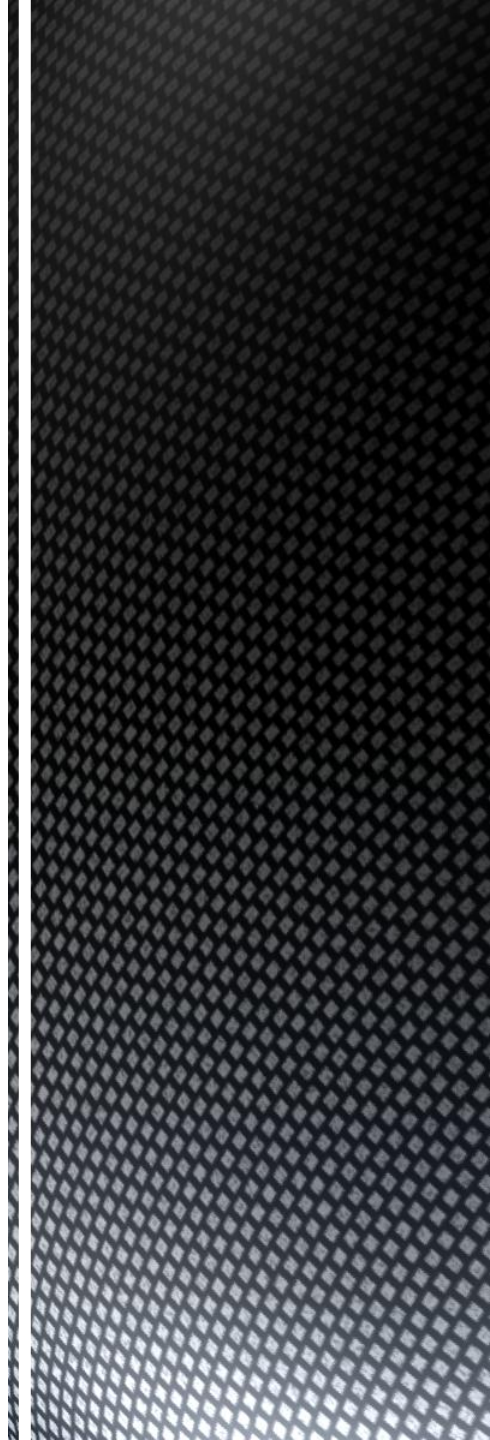


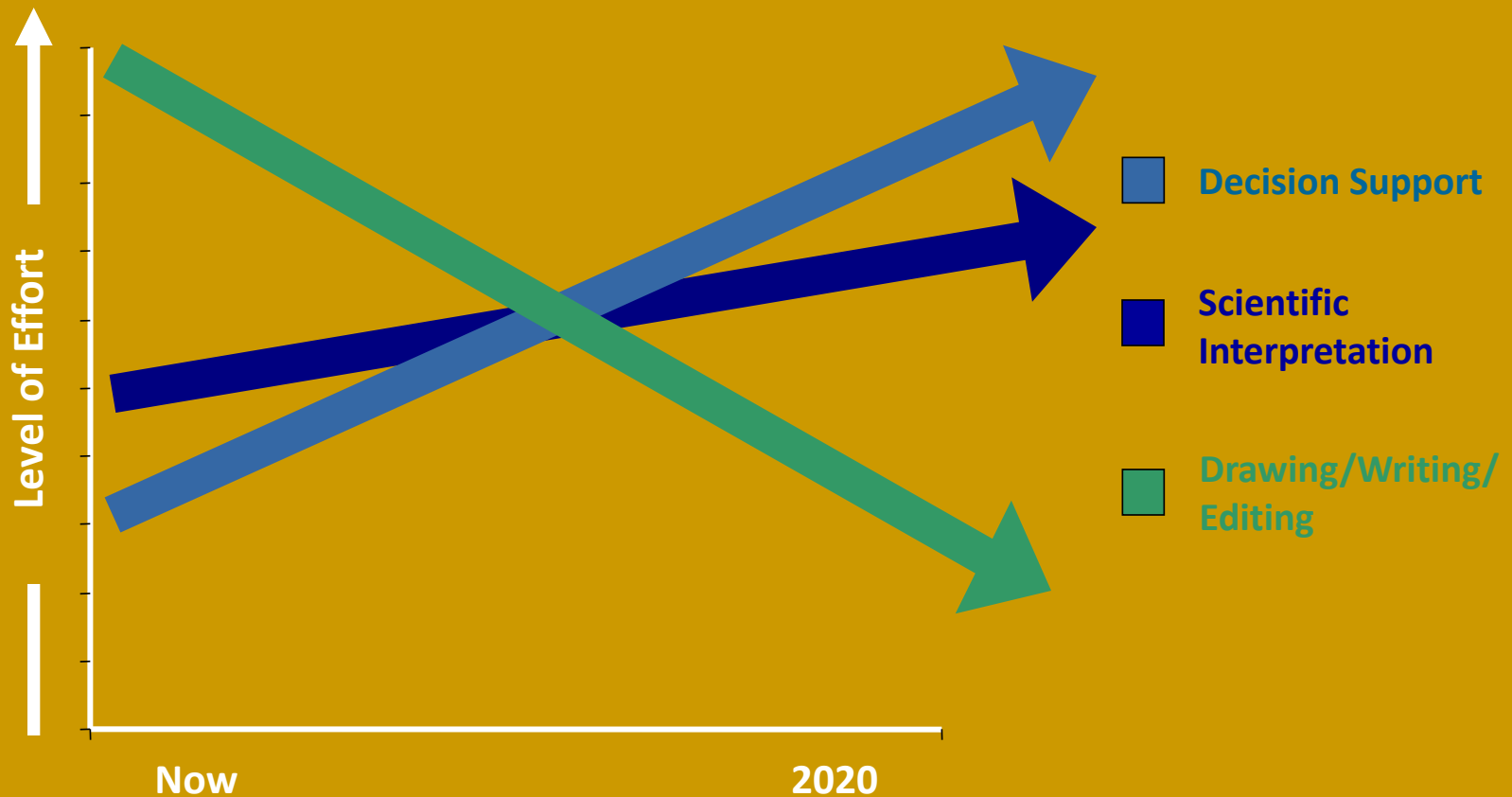
A New Medium Range Forecast Methodology for NWS Central Region Grid-based Forecasts

A New Accurate & Efficient Approach

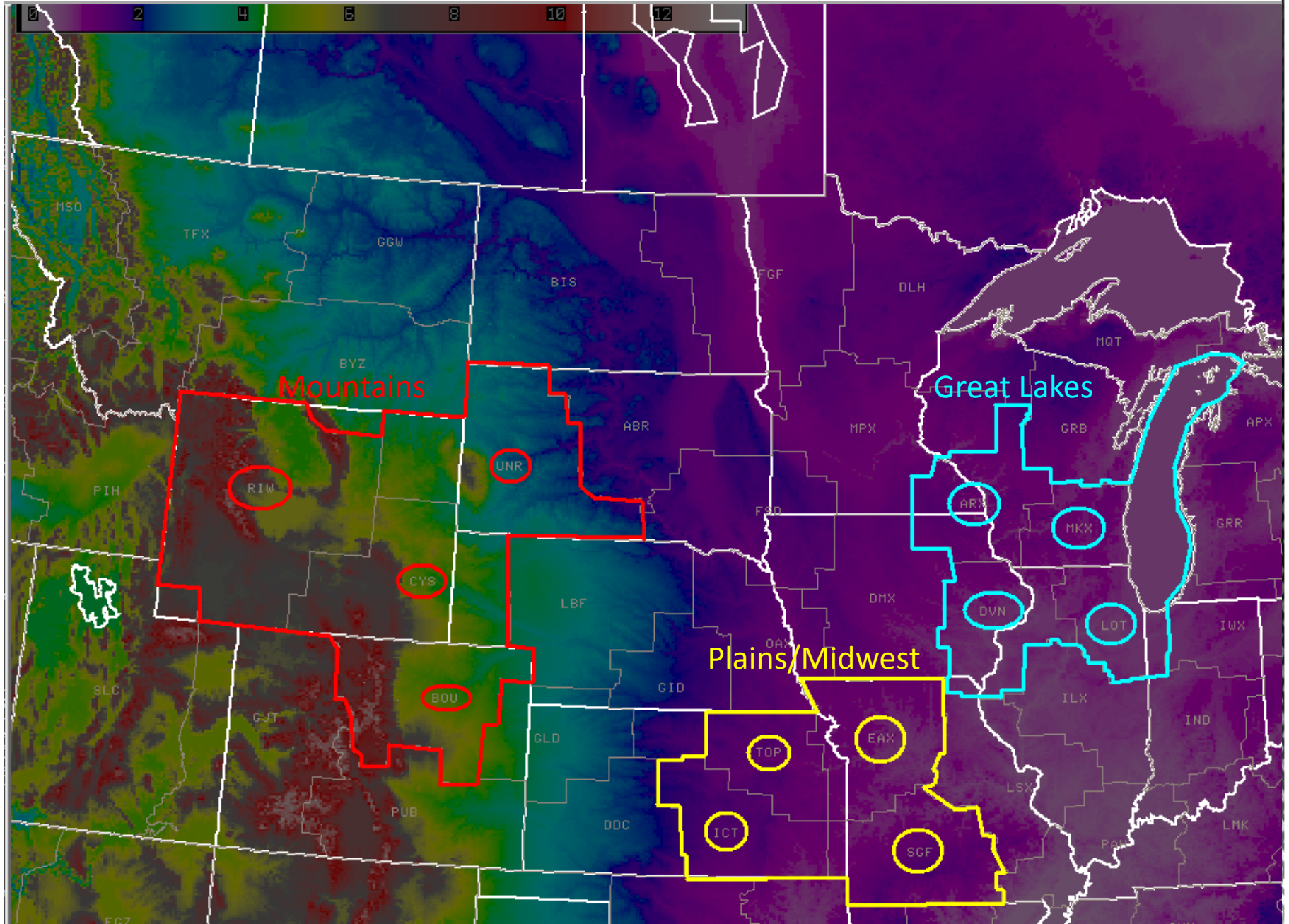


Services 2020

Shift in Operational Focus



CR Testbed Offices





Configuration Issues

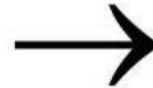
- **SmartInits**
 - Varied from office to office
- **Model Availability**
 - Varied from office to office
- **Verification**
 - Set up Regional Standards
- **New “Models”**

Evolution of the Forecast Process

Consistent
Forecast



Accurate*
Forecast



Consistent
Forecast



Accurate
Forecast

Individual
Independent
Forecast



Collective
Collaborated
Forecasts

Feedback

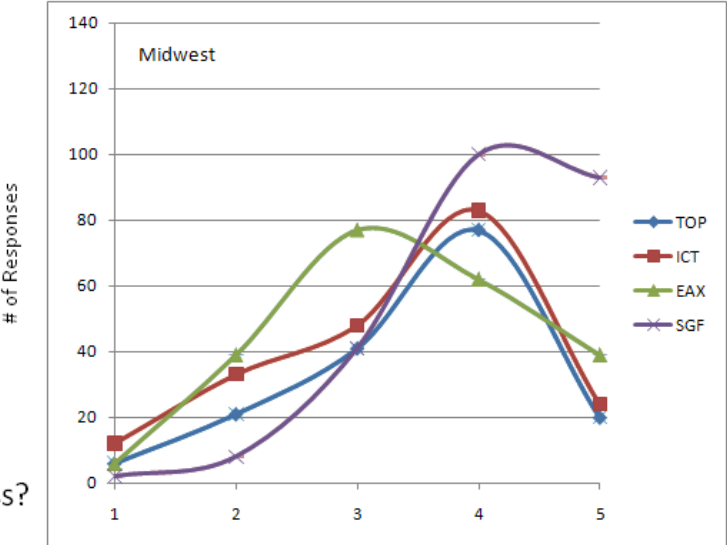
CRGMAT Survey Results

Baseline 327 responses

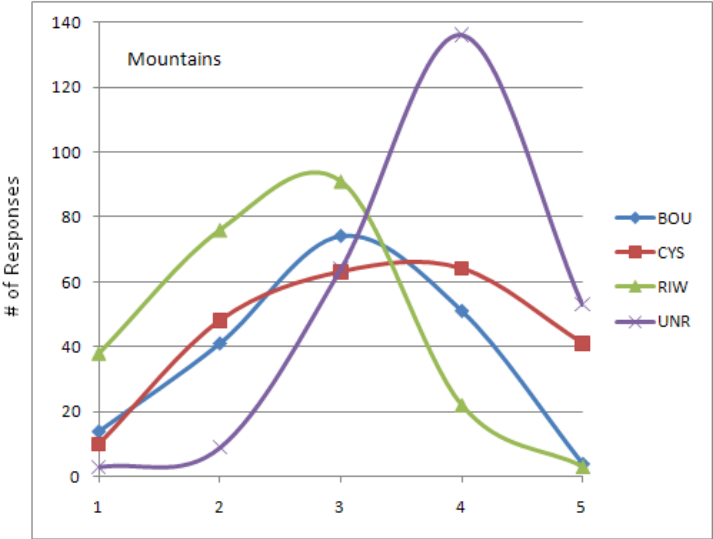
2636 Total Surveys received through March 31 2011

Rate how you think Grid Init helped the overall forecast process?

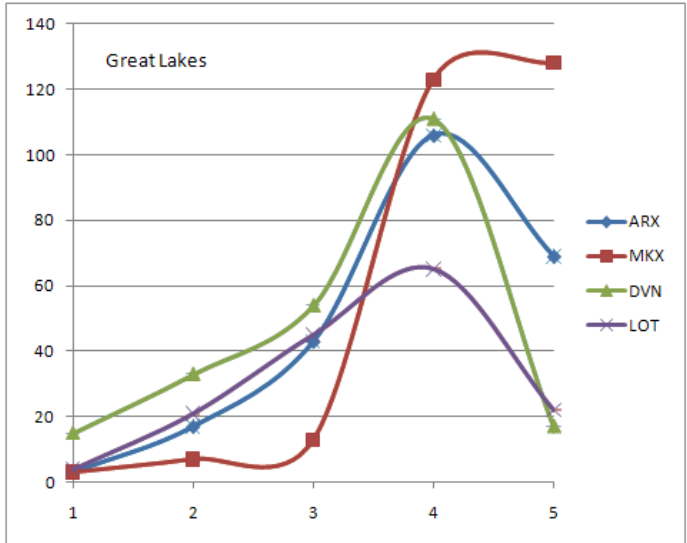
Overall **18% Hurt** **57% Helped**



Hurt Helped



Hurt Helped




Hurt Helped

VERIFICATION

Percent Improvement over GFSMOS Nov-Mar 2004-2010 vs. 2010-2011

	Offices	Day 4 04-10	10-11	Day 5 04-10	10-11	Day 6 04-10	10-11	Day 7 04-10	10-11
Max T (Night)	NonTest	-0.9	5.9	-0.3	7.7	-2.5	4.9	-1.6	7.1
	Test	0.9	7.0	-0.2	7.4	-2.9	6.5	-1.9	7.4
Max T (Day)	NonTest	6.4	13.3	5.1	13.0	5.4	13.2	5.6	11.8
	Test	6.4	12.7	4.2	12.1	4.6	12.0	5.2	10.6
Min T (Night)	NonTest	-3.2	5.7	-3.6	6.2	-3.0	4.2	-2.2	2.5
	Test	-2.3	9.9	-2.9	12.3	-3.3	8.4	-3.2	8.3
Min T (Day)	NonTest	2.7	10.4	3.4	8.7	3.9	8.6	5.0	9.4
	Test	2.7	15.9	2.3	13.8	2.6	13.0	3.8	13.2
PoP12 (Night)	NonTest	-5.4	-2.3	-3.9	2.5	-1.9	2.2	-1.5	3.7
	Test	-2.5	1.4	-1.1	5.0	-1.3	6.4	-1.8	5.4
PoP12 (Day)	NonTest	1.9	3.8	2.1	4.9	1.8	5.7	0.6	4.3
	Test	2.8	6.2	2.7	7.8	2.0	7.1	0.6	2.7



C.R. Extended Process Policy

- **All CR Offices Initialize the Extended with a Common Initialization Data Set**
 - Days 4 through 7
 - The Common Starting Point will be evaluated by the VTF and adjusted as needed by the CRGMAT
- **Initialization Run Twice a Day**
 - During the night shift and day shift
 - A procedure will load the common initialization data set immediately after it becomes available
- **Once Initialized the Forecaster will Look for Forecast Targets of Opportunity**
 - Problem of the day / High impact events
 - Quality control issues from the initialization data set
- ***Before* Making Any Changes Forecasters will Collaborate What They Would Change**
 - Arrive at a consensus with surrounding offices
 - Through this collaborative process the forecasters have complete control over what becomes the official forecast
- **The Forecasters Then Make the Well Collaborated Changes**
 - Once complete the forecasters publish the gridded database

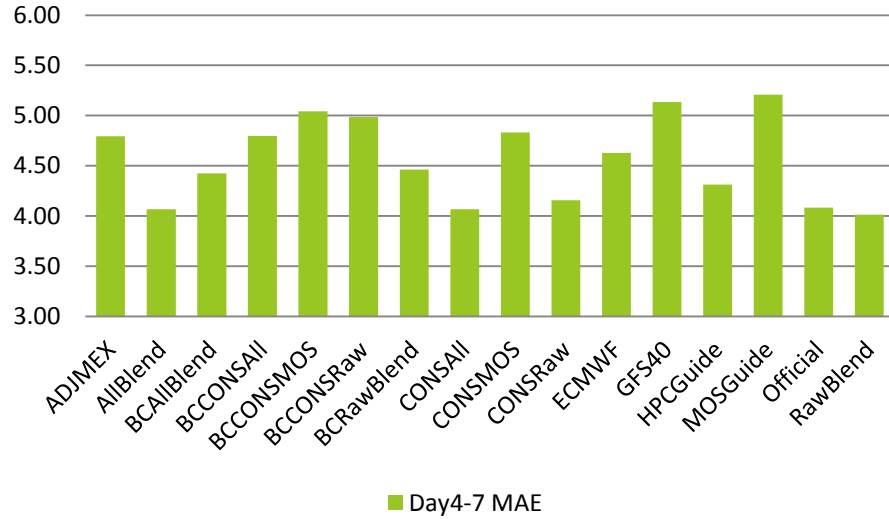


**Use AllBlend As
The Common
Starting Point**

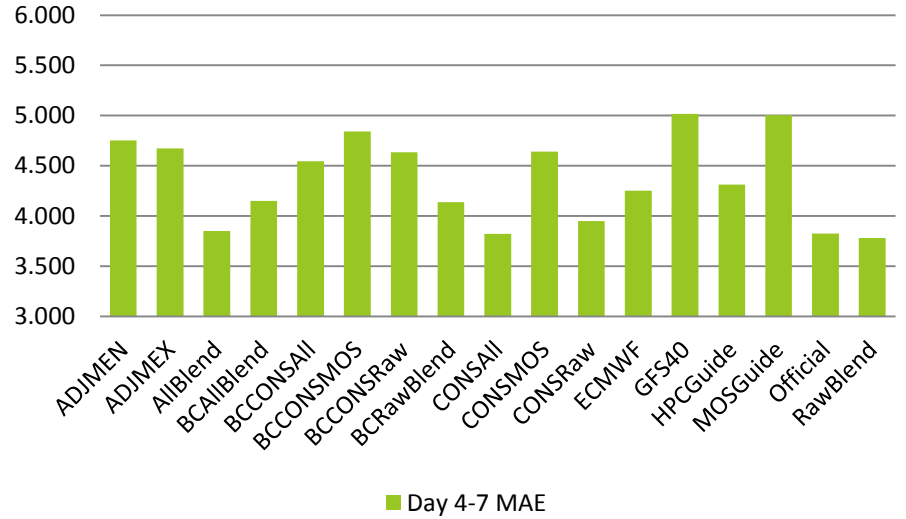
- **A 50/50 Mix of the Previous Forecast and the CONSAll**
- **CONSAll is a Blend of All the Available Guidance**
- **AllBlendBC for Mountain Sites**
 - Made up of 50/50 mix of the previous forecast and CONSAllBC
 - Bias corrected grids work best in terrain
- **Grid Initialization times**
 - Eastern Time Zone/Great Lakes – 0525/1725UTC during local daylight time and 0625/1825 UTC during local standard time
 - All other areas – 0625/1825 UTC

MODEL VERIFICATION

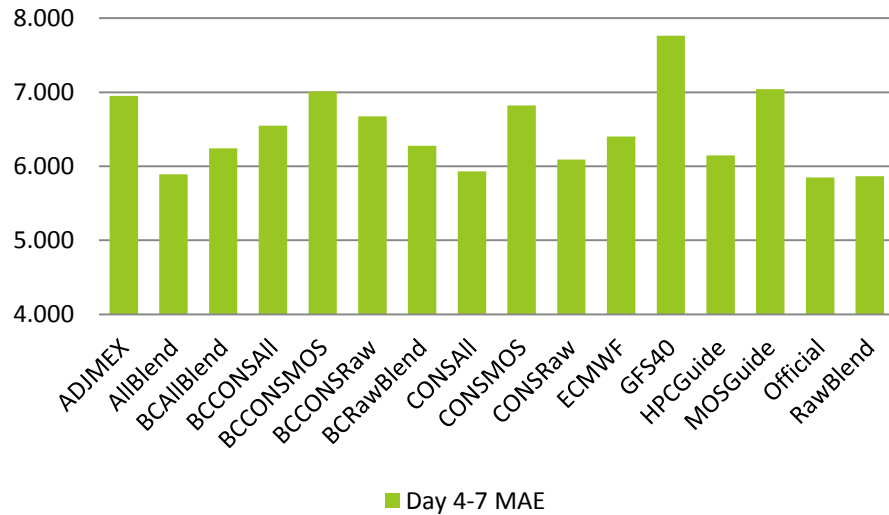
MinT - Day 4-7 - Day Shift



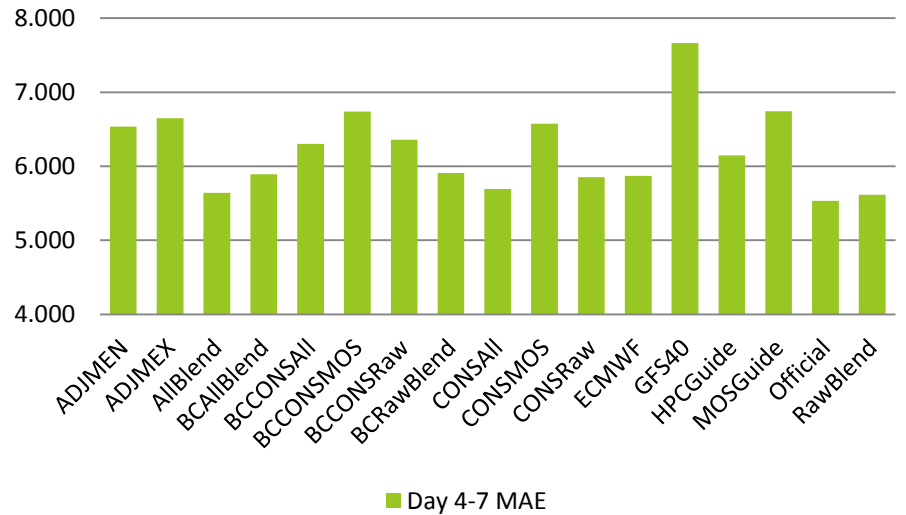
MinT - Day 4-7 - Night Shift



MaxT Day 4-7 - Day Shift



MaxT - Day4-7 - Night Shift



Summary

- **Setting a new process as policy**
 - Common configuration
 - Common starting point
 - Collaborate
 - Improve where it matters most
- **Process Validated through Test Beds**
 - Verification
 - Not degraded – sometimes better
 - Feedback from forecasters
 - Process better
 - Efficient