

# MOORED DATA BUOY OBSERVATION CODE AND C-MAN OBSERVATIONS

## I. AUTOMATIC DATA BUOY OBSERVATION CODE FORMAT

Observations from moored buoys are transmitted in a slightly modified form of the FM-13 SHIP code. C-MAN Observations are transmitted in a modified form of the FM-12 SYNOP code. Observations from drifting buoys are transmitted in the FM-18 BUOY code. Reports of spectral wave information from a ship, buoy, aircraft or satellite platform are transmitted in the FM-65 WAVEOB format. Neither the FM-18 BUOY code or the FM-65 WAVEOB code is presented here.

### A. SYMBOLIC FORM OF THE FM-13-SHIP CODE FOR MOORED BUOYS

$M_i M_i M_j M_j$   
 $A_1 b_w n_b n_b n_b$  YYGG $i_w$  99 $L_a L_a L_a$   $Q_c L_o L_o L_o L_o$   $i_R i_X$ /// /ddff  $1s_n TTT$   $2s_n T_d T_d T_d$   
 (3PoPoPoPo) 4PPPP 5appp 9GG $g_g$  22200  $0s_n T_w T_w T_w$   $1P_{wa} P_{wa} H_{wa} H_{wa}$   
 $70H_{wa} H_{wa} H_{wa}$  333 912ff 555 11fff 22fff 3GG $g_g$  4ddf $m_f m$  6GG $g_g$  dddfff dddfff  
 dddfff dddfff dddfff dddfff

If no data is available for an entire group, then that group may be omitted from the report.

#### Example of a Moored Buoy message.

```

SMVD15 KWBC 061200
BBXX
42002 06121 99259 70936 46/// /2403 10257 20226 40117 53014 91149
22200 00289 10401 70004 333 91207 555 11032 22033 31123 42211 61139
228071 224096 226088 227076 216068 203056=
  
```

#### Definition of Groups

##### 1. Buoy identifier, time, and location groups.

$M_i M_i M_j M_j$  - Bulletin Identifier

The first group in the section ( $M_i M_i M_j M_j$ ) is not transmitted from the buoy, but is added on to a group of reports before they are transmitted in a bulletin. In any bulletin of reports from ocean stations,  $M_i M_i M_j M_j$  is always encoded as BBXX. The group BBXX is then transmitted only once in the bulletin, as the first line of the bulletin. The only thing that BBXX does is to identify the bulletin as a group of reports from ocean stations.

**$A_1 b_w n_b n_b n_b$  - Buoy Identifier**

$A_1$  - *WMO Region in which the buoy is located.* The U.S. operates stations in both WMO Region IV and Region V. A U.S. buoy located in WMO Region IV would have an identifier beginning with number 4. A U.S. buoy located in WMO region V would have an identifier beginning with 5. See appendix C for WMO Region charts.

$b_w$  - *Sub-area within the WMO Region.* Figure 1 shows the sub-areas within the WMO areas. Each of them is identified by the two-digit number given by. The identifiers for buoys within the WMO Regions IV and V are as follows:

- ↓  $A_1 b_w = 41$ : North Atlantic from about Cape Hatteras south.
- ↓  $A_1 b_w = 42$ : Gulf of Mexico
- ↓  $A_1 b_w = 44$ : North Atlantic from about Cape Hatteras north
- ↓  $A_1 b_w = 45$ : Great Lakes
- ↓  $A_1 b_w = 46$ : Off the west coast of the U.S. and the Gulf of Alaska
- ↓  $A_1 b_w = 51$ : Pacific Ocean, in and near the Hawaiian Islands.

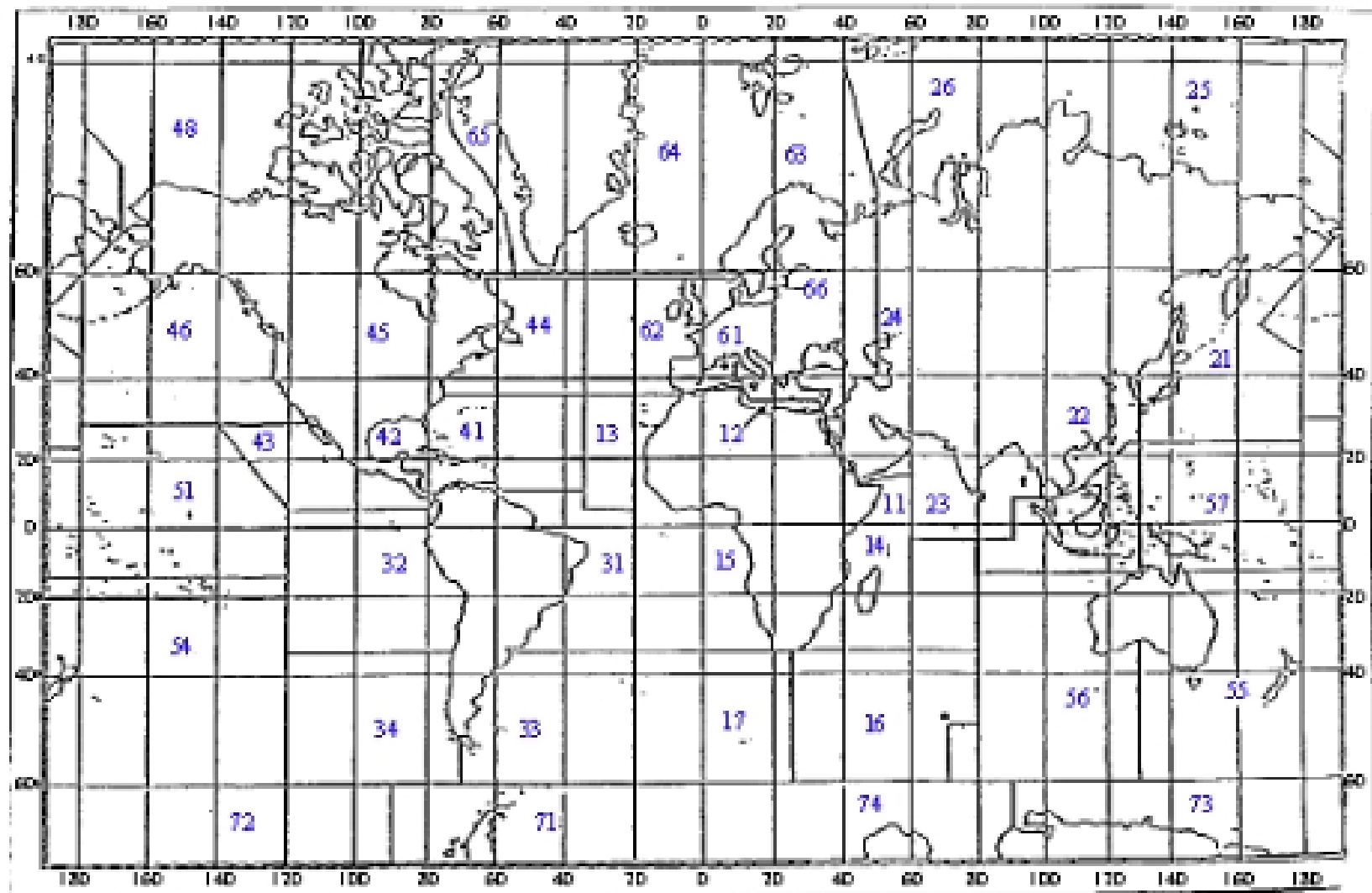


Figure 1. Buoy Identifiers and locations.

- $n_b n_b n_b$  - *Serial number of the buoy site within the sub-area. If a buoy fails and is replaced, the new buoy will take the old number. The group 42002 indicates this is buoy 002 in WMO region 4, sub area 2.*
- YYGGi<sub>w</sub>** - **Date-Time Group and units of wind speed**
- YY - *Day of the month of the observation in UTC.*
- GG - *Time of the observation to the nearest whole hour UTC.*
- i<sub>w</sub> - *Wind speed indicator. See code table 1855 of the land surface synoptic code. The group 06121 indicates the observation is for the 6th day of the month at 1200 UTC and that wind speed is given in meters per second.*
- 99L<sub>a</sub>L<sub>a</sub>L<sub>a</sub>** - **Buoy Latitude Group**
- 99 - *Identifier for Buoy Latitude group.*
- L<sub>a</sub>L<sub>a</sub>L<sub>a</sub> - *Latitude, in tenths of degrees, of the buoy. The group 99259 indicates a latitude of 25.9°. The 7 of the next group, indicates the latitude is North.*