

NWSI 10-812, April 1, 2002

***NATIONAL WEATHER SERVICE INSTRUCTION 10-812  
April 1, 2002***

***Operations and Services***

***CONUS WIND/TEMPERATURE ALOFT FORECASTS***

**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives>.

**OPR:** OS23 (M. Andrews)

**Type of Issuance:** Initial.

**Certified by:** OS (G. Mandt)

***SUMMARY OF REVISIONS:*** Supersedes Weather Service Operations Manual (WSOM)  
Chapter D-XX, "xxxxxxxxxxxxxxxxxx," Issuance xx-xx, dated xxx, 19xx.

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**1. Purpose.** This instruction provides guidance to NWS offices, outlining preparation and format of wind and temperature aloft forecasts for CONUS aviation.

**2. Background.** NCEP produces scheduled wind and temperature aloft forecasts four (4) times daily for specified locations in the CONUS, Alaska, and Hawaii, including coastal waters. There is no requirement to issue amendments to the forecasts.

**3. Forecast Locations.** Forecasts shall be issued by NCEP for the locations depicted geographically in Appendix A, and listed alphabetically by States in Appendix B. Forecasts for intermediate locations may be determined by interpolation.

**4. Forecast Levels.** Wind and temperature aloft forecasts shall be issued for the following levels. All levels are referenced to Mean Sea Level (MSL) and all times are referenced to Z.

Actual Altitude (feet)

- 3,000
- 6,000
- 9,000
- 12,000

Pressure Altitude (feet)

- 18,000(500hPa)
- 24,000(400hPa)
- 30,000(300hPa)
- 34,000(250hPa)
- 39,000(200hPa)
- 45,000(150hPa)+
- 53,000(100hPa)+

+ Available only via Request/Reply

Wind forecasts shall not be issued for levels within 1,500 feet of a location's elevation.  
 Temperature forecasts shall not be issued for levels within 2,500 feet of a location's elevation.

Forecasts for intermediate levels may be determined by interpolation.

**5. Bulletin Designators.** Wind and temperature aloft forecasts are issued in bulletins identified by the data type designator "FB" in the WMO heading as follows:

3,000- to 39,000-foot forecasts

6-Hour Forecast	12-Hour Forecast	24-Hour Forecast
CONUS		
FBUS31 KWNO	FBUS33 KWNO	FBUS35 KWNO
FBUS32 KWNO	FBUS34 KWNO	FBUS36 KWNO
Alaska		
FBAK31 KWNO	FBAK33 KWNO	FBAK35 KWNO
FBAK31 KWNO	FBAK34 KWNO	FBAK36 KWNO
Hawaii		
FBPA31 KWNO	FBPA33 KWNO	FBPA35 KWNO
FBPA32 KWNO	FBPA34 KWNO	FBPA36 KWNO
AWIPS ID		
NWCFB1 — 6-hour forecast		
NMCFB2 — 12-hour forecast		
NMCFB3 — 24-hour forecast		

45,000- and 53,000-foot forecasts

6-Hour Forecast	12-Hour Forecast	24-Hour Forecast
CONUS		
FBUS37 KWNO	FBUS38 KWNO	FBUS39 KWNO
Alaska		
FBAK37 KWNO	FBAK38 KWNO	FBAK39 KWNO
Hawaii		
FBPA37 KWNO	FBPA38 KWNO	FBPA39 KWNO
AWIPS ID		
NMCFB7 — 6-hour forecast		
NMCFB8 — 12-hour forecast		

## NMCFB9 — 24-hour forecast

**6. Format.** The symbolic form of the forecasts is "DDff<sub>±</sub>TT" in which "DD" is the wind direction, "ff" the wind speed, and "TT" the temperature.

Wind direction is indicated in tens of degrees (two digits) with reference to true north, and wind speed is given in knots (two digits). Light and variable wind or wind speeds of less than 5 knots are expressed by "9900." Forecast wind speeds of 100 through 199 knots are indicated by subtracting 100 from the speed and adding 50 to the coded direction. For example, a forecast of 250 degrees, 145 knots, is encoded as 7545. Forecast wind speeds of 200 knots or greater are indicated as a forecast speed of 199 knots.

Temperature is indicated in degrees Celsius (two digits) and is preceded by the appropriate algebraic sign for the levels from 6,000 through 24,000 feet. Above 24,000 feet, the sign is omitted since temperatures are negative.

**6.1. Format for 3,000- Through 39,000-Foot Levels.** The bulletin format for the 3,000-through 39,000-foot levels is shown below:

FBUS31 KWNO 190440  
DATA BASED ON 190000Z DATA

VALID 190600Z FOR USE 0600-1200Z. TEMPS NEG ABV 24000

FT 3000 6000 9000 12000 18000 24000 30000 34000 39000  
ABR 1027 1326+01 1428-03 1431-09 1639-21 1749-34 175849 175957 174758  
ABI 2849+04 2857-02 2760-07 2670-20 2682-32 760344 760648 259451  
ALS (etc.)

**6.2. Format for 45,000- and 53,000-Foot Levels.** The bulletin format for the 45,000- and 53,000-foot levels is shown:

Forecasts for these levels are available in the FAA's Weather Message Switching Center Replacement (WMSCR) only in the conterminous U.S. for those locations listed in Appendix A with a number symbol (#).

FBUS37 KWNO 191640  
DATA BASED ON 191200Z

VALID 191800Z FOR USE 1800-0000Z. TEMPS NEG ABV 24000

FT 45000 53000  
  
ABR 193557 202257  
ABI 258055 255561  
ALS (etc.)

**7. Delayed Forecasts.** If the scheduled FB transmission is delayed, users should continue using the valid FB's based on 6-hour earlier data until NCEP transmits the new forecast.