829 1125 1445 1800 | 4.2f 0.0 5.1e 0.0 | | 0715 1047 1495 1654 1950 | 0.0 3.1e 0.0 2.5f |
| 9 Sa | 1943 2243 0127 0501 | 0.0 3.3f 0.0 4.2e | 19 Tu | 1931 2231 0158 0511 0759 | 4.5f 0.0 5.2e 0.0 | 29 F | 1840 2205 0135 0408 | 0.0 3.2 0.0 2.01 | 9 Tu | 2050 2346 0229 0559 0911 | 0.0 3.3(0.0 4.2e 0.0 | 19 F | 2052 2349 0308 0622 0914 | 4.3f 0.0 5.1e 0.0 4.2f | 29 M | 2317 0245 0523 0811 | 0.0 0.0 2.4f |
| | 0814 1110 1354 1721 2028 | 0.0 3.2f 0.0 3.9e 0.0 | | 1413 1723 2022 | 4.0f 0.0 5.0 0.0 4.5f | | 06 48 1023 1343 1634 1936 | 0.0 3.1e 0.0 2.6f | | 1212 1563 1832 2145 | 3.5f 0.0 4.1e 0.0 | | 1211 1531 1845 2136 | 0.0 5.0e 0.0 4.0f | | 1138 1454 1744 2038 | 3.4. 0.0 2.8f |
| 10 Su | 2325 0209 0543 0856 1154 | 3.2f 0.0 4.1e 0.0 3.2f | 20 ₩ | 2322 0243 0600 0849 1142 | 0.0 5.3e 0.0 4.1f | 30 Se | 2300 0231 0504 0748 1117 | 3 3 4 0 . 0 2 . l f 0 . 0 3 . 2 e | 10 | 0039 0319 0653 1005 | 3.0 f 0.0 4.0e 0.0 | 20 5a | 0030 0352 0705 0959 | 0.0 4.9e 0.0 4.0f | 30 Tu | 0005 0329 0612 0859 | 3.8e 0.0 2.7f 0.0 |
| | 1440 1809 2117 | 0.0 3.8e 0.0 | | 1503 1815 2111 | 5. le 0.0 4.4f | | 1435 1727 2027 2350 | 0.0 2.1 f 0.0 3.5e | | 1308 1601 1932 2247 | 3.4f 0.0 3.9e 0.0 | | 1255 1616 1930 2220 | 0.0 4.9- 0.0 3.71 | | 1223 1537 1830 2122 | 3.7- 0.0 3.2f 0.0 |
| | | | | | | 31 Su | 0320 0555 0841 1207 1522 | 0.0 2.3f 0.0 3.4e | | | | | | | 31 | 0047 0408 0654 0941 1306 | 4. le 0.0 3. lf 0.0 4. le |
| | | | | | | | 1814 2112 | 2.9r 0.0 | | | | | | | | 1617 1911 2201 | 0.0 3.5f |

Time Meridian 75° W. 00h is midnight, 12h is noon

f-maximum flood current, northwestward. e-maximum ebb current, southeastward.

The above table is a rearrangement of page 43 of the U.S.C.&G.S. Current Tables, Atlantic Coast, North America, 1955 with successive current phases listed vertically. Please sense. 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.

NEW YORK (The Battery), N.Y., 1955
Daily High and Low Tide Predictions

| JULY | | | | | | | AUGUST | | | | | | SEPTEMBER | | | | | |
|----------|-------------------------------|---------------------------|----------------------|------------------------------|----------------------------|----------|------------------------------|---------------------------|----------|------------------------------|----------------------------|---------------|------------------------------|----------------------------|----------------|------------------------------|----------------------------|--|
| Day | Time | Ht. | Da | y Time | Ht. | Da | y Time | Ht. | De | y Time | Ht. | D: | y Time | Ht. | Da | y Time | Ht. | |
| ŀ | 0535 1136 1800 | 3.7 0.5 4.9 | 16 Se | 0501 1111 1734 | 4. 1 0. 0 5. 5 | 1 M | 0040 0644 1241 1857 | 0.4 4.0 0.6 5.0 | 16 Tu | 0045 | -0.3 4.9 -0.3 5.7 | T | 0131 | 0.0 4.7 0.2 | 1 | 0157 | -0.5 5.4 -0.4 5.3 | |
| Sa Sa | 0022 0626 1221 1842 | 0.4 3.8 0.5 5.0 | 17 S ₂ | 0009 0606 1211 1833 | -0.1 4.4 -0.2 5.8 | Tu | 0124 0726 1326 1935 | 0.2 4.2 0.5 5.1 | 17 W | | -0.5 5.1 -0.4 5.7 | 2 F | 0209 0807 1423 2020 | | 17 Sa | 0239 0849 1504 2107 | -0.5 5.4 -0.3 5.0 | |
| 3 Su | 0108 0710 1306 1923 | 0.2 3.9 0.5 5.1 | 18 M | 0104 0704 1309 1926 | -0 4 4.7 -0.3 5.9 | 3 | 0205 0804 1408 2012 | 0.0 4.3 0.4 5.2 | 18 Th | | -0.6 5.3 -0.4 5.6 | 3 Sa | 0245 0842 1502 2055 | -0.2 5.1 -0.1 5.1 | 18 Su | 0319 0931 1546 2150 | -0.3 5.3 -0.1 4.7 | |
| 4 M | 0 152 0752 1350 2000 | 0.1 4.0 0.5 5.1 | 19 Tu | 0156 0758 1404 2018 | -0.6 4.9 -0.4 5.9 | Th | 0243 0841 1447 2046 | -0.1 4.5 0.3 5.1 | 19 F | 0307 0917 1525 2134 | -0.6 5.3 -0.3 5.4 | 4 Su | 0319 0919 1541 2133 | -0.2 5.2 -0.1 4.9 | 19 M | 0356 1015 1626 2234 | -0.1 5.1 0.1 4.4 | |
| Tu | 0233 0831 1431 2036 | 0.0 4.0 0.5 5.0 | 20 | 0245 0851 1456 2109 | -0.8 5.0 -0.5 5.8 | 5 F | 0318 0918 1523 2120 | -0.1 4.6 0.2 5.0 | 20 Sa | 0349 1005 1610 2221 | -0.5 5.2 -0.1 5.0 | 5 M | 0352 1001 1621 2218 | -0.2 5.2 0.0 4.7 | 20 Tu | 0431 1059 1707 2320 | 0.2 4.9 0.5 4.1 | |
| 6 W | 0312 0911 1509 2111 | -0.1 4.1 0.5 5.0 | 21 Th | 0333 0944 1546 2201 | -0.8 5.1 -0.4 5.5 | s• S• | 0350 0953 1559 2156 | -0.1 4.7 0.2 4.9 | 21 Տա | 0429 1053 1653 2308 | -0.3 5.1 0.2 4.7 | Tu | 0427 1050 1706 2311 | -0.1 5.2 0.2 4.5 | 21 W | 0506 1143 1752 | 0.6 4.6 0.8 | |
| 7 Th | 0347 0950 1543 2144 | -0.1 4.1 0.5 4.9 | 22 F | 0417 1036 1634 2252 | -0.7 5.1 -0.1 5.2 | 7 Տս | 0420 1032 1635 2236 | 0.0 4.8 0.3 4.7 | 22 M | 0508 1140 1740 2355 | 0.1 4.9 0.5 4.3 | 7 | 0506 1146 1800 | 0.1 5.2 0.4 | 22 Th | 0007 0542 1230 1848 | 3.8 0.9 4.4 1.1 | |
| 8 F | 0419 1029 1615 2219 | 0.0 4.2 0.5 4.7 | 23 Se | 0501 1129 1723 2342 | -0.4 5.0 0.2 4.9 | 8 M | 0449 1115 1715 2323 | 0.0 4.9 0.4 4.5 | 23 Tu | 0548 1226 1832 | 0.4 4.7 0.9 | 8 Th | 0010 0556 1246 1915 | 4.3 0.4 5.1 0.6 | 23 F | 0057 0632 1317 1957 | 3.6 1.2 4.3 1.2 | |
| 9 Sa | 0448 1109 1647 2258 | 0.1 4.3 0.6 4.6 | 24 Su | 0547 1217 1816 | -0.1 4.9 0.5 | 9 ไข | 0524 1205 1808 | 0.2 4.9 0.6 | 24 W | 0042 0636 1312 1936 | 4.0 0.8 4.5 1.1 | 9 F | 0114 0717 1348 2035 | 4.1 0.6 5.0 0.7 | 24 Se | 0150 0759 1408 2103 | 3.5 1.4 4.2 1.1 | |
| 10 Su | 0517 1148 1727 2342 | 0.2 4.4 0.7 4.5 | 25 M | 0030 0636 1306 1916 | 4.5 0.2 4.8 0.8 | 10 W | 0015 0608 1258 1926 | 4.3 0.3 5.0 0.8 | 25 Th | 0129 0738 1402 2042 | 3.7 1.1 4.4 1.2 | 10 Sa | 0221 0845 1455 2143 | 4.0 0.7 4.9 0.5 | 25 Տա | 0248 0912 1505 2157 | 3.5 1.4 4.1 1.0 | |
| 1 1 M | 0550 1231 1822 | 0.2 4.6 0.8 | 26 Tu | 0118 0731 1353 2020 | 4.2 0.5 4.6 1.0 | 11 Th | 0113 0720 1358 2049 | 4.1 0.5 5.0 0.7 | 26 F | 0223 0847 1454 2142 | 3.5 1.2 4.3 1.1 | 11 Su | 0334 0956 1606 2241 | 4.1 0.5 5.0 0.2 | 26 M | 0349 1009 1605 2245 | 3.6 1.2 4.2 0.7 | |
| 12 Tu | 0031 0636 1320 1946 | 4.3 0.3 4.7 0.8 | 27 ₩ | 0206 0830 1444 2121 | 3.8 0.7 4.5 1.0 | 12 F | 0220 0850 1505 2158 | 4.0 0.5 5.0 0.5 | 27 Se | 0325 0947 1553 2235 | 3.5 1.2 4.3 0.9 | 12 M | 0443 1056 1710 2334 | 4.4 0.2 5.1 -0.1 | 27 Tu | 0446 1058 1702 2330 | 3.9 0.9 4.4 0.4 | |
| 13 ₩ | 0125 0746 1415 2107 | 4.2 0.4 4.9 0.7 | 28 Th | 0301 0926 1538 2216 | 3.6 0.8 4.5 0.9 | 13 Se | 0337 1002 1616 2257 | 4.0 0.4 5.2 0.3 | 28 Su | 0428 1040 1651 2322 | 3.6 1.1 4.5 0.7 | 13 Tu | 0544 1151 1807 | 4.7 0.0 5.3 | 28 W | 0536 1144 1750 | 4.2 0.6 4.6 | |
| 14 Th | 0229 0904 1520 2212 | 4.0 0.3 5.0 0.5 | 29 F | 0401 1018 1634 2306 | 3.5 0.8 4.5 0.7 | 14 Su | 0452 1104 1723 2352 | 4.2 0.2 5.4 0.0 | 29 M | 0526 1129 1742 | 3.8 0.9 4.7 | 1 4 W | 0024 0636 1243 1856 | -0.3 5.1 -0.2 5.4 | 29 Th | 0011 0619 1229 1834 | 0.2 4.6 0.3 4.8 | |
| 15 F | 0344 1010 1629 2311 | 4.0 0.2 5.3 0.2 | 30 Se | 0502 1107 1728 2354 | 3.6 0.8 4.7 0.6 | 15 M | 0556 1202 1822 | 4.5 0.0 5.6 | 30 Tu | 0007 0614 1215 1827 | 0.5 4.1 0.6 4.9 | 15 Th | 0112 0723 1333 1942 | -0.4 5.3 -0.4 5.4 | 30 F | 0052 0656 1314 1914 | 0.0 5.0 0.0 5.0 | |
| | | | 31 Su | 0558 1155 1815 | 3.7 0.7 4.9 | | | | 31 W | 0050 0655 1259 1906 | 0.2 4.4 0.4 5.1 | | | | | | | |

Time Meridian 75° W. 00^{h} is midnight, 12^{h} 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 solie.