

Air Traffic Basics

50043/50143

Forecasts and Advisories

V.1.04

Presented by

FAA Academy

Air Traffic Division

Initial Training Branch



Federal Aviation
Administration



Forecasts and Advisories

- TAF
- FA
- AIRMET
- SIGMET
- MIS
- CWA
- Convective SIGMET
- FB



Lesson Objectives

On an End-of-Lesson Test, you will identify the contents and purpose of the following weather products:

- 1. Terminal Aerodrome Forecast (TAF)**
- 2. Area Forecast (FA)**
- 3. Airman's Meteorological Information (AIRMET)**
- 4. Significant Meteorological Information (SIGMET)**



Lesson Objectives (Cont'd)

5. **Convective SIGMET (WST)**
6. **Center Weather Advisory (CWA)**
7. **Meteorological Impact Statement (MIS)**
8. **Winds and Temperatures Aloft Forecast (FB)**



Lesson Objectives (Cont'd)

On an End-of-Lesson Test and without references, you will decode the following weather products:

- 1. Terminal Aerodrome Forecast (TAF)**
- 2. Area Forecast (FA)**
- 3. Airman's Meteorological Information (AIRMET)**
- 4. Significant Meteorological Information (SIGMET)**

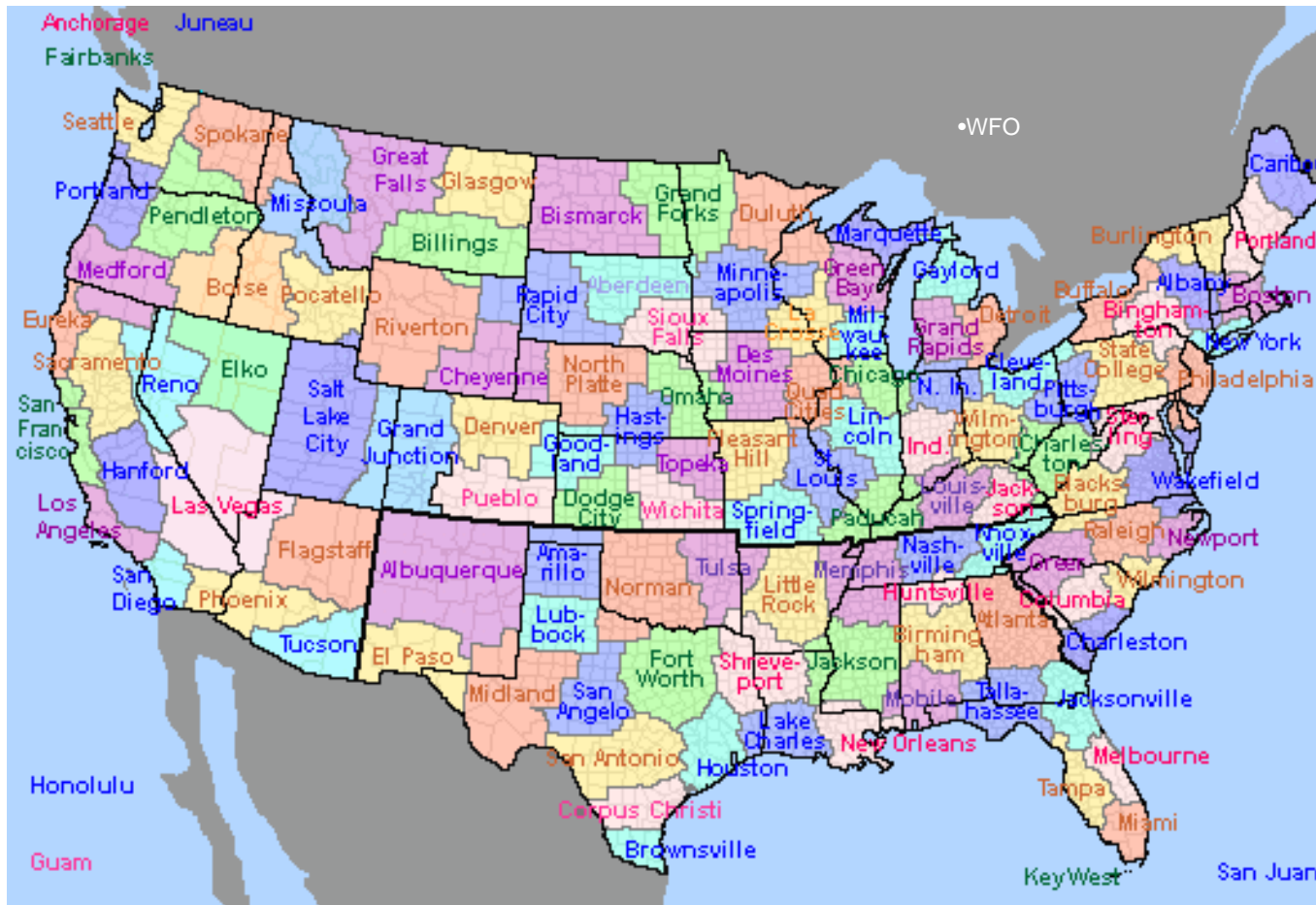


Lesson Objectives (Cont'd)

5. Convective SIGMET (WST)
6. Center Weather Advisory (CWA)
7. Meteorological Impact Statement (MIS)
8. Wind and Temperature Aloft Forecast (FB)



Terminal Aerodrome Forecast (TAF) Issuance



TAF: Overview of Contents



TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```


Type of Report

TYPE OF REPORT

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



ICAO Location Identifier

ICAO LOCATION IDENTIFIER

TAF

KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT
FM300930 07006KT 1 1/2SM BR OVC008
TEMPO 3010/3014 1/2SM DZ FG VV005
FM301600 11012KT 5SM BR SCT015 BKN030
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024
VRB24G35KT 1SM +TSRA BR OVC008CB
FM310100 02018G25KT 3/4SM -SN BR OVC008
FM310300 34024G30KT 3SM BR BKN010
FM310500 33016KT P6SM SKC



Date & Time of Origin

DATE AND TIME OF FORECAST ORIGIN GROUP

TAF

KOKC **300534Z** 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT
FM300930 07006KT 1 1/2SM BR OVC008
TEMPO 3010/3014 1/2SM DZ FG VV005
FM301600 11012KT 5SM BR SCT015 BKN030
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024
VRB24G35KT 1SM +TSRA BR OVC008CB
FM310100 02018G25KT 3/4SM -SN BR OVC008
FM310300 34024G30KT 3SM BR BKN010
FM310500 33016KT P6SM SKC



Valid Period

VALID PERIOD

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



Wind Group

WIND GROUP

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



Visibility Group

VISIBILITY GROUP

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



Significant Weather Group

SIGNIFICANT WEATHER GROUP

TAF

KOKC 300534Z 3006/3106 15010KT 6SM **BR** SCT020 WS020/18040KT
FM300930 07006KT 1 1/2SM BR OVC008
TEMPO 3010/3014 1/2SM DZ FG VV005
FM301600 11012KT 5SM BR SCT015 BKN030
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024
VRB24G35KT 1SM +TSRA BR OVC008CB
FM310100 02018G25KT 3/4SM -SN BR OVC008
FM310300 34024G30KT 3SM BR BKN010
FM310500 33016KT P6SM SKC



Cloud and Vertical Obscuration Groups

CLOUD AND VERTICAL OBSCURATION GROUPS

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



Non-Convective Low Level Wind Shear (LLWS) Group

LLWS GROUP

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```



Response Item

A TAF is a concise statement of the expected meteorological conditions significant to aviation for a specified time period within _____.

- A. 5 SM of an airport's runway complex
- B. 30 SM of an airport's runway complex
- C. an ARTCC's airspace

Response Item

Routine TAFs are _____.

- A. unscheduled
- B. issued every 4 hours
- C. issued every 6 hours



Response Item

TAF

```
KRWF 091724Z 0918/1018 13017G25KT 2SM -RA BR 0VC005 WS020/18050KT
```

<SNIP>

Which forecast group is correct?

- A. An amended 24-hour TAF valid from the 9th day of the month at 20Z to the 10th day of the month at 18Z
- B. Ceiling 5,000 feet overcast
- C. Low-level wind shear, wind at 2,000 feet, 180 degrees at 50 knots



FM Change Indicator Group

FM CHANGE INDICATOR GROUP

TAF

KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT

FM300930 07006KT 1 1/2SM BR OVC008

TEMPO 3010/3014 1/2SM DZ FG VV005

FM301600 11012KT 5SM BR SCT015 BKN030

FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024

VRB24G35KT 1SM +TSRA BR OVC008CB

FM310100 02018G25KT 3/4SM -SN BR OVC008

FM310300 34024G30KT 3SM BR BKN010

FM310500 33016KT P6SM SKC



FM Change Indicator Group Examples

```
FM010100 16008KT P6SM -RA OVC050
```

“FROM THE 1ST AT 0100Z, WIND ONE SIX ZERO AT EIGHT, VISIBILITY MORE THAN 6, LIGHT RAIN, CEILING FIVE THOUSAND OVERCAST.”

```
FM191430 00000KT P6SM SKC
```

“FROM THE 19TH AT 1430Z, WIND CALM, VISIBILITY MORE THAN SIX, SKY CLEAR.”

Tempo Change Indicator Group

TEMPO CHANGE INDICATOR GROUP

TAF

KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT

FM300930 07006KT 1 1/2SM BR OVC008

TEMPO 3010/3014 1/2SM DZ FG VV005

FM301600 11012KT 5SM BR SCT015 BKN030

FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024

VRB24G35KT 1SM +TSRA BR OVC008CB

FM310100 02018G25KT 3/4SM -SN BR OVC008

FM310300 34024G30KT 3SM BR BKN010

FM310500 33016KT P6SM SKC



TEMPO Change Indicator Group Examples

```
...28014G24KT 1SM -SN BLSN OVC010
```

```
TEMPO 1918/1922 1/4SM +SN BLSN OVC006
```

“WIND TWO EIGHT ZERO AT ONE FOUR GUSTS TWO FOUR, VISIBILITY ONE, LIGHT SNOW, BLOWING SNOW, CEILING ONE THOUSAND OVERCAST; TEMPORARILY BETWEEN THE 19TH AT 1800Z AND THE 19TH AT 2200Z, VISIBILITY ONE-QUARTER, HEAVY SNOW, BLOWING SNOW, CEILING SIX HUNDRED OVERCAST.”

```
...26012G22KT P6SM VCSH SCT030 BKN100
```

```
TEMPO 2721/2801 BKN030
```

“WIND TWO SIX ZERO AT ONE TWO GUSTS TWO TWO, VISIBILITY MORE THAN SIX, SHOWERS IN THE VICINITY, THREE THOUSAND SCATTERED, CEILING ONE ZERO THOUSAND BROKEN; TEMPORARILY BETWEEN THE 19TH AT 2100Z AND THE 28TH AT 0100Z, CEILING THREE THOUSAND BROKEN.”

PROB30 Group

PROB30 GROUP

TAF

KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT

FM300930 07006KT 1 1/2SM BR OVC008

TEMPO 3010/3014 1/2SM DZ FG VV005

FM301600 11012KT 5SM BR SCT015 BKN030

FM302100 09015KT 3SM -SHRA BR OVC010 **PROB30 3021/3024**

VRB24G35KT 1SM +TSRA BR OVC008CB

FM310100 02018G25KT 3/4SM -SN BR OVC008

FM310300 34024G30KT 3SM BR BKN010

FM310500 33016KT P6SM SKC



PROB30 Group Examples

```
...26017G25KT 6SM -SN OVC020 PROB30 0506/0512  
3SM -SHSN OVC010
```

“WIND TWO SIX ZERO AT ONE SEVEN GUSTS TWO FIVE, VISIBILITY SIX, LIGHT SNOW, CEILING TWO THOUSAND OVERCAST; A THIRTY PERCENT PROBABILITY BETWEEN THE 5TH AT 0600Z AND THE 5TH AT 1200Z, VISIBILITY THREE, LIGHT SNOW SHOWERS, CEILING ONE THOUSAND OVERCAST.”

```
...16011KT P6SM BKN040 PROB30 1016/1022  
3SM TSRA OVC020CB
```

“WIND ONE SIX ZERO AT ONE ONE, VISIBILITY MORE THAN SIX, CEILING FOUR THOUSAND BROKEN; A THIRTY PERCENT PROBABILITY BETWEEN THE 9TH AT 1600Z AND THE 9TH AT 2200Z, VISIBILITY THREE, THUNDERSTORM, RAIN, CEILING TWO THOUSAND OVERCAST CUMULONIMBUS.”



Response Item

What TAF contraction denotes a significant change in most weather elements over a period of less than one hour?

- A. FM
- B. TEMPO
- C. PROB30



Response Item

TAF

```
KFSD 211130Z 2112/2212 15015KT 3SM TSRA FEW008 BKN015CB  
FM211530 24015KT 6SM BR SCT015  
TEMPO 2116/2118 5SM -SHRA BKN010  
FM212000 18005KT 5SM HZ BKN050  
FM212300 18005KT P6SM SCT100  
FM220630 18015KT P6SM BKN080 OVC100 PROB30 2208/2210  
1SM +TSRA BR BKN020CB=
```

When are light rain showers forecast to occur?

- A. On the 21st between 1200Z to 1530Z
- B. On the 21st between 1600Z to 1800Z
- C. On the 22nd between 0800Z to 1000Z



Response Item

TAF

PAYA 142329Z 1500/1524 VRB03KT 6SM -SHRA VCFG BKN080

TEMPO 1500/1503 1/2SM -SHRASN FG VV008

FM150400 27008KT P6SM SCT020 BKN035 OVC050

TEMPO 1504/1508 -SHRA BKN020 OVC035

FM150900 23010KT P6SM -SHRASN BKN028 BKN045

FM151600 26005KT 3SM BR BKN012 BKN025 BKN050

What is the forecast flying category on the 15th at 0300Z?

- A. VFR
- B. VFR, temporary IFR
- C. IFR



Response Item

```
TAF
KFAT 311740Z 3118/0118 11003KT 1/4SM FG VV001
FM312000 VRB03KT 2SM BR SCT004
FM312200 VRB03KT 5SM HZ SKC
FM010300 VRB03KT 3SM BR SKC
TEMPO 0104/0108 1SM BR SCT002
FM010800 00000KT 1SM BR SCT002
TEMPO 0113/0117 1/4SM FG VV001
```

What is the forecast visibility and weather on the 1st at 1400Z?

- A. Visibility 1/4SM, fog
- B. Visibility 3SM, mist, temporary visibility 1SM, mist
- C. Visibility 1SM, mist, temporary visibility 1/4SM, fog



Exercise 1: Decoding TAFs

TAF

```
KOKC 300534Z 3006/3106 15010KT 6SM BR SCT020 WS020/18040KT  
FM300930 07006KT 1 1/2SM BR OVC008  
TEMPO 3010/3014 1/2SM DZ FG VV005  
FM301600 11012KT 5SM BR SCT015 BKN030  
FM302100 09015KT 3SM -SHRA BR OVC010 PROB30 3021/3024  
VRB24G35KT 1SM +TSRA BR OVC008CB  
FM310100 02018G25KT 3/4SM -SN BR OVC008  
FM310300 34024G30KT 3SM BR BKN010  
FM310500 33016KT P6SM SKC
```

