

# METAR Reports

Mteor 311

# METAR Reports

- Meteorological Airways Reports
- Became primary method for coded surface data on July 1, 1996.
  - SAO's (Surface Airway Observation's) were used prior.
- METAR's are used to create surface plots.
  - Page 11 in Course Notes.

# METAR Example

- KAMW 131453Z AUTO 14006KT 4SM -RA BR SCT021 BKN033 21/19 A3016 RMK AO2 RAB42 SLP204 P0000 6//// T02110189 TSNO=
- 3W's: Where, When, Wind
- Where? KAMW
- When? 13th day of month, 14:53Z
- Wind? From 140 degrees @ 6kts.
  - Three digit direction to nearest ten degrees, two digit speed.

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SCT021 BKN033 21/19 A3016 RMK AO2 RAB42  
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- 4SM?
  - 4 statute mile visibility.
  - Statue mile: a standard land mile (5,280 ft)
    - Nautical mile: length corresponding to one minute of arc (6,076ft) – Arc length.
- -RA BR?
  - Weather types: light rain, mist
- SCT021 BKN033?
  - Cloud Cover in 100's of feet
  - SCT021: Scattered clouds (3-4 octas) @ 2100ft
  - BKN033: Broken clouds @ 3300ft
- 21/19?
  - $T = 21\text{ }^{\circ}\text{C}$ ,  $T_d = 19\text{ }^{\circ}\text{C}$ .

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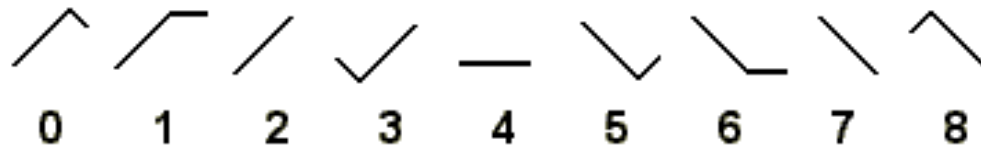
- A3016?
  - Altimeter reading: 30.16 inches of mercury
- AO2?
  - Automated station with precipitation discriminator.
- RAB42?
  - Rain began at 42 minutes after the hour.
- SLP204?
  - Sea Level Pressure
- P0000?
  - Precipitation in the last hour, in 1/100 of an inch.
  - 0000 means a trace.

- 6////?
  - Appears every three hours.
  - For hours divisible by 6 (00Z, 06Z, 12Z, 18Z), six hour in 1/100 of an inch.
  - For other hours (03Z, 09Z, 15Z, 21Z), three hour
- T02110189?
  - More accurate temperature and dew point (1/10 of a degree).
  - $T = 21.1\text{ }^{\circ}\text{C}$ ,  $T_d = 18.9\text{ }^{\circ}\text{C}$
  - Note: a one in the zero spot indicates a negative temp.
- TSNO?
  - Not Thundersnow? That would be TSSN earlier in the METAR.
  - Thunderstorm information not available.

# Other Important Groups

- 10211?
  - Maximum temperature in last 6 hours: 21.1 °C
- 20176?
  - Minimum temperature in last 6 hours: 17.6 °C
- 53010?
  - Pressure tendency in past three hours.
  - First digit gives trend, last three pressure change 1/10 of a mb.
- 70122?
  - Reported at 12Z, 24-hour rainfall in 1/100 of an inch.
- 400461006?
  - 24-hour maximum and minimum temperatures. Reported at 06Z.
  - Tmax = 4.6 °C, Tmin = -0.6 °C. (1 in 0 spot means -)

# METAR Pressure Tendencies



- 0 - rising then falling; net pressure rise
- 1 - rising then steady
- 2 - rising consistently
- 3 - falling or steady, then rising; net pressure rise
- 4 - no pressure change
- 5 - falling or steady then rising; net pressure fall
- 6 - falling then steady
- 7 - falling consistently
- 8 - rising or steady, then falling; net pressure fall