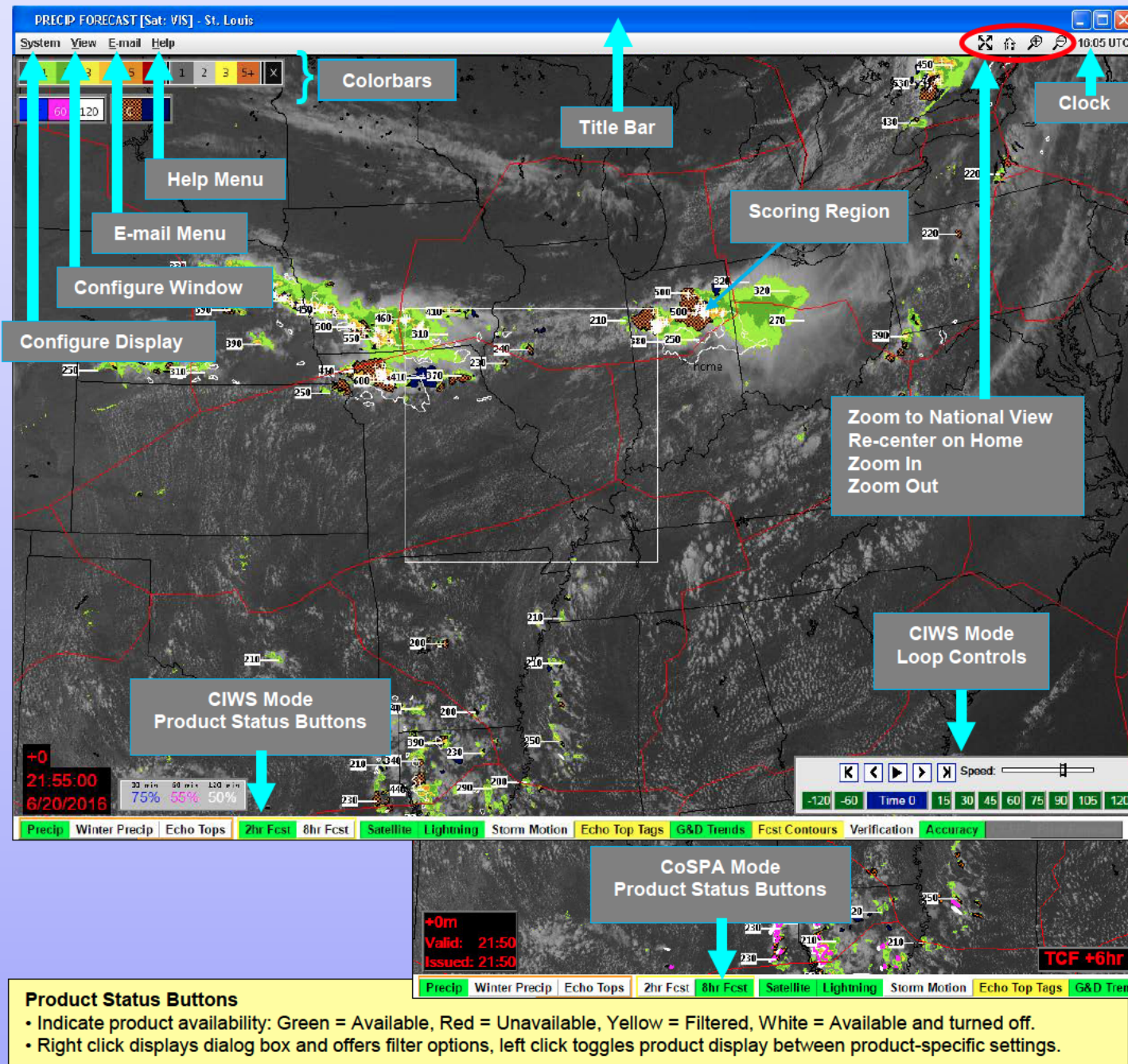
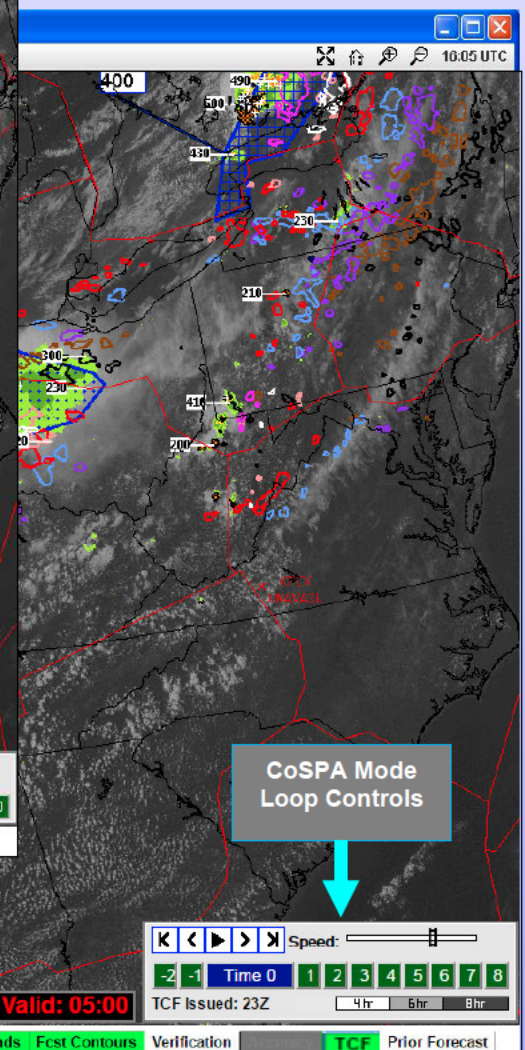


CIWS Mode

Situation Display Layout



CoSPA Mode



MIT Lincoln Laboratory CIWS Network Operations Center

*If there is no answer within four rings, your call will be forwarded to an answering service. Please leave a message, including your name and phone number. The CIWS operations team will be paged automatically and someone will return your call as soon as possible.

This work was sponsored by the Federal Aviation Administration under Air Force Contract No. FA8721-05-C-0002. Opinions, interpretations, conclusions, and recommendations are those of the authors and are not necessarily endorsed by the United States Government.

System Menu

New Window

☐ Zoom Out to National View

1 2 3 4 5 6 7 8 9 0 - _
 q w e r t y u i o p
 Caps a s d f g h j k l Enter
 z x c v b n m , < > Del

Type In Home Name or Airport ID Code:

OK Apply Cancel

Or

Select from List:

Region	Home
☒ Canadian	☒ YAM - Sault Ste. Marie
☐ ZAB,Z0A,ZLA	☐ YMX - Montreal
☐ ZAU,ZKC,ZME	☐ YOW - Macdonald-Cartier
☐ ZDV,ZSE,ZMP,ZLC	☐ YUL - Pierre Elliott Trudeau
☐ ZHU,ZFW	☐ YVR - Vancouver
☐ ZID,ZDC	☐ YWG - Winnipeg
☐ ZJX,ZTL,ZMA	☐ YYZ - Toronto
☐ ZNY,ZBW	
☐ ZOB	

OK Apply Cancel

System

New Window...

Window Configuration...

Close

Window Configuration

Select Configurations:

Factory Default
 Default
 my-window-config

Delete

Restore Windows Add Windows

Save Current Configuration As:

Save

1 2 3 4 5 6 7 8 9 0 - _
 q w e r t y u i o p
 Caps a s d f g h j k l Enter
 z x c v b n m , < > Del

Close

Context Menus

Right click on window background then left click on desired option

Zoom In
 Zoom Out
 Center Map Here
 Center on Home
 Play
 Previous Frame
 Next Frame
 Time Zero
 Manage Overlays...

Right click on overlay in window then left click on desired option

Hide J6
 Hide Label
 Color
 Hide All Jet Routes
 Hide Labels
 Color
 Zoom In
 Zoom Out
 Center Map Here
 Center on Home
 Play
 Previous Frame
 Next Frame
 Time Zero
 Manage Overlays...

Email - send benefits information, queries, comments, etc. to CIWS team

E-mail

Compose with Image...
 Compose...

Email Comments to MIT Lincoln Laboratory

Please include your name and telephone number or email address if you would like to be contacted to discuss the email.

To: Operations Center
 CC:
 Subject:

Add your e-mail address to receive a copy. Attached image (if any) is in png format. If the message is for your use only, please indicate this in the subject line or message text.

~ 1 2 3 4 5 6 7 8 9 0 - _ + - \ ! # \$ %
 Tab q w e r t y u i o p { } & @ ' < > ?
 Caps a s d f g h j k l ; : ' " Enter
 Space z x c v b n m , . < > / ? Del

Send Close

View Menu

The View Menu contains the following options:

- View
- E-mail
- Help
- Manage Overlays...
- Overlay Groups...
- Change Home...
- Recenter on Location...
- Radar Data Loss...
- Loop Settings...
- Loop Controls
- Virtual Keyboards
- Mouse Highlight
- Color Bar
- Menu Clock
- Show Lat/Long
- Loop Time
- Show Date
- Show Year
- Show Issued Time

When checked, respectively:

- Displays Loop Controls
- Displays virtual keyboards on all dialog boxes, where available
- Changes overlays to white when cursor passes over
- Displays color bars
- Displays clock in menu bar
- Displays latitude and longitude of cursor location in menu bar

CoSPA window only

CoSPA window only. Format Loop Time display.

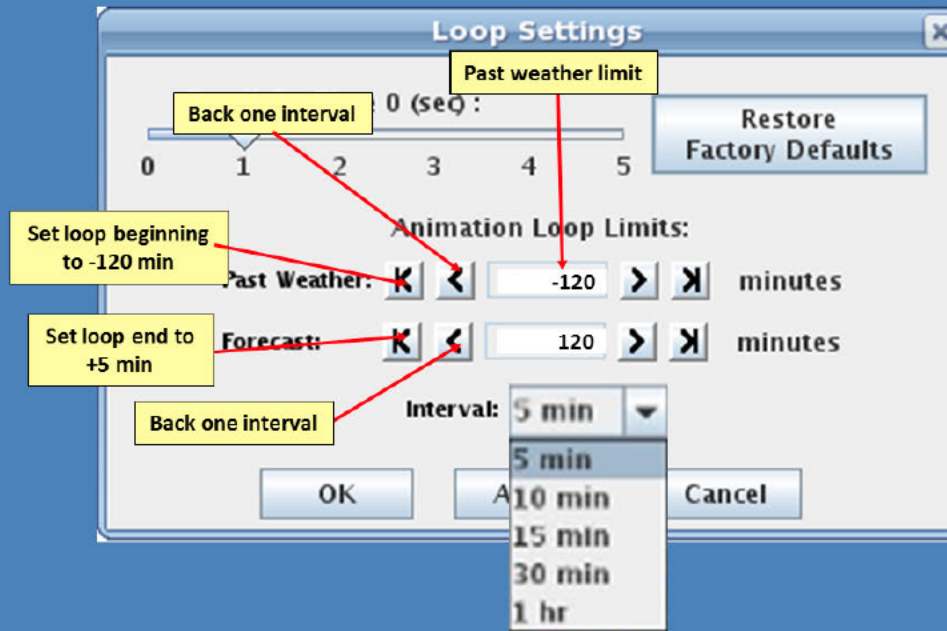
+4h 00m
Valid: 7/29/2009 16:05
Issued: 7/29/2009 12:05

Dialog Boxes:

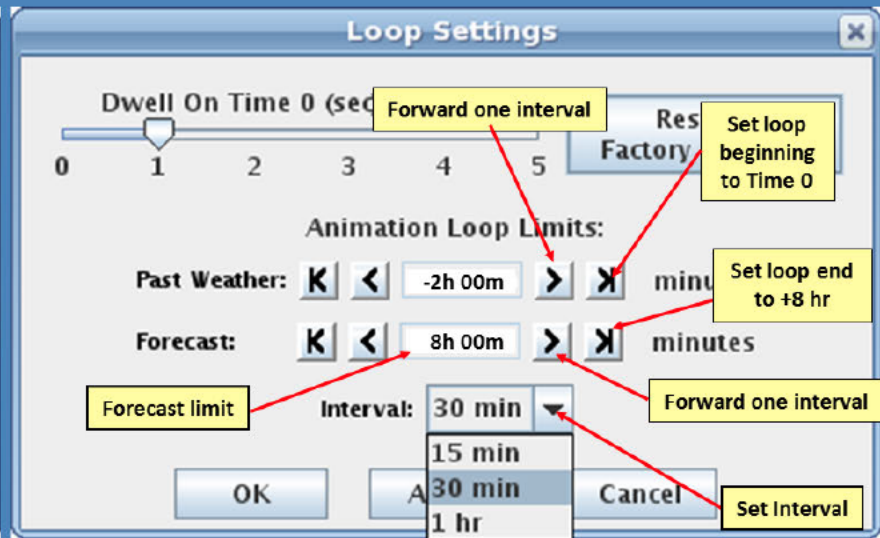
- Manage Overlays:** Add Overlays (keyboard input), Overlay List (Visible, Label, Color), Remove Overlays (Select Overlays to Remove).
- Browse Overlays:** Select Overlays to Add (list of overlays), Add, Cancel.
- Overlay Groups:** Select Group (Factory Default, my-overlays, Pacing_Airports), Restore Overlays, Add Overlays, Show Group, Save Current Overlays As: (Save), Close.
- my-overlays Overlay Group:** Overlay List (Visible: Airports, ARTCCs, Boundaries, Jet Routes, J6, J42, J73, J80).
- Change Home:** Zoom Out to National View, Type In Home Name or Airport ID Code: (input field), OK, Apply, Cancel, Or, Select from List: Region (Canadian: ZAB, ZOA, ZLA, ZAU, ZKC, ZHE, ZDV, ZSE, ZXP, ZLC, ZHU, ZFW, ZTD, ZDC, ZJX, ZTL, ZHA, ZNY, ZBW, ZOB; Home: YAM - Sault Ste. Marie, YMX - Montreal, YOW - Macdonald-Cartier, YUL - Pierre Elliott Trudeau, YVR - Vancouver, YWG - Winnipeg, YYZ - Toronto), OK, Apply, Cancel.
- Loop Settings:** Dwell On Time 0 (sec): (slider), Restore Factory Defaults, Animation Loop Limits: Past Weather: (K) < -120 > (X) minutes, Forecast: (K) < 120 > (X) minutes, Interval: 5 min, OK, Apply, Cancel.
- Recenter on Location:** Set center of map to coordinates: Decimal Degrees (Latitude: 41.7733, Longitude: -82.2681), Degrees Minutes Seconds (Latitude: 41 46 24, Longitude: -82 16 05), OK, Apply, Cancel.
- Radar Data Loss:** (checked) NEXRAD, (checked) TDWR, (checked) Canadian Radar, OK, Apply, Cancel.

Loop Settings and Controls

CIWS Loop Settings Options

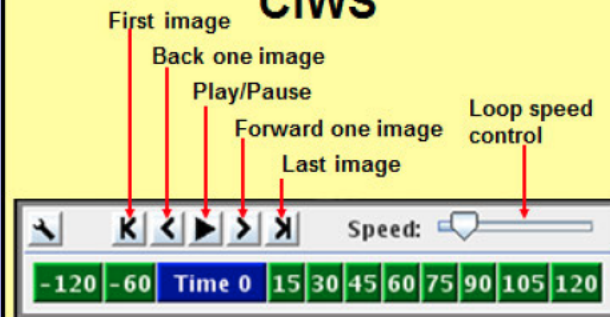


CoSPA Loop Settings Options

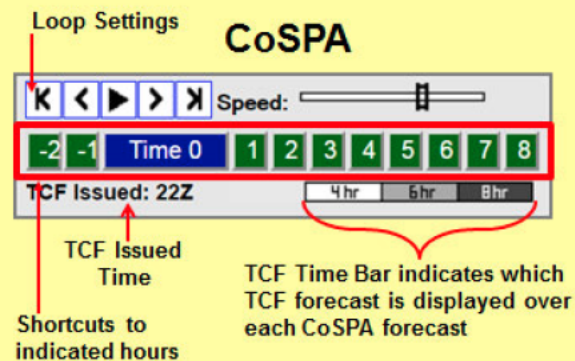


Loop Controls

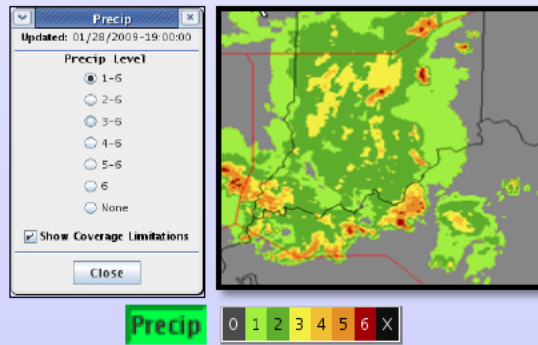
CIWS



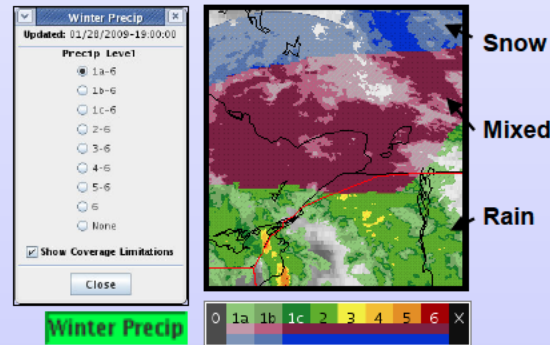
CoSPA



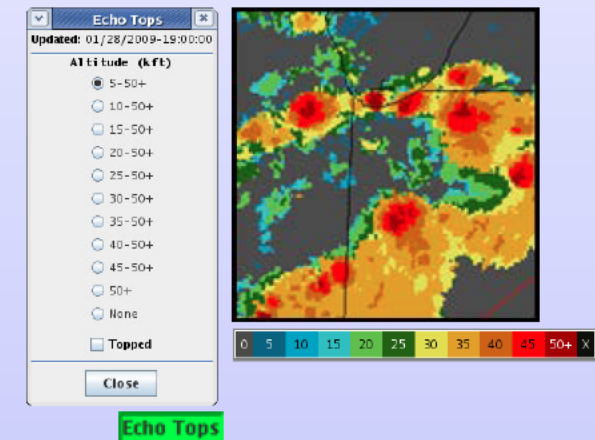
Base Products and Their Forecasts



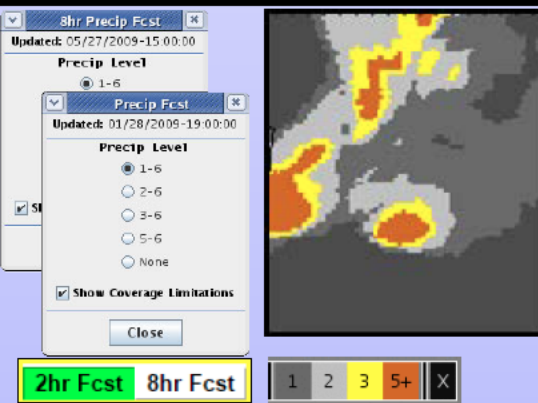
Precipitation: 6-level precipitation intensity mosaic.



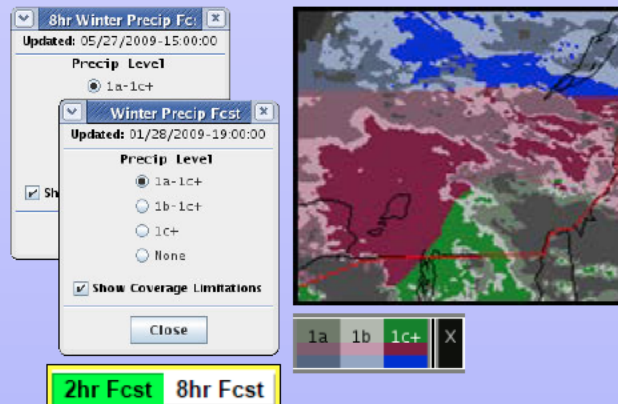
Winter Precipitation: Provides additional detail for Level 1, which may contain moderate (Level 1b) or heavy (Level 1c) snow or mixed precipitation. Precipitation phase is represented in greens (rain), pinks (mixed), and blues (snow).



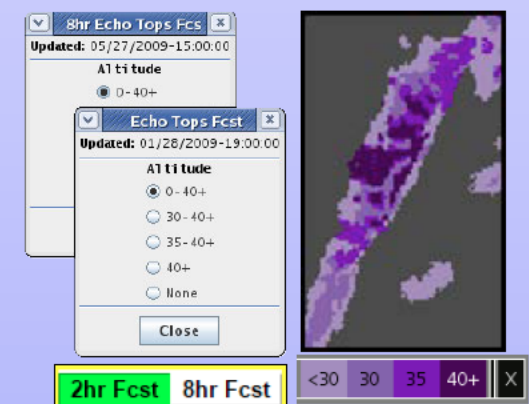
Echo Tops Mosaic: Echo top heights in 5000-foot increments.



Precipitation Forecast: Provides forecasts of Level 1, 2, 3-4, and 5+ precipitation. Filter options are the same for CIWS and CoSPA.

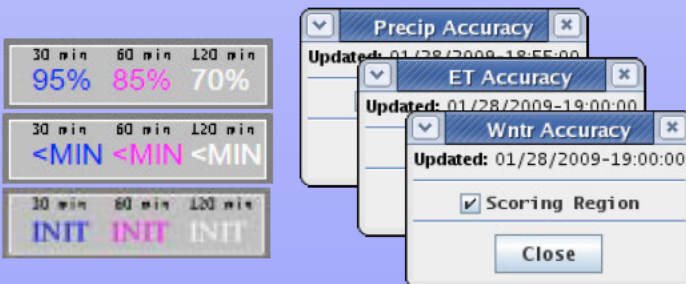


Winter Forecast: Provides forecasts of Levels 1a, 1b, and 1c+ snow (blue), mixed (pink), or liquid (green) precipitation. Filter options are the same for CIWS and CoSPA.



Echo Tops Forecast: Provides forecasts of < 30, 30-35, 35-40, and > 40 kft echo top heights. Filter options are the same for CIWS and CoSPA.

CIWS Only



Forecast Accuracy: Real-time Precipitation Forecast Accuracy is scored for Level 3+ or Level 1c+ forecasts. Echo Tops Forecast Accuracy is scored for >30 kft echo tops forecasts. Scores are derived from within the scoring region (white box) centered on the Home of the window.

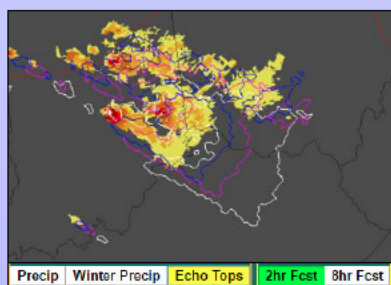
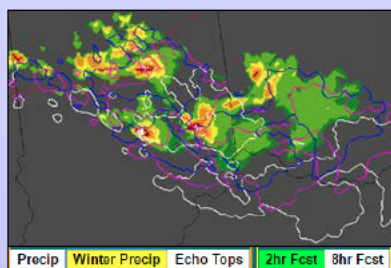
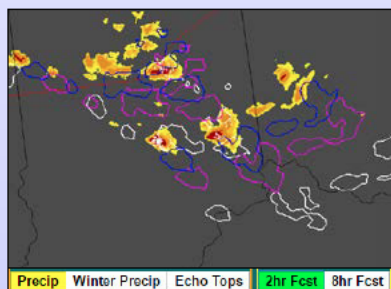
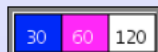
CoSPA Only

Aged Model – Potentially Degraded

Displayed when HRRR is not received after 4:40 hrs.
CoSPA is unavailable if HRRR is not received after 7:40 hrs.

Fcst Contours

CIWS



ET Fcst Contours

Updated: 01/28/2009-19:00:00

Wntr Fcst Contour

Updated: 01/28/2009-19:00:00

Precip Fcst Contour

Updated: 01/28/2009-19:00:00

☒ Time 0 Only

Contour Type

☒ 30 min

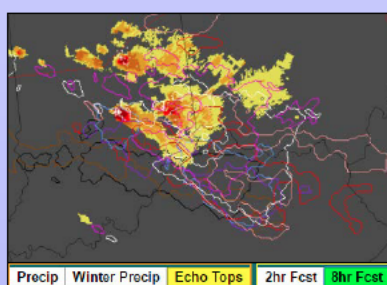
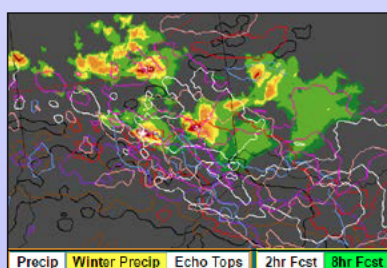
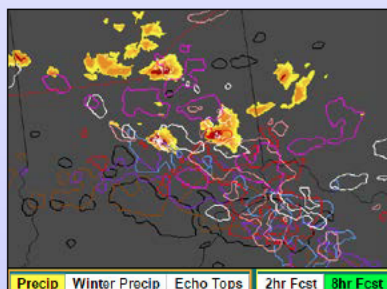
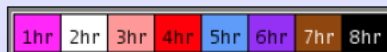
☒ 60 min

☒ 120 min

Close

Forecast Contours: Contours of current forecasts of Level 3+ (Precip) or Level 1c+ (Winter Precip) or 30+ kft (Echo Tops) displayable at time 0 only. Not displayable simultaneously with Verification Contours.

CoSPA



8hr ET Fcst Contour

Updated: 01/28/2009-23:00:00

8hr Wntr Fcst Contour

Updated: 01/28/2009-23:00:00

8hr Precip Fcst Contour

Updated: 01/28/2009-23:00:00

☒ Time 0 Only

Contour Type

☒ 1hr

☒ 2hr

☒ 3hr

☒ 4hr

☒ 5hr

☒ 6hr

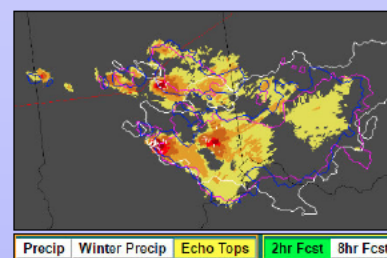
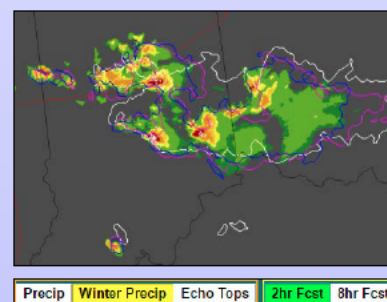
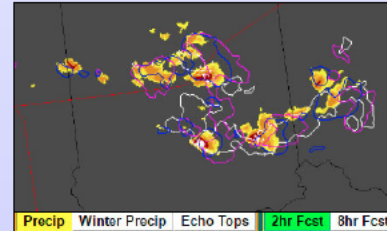
☒ 7hr

☒ 8hr

Close

Verification

CIWS



ET Verification

Updated: 01/28/2009-19:00:00

Wntr Verification

Updated: 01/28/2009-19:00:00

Precip Verification

Updated: 01/28/2009-19:00:00

☐ Time 0 Only

Contour Type

☒ 30 min

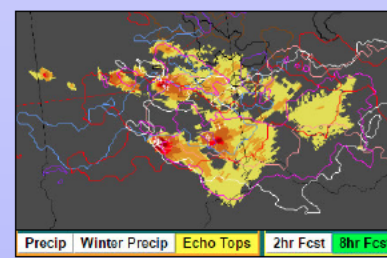
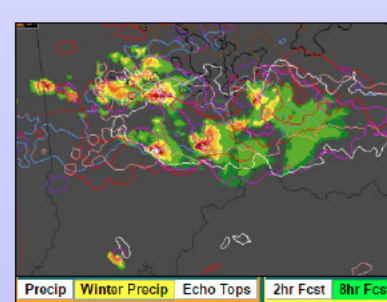
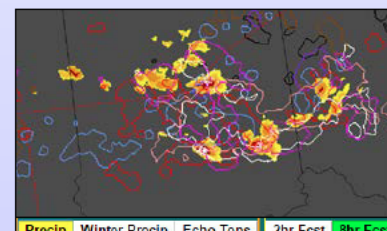
☒ 60 min

☒ 120 min

Close

Verification Contours: Contours of past forecasts of Level 3+ (Precip) or Level 1c+ (Winter Precip) or 30+ kft (Echo Tops). Displayable on corresponding past and current base product images. Not displayable simultaneously with Forecast Contours.

CoSPA



8hr ET Verification

Updated: 01/28/2009-23:00:00

8hr Wntr Verification

Updated: 01/28/2009-23:00:00

8hr Precip Verification

Updated: 01/28/2009-23:00:00

☐ Time 0 Only

Contour Type

☒ 1hr

☒ 2hr

☒ 3hr

☒ 4hr

☒ 5hr

☒ 6hr

☒ 7hr

☒ 8hr

Close



Echo Tops Tags

Updated: 01/28/2009-19:00:00

☒ Time 0 Only

Label Position

☒ Surround

☐ Left only

☐ Right only

Filter by:

☒ Zoom Level

☐ Altitude:

200

Close

G&D Trends

Updated: 01/28/2009-19:00:00

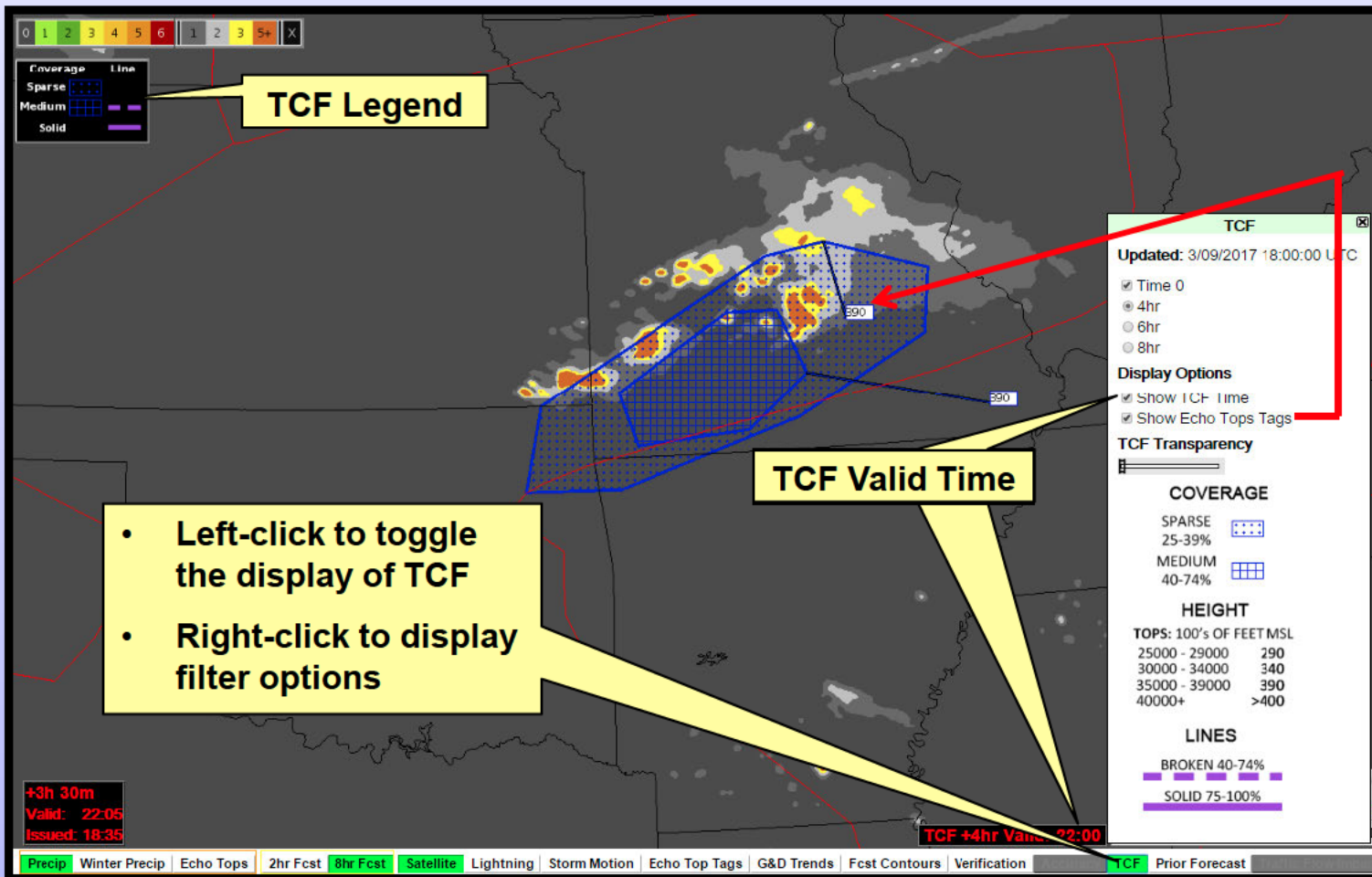
☐ Time 0 Only

Legend

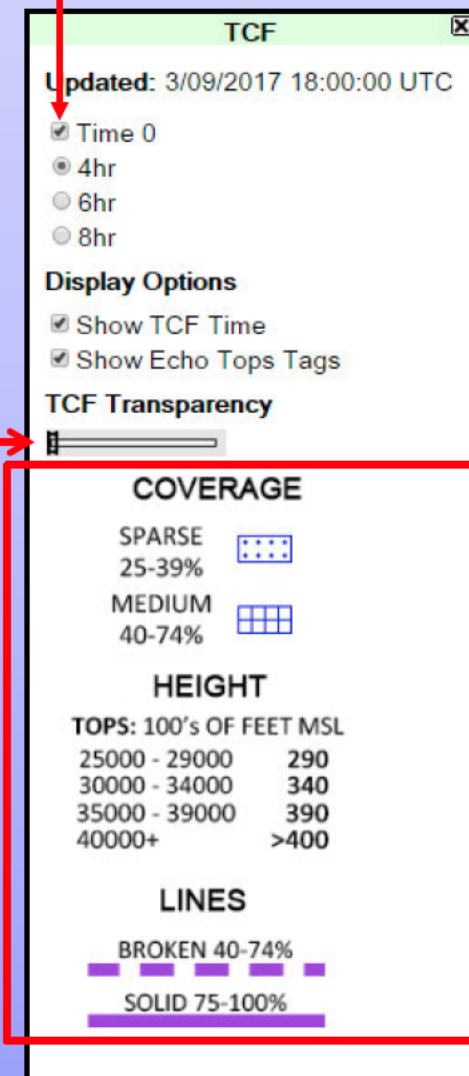
■ Growth

■ Decay

Close



Time 0 – Select the TCF forecast to be displayed at Time 0

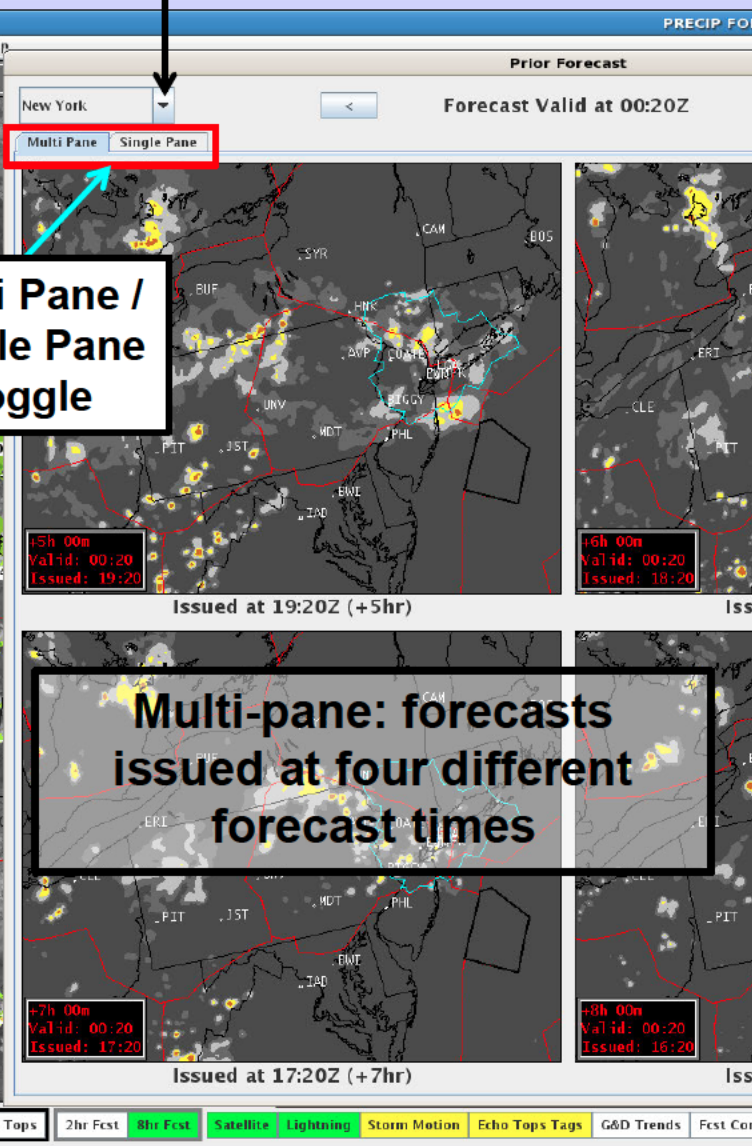


Prior Forecast Product

Displays forecasts issued at different forecast times for the same valid time.

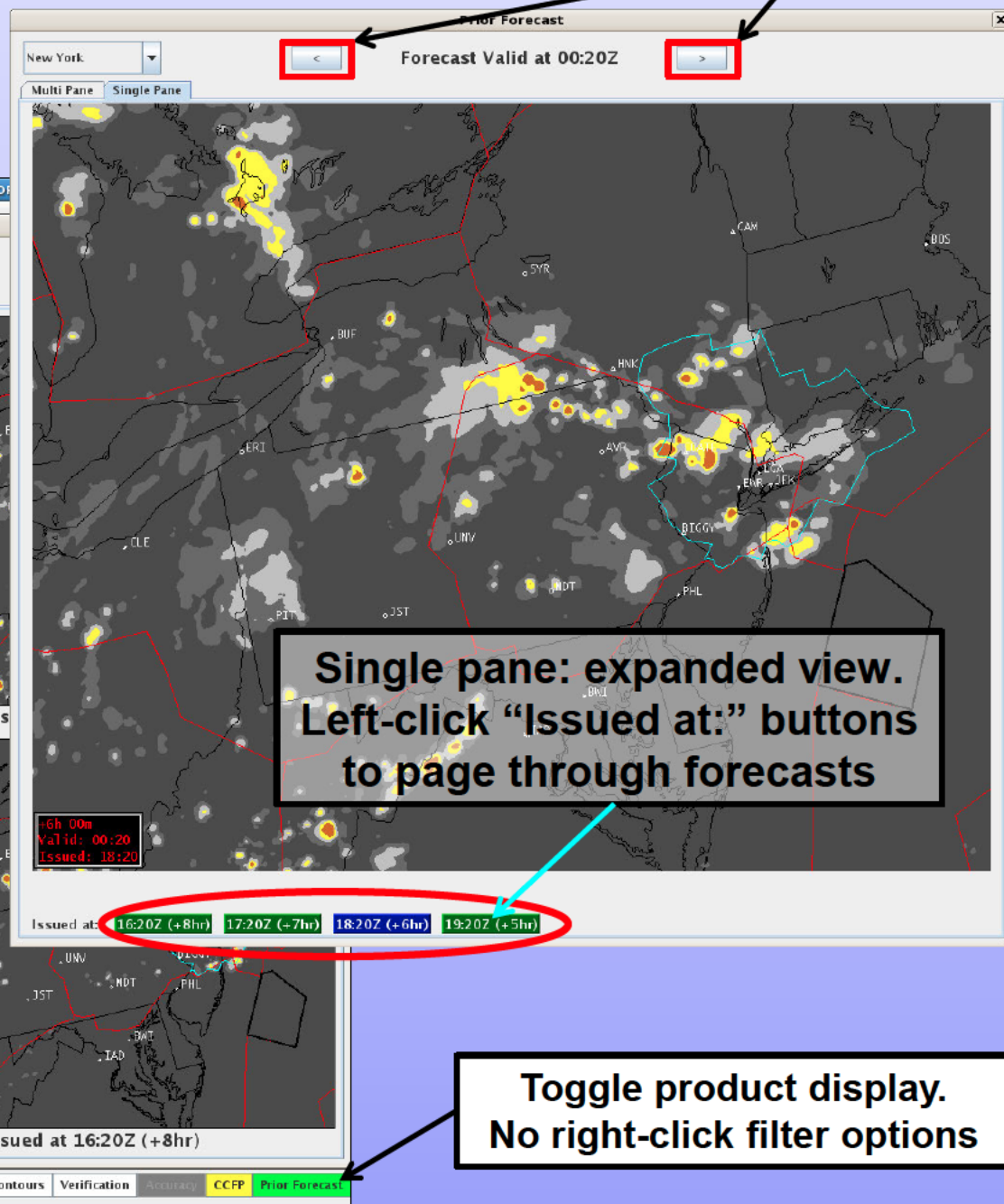
Select
Forecast Valid Time

Select
Region



Multi Pane /
Single Pane
Toggle

Multi-pane: forecasts
issued at four different
forecast times



Single pane: expanded view.
Left-click "Issued at:" buttons
to page through forecasts

Toggle product display.
No right-click filter options

The screenshot displays the Traffic Flow Impact (TFI) application interface. The top panel shows a map of the Northeast US with radar overlays. Below the map is a table of TFI regions (ZNY, ZOB, ZDC) and their impact levels (Low, Med, High) for various times. A bottom panel shows a 'Traffic Flow Impact (ZNY001)' graph plotting Permeability (%) against Forecast Valid Time. A right panel shows a 'Traffic Flow Impact' window with a list of regions and checkboxes.

Map Panel: Shows a map of the Northeast US with radar overlays. A red box highlights the ZNY001 region. A red arrow points to the ZNY001 region name in the table below.

Table Panel: A table showing TFI regions and their impact levels for various times. The regions are ZNY, ZOB, and ZDC. The impact levels are Low (yellow), Med (green), and High (red). The times are 18:00, 19:00, 20:00, 21:00, 22:00, 23:00, 00:00, and 01:00.

Region	18:00	19:00	20:00	21:00	22:00	23:00	00:00	01:00
ZNY	Low	Low	Low	Low	Low	Low	Low	Low
ZOB	Low	Low	Low	Low	Low	Low	Low	Low
ZDC	Low	Low	Low	Low	Low	Low	Low	Low

Graph Panel: A line graph titled 'Traffic Flow Impact (ZNY001)' showing Permeability (%) on the Y-axis (0 to 100) and Forecast Valid Time on the X-axis (18:00 to 05:00). The graph shows a blue line representing the impact level, which starts at approximately 85% at 18:00, drops to a minimum of about 45% at 22:00, and then rises back to 85% at 05:00. The background is divided into three horizontal bands: Low Impact (yellow, 60-100%), Med Impact (green, 40-60%), and High Impact (red, 0-40%).

Right Panel: A window titled 'Traffic Flow Impact' showing a list of regions and checkboxes. The regions are ZNY, ZOB, ZDC, ZBW, and ZJX. All checkboxes are checked. The window also shows the update time: 02/16/2018-18:30:00.