



# Evaluation of ARW model run by PSU

**Developmental Testbed Center**

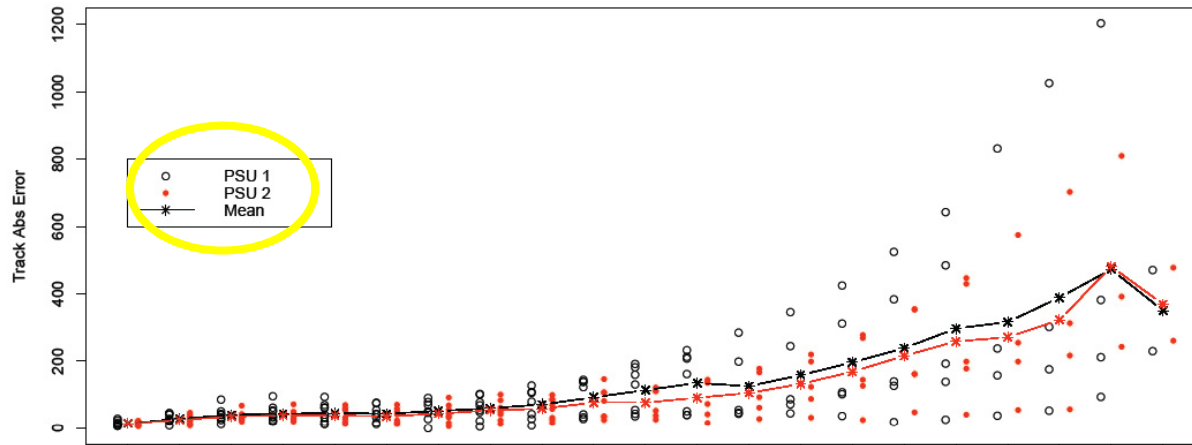
**May 7, 2009**



## Overview of PSU Cases

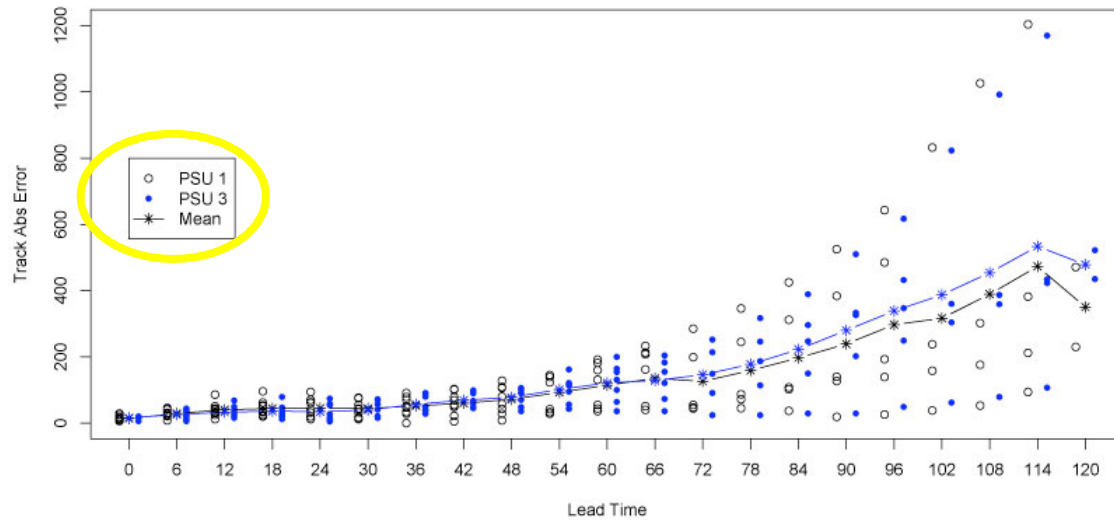
- Res: PSU1 = 13.5 km, PSU2 = 4.5 km, PSU3 = 1.5 km
- Total of 9 cases from 5 storms
- Track length 20% shorter than Best Track for 22% of these cases

# PSU: Track Error



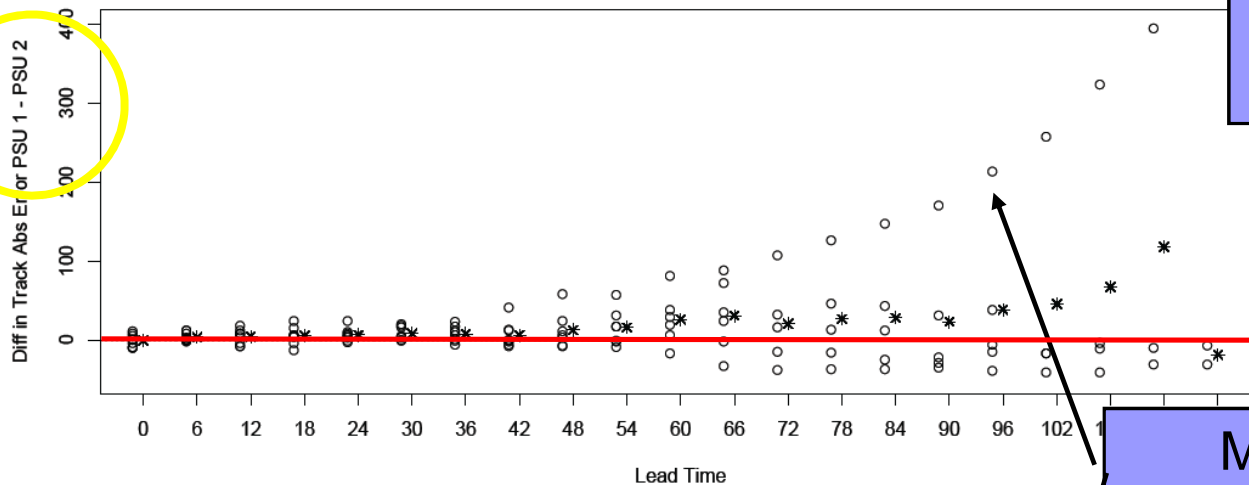
Sharp increase 72h

1-2 bad cases



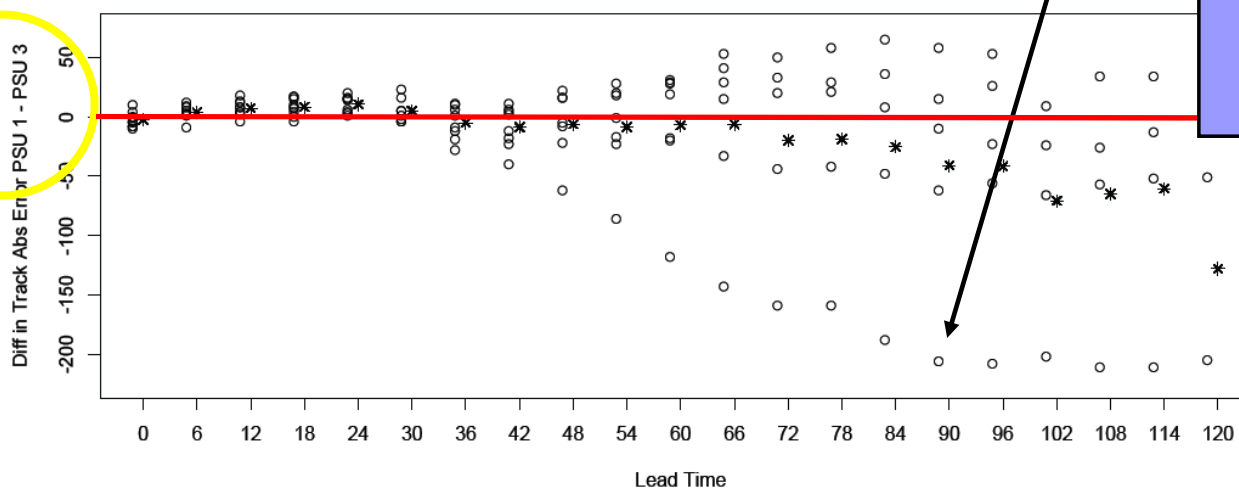
# PSU: Track Error Difference

Differences in Absolute Error



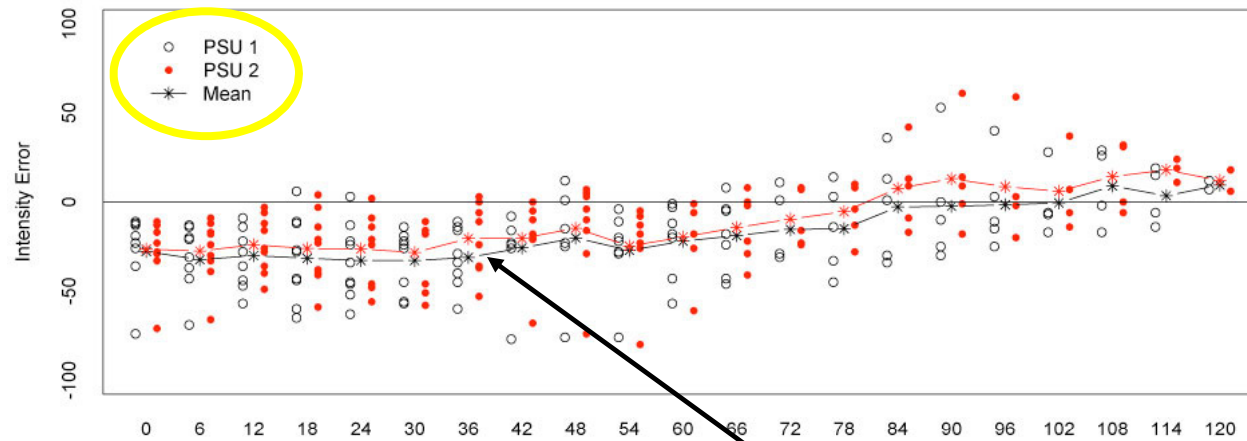
Mostly because of 1 case

Differences in Absolute Error

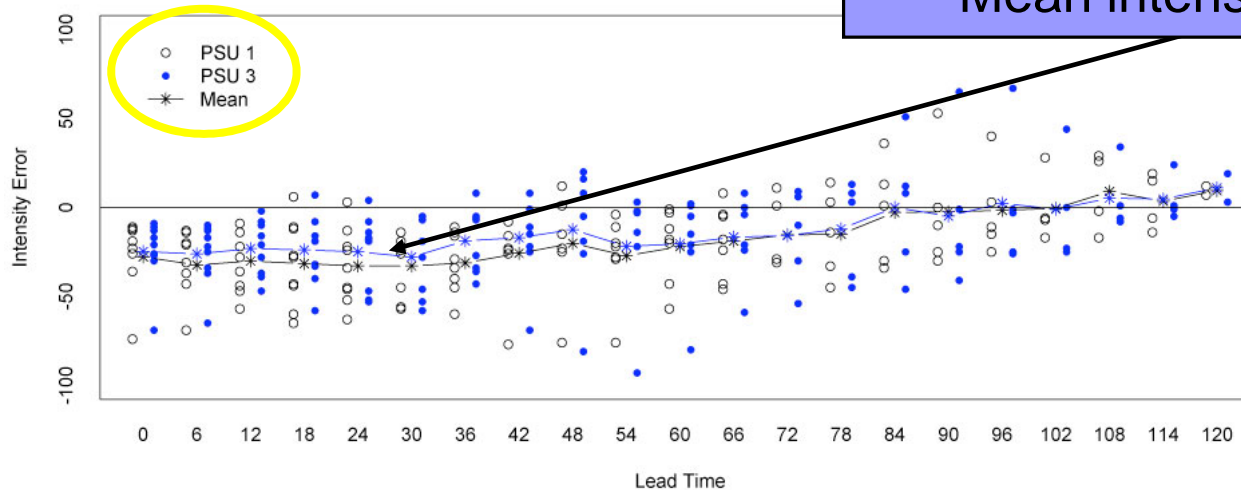


PSU3 mean worse than PSU1

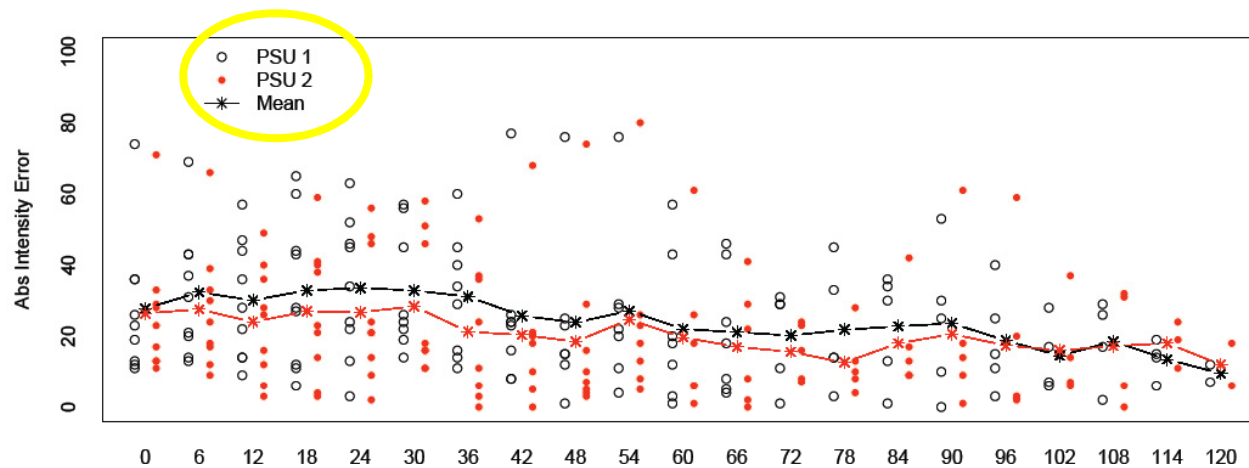
# PSU: Intensity Error



Mean intensity is too low in days 1-3

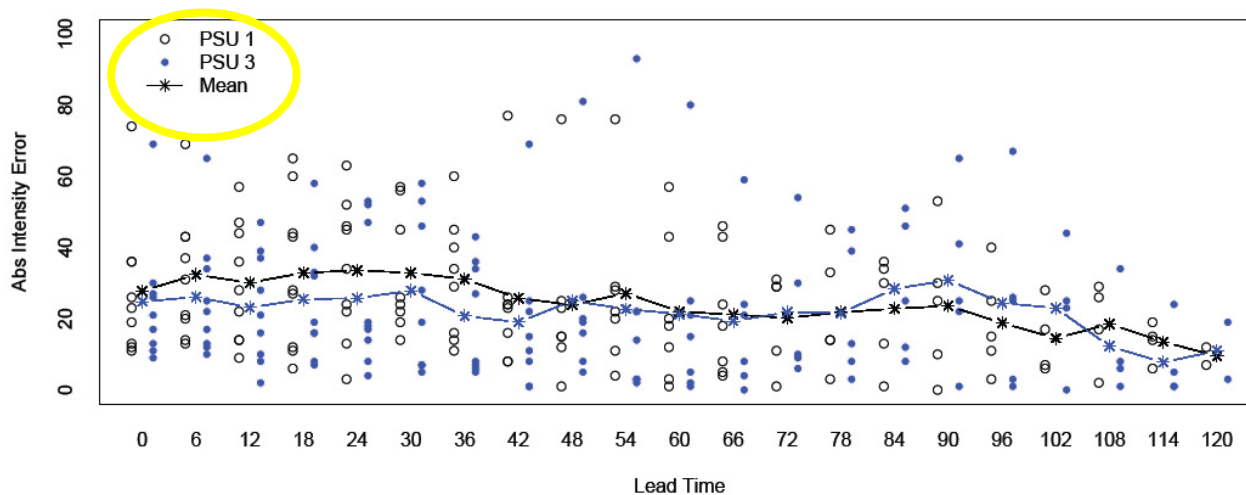


# PSU: Intensity Abs Error



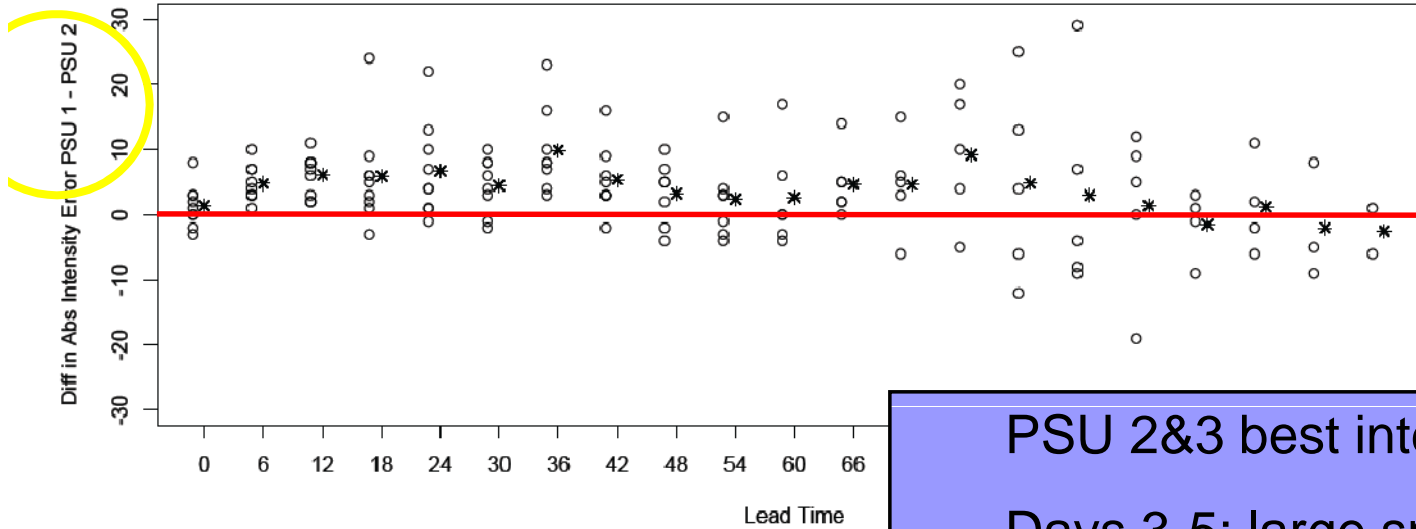
No error growth

A few bad cases even at t=0

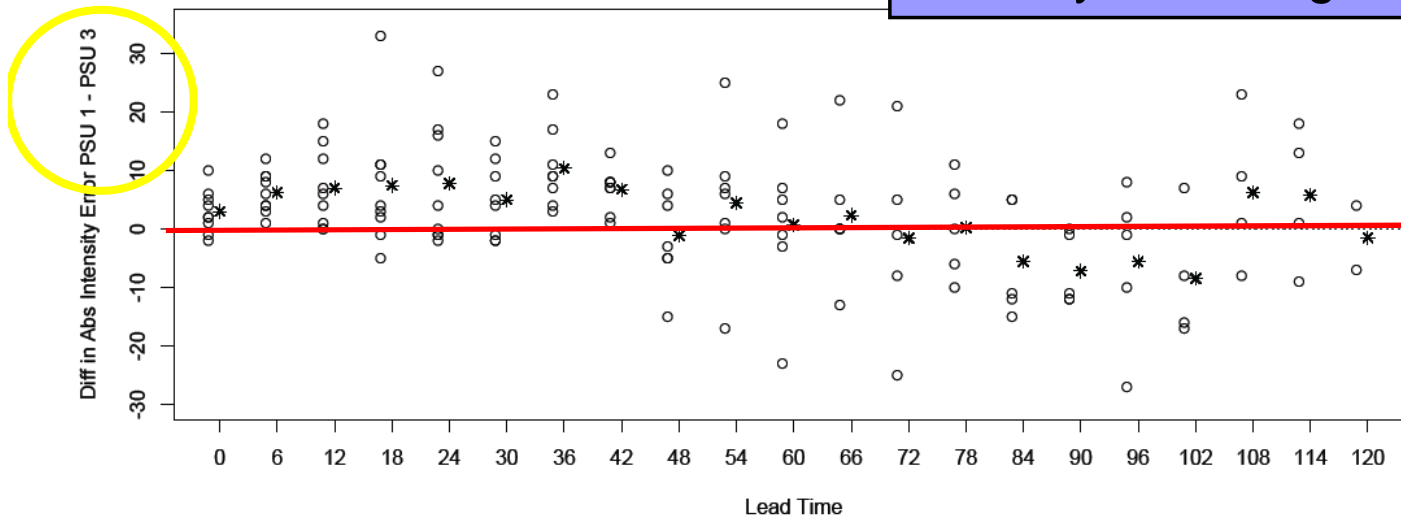


# PSU: Intensity Abs Error Difference

Differences in Intensity Absolute Error



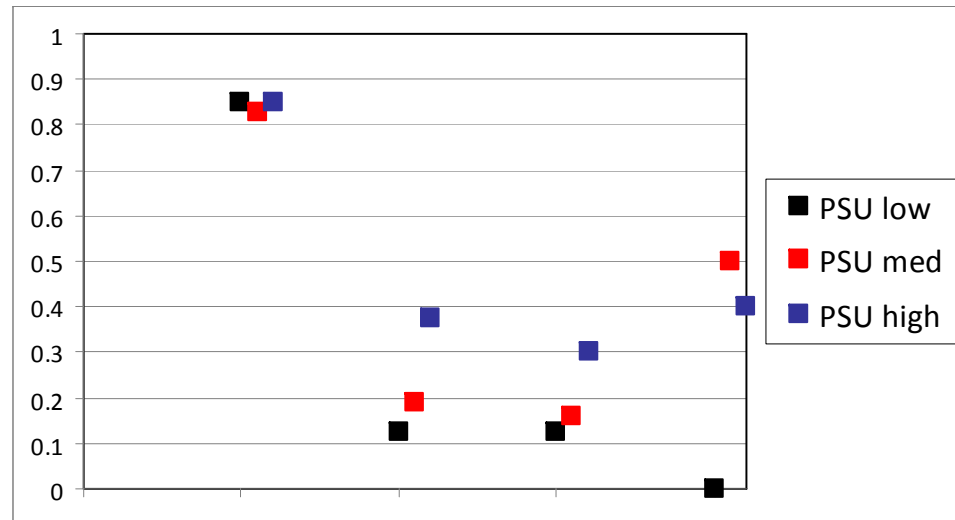
PSU 2&3 best intensity days 1-2.  
Days 3-5: large spread



# RI/RW Verification for PSU Model

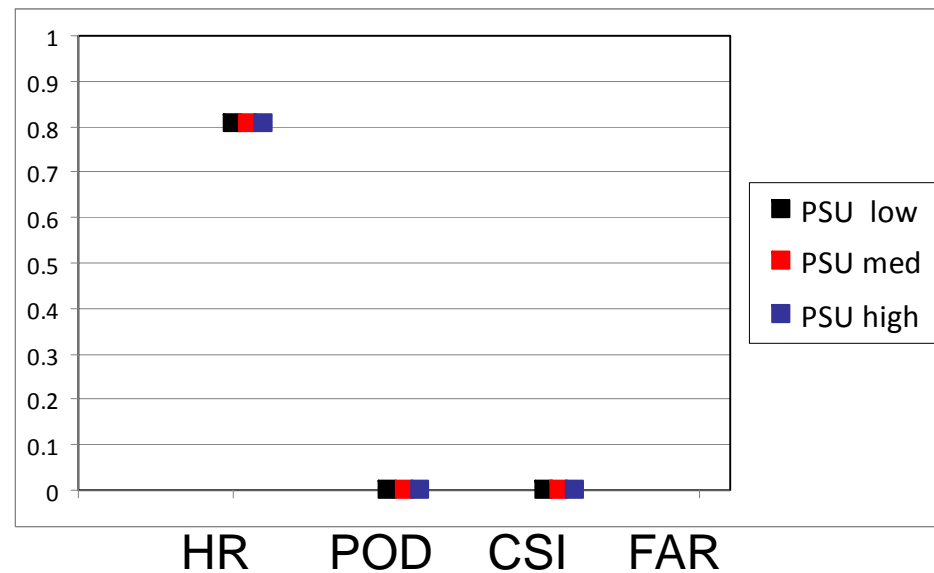
		Observed	
		Yes	No
Low res	Yes	2	0
	No	14	77
Med res	Yes	3	3
	No	13	74
High res	Yes	6	4
	No	10	73

RI



		Observed	
		Yes	No
Low res	Yes	0	0
	No	18	75
Med res	Yes	0	0
	No	18	75
High res	Yes	0	0
	No	18	75

RW





# Conclusions

**There is a large spread in results and sample is too small for conclusive results.**

## **Track:**

PSU2 is better than PSU1, while PSU3 is worse than PSU1.

4.5 km resolution is more promising.

## **Resolution:**

Both PSU2 and PSU3 have less abs error than PSU1 in first 3 days.

PSU2 and PSU3 underestimate intensity less than PSU1.

## **RI/RW:**

Neither resolution helped RW but PSU3 improved with RI scores.