









QPF Skill Scores over CONUS

Oct 2011 – Sep 2012 (annual)

Oct 2011– Mar 20102(cold season)

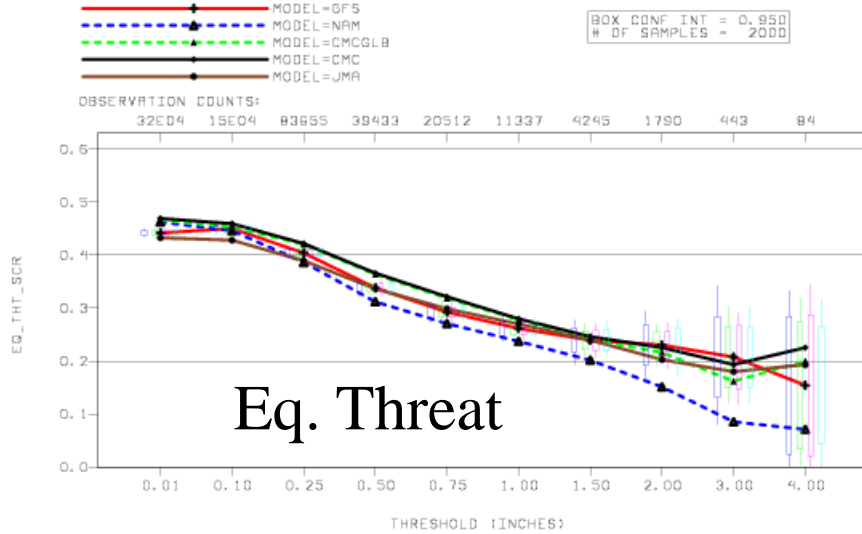
Apr 2012 – Sept 20102(warm season)

Models included in analysis:

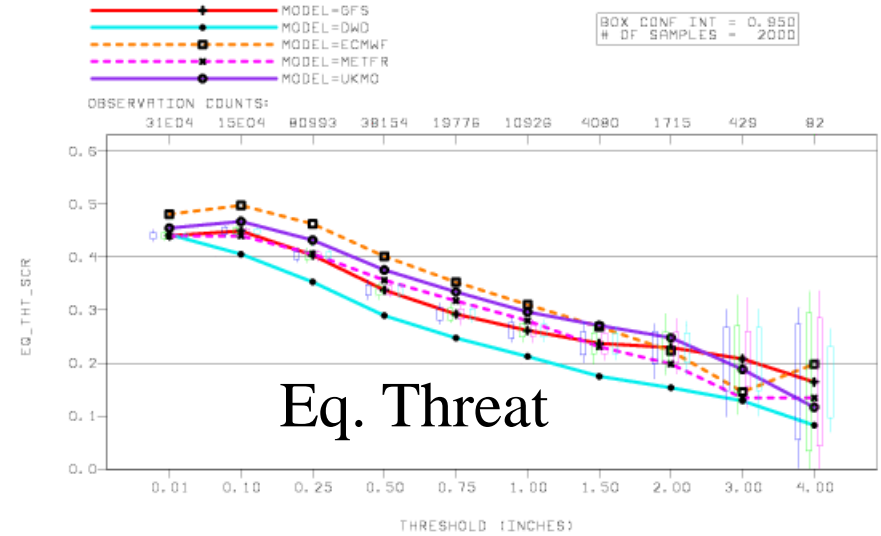
- NCEP GFS 
- NCEP NAM 
- CMC Global 
- CMC Regional 
- ECMWF 
- DWD 
- JMA 
- UKMET 

QPF Skill Scores over CONUS (Day-2) Oct 2011 – Sep 2012

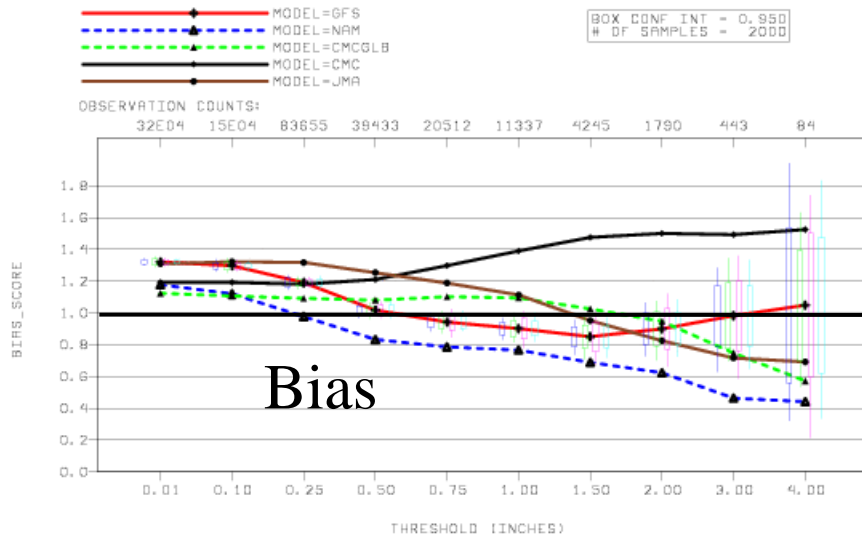
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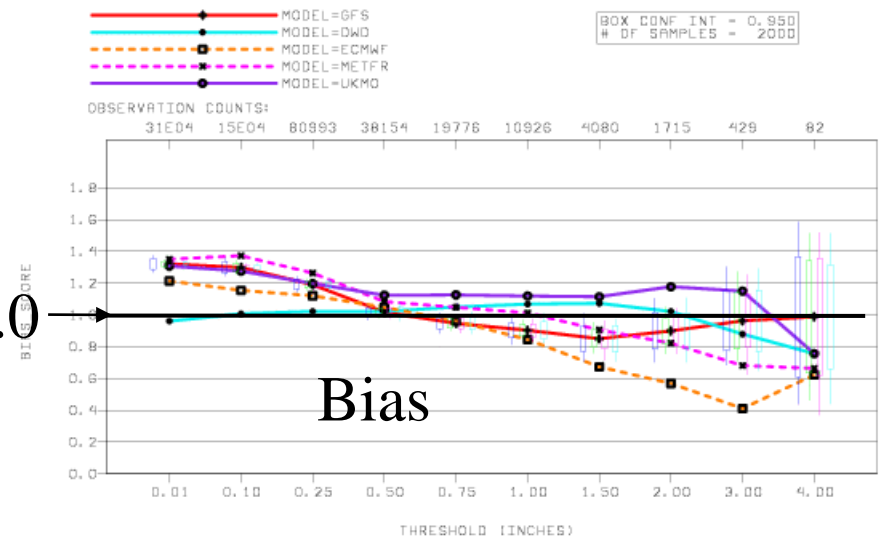
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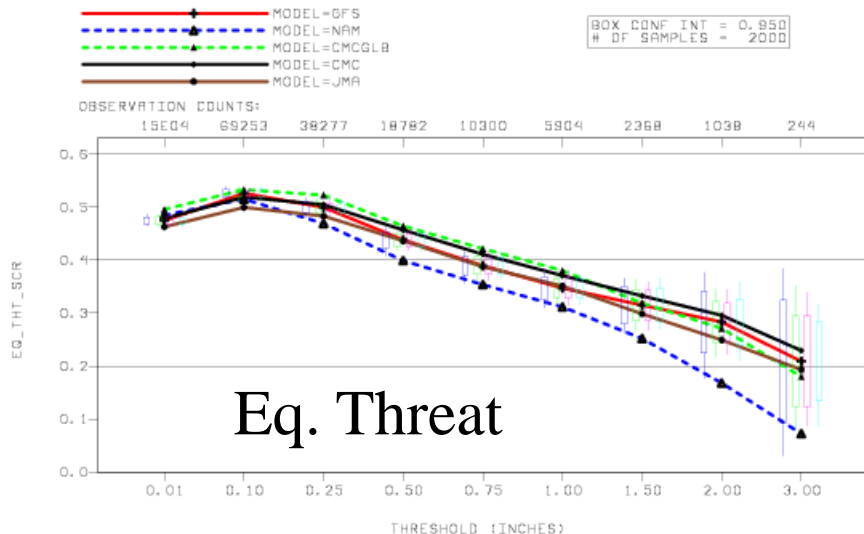
GFS, NAM, CMCGLB, CMC, JMA

GFS, DWD, ECMWF, METFR, UKMO

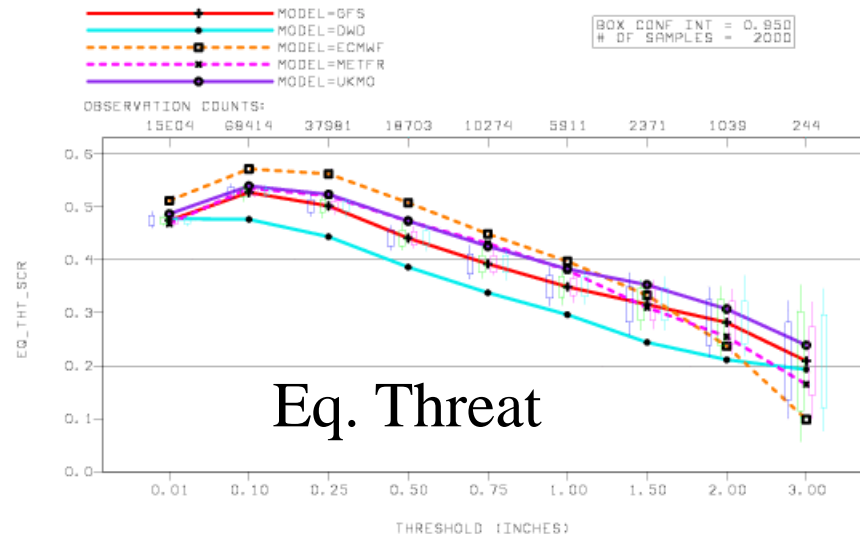
Cool Season Scores CONUS (Day-2)

Oct 2011 – Mar 2012

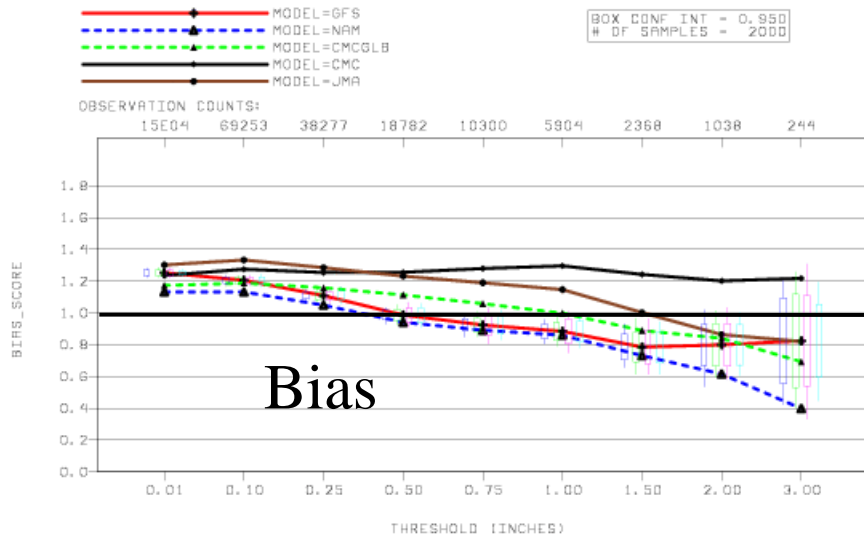
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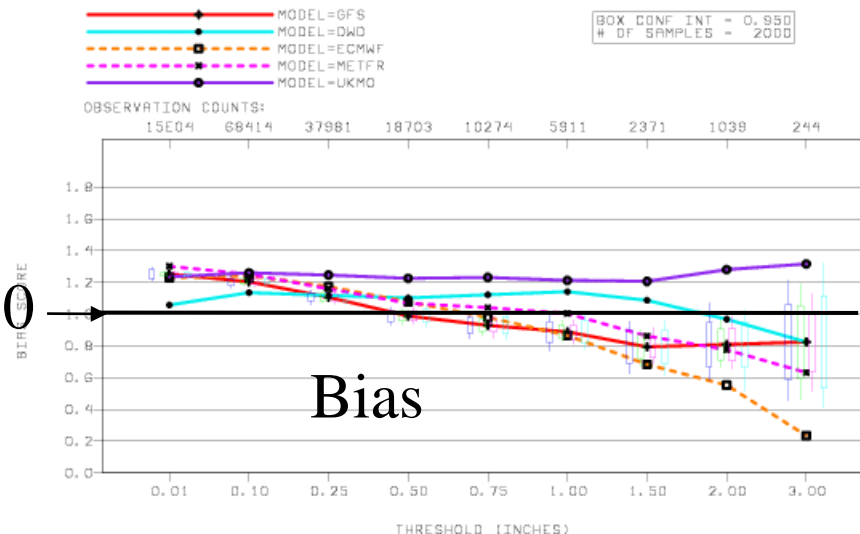
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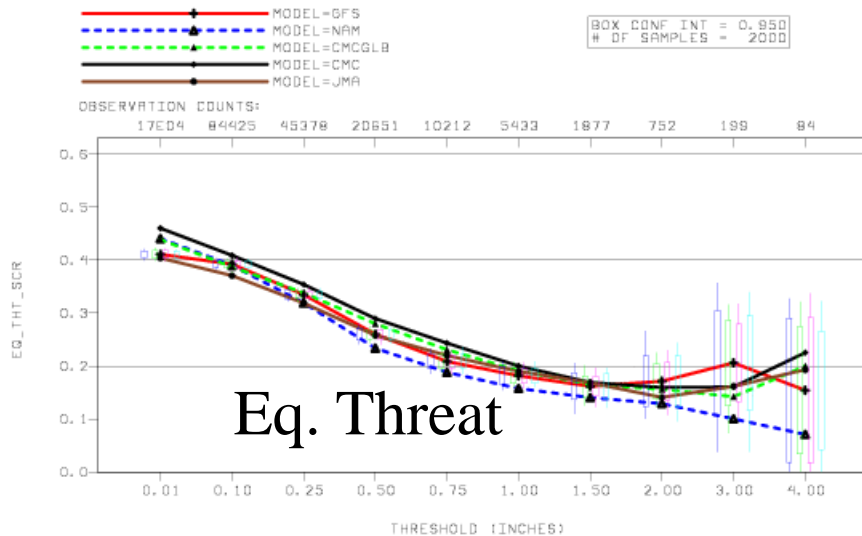
GFS, NAM, CMCGLB, CMC, JMA

GFS, DWD, ECMWF, METFR, UKMO

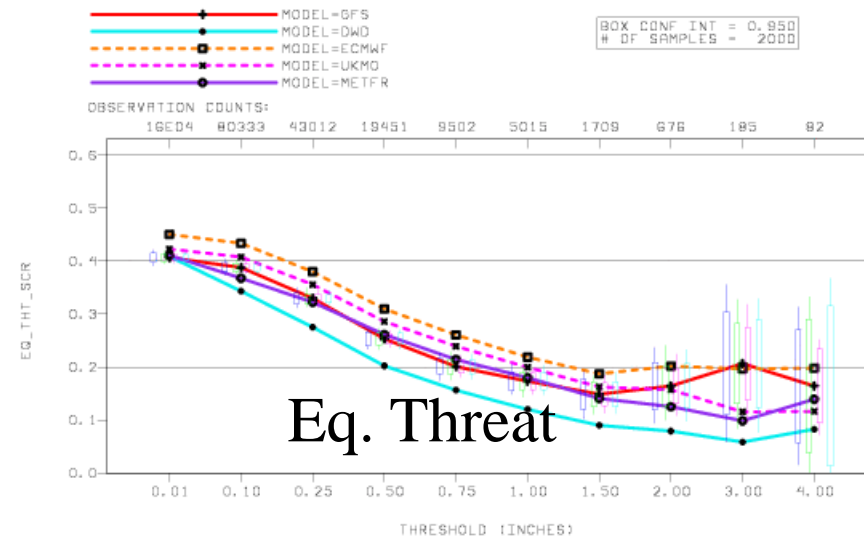
Warm Season Scores CONUS (Day-2)

Apr 2012– Sep 2012

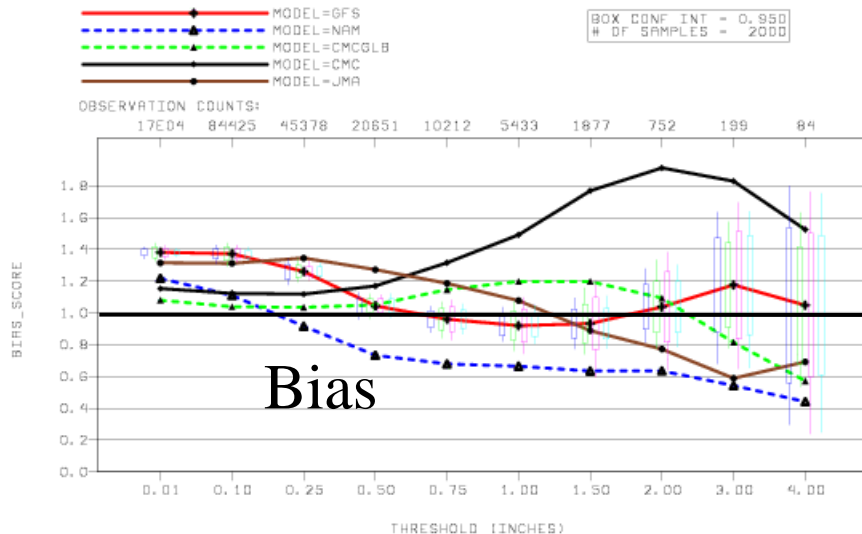
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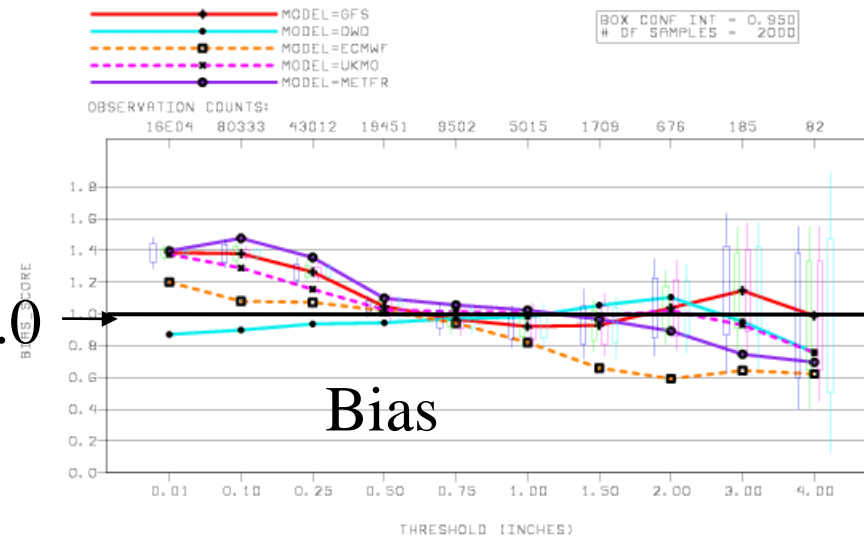
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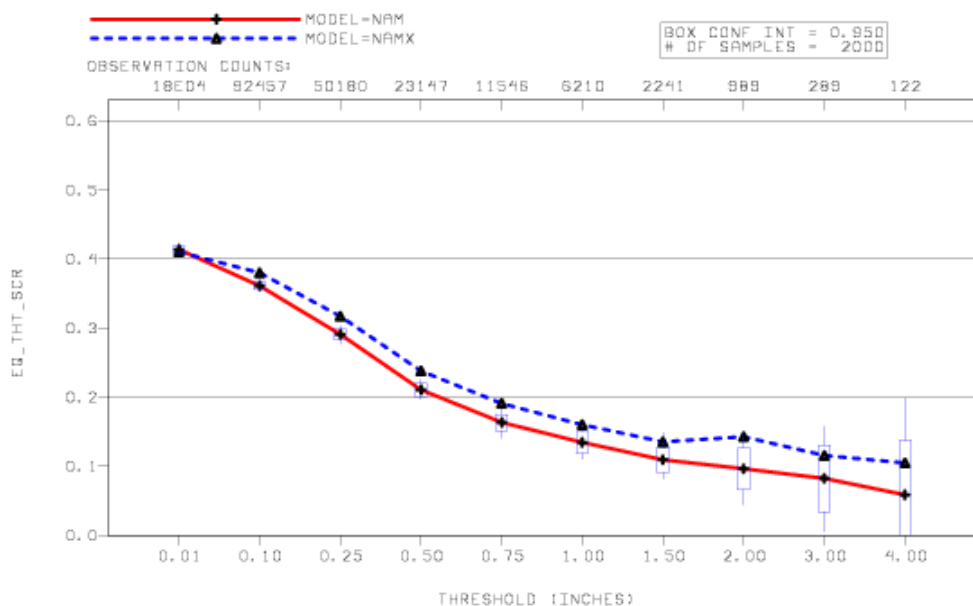


GFS, NAM, CMCGLB, CMC, JMA

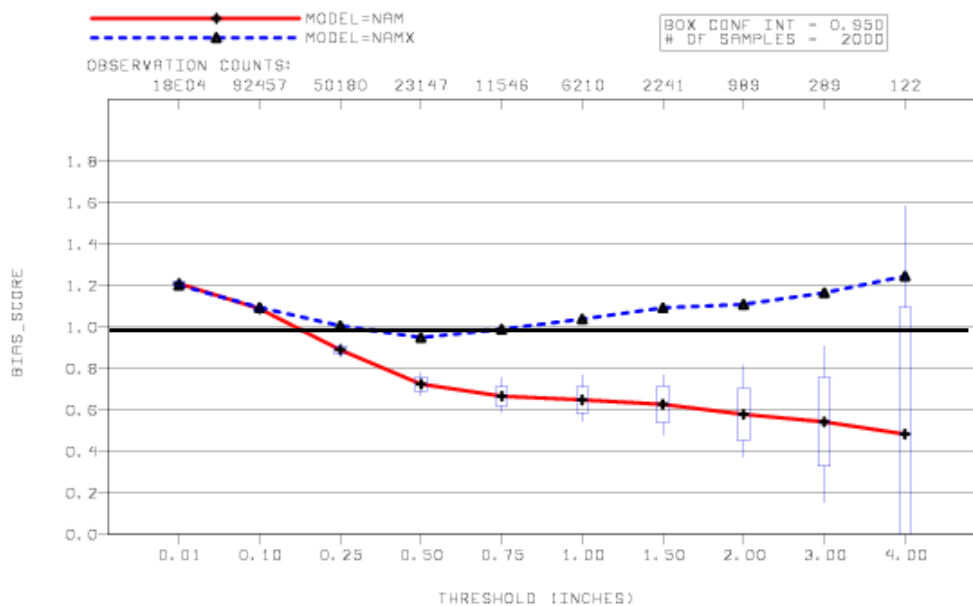
GFS, DWD, ECMWF, UKMO, METFR

NAM vs. NAMX (para) 1/2/3 day forecasts, 23 Apr – 11 Oct 2012

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Ongoing NAM parallel experiment, for future implementation:

1. Use of global EnKF in GSI
2. Gravity wave drag/mountain-blocking changes: more responsive to subgrid-scale terrain variability (synoptic impact)
3. Moisture convective profiles, convection triggers less
4. RRTM (SW/LW) with enhancements:
 - 1) Bug fix for sub-hourly zenith angle calculations
 - 2) Updated O3, CO2 and other trace gases
 - 3) Changes to albedo (removed diurnal variation), and parameterize effects from shallow (non-precipitating) convection
5. Remove 4x diffusion of moisture variables
6. Microphysics bug fix, reduced max. number concentration of ice
7. RAOB level enhancement in GSI, use mesonet wind reject list from RTMA