Weather Post-Analysis Capability for ATM (WX-PAC)

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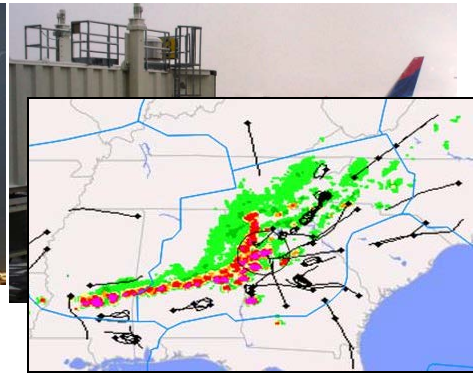
Consider This….

- In the absence of irregular operations, the **NAS performs pretty well**

- It is **during irregular operations** when NAS goes “nonlinear”….impacts soar and both inefficiencies and opportunities abound….

- By far, most significant cause of irregular operations is **adverse aviation weather**



- Despite continued and heightened use and development of NAS post-event metrics, **dedicated, weather-aware post event analysis of *weather-induced* irregular operations continues to be challenging and relatively elusive**

NAS Operation – Weather-ATM Post Event Analysis

Some Key Needs

"Those who cannot remember the past are condemned to repeat it."

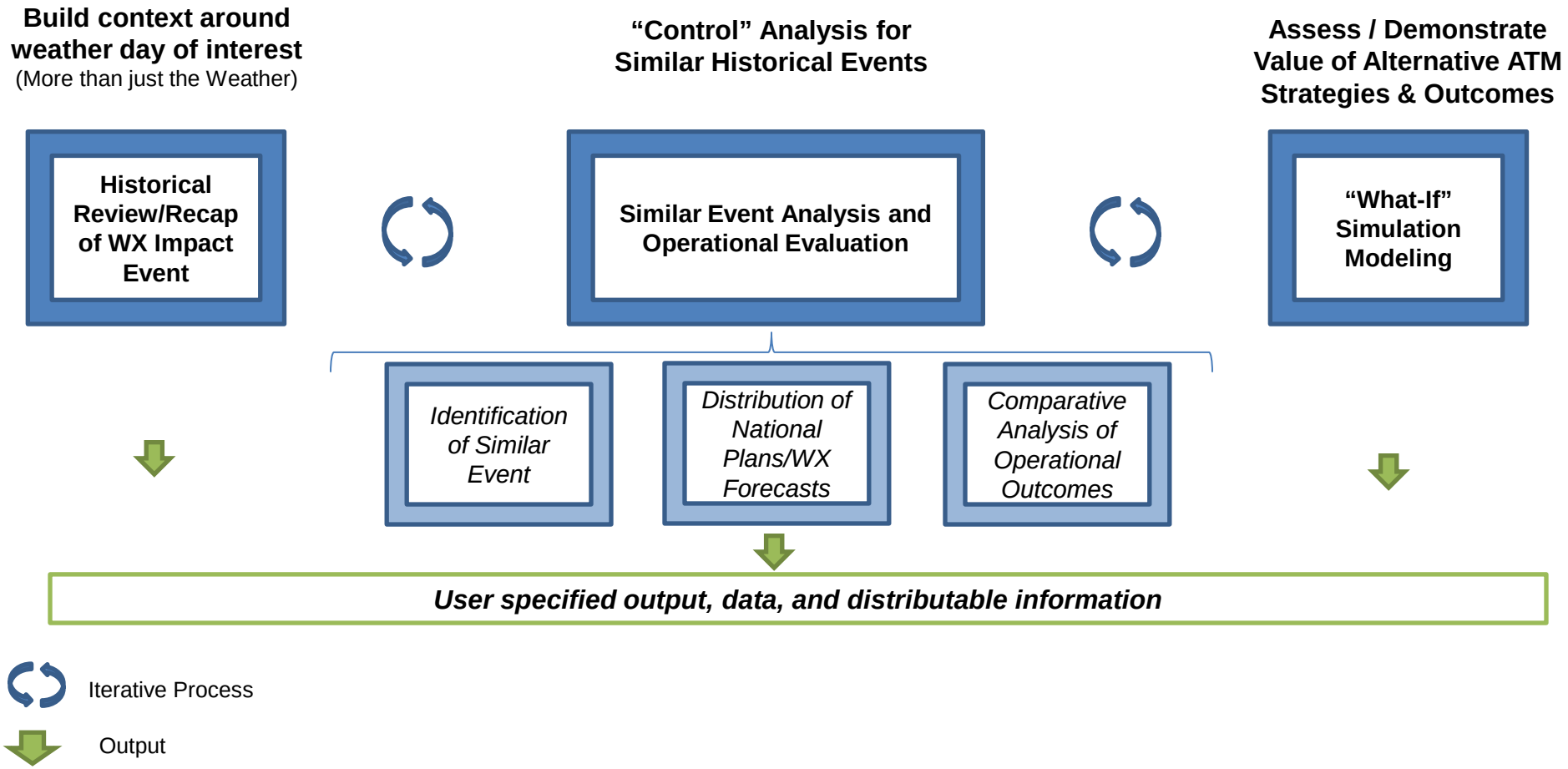
"Fool me once, shame on you. Fool me twice shame on me."

Objective, Analytical WX-ATM Data / Metrics

Intelligent Event Grouping & Scenario Taxonomy

"What-If" Analytical Capabilities

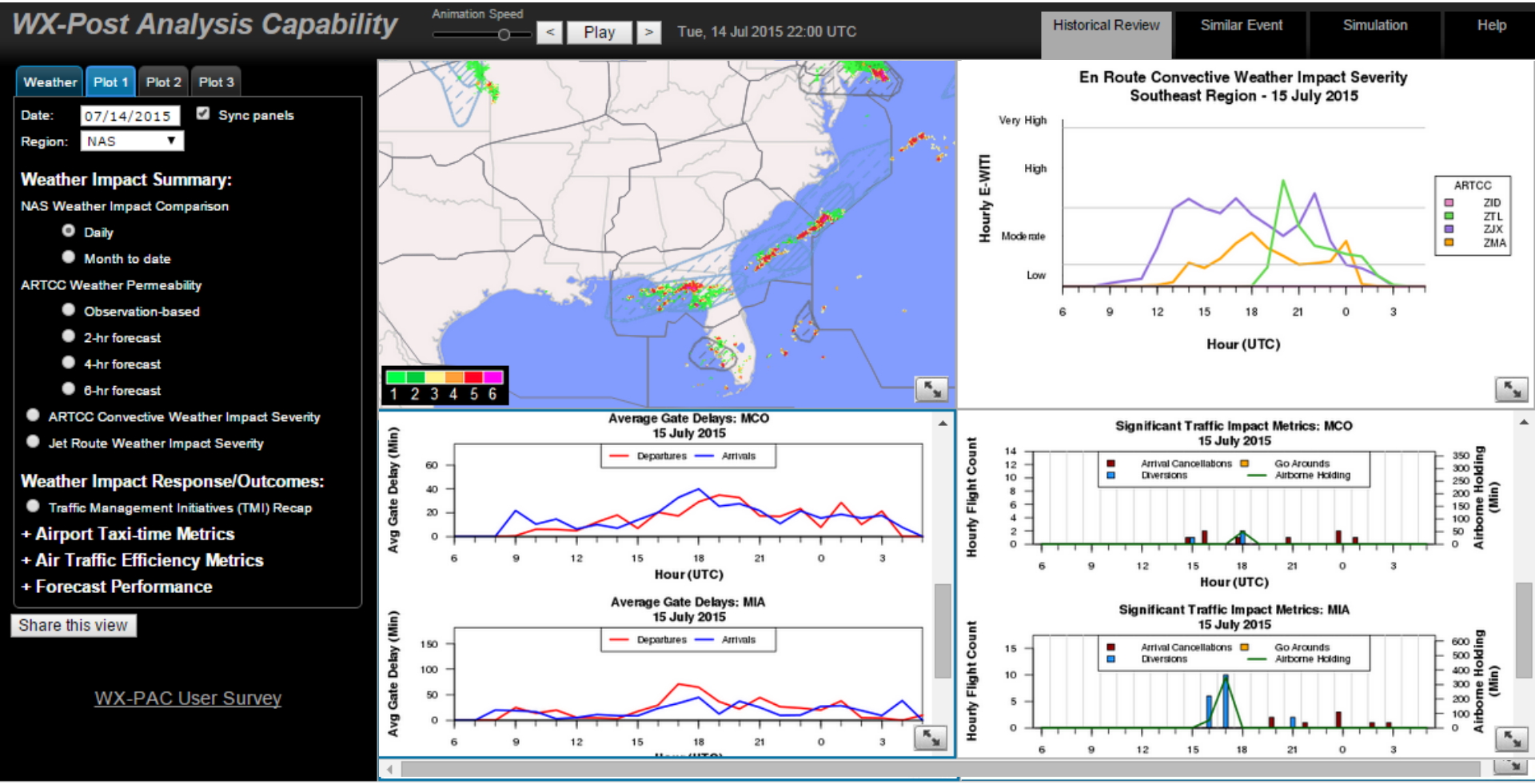
WX-PAC Core Components



WX-PAC Demonstration (SWAP 2014-2015)

Stakeholders: ATCSCC QA & System Efficiency; MTO Facilities

Historical Review



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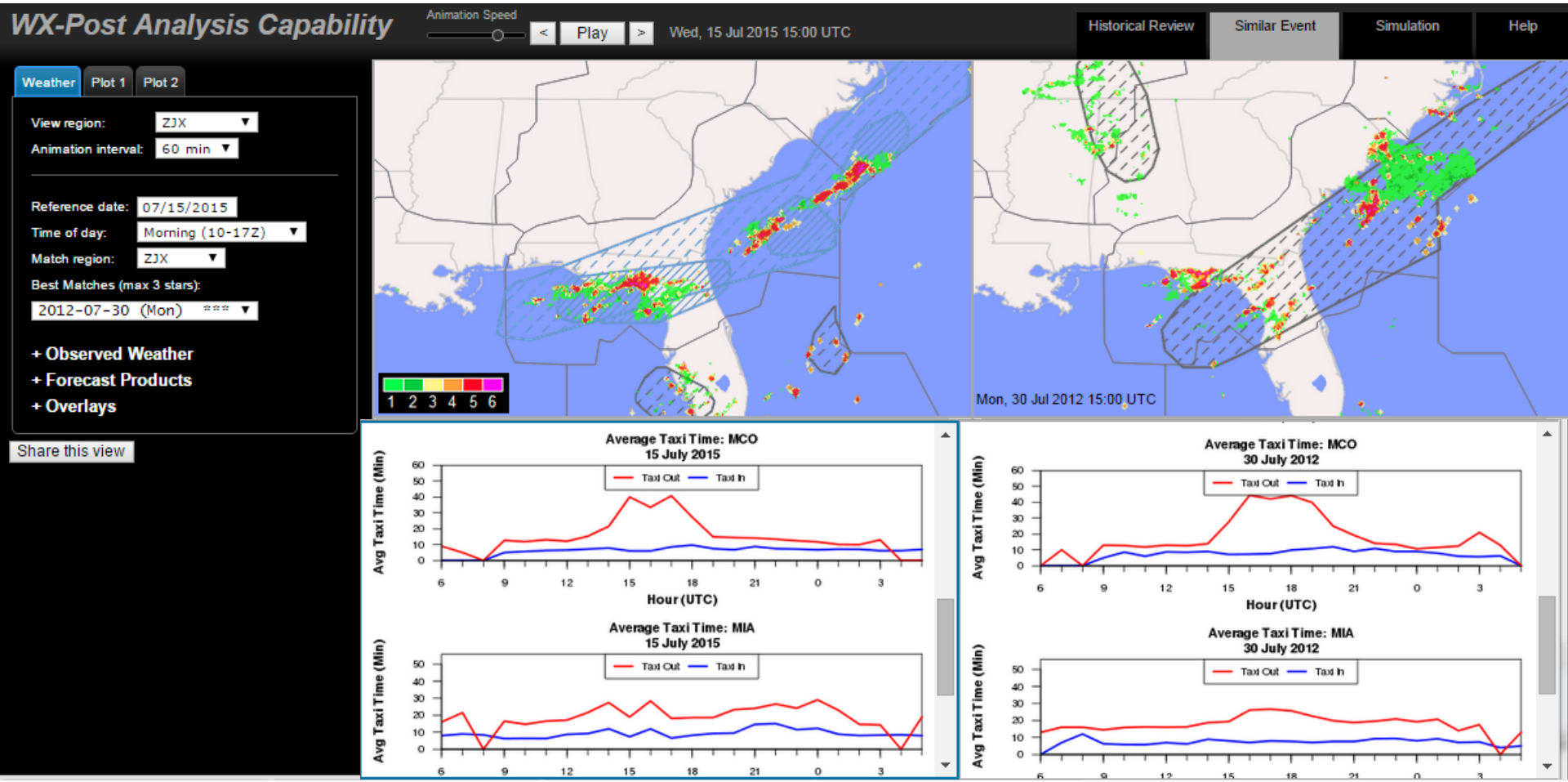
Similar Event



integration training consulting engineering

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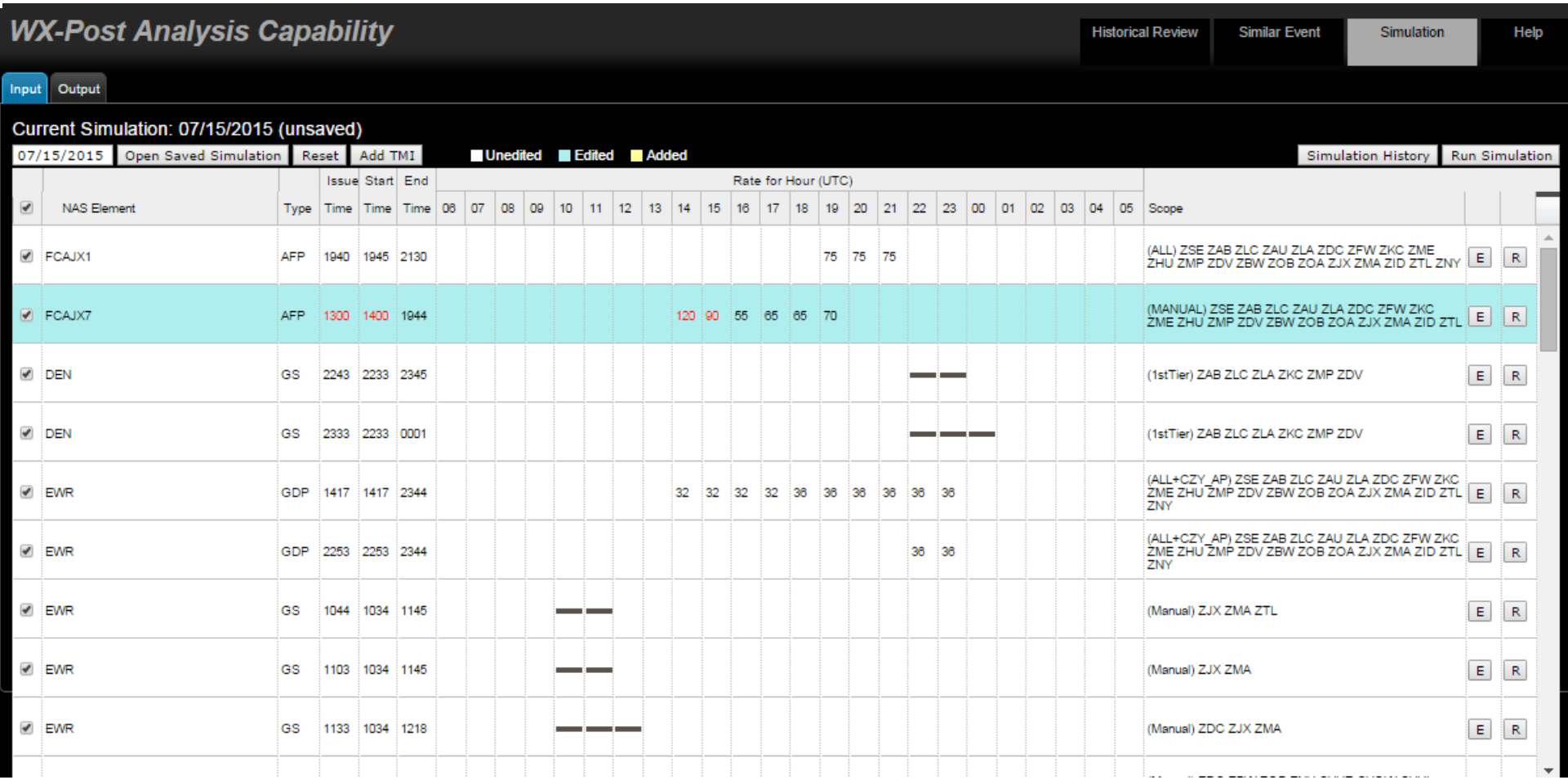
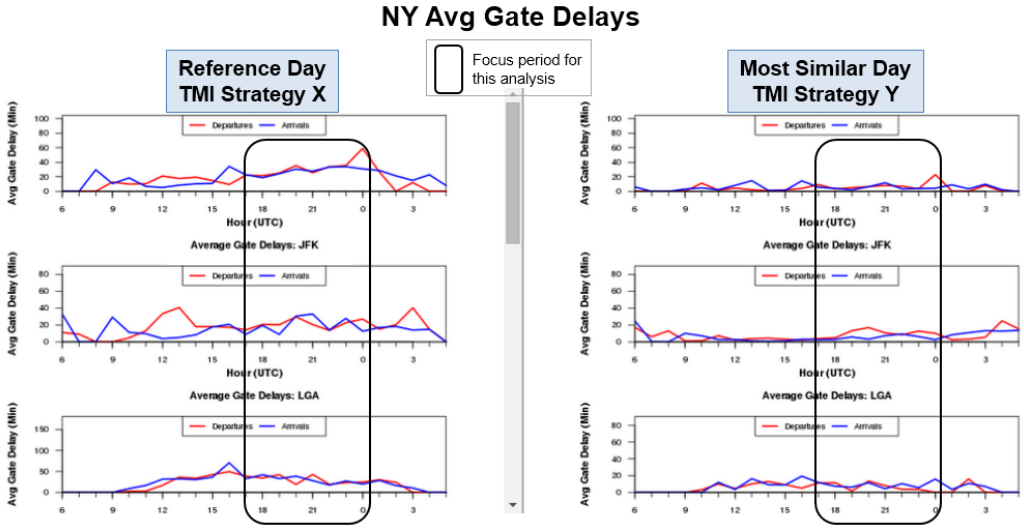
Simulation



Tactical and Strategic Post-Analysis

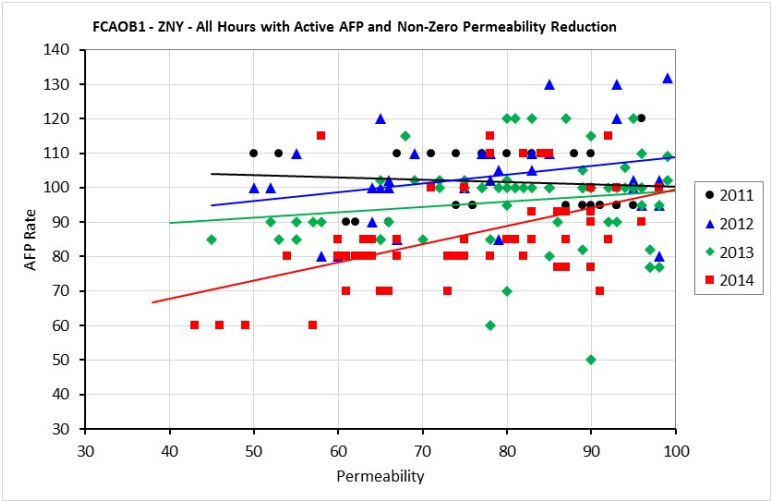
Tactical

Airport Delay Comparisons
Reference Day vs. Similar WX Day but Different TMI Strategy



Strategic

AFP Hourly Rates vs. Hourly Weather Permeability Reduction, Multi-Year Trends (OB1, ZNY Weather)



Common Objective: Through objective means, aid in identifying, cataloguing, and disseminating ATM 'Best-Practices' and 'Lessons-Learned' when managing adverse weather constraints

Carrying these finding forward as actionable guidance for TFM operations

integration
training
consulting
engineering

WX-PAC Can Significantly Enable AWI

- Paradigms break-down and make way for new models and methods when consistent data-driven evidence is applied to the problem

- WX-PAC-derived shortfalls (‘lesson-learned’) and benefits (‘best-practices’) may both justify and defend AWI evolution
  - While at the same time honing instances of inhibited / insufficient AWI support:

AWI ‘Burn Factor’

AWI ‘Controlled Burn’

- WX-PAC can feed training in a multitude of ways and propel consistent indoctrination towards new AWI paradigms – as well as provide valuable data back to AWI community on performance improvement needs, evolution path, etc.