

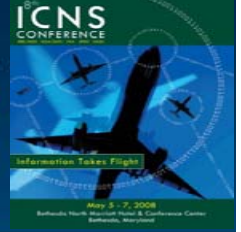


Weather Data Processing: Display of Aviation Weather

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Agenda



Aviation Weather Briefings and Weather Displays

Situation Display Problems:

- Problems associated with weather on the Situation Display
- Graphically representing text weather data
- Identification of an area of interest (AOI)

Weather Briefing Problems:

- Comprehensive and relevant weather data is needed quickly.
 - How do I get it?
 - Will what I now know about the weather affect my plans to fly?
- Communicating weather changes and updating weather briefings
 - How will I know about changes after I receive a weather briefing?
- Solutions

Text Weather Briefings



Weather Briefing for TEST111 On Map

- Adverse Conditions
 - TFR
 - UUA
 - D/D AD/RWY CLSD
 - AC
 - WW
 - AWW
 - WH
 - WS
 - WST
 - OCEANIC WS
 - CWA
 - WA
- Synopsis
- Current Wx
- Forecast
- TFR
- NOTAM
- ATCSCC

WST - Convective SIGMET

WSUS32 KKCI 101655
SIGC
MKCC WST 101655
CONVECTIVE SIGMET 33C
VALID UNTIL 1855Z
KY IN IL MO
FROM 20SE BDF-10ENE TTH-50SW PXV-50WSW FAM-20SE BDF
AREA SEV TS MOV FROM 24020KT. TOPS TO FL390.
TORNADOES...HAIL TO 1.5 IN...WIND GUSTS TO 70KT POSS.

WSUS32 KKCI 101655
SIGC
MKCC WST 101655
CONVECTIVE SIGMET 34C
VALID UNTIL 1855Z
KS NE
FROM 20ESE MCK-50SSW PWE-50ENE ICT-40SW SLN-20ESE MCK
AREA EMBD TS MOV FROM 18035KT. TOPS TO FL270.

WSUS32 KKCI 101655
SIGC
MKCC WST 101655
CONVECTIVE SIGMET 35C
VALID UNTIL 1855Z
LA AR
FROM 60WSW ARG-50NE LIT-40SSW EIC-40SSE FSM-60WSW ARG
AREA SEV TS MOV FROM 20040KT. TOPS TO FL400.
TORNADOES...HAIL TO 1.5 IN...WIND GUSTS TO 70KT POSS.

RAIM...

Briefing Type
◆ Standard ◇ Abbreviated ◇ Outlook ◇ Incomplete

Text weather briefings provide each weather message within the briefing as tabs are expanded.

Text Weather Briefings



Weather Briefing for TEST111 On Map

- Adverse Conditions
- Synopsis
- Current Wx
 - METAR/TAF
 - METAR
 - PIREP
- Forecast
 - TFR
 - NOTAM
 - ATCSCC

METAR/TAF

Station	Type	Text
	TAF	TAF AMD KCNV 101559Z 101612 18020G30KT P6SM VCSH BKN015 TEMPO 1718 SCT015 BKN025 FM1800 21027G36KT P6SM SCT015 BKN025CB FM1900 21027G36KT P6SM SCT025 FM0200 25015G25KT P6SM SCT025CB FM0300 31018G28KT P6SM OVC010 =
KSGF	SPECI	SPECI KSGF 101701Z 16024G31KT 10SM BKN024 BKN029 18/15 A2941 =
	METAR	KSGF 101652Z 16023G30KT 10SM SCT024 18/15 A2942 RMK AO2 PKWND 16031/1637 SLP955 T01830150 =
	METAR	KSGF 101552Z 16018G28KT 10SM OVC035 18/14 A2943 RMK AO2 PKWND 16028/1550 SLP958 T01780144 =
	METAR	KSGF 101452Z 15015KT 10SM CLR 16/14 A2944 RMK AO2 SLP963 80070 T01610144 58017 =
	TAF	KSGF 101646Z 101712 17018G28KT P6SM SCT015 BKN040 FM1900 19020G35KT P6SM SCT015 BKN250 FM0200 21015G25KT P6SM BKN250 =
KUNO	METAR	KUNO 101653Z AUTO 15011G17KT 10SM -RA BKN008 OVC013 17/16 A2957 RMK AO2 TSE04RAE01B22 CIG005V011 SLP006 P0001 T01720161 =
	METAR	KUNO 101621Z AUTO 16011KT 8SM BKN006 OVC010 17/15 A2957 RMK AO2 TSE04RAE01 P0000 =

RAIM...

Briefing Type
 Standard Abbreviated Outlook Incomplete

Text weather briefings provide each coded weather message for airports along the route of flight.

Weather within Flight Data Lists



OBJECT	TYPE	ORG	DST
KLM757	F-ETA -16	EHAM	MPTO
UAL949	F-ETA -63	EGLL	KORD
UAL901	F-OffRt 0	EDDF	KSFO
UAL929	F-OffRt 0	EGLL	KORD
UAL945	F-ETA -12	EDDF	KORD
UAL876	F-FPL S	RJAA	KSEA
UAL203T	P-FPL S	KORD	KMSP
MPTO	A-HOLD H		
CYUL	A-Wx W		
CYYZ	A-Wx W		
CYYZ	A-Wx W		
EGBB	A-Wx W		
EGCC	A-Wx W		
EGNJ	A-Wx W		
EGNM	A-Wx W		
EGNT	A-Wx W		
EGNV	A-Wx W		
EGPD	A-Wx W		
EGPH	A-Wx W		
ENVA	A-Wx W		

VFR	N5193U	GE	C206/U	BCE	BCE	122005	SCENIC/PHO	121636	
VFR	N6335G	W	C150/U	DUA	RVS	122009		121752	
DVFR	N209KW	GE	C206/U	EYW	EYW	121940	RMK/DVFR D	121755	
VFR	N16BJ	GE	PA32/G	SNA	MMSF	121817	ADCUS 3 CH	121643	
IFR	KAI65	GE	GLF2/	MMGL	KOAK	121929	CUSNO 09 G	121708	
VFR	N4761L		C152/U	ILE	ILE	122030		121637	
VFR	N5352D	GE	P28R/G	APA	DRO	121914	REGISTERE	121713	
VFR	C10AR1	GE	A10/	DMA	SDL	121800	\$	121742	
MIL VFR	R00550	GE	B06/U	NQA	GWD	121841	5/B06 (NB:	121711	
MIL VFR	G24550		H60/	SBS	COS	121825		121711	
VFR	CFUXI		RV7A/U	057	8S1	122051		121751	

Row 0 of 193

Global Proposed Flights

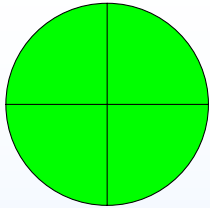
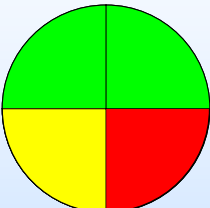
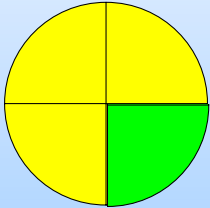
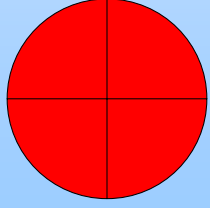
FLT TYPE	ACID	ALERTS	AIRCRAFT TYPE	DEP	DEST	ETD	REMARKS	CONTACT	POSTI
IFR	VV16421		BE9L/G	NGP	CRP	121830	LNDG NGP	121744	
VFR	N6284U		BE36/I	MMES	SDL	141630	CUSNO 4/0	121215	
IFR	N1510G		C421/G	HBV	HOU	122030		121300	
IFR	N5980M	W	C421/G	HBR	AUS	122000		121538	
MIL IFR	VV8689		T34T/G	TUS	LAS	121700		121639	
VFR	N22467	W	C172/G	PMC	OPH	121815		121710	

Typically, a form of alerting concerning airports and flights within flight data lists is provided.



Text Weather Graphically Depicted



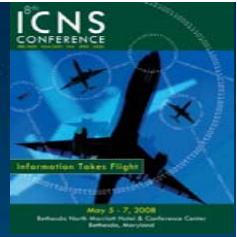
Airport Symbol	Weather Conditions
	No current weather problems, No problems forecast over next 18 hours at airport location.
	No current weather problems, however Poor Weather is forecast during the next 18 hours at airport location.
	Airport location is experiencing some current weather problems and Poor Weather forecast during the next 18 hours
	Problematic weather conditions reported and forecast at the airport location

Each quadrant can be defined, for example:

- Upper left – METARs
- Lower left – TAFs
- Upper right – NOTAMs
- Lower right – Ground Delay Program (GDP)



Weather and Flight Data Playback



File Functions Overlays Nav Data Map Features AOIs Flt Tags Display Help

Displayed AOI:
Wx Element Timestamp

Time
04/11 11:37
04/11 11:52
04/11 12:07
04/11 12:22
04/11 12:37
04/11 12:52
04/11 13:07
04/11 13:22
04/11 13:37
04/11 13:52
04/11 14:07
>>04/11 14:22<<
04/11 14:37
04/11 14:52
04/11 15:07
04/11 15:22
04/11 15:37
04/11 15:52
04/11 16:07

Play
Pause
Previous
Next
Stop
 Display Flights

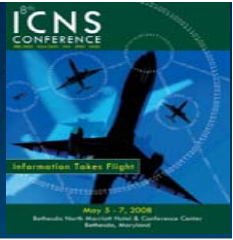
Time Scale (minutes): 15 Apply

Playback Rate:
Slow Fast

LAT 56:07:28 N DIR --- LEG 00000.0nm Labels: On
LON 119:38:27 W TOTAL 00000.0nm Tags: Off



Weather and Flight Data Projection



File Functions Overlays Nav Data Map Features AOIs Flt Tags Display Help

Displayed AOI: USA

Wx Element	Timestamp
Et	04/11 14:20
dB	04/11 14:20

Time

- 04/11 12:28
- 04/11 12:43
- 04/11 12:58
- 04/11 13:13
- 04/11 13:28
- 04/11 13:43
- 04/11 13:58
- 04/11 14:13
- >>04/11 14:28<<
- 04/11 14:43
- 04/11 14:58**
- 04/11 15:13
- 04/11 15:28
- 04/11 15:43
- 04/11 15:58
- 04/11 16:13

Play

Pause

Previous

Next

Stop

Display Flights

Time scale (minutes): 15

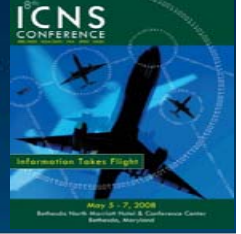
Playback Rate:







Slow Fast

LAT 50:19:01 N DIR --- LEG 00000.0nm Labels: On
LON 116:41:40 W TOTAL 00000.0nm Tags: Off

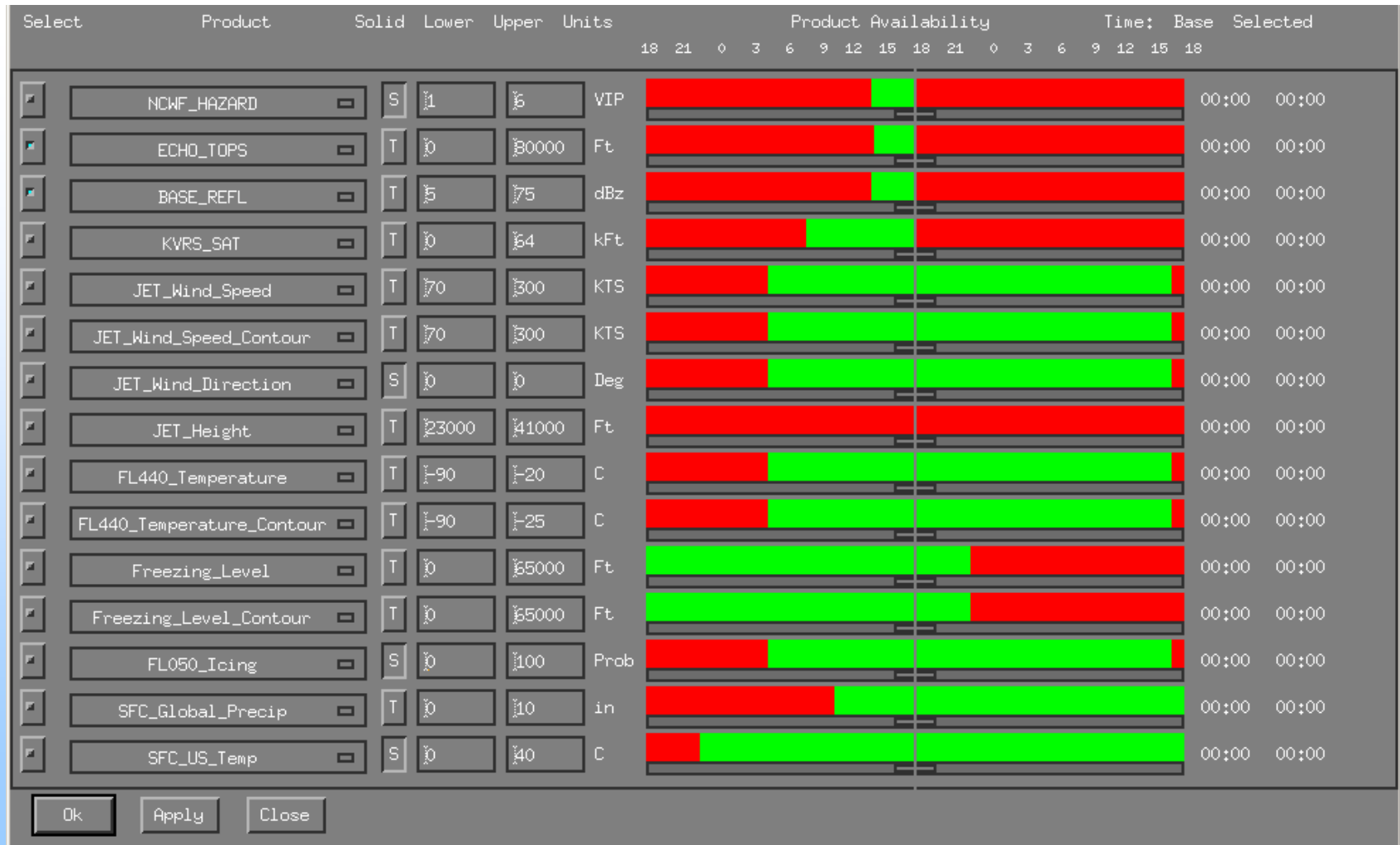
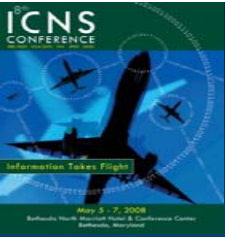


Flight Data Projection



Icon	Meaning
	A flight is en-route at the time Looping is invoked, and its positions have been projected along its planned route.
	A flight is pre-departure at the time Looping is invoked, and its positions have been projected along its planned route.
	A flight is en-route at the time Looping is invoked, and its positions have been projected directly towards its destination airport due to the flight being off its planned route, i.e. an off plan alert is active on the flight at the time Looping is invoked.
	A flight is en-route at the time Looping is invoked, and its positions have been projected directly towards its destination airport due to FltWinds not having a flight plan for the flight.
	A flight is currently en-route, but is always being shown at its last reported position due to FltWinds having neither a flight plan nor a destination for the flight to be projected forward. If the flight's landing time can be determined, the flight icon will be removed after it is projected to have landed.
	A flight is currently en-route, but is always being shown at its last reported position due to FltWinds not having complete flight plan information to project the flight forward. If the flight's landing time can be determined, the flight icon will be removed after it is projected to have landed.

Weather Playback and Projection

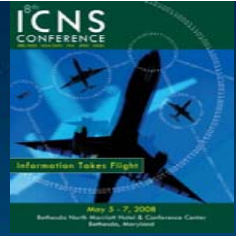


Aviation Weather Briefings and Weather Displays

Situation Display (SD), SD Mimic, and the Weather Briefing:

- Reserve the SD for current situation review
- Use a SD mimic display for playback and projection activities
 - Animation of weather and flight data provides movement and intensity information that are difficult to acquire from text weather briefings.
 - Graphically represent text weather data within the weather briefing
 - Quick overall context and summary of weather and flight data
 - Flight plan details and weather data details remain available
 - Mouse click or cursor dwells over flight plan route on the SD mimic
 - Mouse click or cursor dwells over any weather on the SD mimic
 - List entry selection and flight plan template population determines the AOI
- Electronic mail of weather briefing updates and annotations from flight service
- Relevant weather graphics included within the weather briefings

Questions?



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