Using Weather & NOTAMs in the Trip Planning Process

Wednesday, January 15th 2014  3:30 p.m. – 5:00 p.m.

PRESENTED BY:
Chris Algee
Brian Boothe
NOTAMs

Notice to Airmen

• Notice containing information concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

• NOTAMs submitted by airport authority via phone, fax, AFTN, or electronically
  – Process time for e-NOTAM less than 5 minutes

Source: FAA.GOV
NOTAMs

Notice to Airmen

• Main types of NOTAMs
  – Class I
  – Class II
  – Domestic (D/L/U/O NOTAM)
  – International
  – Civil
  – Military
  – FDC (Flight Data Center)
  – FIR (Flight Information Region)
  – GPS (Global Positioning System)

Source: FAA.GOV
NOTAMs

Domestic NOTAM

- Primarily distributed within the United States
- Coded in a D (distant) NOTAM format
  - D NOTAMs standardized in 2008
  - Expanded to include taxiways, ramps, and aprons with associated lighting
  - U.S. NOTAM system enforces keywords which match ICAO format

!MIV MIV RWY 10/28 CLSD WEF 0707011200-0802011200-0802051600

Source: FAA.GOV
NOTAMs

Domestic NOTAM Keywords

- AD      Aerodrome
- AIRSPACE Airspace
- APRON   Apron
- COM     Communications
- NAV     NAVAID
- (O)     Other Aeronautical Information
- OBST    Obstructions
- RWY     Runway
- SVC     Services
- TWY     Taxiway
- (U)     Unverified Movement Area

Source: FAA.GOV
NOTAMs

Domestic NOTAM Keywords

- ODP      Obstacle Departure Procedure*
- SID      Standard Instrument Departure*
- STAR     Standard Terminal Arrival*
- CHART    Chart
- DATA     Data
- IAP      Instrument Approach Procedure
- VFP      Visual Flight Procedure
- ROUTE    Route
- SPECIAL  Special

Source: FAA.GOV
NOTAMs

Common NOTAM Contractions

- AP    Airport
- APCH  Approach
- ATIS  Automatic Terminal Information Service
- AWY   Airway
- FDC   Flight Data Center
- FREQ  Frequency
- GP    Glide Path
- IAF   Initial Approach Fix
- IF    Intermediate Fix
- ILS   Instrument Landing System
- LGTD  Lighted
- LIRL  Low Intensity Runway Lights
- LLZ   Localizer
- NA    Not Authorized
- NMR   Nautical Mile Radius
- OTS   Out of Service
- RCLL  Runway Center Line Lights
- RQRD  Required
- RTS   Return to Service
- RVR   Runway Visual Range
- RWY   Runway
- TGL   Touch-and-Go Landings
- TWR   Airport Control Tower
- TWY   Taxiway
- WEF   With Effect From or Effective From
- WIE   With Immediate Effect or Effective Immediately

NOTAMs

Example

- Millville Airport, NJ

!MIV MIV RWY 10/28 CLSD WEF 0707011200- 0802011200-0802051600

<table>
<thead>
<tr>
<th>Header</th>
<th>Body</th>
<th>Footer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(!) Accountable Location</td>
<td>Affected Location</td>
<td>Keyword</td>
</tr>
<tr>
<td>!</td>
<td>MIV</td>
<td>MIV</td>
</tr>
</tbody>
</table>

Source: pilotweb.nas.faa.gov
**NOTAMs**

**Example**

- Teterboro Airport, NJ

!TEB 11/141 TEB AD WILDLIFE HAZARD DEER SIGHTING SW SIDE 1311141912-1311292000

<table>
<thead>
<tr>
<th>Header</th>
<th>Body</th>
<th>Footer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(!)</td>
<td>Accountable Location</td>
<td>Affected Location</td>
</tr>
<tr>
<td>!</td>
<td>TEB</td>
<td>TEB</td>
</tr>
</tbody>
</table>

Source: pilotweb.nas.faa.gov
NOTAMs

Example

• FDC (Flight Data Center) NOTAM
  – !FDC 2/7104 HOU FI/T STAR WILLIAM P HOBBY, HOUSTON, TX. DAISSETTA EIGHT ARRIVAL... DELETE NOTE: FOR ALL CONVENTIONAL NAVIGATION AIRCRAFT LANDING IN THE HOUSTON TERMINAL AREA. FOR ALL TURBOPROPS/PISTONS LANDING IAH. ATC ASSIGNED ONLY FOR ALL OTHERS. ADD NOTE: FOR ALL CONVENTIONAL NAVIGATION TURBOJETS LANDING IAH. ATC ASSIGNED ONLY FOR ALL OTHERS.

  – !FDC 3/2665 MSY ODP LOUIS ARMSTRONG NEW ORLEANS INTL, NEW ORLEANS, LA. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES AMDT 1... NOTE: RWY 19, TEMPORARY CRANE, 3787 FEET FROM DEPARTURE END OF RWY, 1370 FEET RIGHT OF CENTERLINE, 112 FEET AGL/ 120 FEET MSL. ALL OTHER DATA REMAINS AS PUBLISHED. EXCEPT WHEN ADVISED BY ATCT. 1311212100-1405312100EST

Source: pilotweb.nas.faa.gov
NOTAMs

International NOTAMs

• Q (Qualifier) Line
  – Eight Sections separated by a stroke
  – Coded line that shows all relevant information contained in the NOTAM

A3900/13 NOTAMN
Q) EGTT/QFALC/IV/NBO/A/000/999/5152N00022W005
A) EGGW
B) 1312252300
C) 1312260600
E) AD CLOSED

Source: FAA.GOV
NOTAMs

Digital NOTAMs

• A dataset made available through digital services
• Same information as standard NOTAM
• Can be easily visualized on GIS platforms
• Will be able to be pulled in through aircraft FMS
• Interested in finding out more about the NOTAM system and upcoming changes?
  – NOTAM Changes on the Horizon
  – Thursday 315-445 pm
  – Room215

TFR

Temporary Flight Restrictions

• Issued for variety of reasons
  – Disaster/Hazard area
  – Emergency air traffic areas
  – Space flight operations
  – Major sporting events
  – Special Security Instructions
  – POTUS / VIP movements

• Issued through NOTAMs as well as graphically

Sources: http://www.faa.gov/air_traffic/publications/atpubs/fac/1901.html
http://tfr.faa.gov
SUA
Special Use Airspace

- Airspace where activities must be confined because of their nature
  - Military operating areas (MOAs)
  - Controlled firing areas (CFAs)
- Prohibited & Restricted Areas
- National Security Areas

Sources: http://www.faa.gov/air_traffic/publications/atpubs/aim/aim0304.html
http://sua.faa.gov
METARs
Understanding and Decoding METARs

ASOS Station at Springfield, IL

Source: http://www.crh.noaa.gov/ilx/images/asos.jpg
METARs

Meteorological Aerodrome Report

• International Code for reporting weather conditions
• Provides pilots with trend forecasts
• Frequency is broken into two categories
  – METAR
    • Aviation routine weather report occurring hourly
    • Synoptic reports
      – METAR report issued every 6 hours (00Z, 06Z, 12Z, 18Z)
  – SPECI
    • Derived from the French expression for Aviation Selected Special Meteorological Report
    • Non-routine (special) aviation weather report

Source: http://www2.fiu.edu/~hajian/MET3502/MET3502_Synoptic_Lec4.pdf
## METARs

### SPECI Criteria

<table>
<thead>
<tr>
<th>Reporting Element</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>Wind Shift</td>
</tr>
<tr>
<td>Visibility</td>
<td>Certain changes in visibility</td>
</tr>
<tr>
<td>RVR</td>
<td>Changes to above or below 2400FT</td>
</tr>
<tr>
<td>Tornado/FC/WS</td>
<td>When observed or disappears from sight</td>
</tr>
<tr>
<td>Thunderstorm</td>
<td>Begins or ends</td>
</tr>
<tr>
<td>Precipitation</td>
<td>If certain precipitation types begin, end, or change intensity</td>
</tr>
<tr>
<td>Squalls</td>
<td>When they occur</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Certain changes in ceiling which cause the weather to change category</td>
</tr>
</tbody>
</table>

Source: http://www.met.tamu.edu/class/metar/metar-pg4.html
# METARs

## SPECI Criteria

<table>
<thead>
<tr>
<th>Reporting Element</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sky Condition</td>
<td>A layer of clouds or obscuring phenomena aloft forms below 1000FT</td>
</tr>
<tr>
<td>Volcanic Eruption</td>
<td>When first noted</td>
</tr>
<tr>
<td>Aircraft Mishap</td>
<td>Upon notification, unless there has been an intervening observant</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Any other meteorological situation designated significant by the observer</td>
</tr>
</tbody>
</table>

Source: [http://www.met.tamu.edu/class/metar/metar-pg4.html](http://www.met.tamu.edu/class/metar/metar-pg4.html)
METARs

Observation Types

• Automatic
  – ASOS - Automatic Surface Observing Systems
    • Report observations 24/7 up to 12 times an hour
    • Largest and most modern complement of weather sensors
  – AWOS - Automated Weather Observing System
    • Among the oldest automated weather stations
    • Predate ASOS
    • Generally report at 20-minute intervals
    • No special observations

Sources: http://www.srh.noaa.gov/jetstream/remote/asos.htm
          http://www.approachnavigation.com/Products/AWOS/
METARs

Observation Types

• Manual / Augmented
  – Trained weather observers augment forecasts from ASOS/AWOS stations
  – Available at most major airports
  – Responsible for adding remarks to METARs (See SPECI RMKS)

Source: Mount Washington Observatory
METARs

ASOS

- ASOS Reports the following basic weather elements:
  - Sky conditions such as cloud height and cloud amount up to 12,000 feet
  - Surface visibility up to at least 10 statute miles
  - Basic present weather information such as the type and intensity for rain, snow, and freezing rain
  - Obstructions to vision like fog, haze, and/or dust
  - Sea-level pressure and altimeter settings
  - Air and dew point temperatures
  - Wind direction, speed and character (gusts, squalls)
  - Precipitation accumulation
  - Selected significant remarks including variable cloud height, variable visibility, precipitation beginning/ending times, rapid pressure changes, pressure change tendency, wind shift, peak wind.

Source: http://www.srh.noaa.gov/jetstream/remote/asos.htm
METARs

Decoding METARs

**CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004 M21/M23 A2957 RMK SLP017**

- **Station Identifier**
  - ICAO location identifier

- **Date & Time**
  - Statement is transmitted as a six-digit time/date group appended with ‘Z’ to denote UTC (Coordinated Universal Time).

- **Wind**
  - This coded group is the second qualifier for reporting a wind speed as a five-digit group following the date/time modifier element.
  - *Variable wind*- if wind is variable (direction) by 60 degrees or more and the speed is greater than 6KT or less. EX. 280V350 or VRB04KT
  - Reported in KT (knots), KMH (kilometers/hour), & MPS (meters/second)

Source: [http://www.wrh.noaa.gov/wrh/metar_decode_key.pdf](http://www.wrh.noaa.gov/wrh/metar_decode_key.pdf)
METARs

Decoding METARs

CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004 M21/M23 A2957 RMK SLP017

• **Visibility**
  – Prevailing visibility in statute miles (US & Canada), or meters (Internationally)
  – Fractions with space between whole miles and fractions
  – Values <1/4SM reported as M1/4SM
  – CAVOK (Ceiling and Visibility OK)

• **Runway Visual Range**
  – 10-minute RVR value in hundreds of feet
  – Reported if prevailing visibility is ≤ one mile or RVR ≤ 6000 feet;
  – Value prefixed with M or P to indicate value is lower or higher than the reportable RVR value

Source: [http://www.wrh.noaa.gov/wrh/metar_decode_key.pdf](http://www.wrh.noaa.gov/wrh/metar_decode_key.pdf)
# METARs

## Decoding METARs

CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004 M21/M23 A2957 RMK SLP017

<table>
<thead>
<tr>
<th>Intensity or Proximity</th>
<th>Descriptor</th>
<th>Precipitation</th>
<th>Obscuration</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Light</td>
<td>MI</td>
<td>Shallow</td>
<td>DZ</td>
<td>Drizzle</td>
</tr>
<tr>
<td></td>
<td>BC</td>
<td>Patches</td>
<td>RA</td>
<td>Rain</td>
</tr>
<tr>
<td>Mod</td>
<td>DR</td>
<td>Low Drift</td>
<td>SN</td>
<td>Snow</td>
</tr>
<tr>
<td></td>
<td>BL</td>
<td>Blowing</td>
<td>SG</td>
<td>Snow grains</td>
</tr>
<tr>
<td>+ Heavy</td>
<td>SH</td>
<td>Showers</td>
<td>IC</td>
<td>Ice Crystals</td>
</tr>
<tr>
<td></td>
<td>TS</td>
<td>Thunderstorm</td>
<td>PL</td>
<td>Ice Pellets</td>
</tr>
<tr>
<td></td>
<td>VC</td>
<td>Vicinity</td>
<td>FZ</td>
<td>Freezing</td>
</tr>
<tr>
<td></td>
<td>PR</td>
<td>Partial</td>
<td>GS</td>
<td>Small Hail</td>
</tr>
</tbody>
</table>

Source: [http://www.met.tamu.edu/class/metar/metar-pg9-ww.html](http://www.met.tamu.edu/class/metar/metar-pg9-ww.html)
METARs

Decoding METARs

CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004 M21/M23 A2957 RMK SLP017

• **Precipitation**
  – There are nine types of precipitation in the METAR code.
  – Common groups mistaken
    • GR – is used to indicate hail one-quarter inch in diameter or larger
    • GS – is used to indicate hail less than one quarter inch diameter
    • UP – will only be used by an automated station unable to identify the phenomena

• **Obscurations**
  – Eight types of obscurations in the METAR code
  – Any phenomena in the atmosphere, other than precipitation that reduces visibility.
    • FG – Fog restricting visibility to less than 5/8 mile
    • BR – Used to indicate mist restricting visibility from 5/8 mile to 6 miles.

Source: [http://www.met.tamu.edu/class/metar/metar-pg9-ww.html](http://www.met.tamu.edu/class/metar/metar-pg9-ww.html)
METARs

Decoding METARs

CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004
M21/M23 A2957 RMK SLP017

• Sky Cover
  – Cloud amount and height (based on octants)
    • CLR (no clouds detected below 12000 feet) 0/8
    • FEW (few) 1/8 – 2/8
    • SCT (scattered) 3/8 – 4/8
    • BKN (broken) 5/8 – 7/8
    • OVC (overcast) 8/8
    • Cloud amount followed by 3-digit height in hundreds of feet
    • Vertical visibility (VV) followed by height for indefinite ceiling

Source: http://www.met.tamu.edu/class/metar/metar-pg9-ww.html


METARs

Decoding METARs

CYFB 200100Z 32024G34KT 1SM R35/2600VP6000FT/U -SN BLSN VV004 M21/M23 A2957 RMK SLP017

• **Temperature/Dew Point**
  – Reported in whole degrees Celsius using two digits
  – Sub-zero values are prefixed with an M (minus)

• **Altimeter**
  – In the U.S. the altimeter setting reported in inches of mercury (e.g., A2992)
  – Internationally it will be listed in millibars (e.g., Q1016)

• **Remarks**
  – Included in all observations when appropriate
  – May be generated manually or automatically
  – Generally elaborate on parameters reported in the body

Source: http://www.met.tamu.edu/class/metar/metar-pg9-ww.html
METARs
Decoding METARs

- KSAT 250435Z 08006KT 2SM +TSRA BR FEW007 BKN013 OVC050 03/01 A3032 RMK AO2 TSB29DZE00RAB23 TS OCNL LTGICCG DSNT SW W MOVG NE P0010
- UUWW 250600Z 14004MPS 2800 BR OVC003 02/02 Q1008 TEMPO 0500 FG VV002
- YSSY 250615Z 19026G37KT 9999 VCSH FEW015 SCT035 BKN050 19/12 Q1010 FM0615 MOD TURB BLW 5000FT

Source: http://aviationweather.gov/adds/metars/
TAFs
Terminal Aerodrome Forecast

• Who utilizes aerodrome forecasts?

Source: https://www.meted.ucar.edu/
TAFs

Terminal Aerodrome Forecast

- Concise statement of the expected meteorological conditions at an airport during a specified period
- Area within 5 miles of aerodrome
- Time period generally 24 hours
- Issued every 6 hours just before synoptic hours (unless amendment necessary)

Source: http://www.pilotworkshop.com/tips/aviation_weather_services.htm
TAFs
Terminal Aerodrome Forecast

• More emphasis and detail included in first 12 hours
  – Highlight only significant details later
• May include significant meteorological phenomena expected in the vicinity
  – Defined as area between 5-10 SM from center of runway complex
  – VCFG / VCSH / VCTS
• Amendments issued as necessary

Sources: http://www.nws.noaa.gov/directives/sym/pd01008013curr.pdf
TAFs
Decoding TAFs

• A TAF report contains the following sequence of elements in the following order
  – Type of Report
  – ICAO Station Identifier
  – Date and Time of Origin
  – Valid Period Date and Time
  – Forecast Meteorological Conditions
    • Wind – Visibility – Weather – Sky Conditions – Optional Data (wind shear)

TAF PANC 121738Z 1218/1324 01006KT P6SM SCT050 BKN090
  FM130600 01010KT P6SM BKN050
  FM131200 02012G20KT P6SM VCSH FEW022 OVC040
  FM132300 36009KT 5SM -SN BKN022 OVC040 WS010/18040KT

Source: http://aviationweather.gov/static/help/taf-decode.php
TAFs

Decoding TAFs

- Forecast Change Indicators
  - FM (FROM) Group – FM1600
    - Rapid change of prevailing conditions - usually less than an hour
  - BECMG (BECOMING) Group – BECMG 1312/1316
    - Gradual change in conditions over a longer period – usually 2 hours
  - TEMPO (TEMPORARY) Group – TEMPO 1312/1316
    - Used for any conditions in wind, visibility, weather, or sky condition
    - Expected to last for generally an hour at a time
    - Expected to occur during less than half the time period
    - Only the changing meteorological conditions included in the TEMPO group

Source: http://aviationweather.gov/static/help/taf-decode.php
TAFs

Decoding TAFs

• Probability Forecast – PROB30 1216
  – Probability of a weather phenomena occurring during the specified time
  – Probabilities will be in the 30-50% range
  – Generally not used within the first 6 hours of a forecast

• Examples

KEUG 122006Z 1220/1318 16008KT P6SM -RA SCT015 OVC030
TEMPO 1220/1221 -FZRA
FM130200 18007KT 2SM -RA BR BKN006 OVC020
FM131000 18007KT 4SM -SHRA BKN006 OVC020
FM131600 18003KT 1/2SM FG VV002

Source: http://aviationweather.gov/static/help/taf-decode.php
TAFs

Examples

- **EGBB** 121659Z 1218/1318 19010KT 6000 SCT014
  TEMPO 1218/1221 4500 BR BKN014
  PROB40
  TEMPO 1221/1303 4000 RADZ BKN008
  BECMG 1303/1306 BKN008
  TEMPO 1303/1315 4000 RADZ
  PROB30
  TEMPO 1313/1315 +RA
  BECMG 1315/1318 27010KT 9999

- **CYQX** 121738Z 1218/1318 26020G30KT P6SM SCT020
  TEMPO 1218/1310 P6SM -SHSN BKN020
  BECMG 1220/1222 26015KT
  FM131000 25015KT P6SM SCT040 RMK NXT FCST BY 130000Z

Winds at 14Z on the 13th?

Application -- Overview

• Let’s take the knowledge & create a skill set
  – Analysis
    • Long range (5-3 days)
    • Shorter range (48-24 hours)
    • Day of flight (24-0 hours)
  – Communication of impact
  – Resources
    • Charts
    • Radar
    • Websites
    • Products
Step 1: Discovery

- Educate yourself with all the considerations
  - Departure & Arrival Airport
    - Runway characteristics
    - Navigational support
    - Notice to airmen (NOTAM)
  - FBO facilities & services available
    - Hangar
    - De-ice / Anti-ice
    - Snow removal
    - Surface treatments
Step 1: Discovery

• Departure & Arrival Airport
  – Runway characteristics
    • Length & Width
    • Airport elevation
    • Weight capacity
  – Navigational support
    • ILS, LOC, GPS more common
    • Approach minimums
  – Notice to Airmen(NOTAMs)
    • Check throughout analysis
    • Show stoppers
Step 1: Discovery

- **FBO – Facility & services available**
  - **Hangar**
    - Heated hangar; radiant roof heating preferred
  - **De-ice**(Type I) & **Anti-ice**(Type IV)
    - Application methods
    - Holdover tables
  - **Snow removal**
    - Equipment type
    - Duration of maintenance
    - Ramp maintenance
  - **Surface treatments**
    - Snow/Ice melt systems
Step 2A: Identification of potential impact

Analysis: Long Range (5-3 days out)

Surface forecast (right)
  • High/Low Pressure areas

Extended forecast (below)
  • Paints general picture
Step 2B: Identification of potential impact

- Analysis: Shorter Range (48-24 hours out)
  - Forecast is becoming more accurate
    - Continue to utilize surface forecast & extended forecast
    - Compare forecasts from long range analysis to predict pattern
  - If there is delay potential action maybe necessary
    - Include crewmembers to discuss potential impact
    - Prepare statement of advisement to passenger for awareness if warranted
    - Some contingency planning might be necessary
Step 2C: Identification of potential impact

- Analysis: Day of flight (24-0 hours out)
  - Text weather
    - Aviation Routine Weather Reports (METAR)
    - Aerodrome forecasts (TAF)
  - National Airspace System (NAS)
  - Radar / SIGMETS
Step 2C: Identification of potential impact

Text weather

METAR
- Observed every hour
- SPECI is issued for significant changes

TAF
- Issued every 6 hours
- Apply to a 24 hours period except for some larger airports

Table 5-5, provides reporting notations to be used in the METAR/SPECI.

METAR / TAF – Next Steps

Part A = Decode; Part B = Determine Margin for Delay

• Once decoded you will utilize the information for:
  – Determining Primary RWY selection
  – Assessing margin for potential delay

• Primary RWY selection
  – Refer to previous discovery step
  – Wind direction / speed determines selection
  – Each RWY has minimums defined within chart
    • Comparing minimums to decoded text weather = MARGIN

• Let the margin help you make the decision
  – Fair amount of margin = Some consideration for back up plan
  – Very little margin = Put back up plan in place
  – No margin = Move to back up plan
NOTAM – Next Steps

Part A = Decode & Part B = Compare

• Once decoded you will need to compare to:
  – Trip schedule
  – Weather schedule

• Looking for show stoppers during the trip arrival / departure
  – RWY Closures
  – Braking Action reports
  – Navigation equipment information
  – TFR information
  – Airport construction information
  – Special event information
Step 2C: Identification of potential impact

National Airspace System (NAS)

- Operational Information System (OIS)
  - Ops Plans
    - Terminal constraints
    - En route constraints
  - Ops Advisories
    - Issued for information on the following ATC programs
      - Airspace Flow Program (AFP)
      - Ground Stop (GS)
      - Ground Delay Program (GDP)
      - General Aviation Arrival Program (GAAP)
    - Programs define delay with issuance of EDCT
      - Expected Departure Clearance Time
      - Utilized within +/- 5 min of time issued

NBAA Air Traffic Services is a valuable resource
Step 2C: Identification of potential impact

Composite Radar
- Precipitation finder
- Return levels
  - Level 1 – Green/Light
  - Level 2 – Yellow/Moderate
  - Level 3 – Red/Severe

Sigmets
- NWS product graphic & text
- Convective
  - Issued every hour
  - Valid for two hours
- Non-convective
  - Relates to severe turbulence
Step 3: Communication of impact

• Goal #1: Create situational awareness
• Goal #2: Avoid panic
  – Suggestions to satisfy goal #1 & goal #2
    • promise continuous monitoring and further advisements
    • avoid aviation technical terminology
    • maintain solid relationship during entire scheduling process to establish trust
Case Study – The process applied

**Trip scheduled for as follows:**
- January 30-31, 2013
  - A client requested a flight departing Concord, NH(CON) to Gainesville, GA(GVL), staying overnight with a return to Concord, NH(CON) the next day

**Trip flown as follows:**
- January 30: Departed out of Boston, MA(BOS)
  - Limiting factor: Fog & reduced ceilings.
- January 30: Arrived Gainesville, GA(GVL)
  - Limiting factor: En route thunderstorms & tornado 75 miles NW of airport
- January 31: Arrived Boston, MA(BOS)
  - Limiting factor: Wind

**Let’s evaluate how the process was applied**
- Step 1: Discovery CON/GVL
- Step 2: Identification of potential impact
  - A: Long range
  - B: Shorter range
  - C: Day of flight
- Step 3: Communication of impact
Resources – Websites

Flight Delay Information
http://www.fly.faa.gov/flyfaa/usmap.jsp

NAS Status - Operational Information System(OIS)
http://www.fly.faa.gov/ois/

EDCT Look up

Aviation Weather
http://www.aviationweather.gov/
http://www.accuweather.com/
http://www.weather.com
http://www.wunderground.com

GFS Forecast
http://charlie.wxcaster.com/text/GFSSFC/GFS_KBFI.txt

Localized Aviation MOS Product(LAMP)
http://www.nws.noaa.gov/mdl/gfslamp/statebull.shtml
Resources – More websites

Seasonal – Convective Forecast
  http://aviationweather.gov/products/ccfp/

Historical query
  http://www.ogimet.com/metars.phtml.en

Seasonal - Tropical
  http://www.nhc.noaa.gov/
Reference Material

• Most Common NOTAM Contractions

• Understanding TFRs

• METAR/TAF Acronyms

• NWS Directive on TAFs