



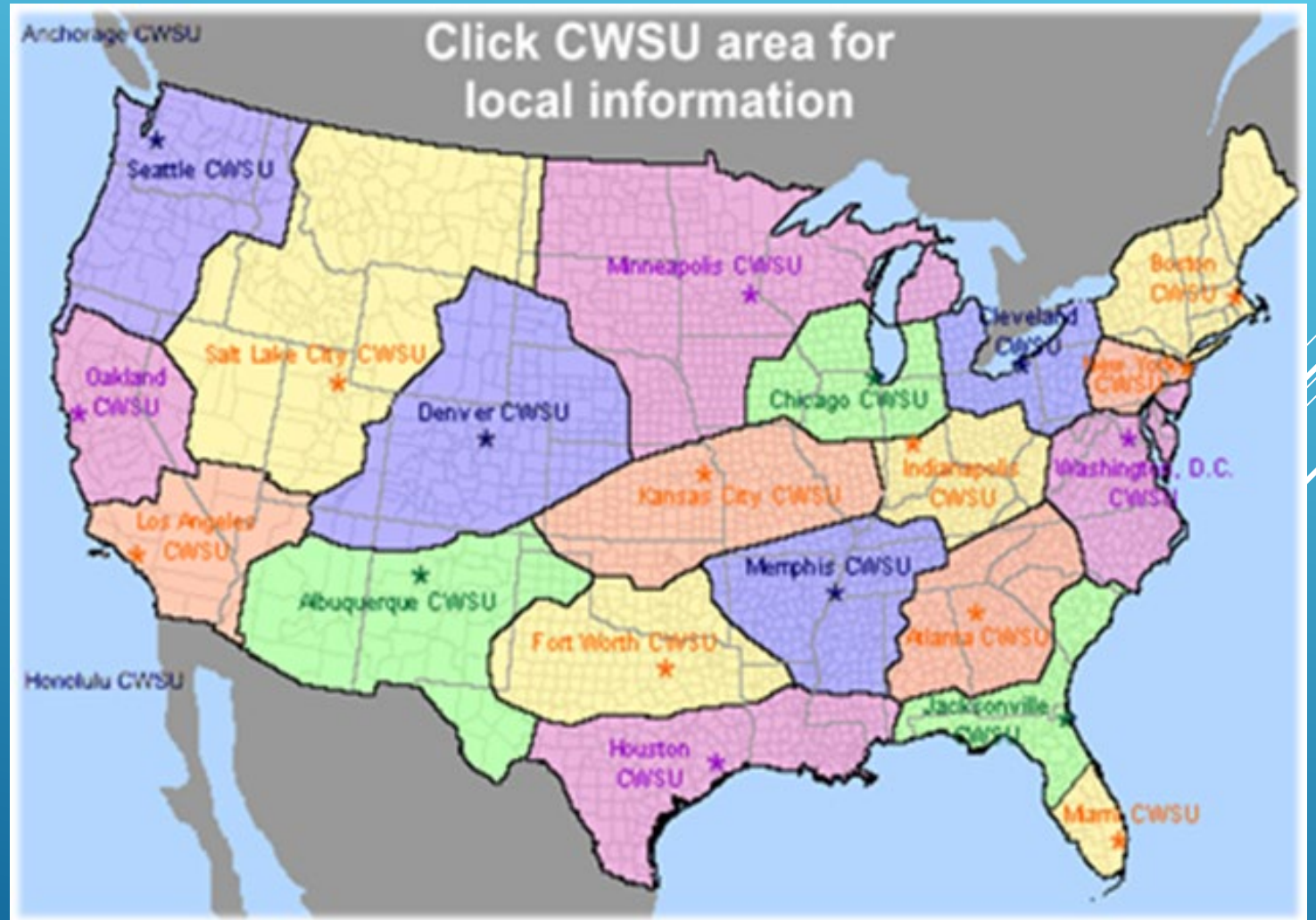
CWSU AND IDSS SERVICES

By Kirt Squires

CWSU Meteorologist

Why is Weather Important in ZNY?

- A 2008 Partnership for NYC report found that 33% of all commercial traffic went through NYC
- New York delays impact an estimated 75% of all delayed flights in the national airspace



The CWSU meteorologist provides direct support to ATC operations:

- Provides meteorological forecasts, information and briefings in support of normal ATC operations
- Issues weather products (CWA, MIS, TDAs)
- Issues daily SWAP Statements during SWAP season
- Solicits pilot reports (PIREPs) through the ATC
- Collaborates with other NWS offices on aviation forecasts and TAFs
- Collaborates on the Traffic Flow Management Convective Forecast (TCF)
- Assists in backing up an adjacent CWSU if requested; Conducts weather training and product familiarization sessions for ARTCC personnel
- Maintains CWSU Web Page



Background of the SWAP

- Thunderstorms are avoided by aviators because severe turbulence, icing and lightning are assumed to occur with all convection.
- SWAP is implemented when re-routes become significant due to thunderstorm activity impacting or closing routes.
- Once ZNY is “in” SWAP, route clearances are given only to aircraft waiting in line-up or beginning to taxi.



Severe Weather Avoidance Plan (SWAP)

The SWAP Statement consists of two parts:

1. A one-sentence prediction of the chance of SWAP occurring and the earliest possible time of SWAP initiation.

“SWAP is NOT EXPECTED”. (Chance of SWAP is 0%.)

“SWAP is POSSIBLE”. (Chance of SWAP greater than 0% and less than 50%.)

“SWAP is PROBABLE”. (Chance of SWAP is between 50% and less than 95%.)

“SWAP is EXPECTED”. (Chance of SWAP is equal to or greater than 95%.)

2. A brief discussion of the convective evolution (location, time, movement). As well as a brief SWAP outlook for the next day.



Severe Weather Avoidance Plan (SWAP)



NY AIR ROUTE TRAFFIC CONTROL CENTER - DAILY SWAP STATEMENT



SUNDAY, SEPTEMBER 11, 2016

...SWAP IS POSSIBLE AFTER 18Z...

SCT TS MOVING THRU ZBW AIRSPACE MAY IMPACT
INTERNATIONAL DEPARTURES THRU 18Z. AFT
18Z...ISOLD-WDLY SCT TS DVLPG IN S ZDC MAY IMPACT
WHITE-WAVEY TRAFFIC.

ADDT'L INFO:

AZEZU-PAEPR-HANRI(L453-M201): NO IMPACTS.

DITCH: NO IMPACTS.

EAST GATES: NO IMPACTS.

MORNING SWAP OUTLOOK: SWAP IS NOT EXPECTED.



Impact-based Decision Support Services (IDSS)

Standard NWS Services (support)

Direct Decision Making (Decisions)



Decision Support



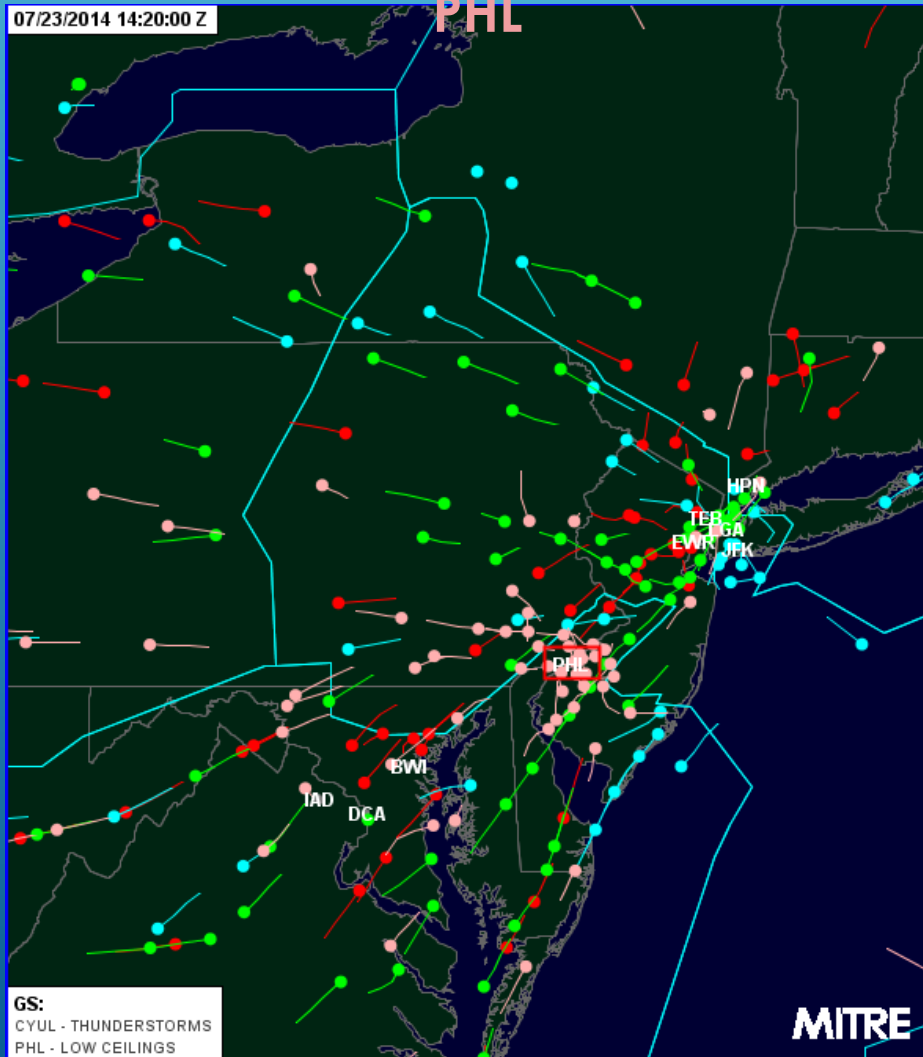
NO SWAP

VS

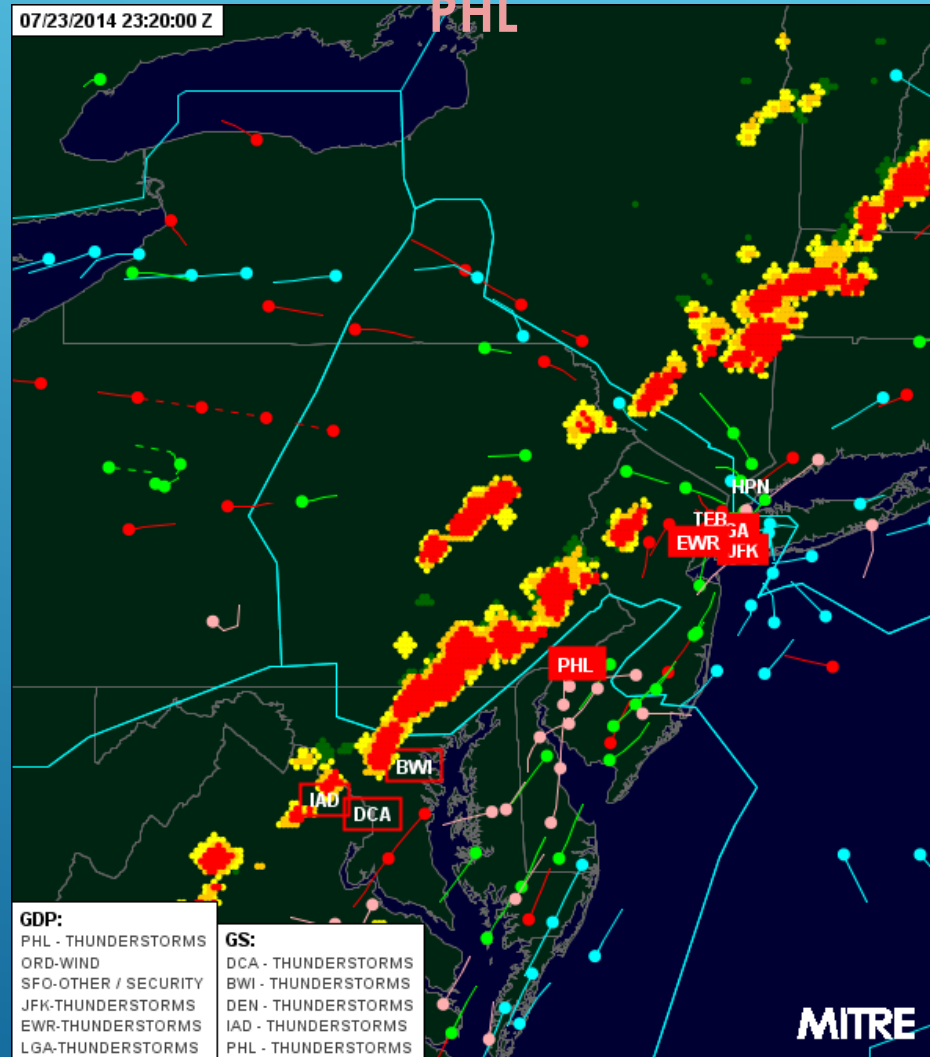
SWAP



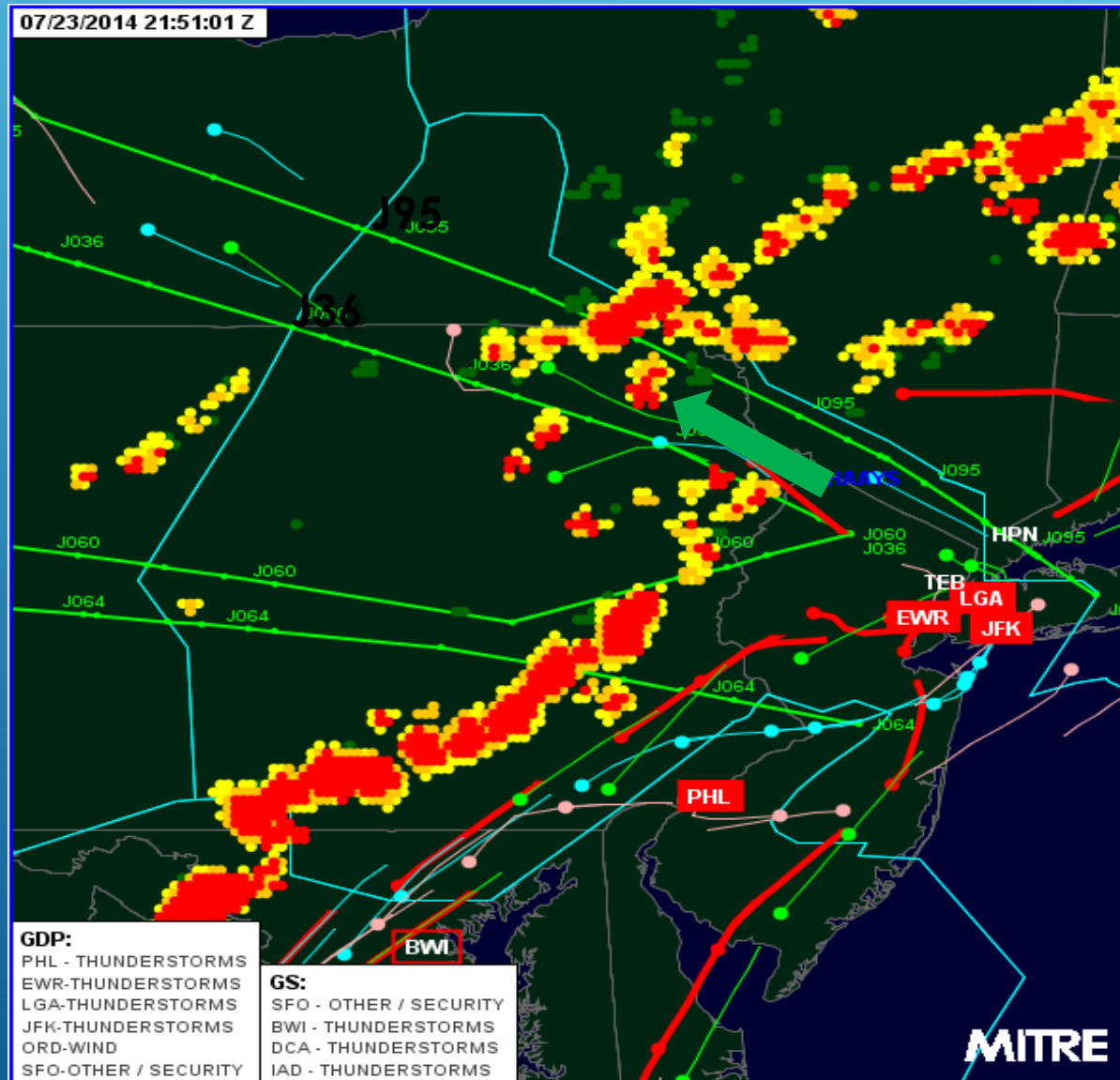
EWR **JFK** **LGA**



EWR **JFK** **LGA**

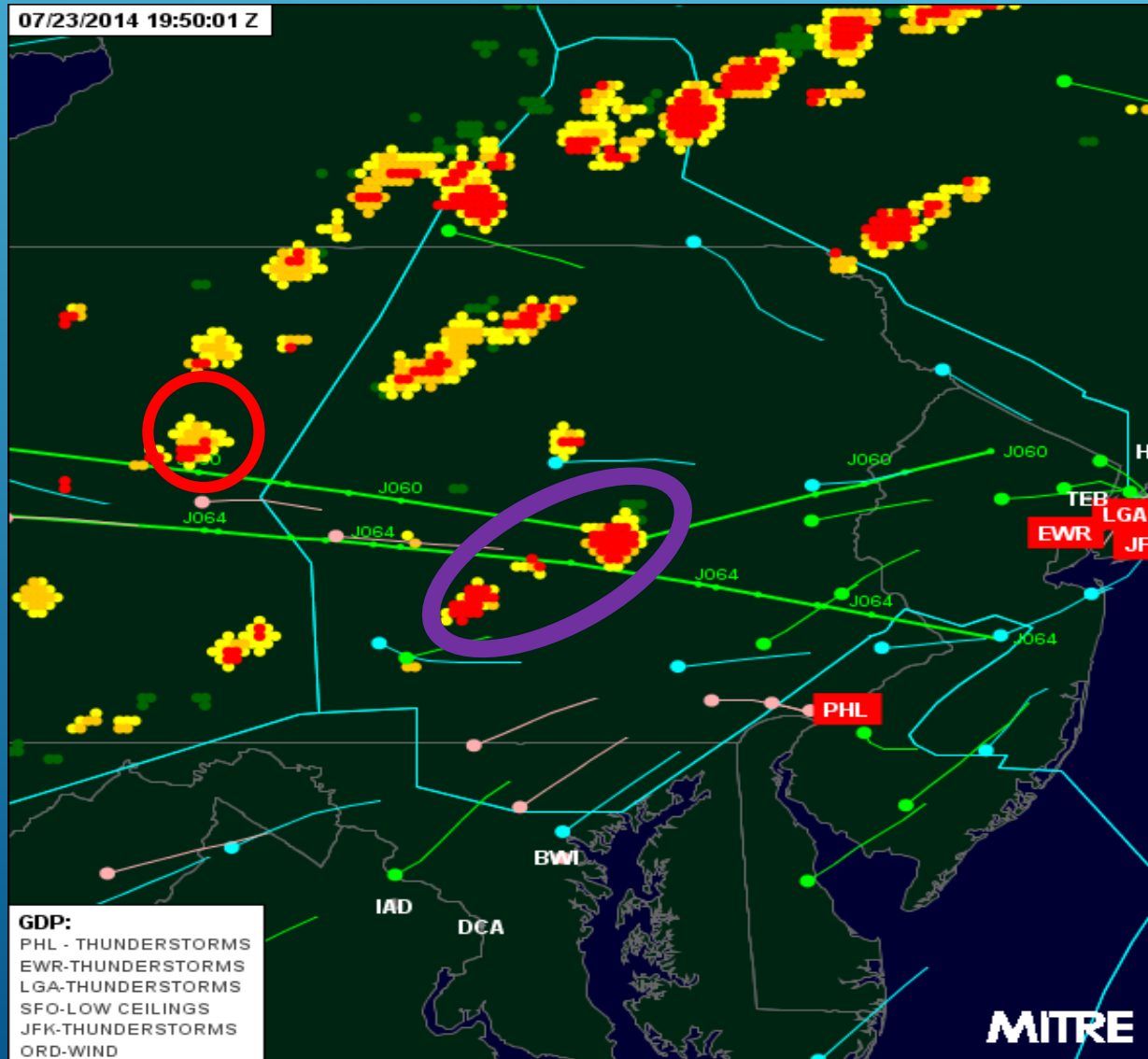


J95/36 SINGLE FEED



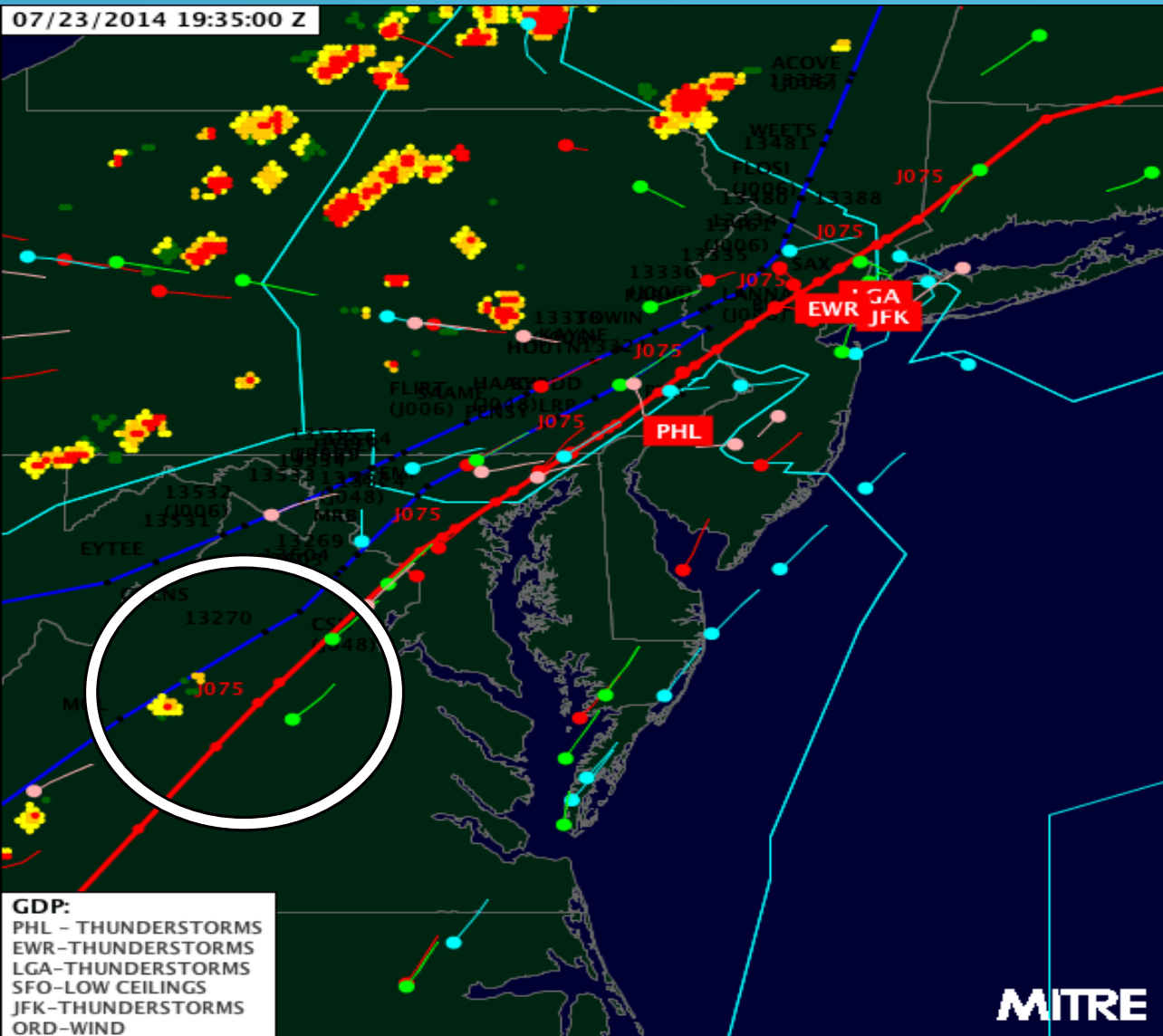
- J95 and J36 used as a single route to allow for deviations.
- Outbound jets were all “capped” at FL180 to avoid inbound traffic

Waste Not, Want Not



- TMU was discussing moving all planes J60 □ J64 as ZOB was closing J60 due to this **cell**.
- TMU was informed that a **short line of TS**, not yet shown in RAPT(Route Availability Planning Tool), would impact J64 within 20 mins.
- TMU adjusted their tactical plans to use those routes as a single feed.
- Increased safety due to less deviations and 30 minutes of coordination time saved between ZNY, N90, and ZOB.

Deviation Trends



- -ZNY TMU was looking to use J75 while J48 was closed.
- -J75 was already getting deviations even with “no weather” on the route.
- -Deviations were due to thunderstorm anvil and cirrus blow off
- -Improved safety thru less
- -Coordination time saved between ZNY and ZDC

Impact-based Decision Support Services (IDSS)

Standard NWS Services (support)
Routine weather updates would not have provided any insight specific enough to aid in decision making.

Direct Decision Making (Decisions)
Forecaster is not qualified to be involved in the direct decision making process.

Meteorologist expertise

Decision Maker expertise



Decision Support

The combination of the forecaster's knowledge of the ZNY SWAP procedures and tactical tendencies, while also being in direct contact with decision makers, allowed specific forecast information to be provided to the decision makers at the critical time.