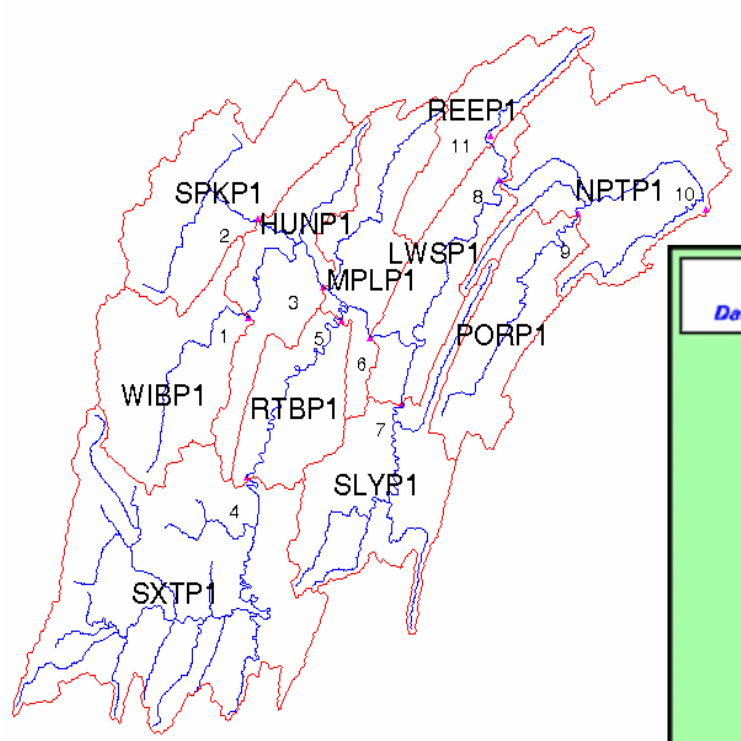
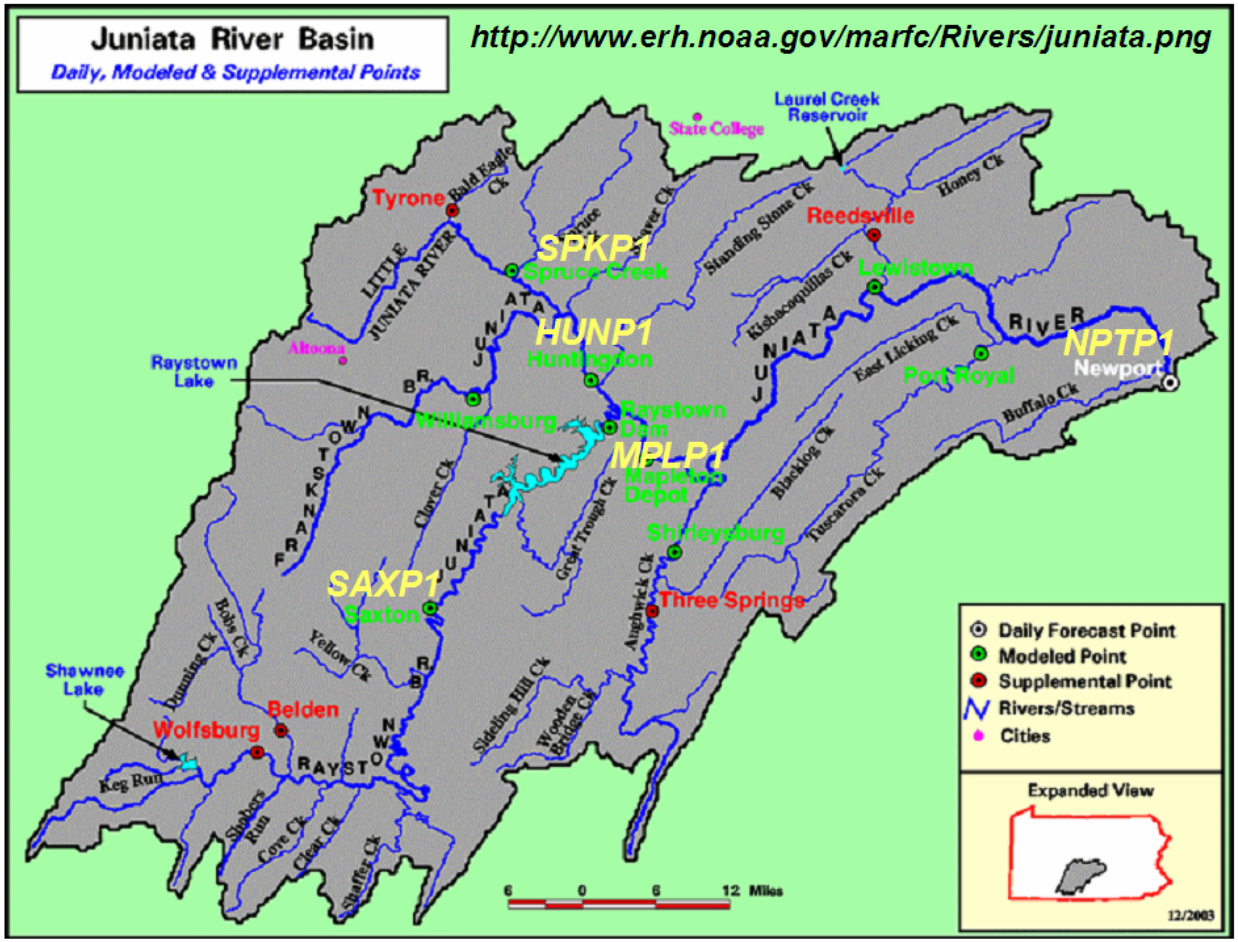
Temperature Ensemble Verification Example - MARFC

Hydrologic Ensemble Prediction Group
Hydrologic Science and Modeling Branch
Hydrology Laboratory
Office of Hydrologic Development
NOAA/National Weather Service

MARFC/Juniata/HUNP1

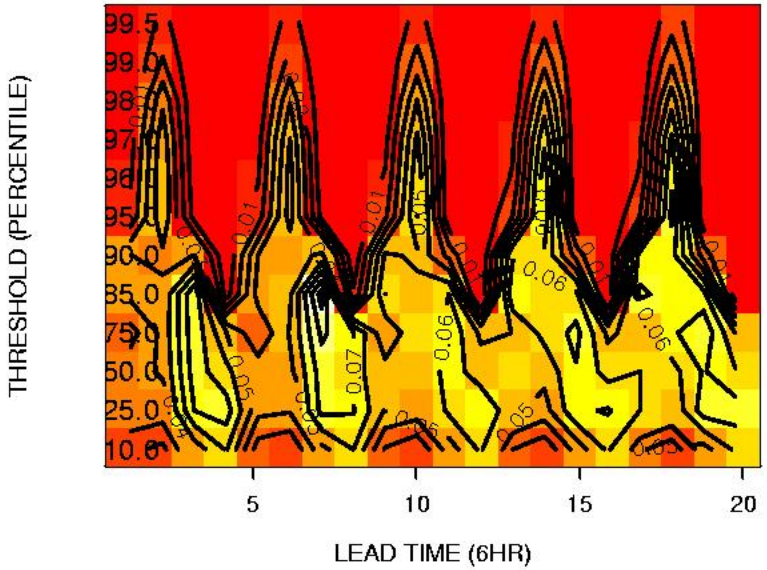


Area 790 mile^2 (2113 km^2)
Elevation 1159 ft (353 m)

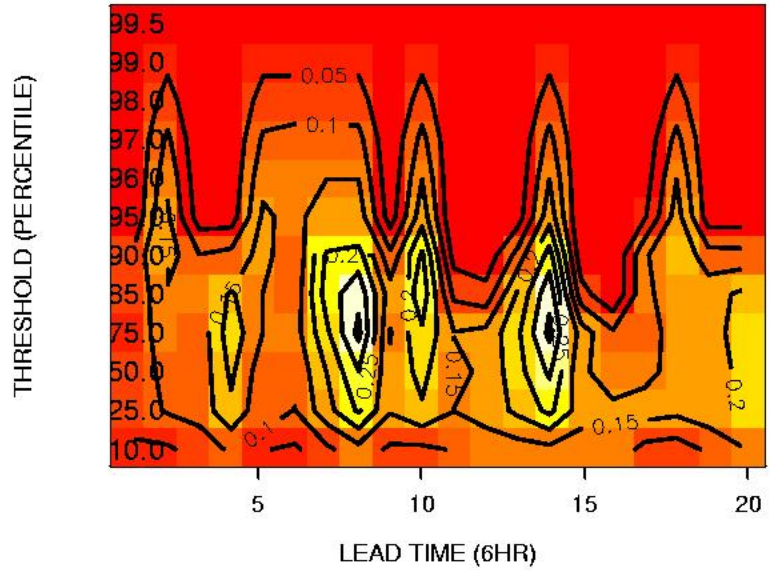


Verification of 6-hr temperature ensembles

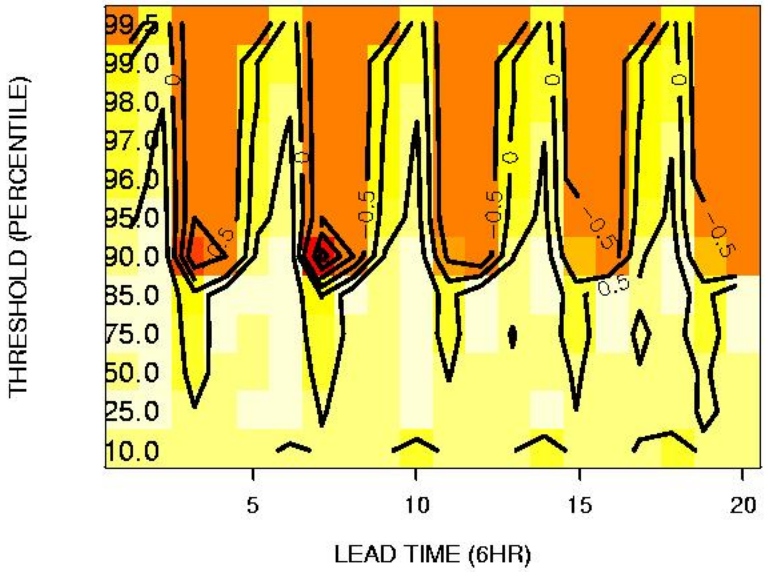
huntingdon – BS, ENSEMBLE FCST OF 6HR TEMP.



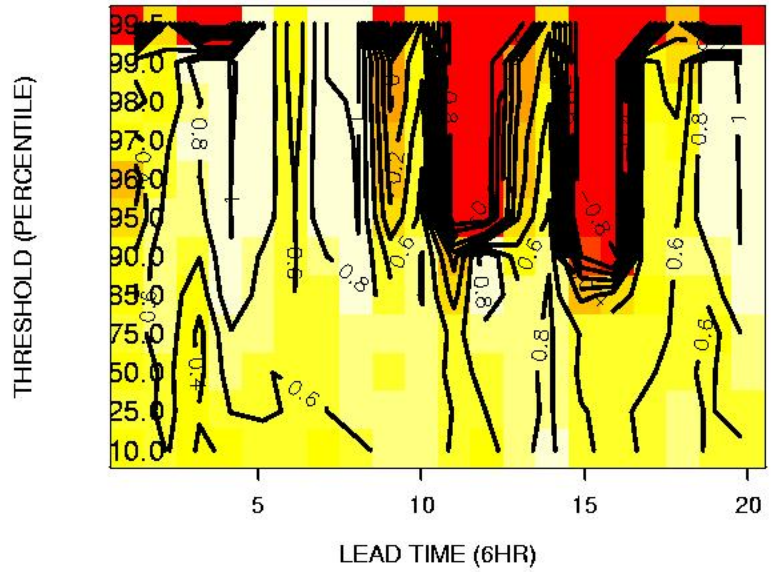
huntingdon – BS, PERSISTENCE FCST OF 6HR TEMP.



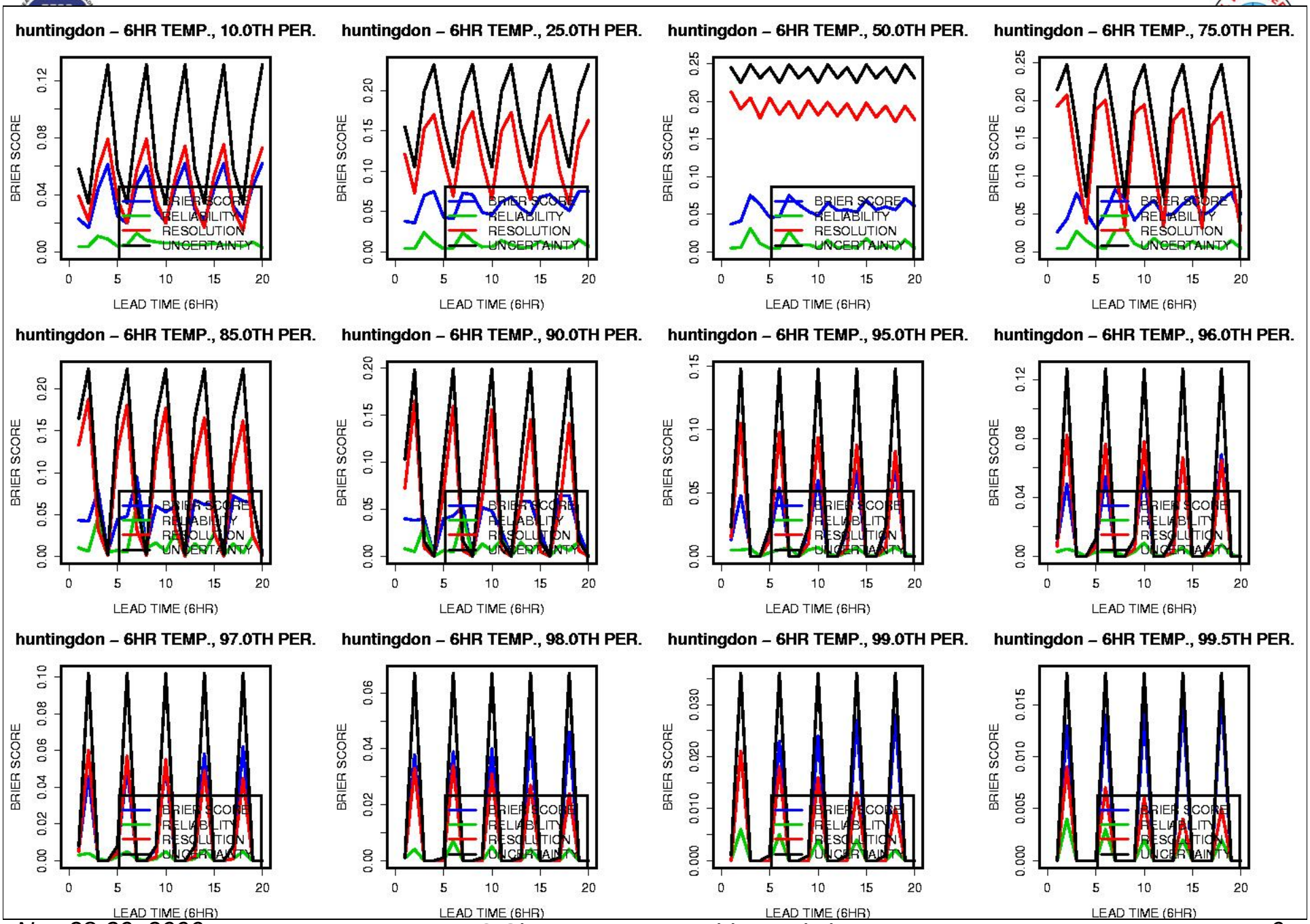
huntingdon – BSS, ENSEMBLE FCST VS. CLIMATOLOGY

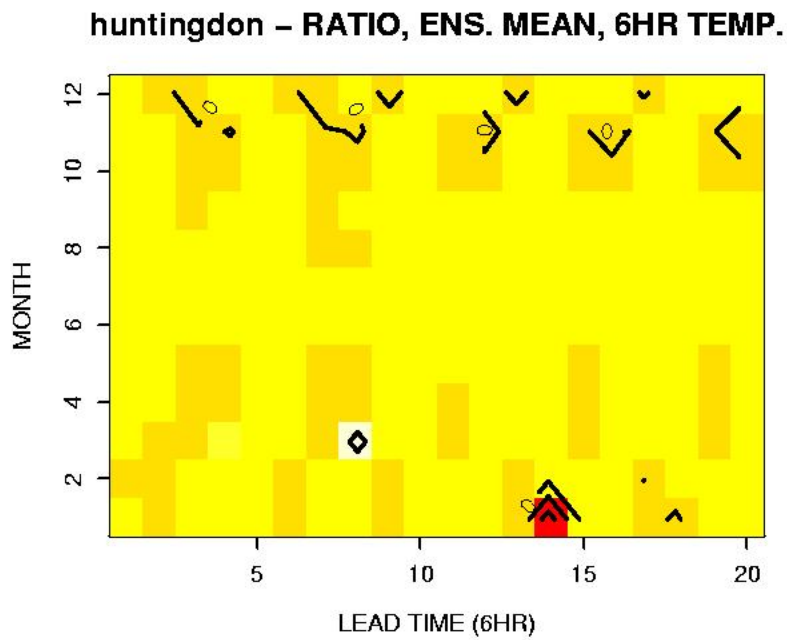


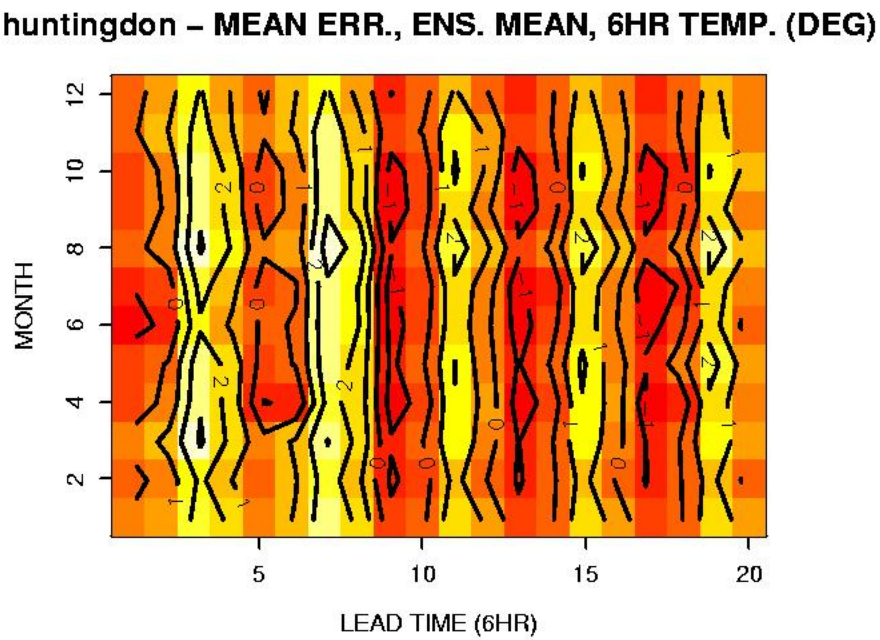
huntingdon – BSS, ENSEMBLE FCST VS. PERSISTENCE

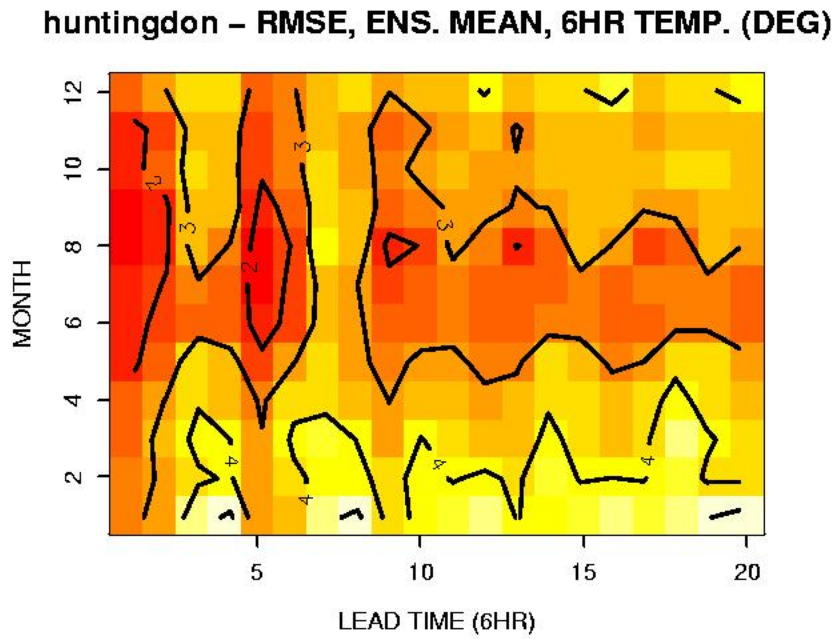


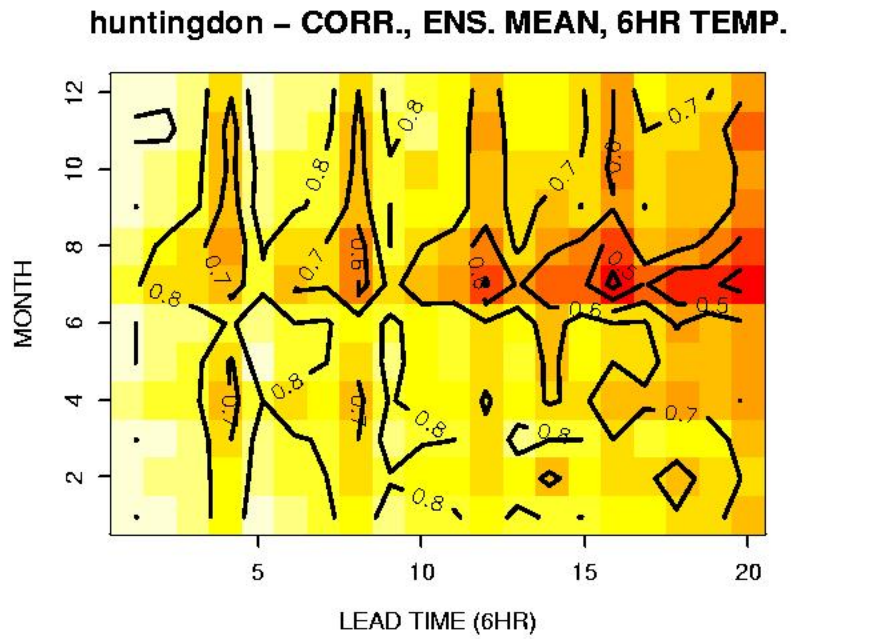
Percentile	6-hr Temperature (°C)
10	-4.8
25	0.8
50	9.1
75	17.4
85	20.8
90	22.8
95	25.5
96	26.2
97	27.0
98	27.9
99	29.2
99.5	30.4

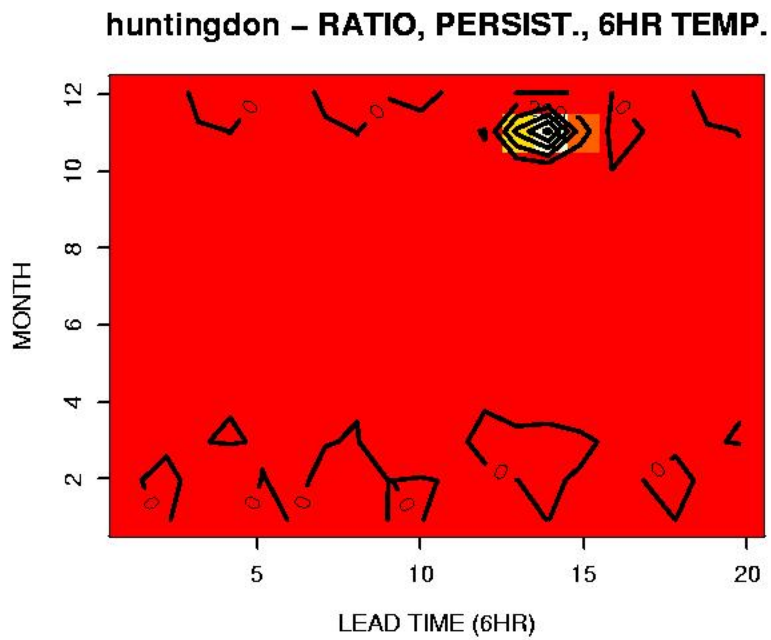

huntingdon – 6HR TEMP., 10.0TH PER.
huntingdon – 6HR TEMP., 25.0TH PER.
huntingdon – 6HR TEMP., 50.0TH PER.
huntingdon – 6HR TEMP., 75.0TH PER.
huntingdon – 6HR TEMP., 85.0TH PER.
huntingdon – 6HR TEMP., 90.0TH PER.
huntingdon – 6HR TEMP., 95.0TH PER.
huntingdon – 6HR TEMP., 96.0TH PER.
huntingdon – 6HR TEMP., 97.0TH PER.
huntingdon – 6HR TEMP., 98.0TH PER.
huntingdon – 6HR TEMP., 99.0TH PER.
huntingdon – 6HR TEMP., 99.5TH PER.
BRIER SCORE
RELIABILITY
RESOLUTION
UNCERTAINTY
LEAD TIME (6HR)

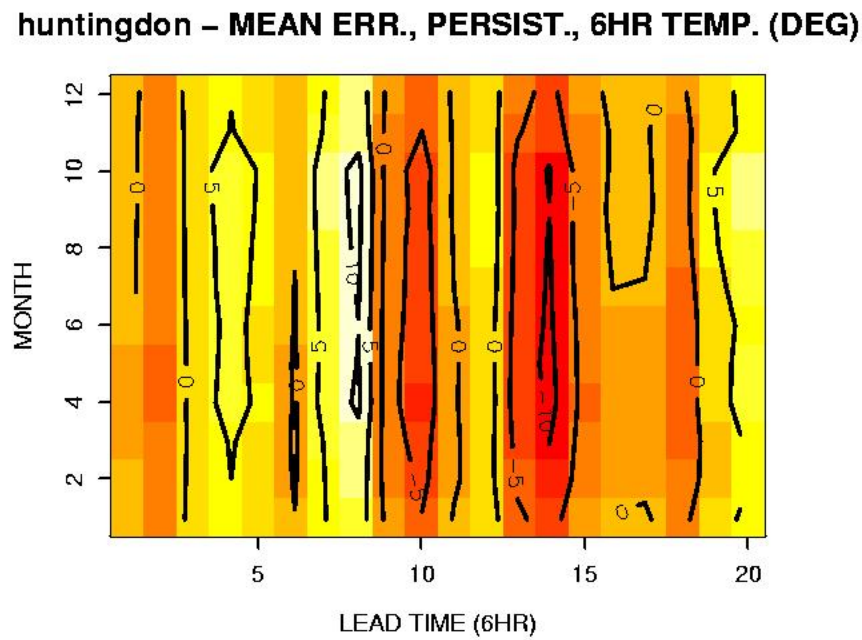

huntingdon – RATIO, ENS. MEAN, 6HR TEMP.
MONTH
LEAD TIME (6HR)

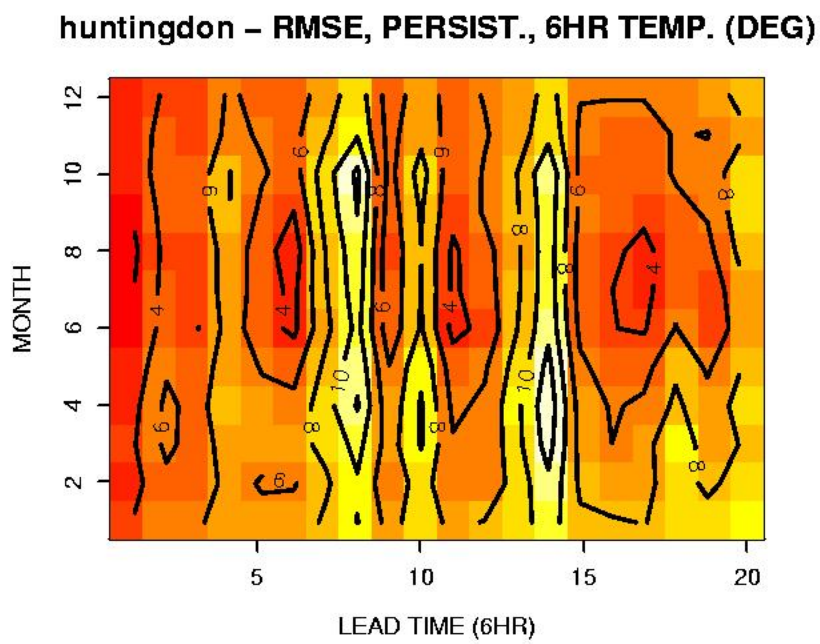

huntingdon – MEAN ERR., ENS. MEAN, 6HR TEMP. (DEG)
MONTH
LEAD TIME (6HR)

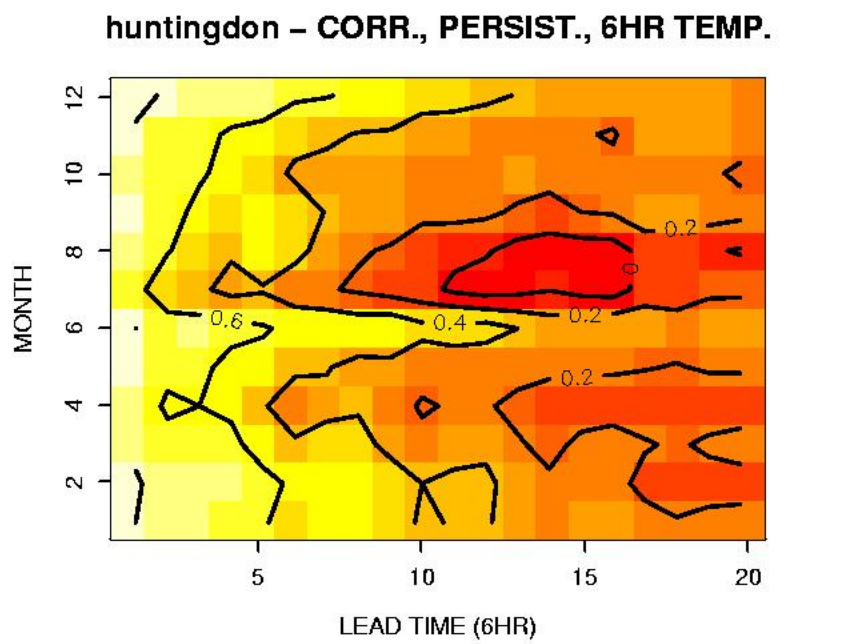

huntingdon – RMSE, ENS. MEAN, 6HR TEMP. (DEG)
MONTH
LEAD TIME (6HR)


huntingdon – CORR., ENS. MEAN, 6HR TEMP.
MONTH
LEAD TIME (6HR)

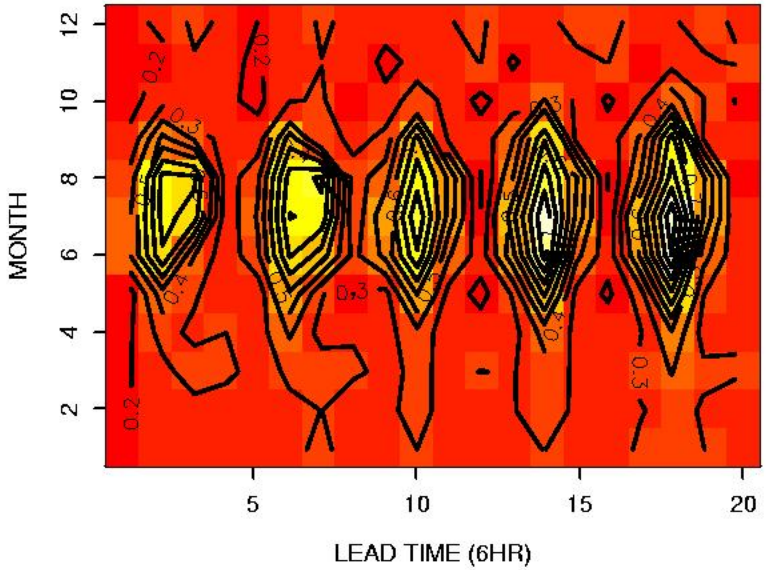

huntingdon – RATIO, PERSIST., 6HR TEMP.
MONTH
LEAD TIME (6HR)


huntingdon – MEAN ERR., PERSIST., 6HR TEMP. (DEG)
MONTH
LEAD TIME (6HR)

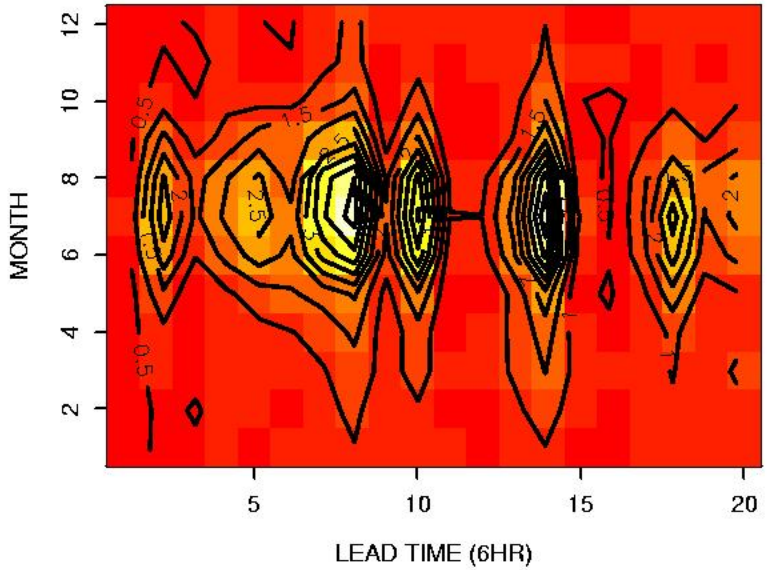

huntingdon – RMSE, PERSIST., 6HR TEMP. (DEG)
MONTH
LEAD TIME (6HR)


huntingdon – CORR., PERSIST., 6HR TEMP.
MONTH
LEAD TIME (6HR)

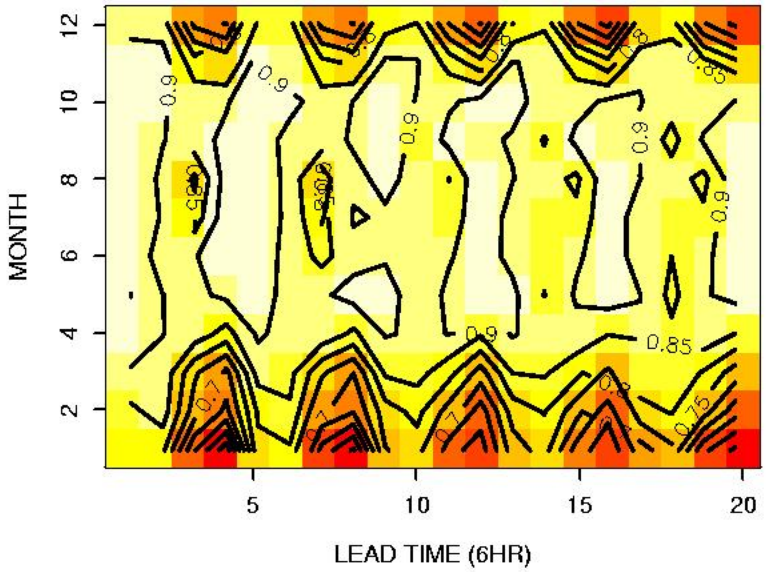
huntingdon – RPS, ENSEMBLE FCST OF 6HR TEMP.



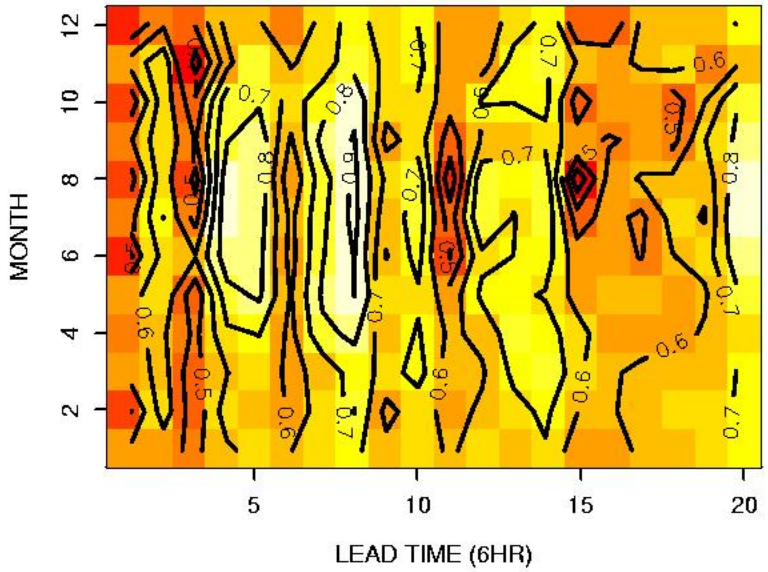
huntingdon – RPS, PERSISTENCE FCST OF 6HR TEMP.



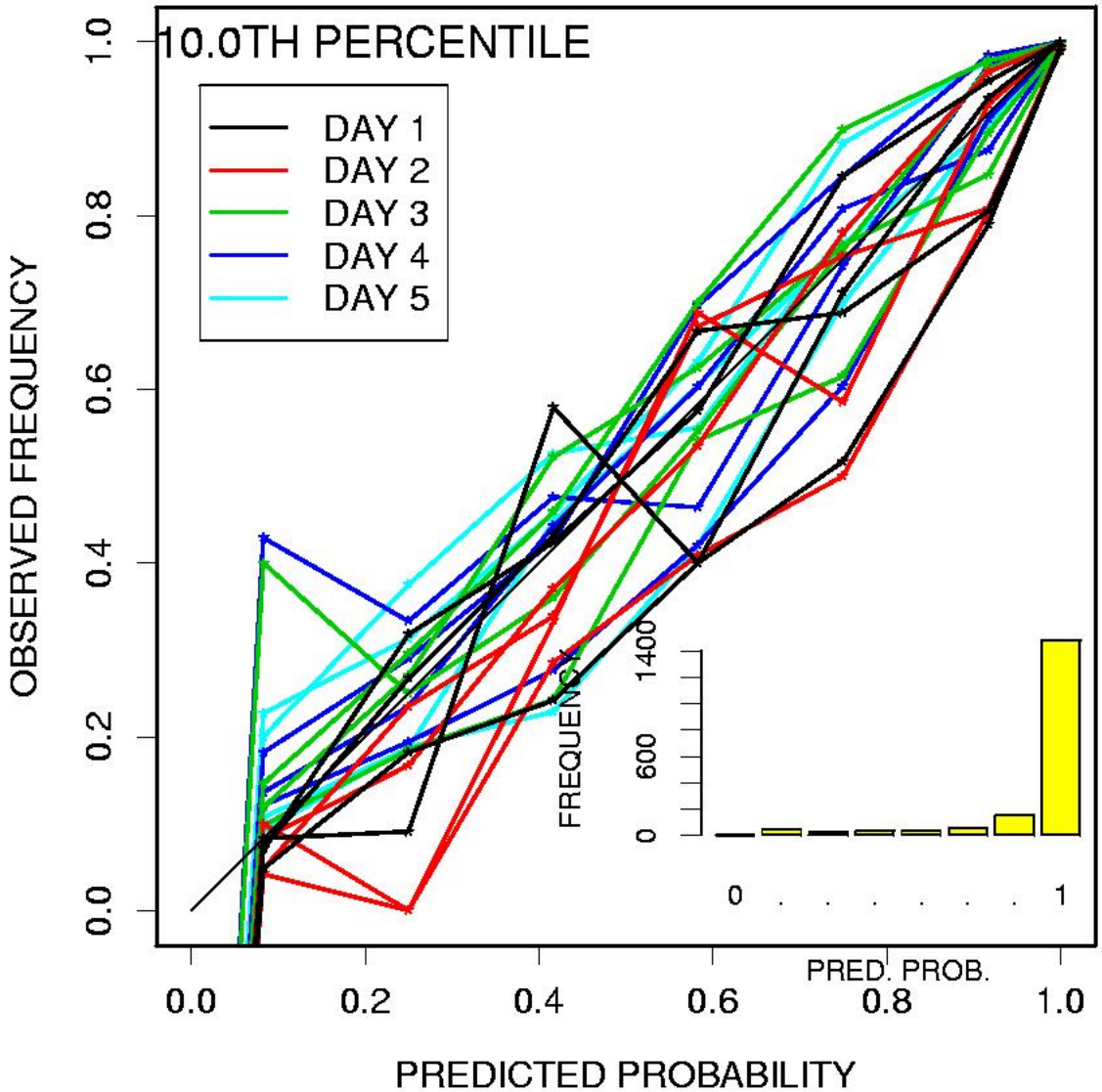
huntingdon – RPSS, ENSEMBLE FCST VS. CLIMATOLOGY



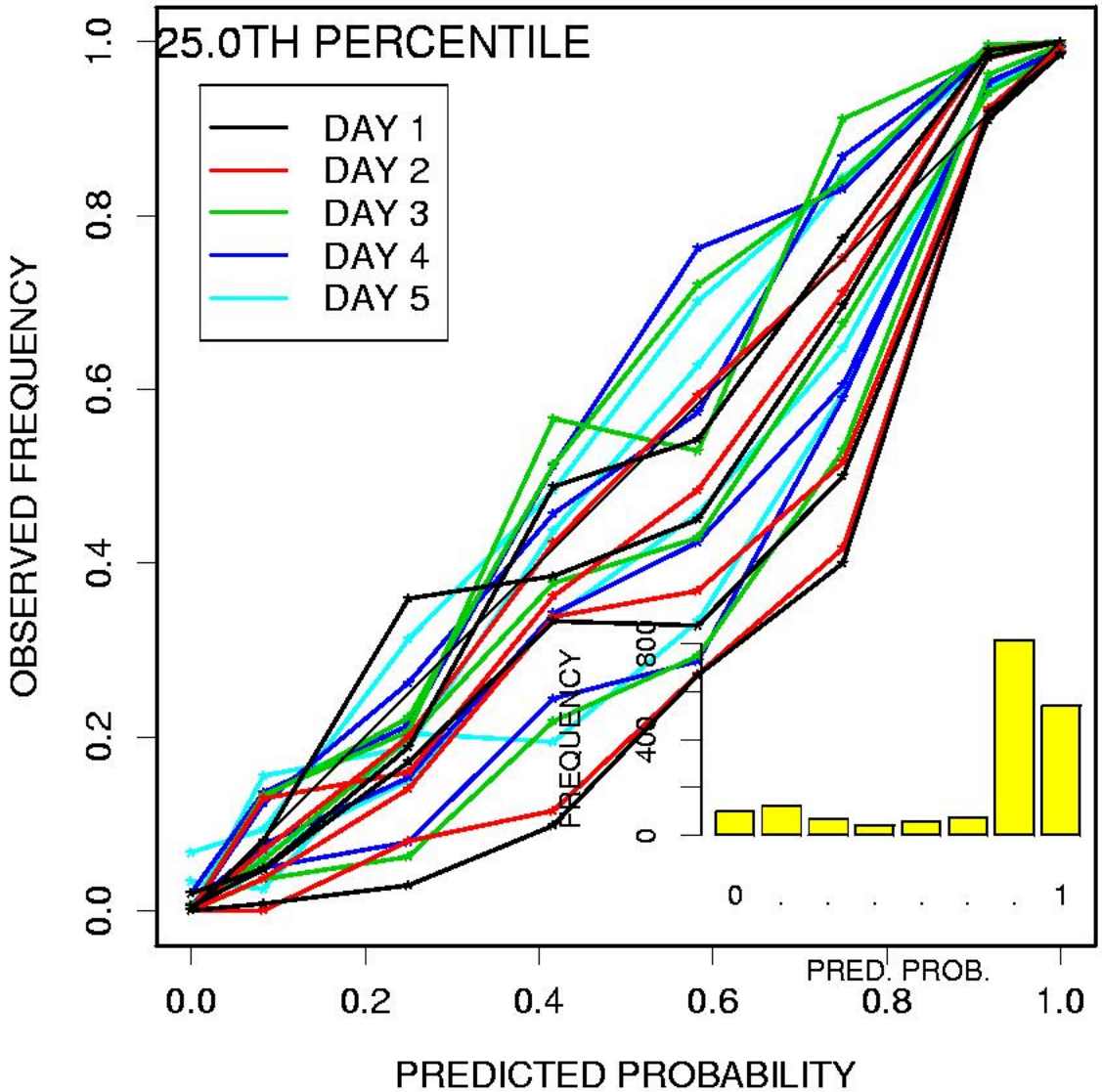
huntingdon – RPSS, ENSEMBLE FCST VS. PERSISTENCE



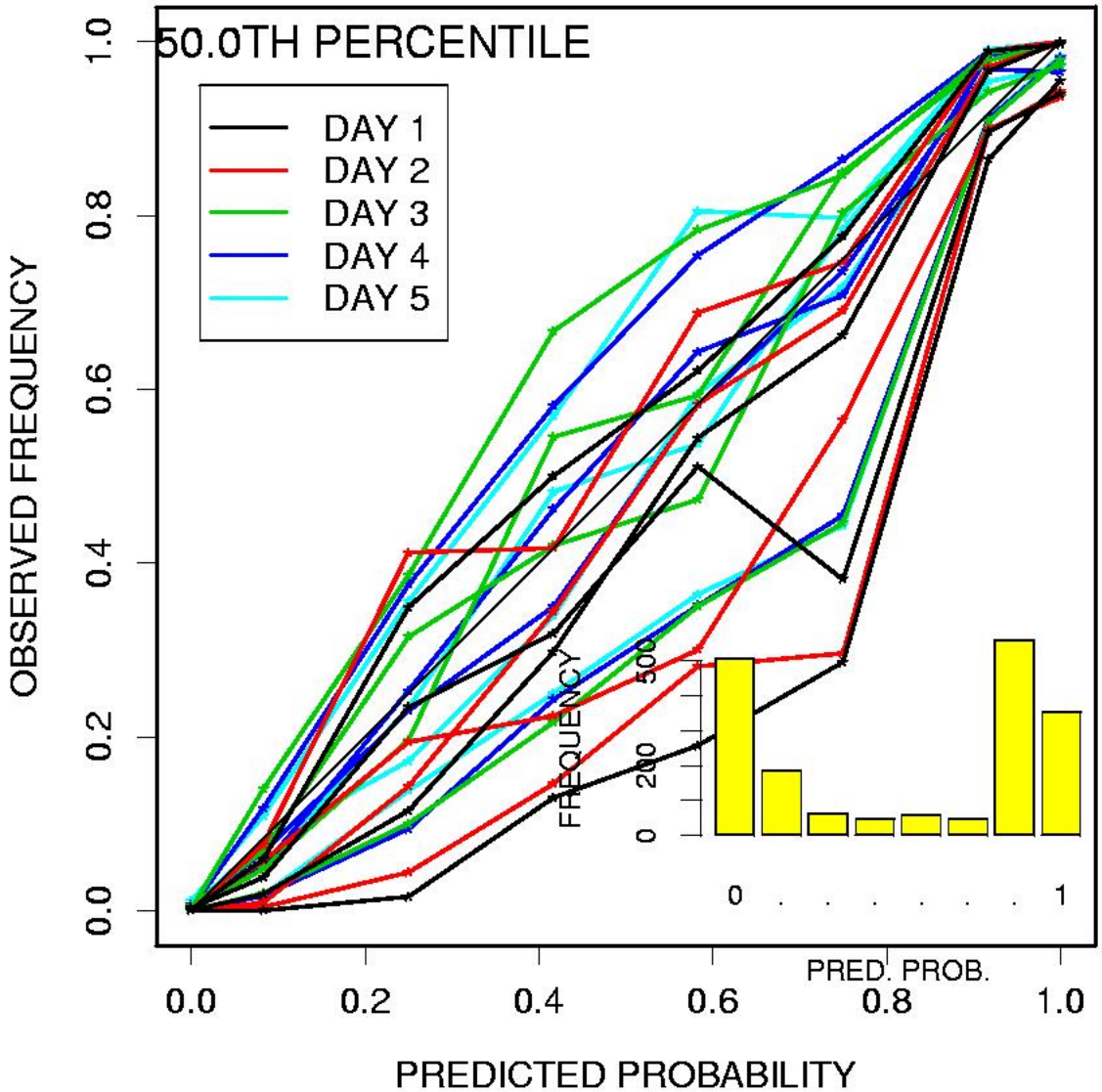
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



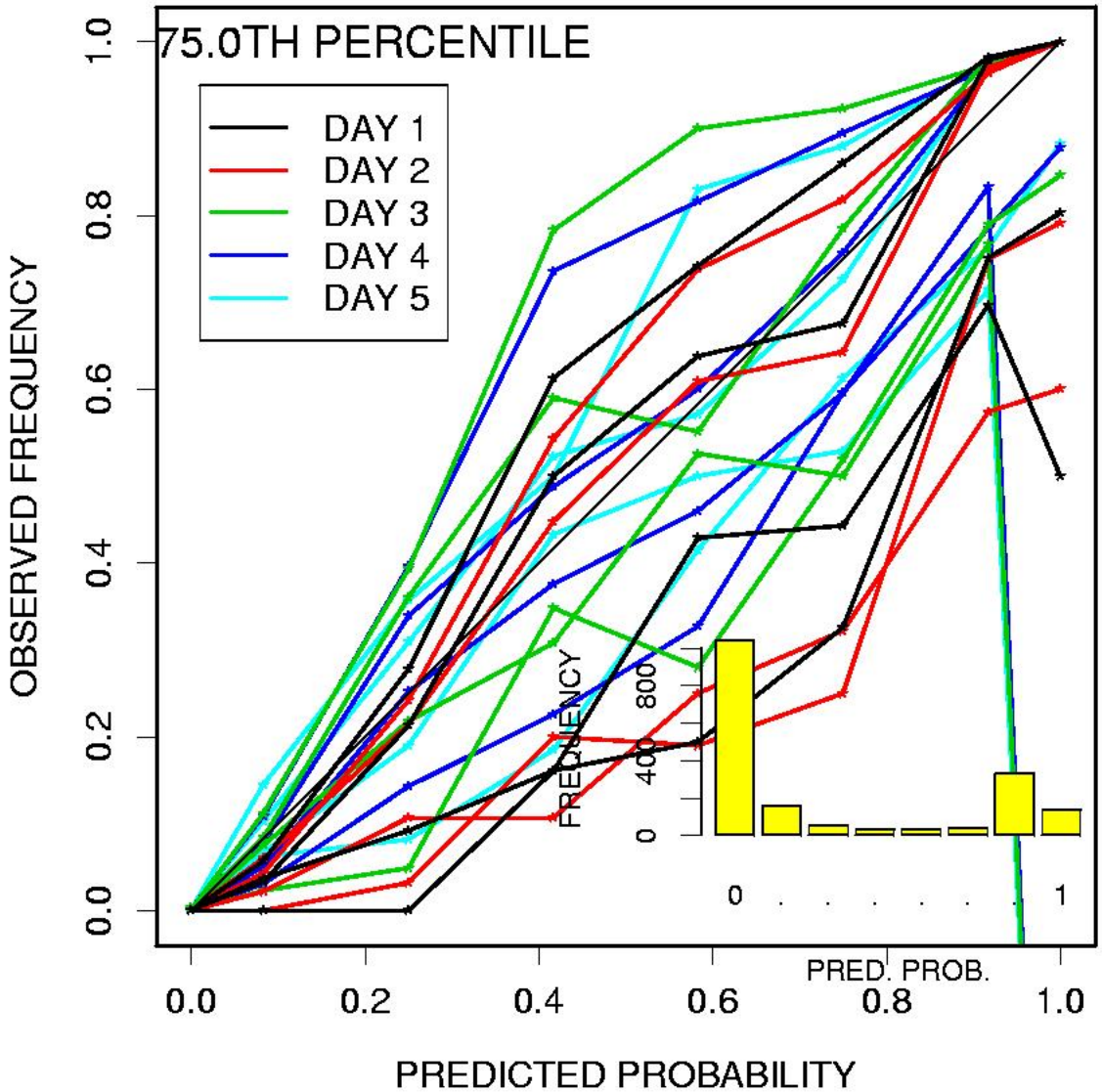
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



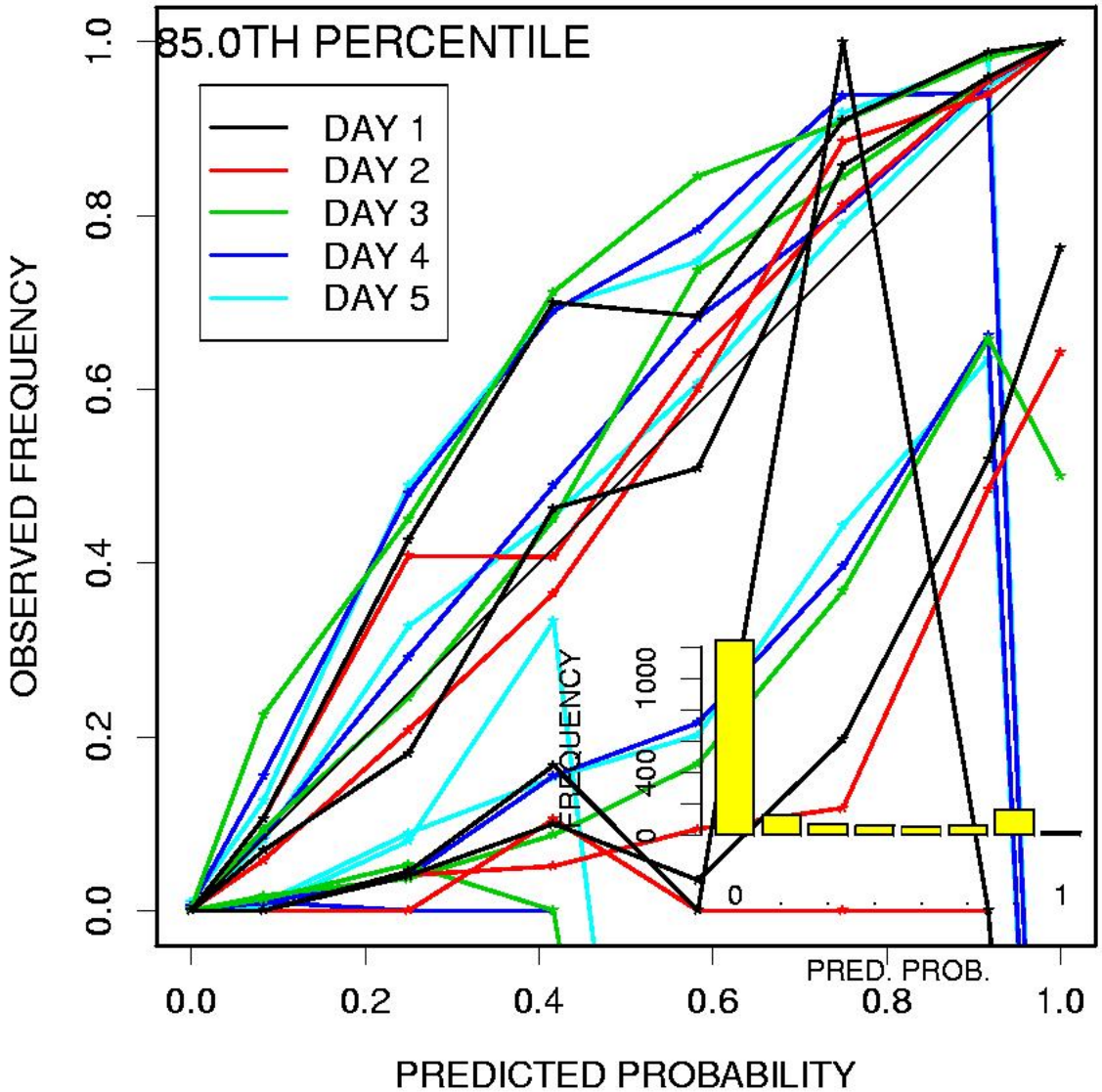
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



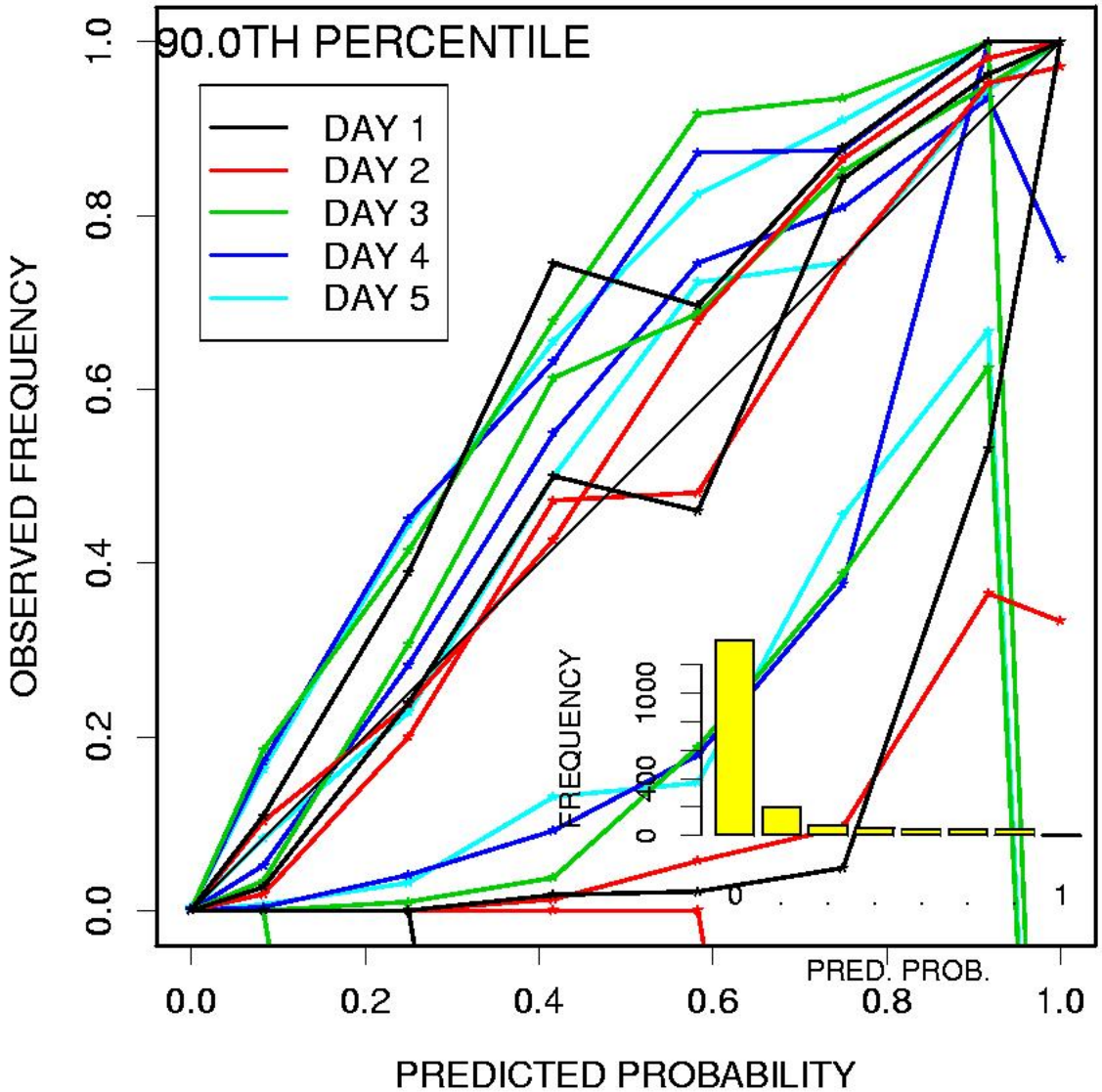
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



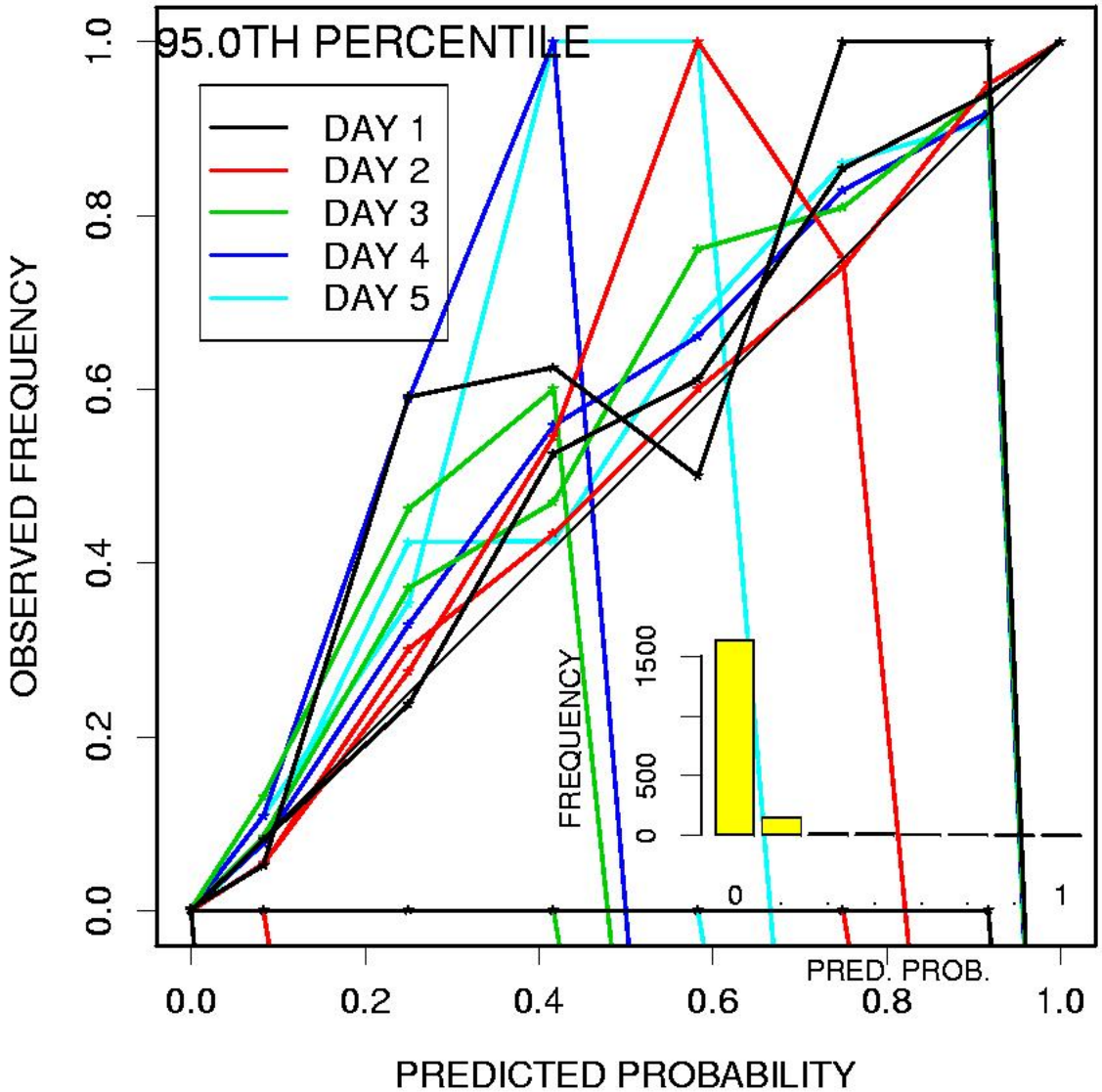
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



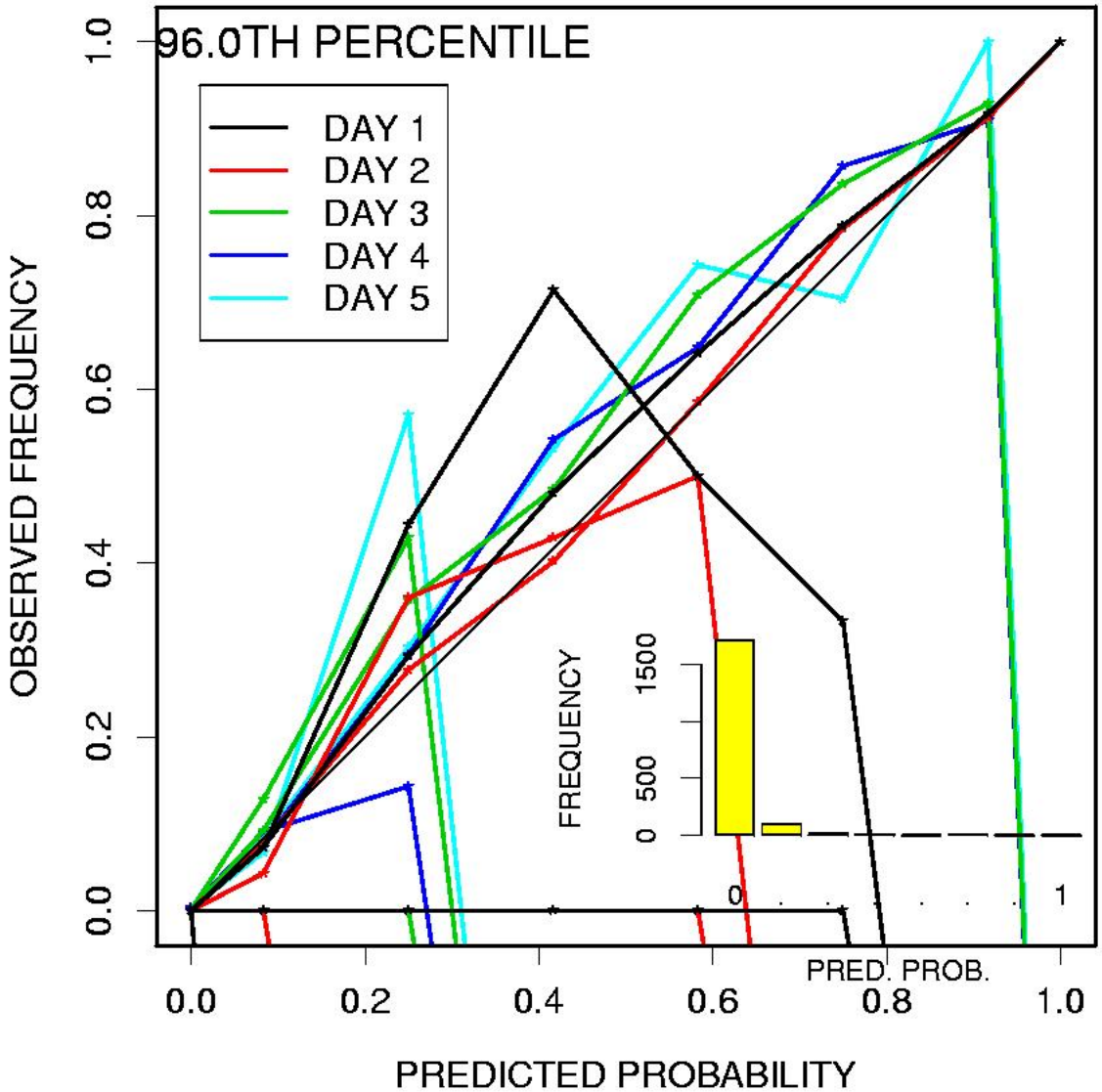
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



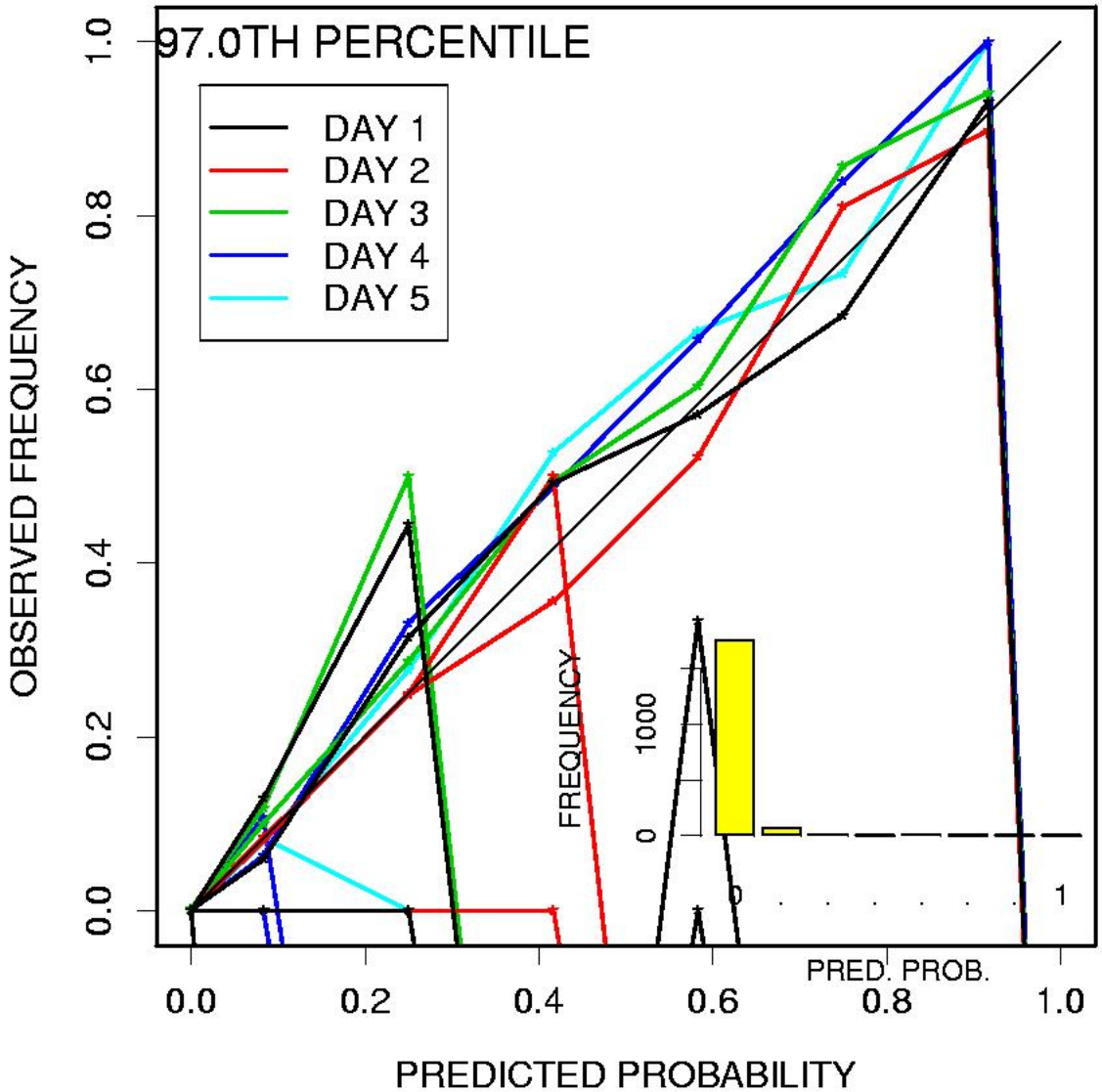
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN



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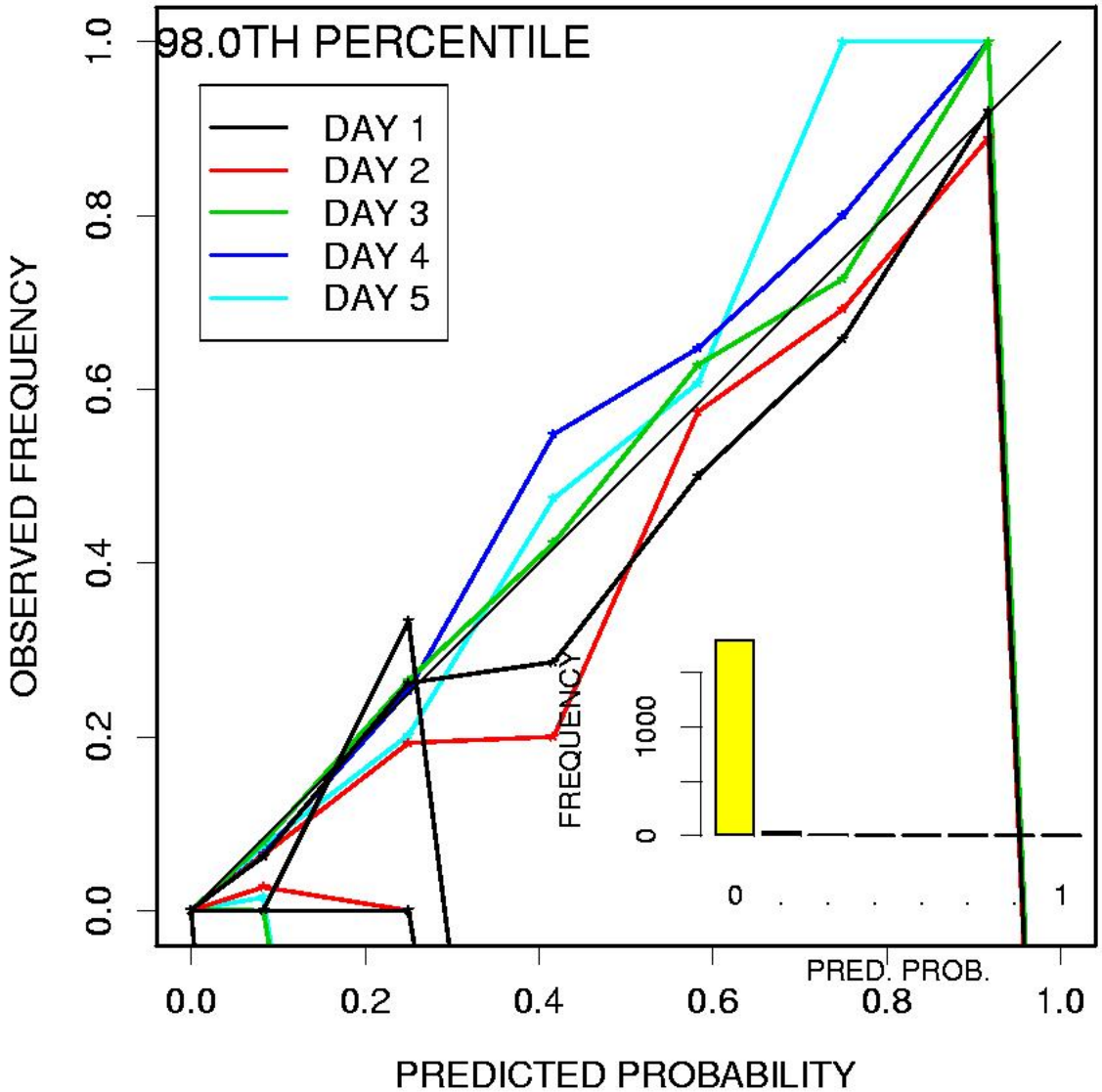

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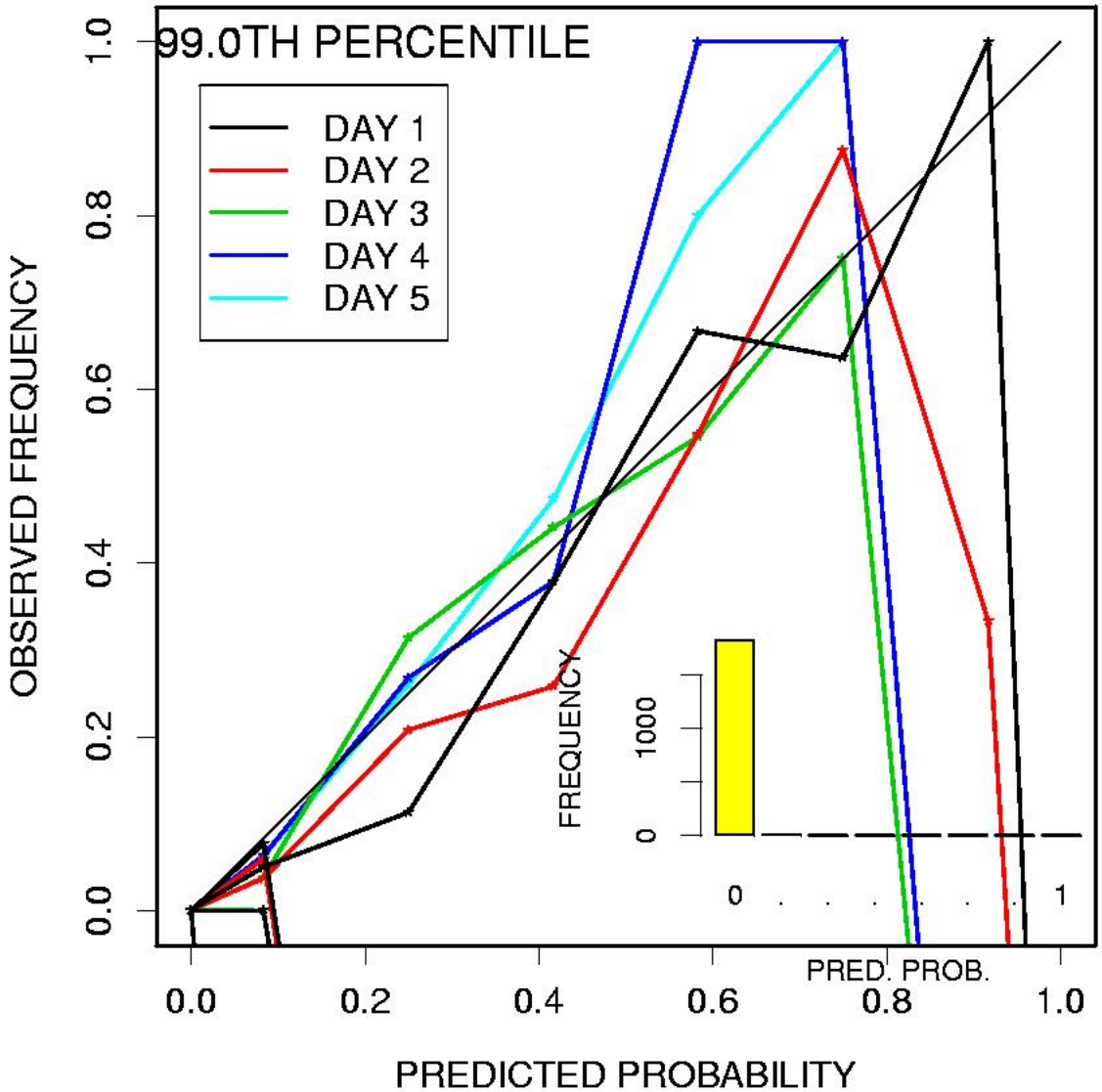
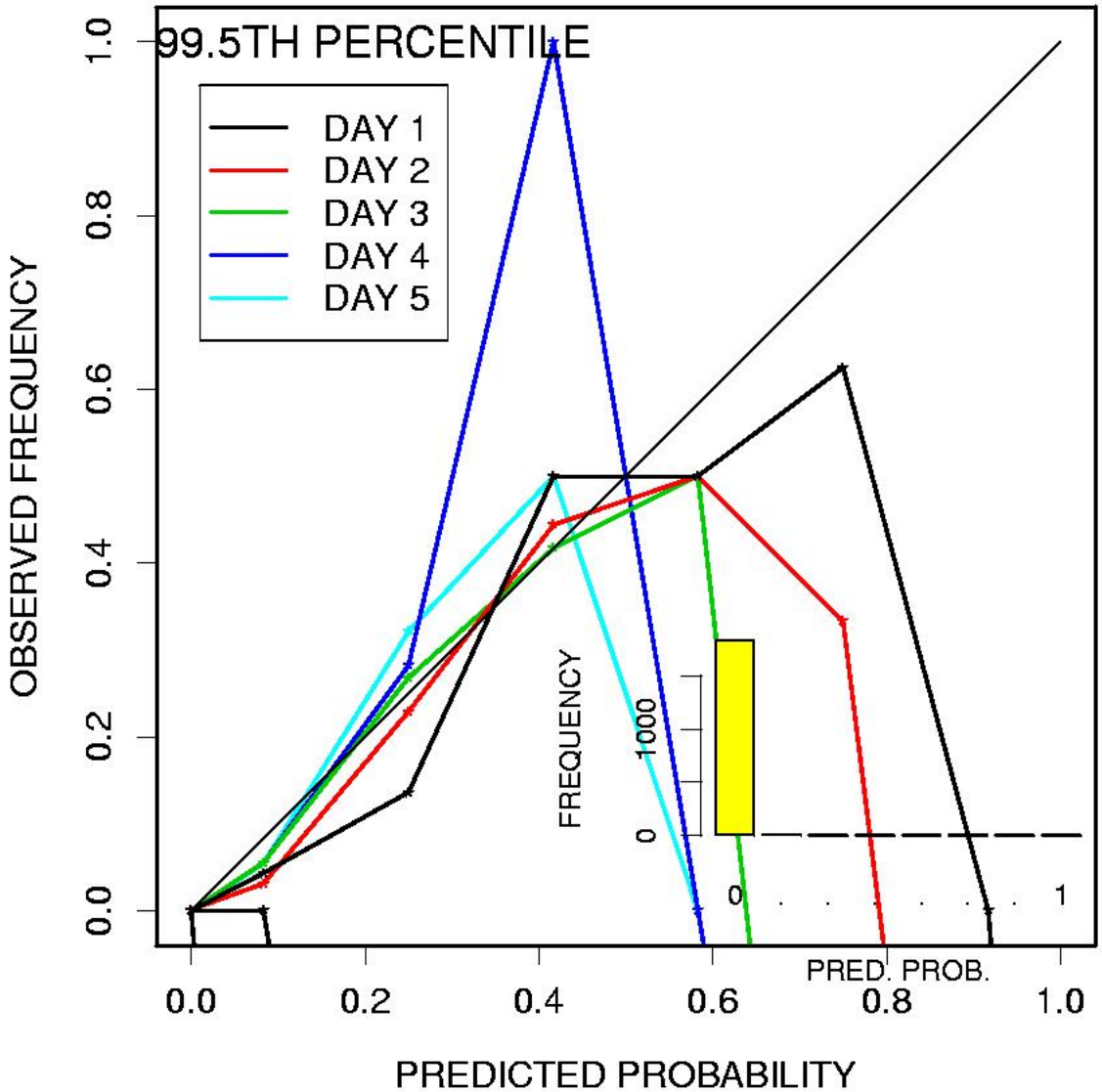
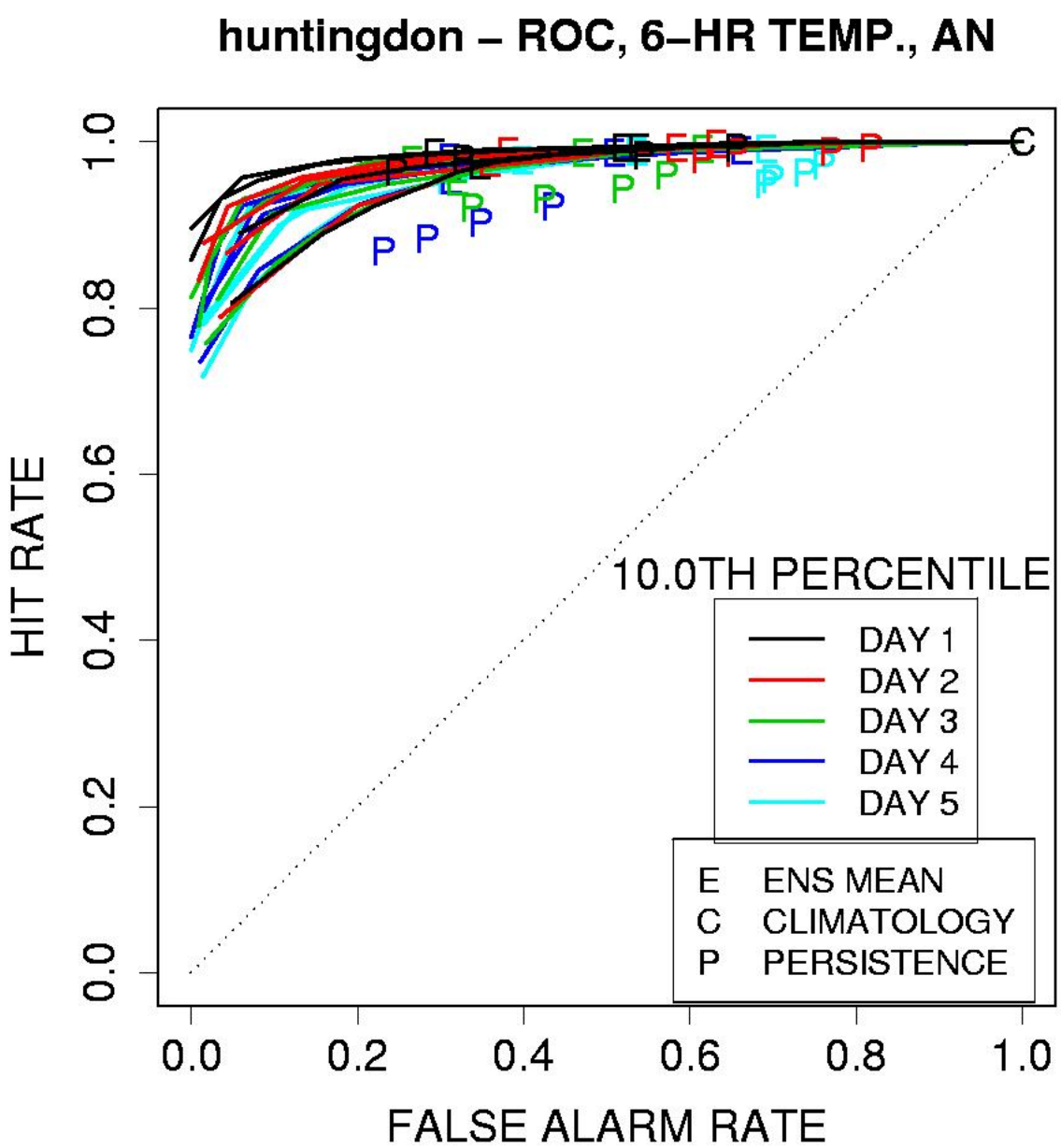
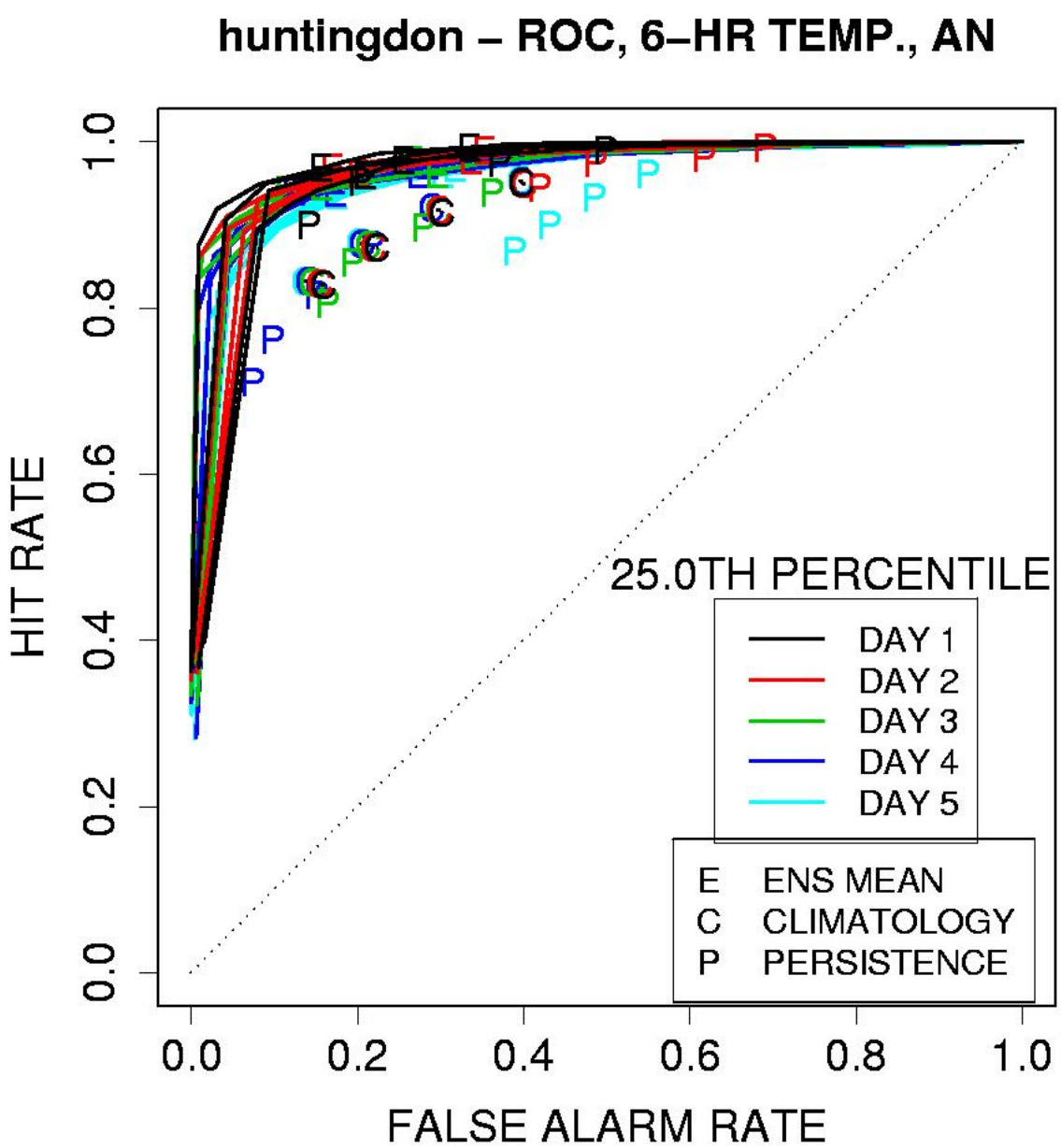
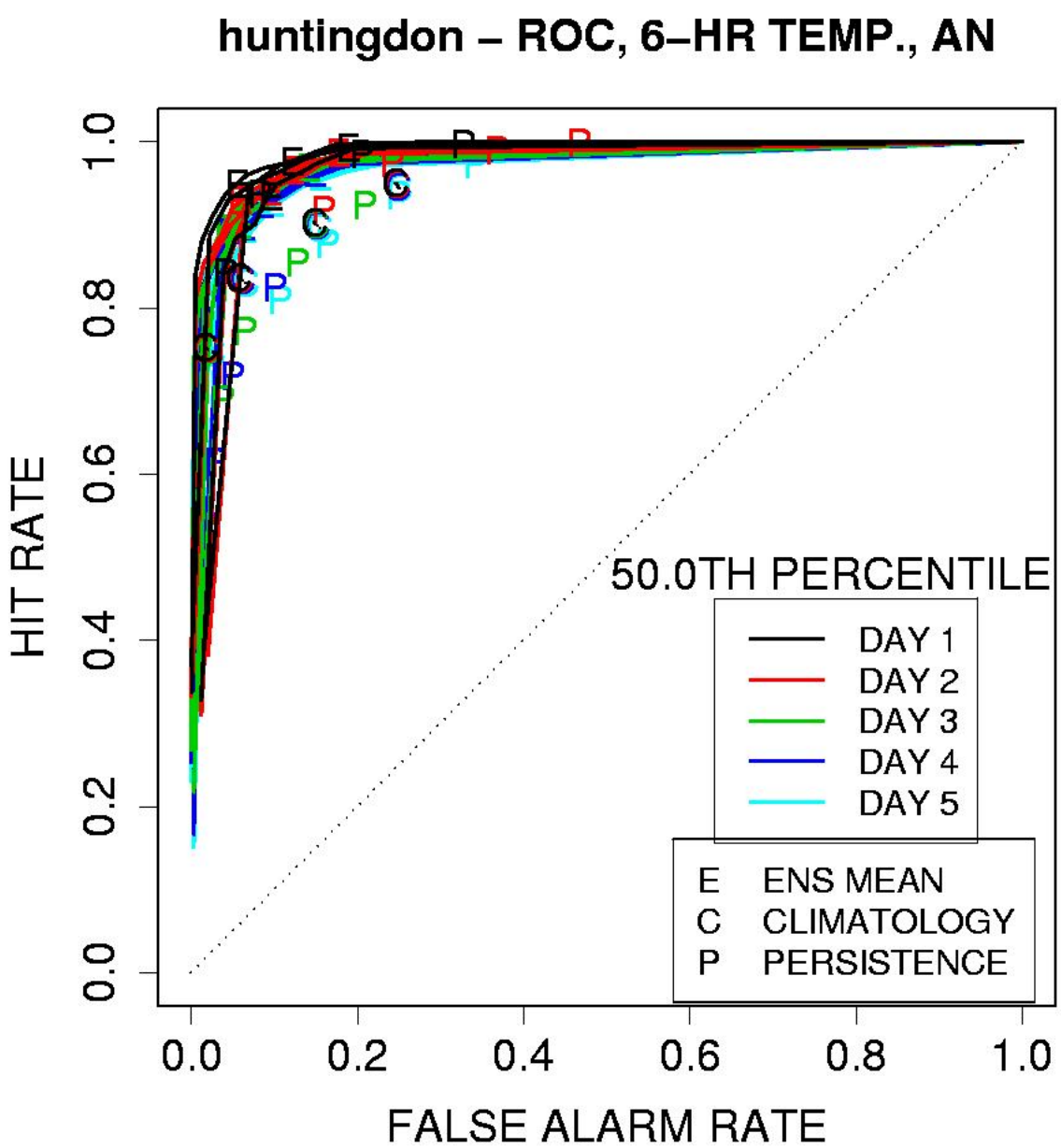


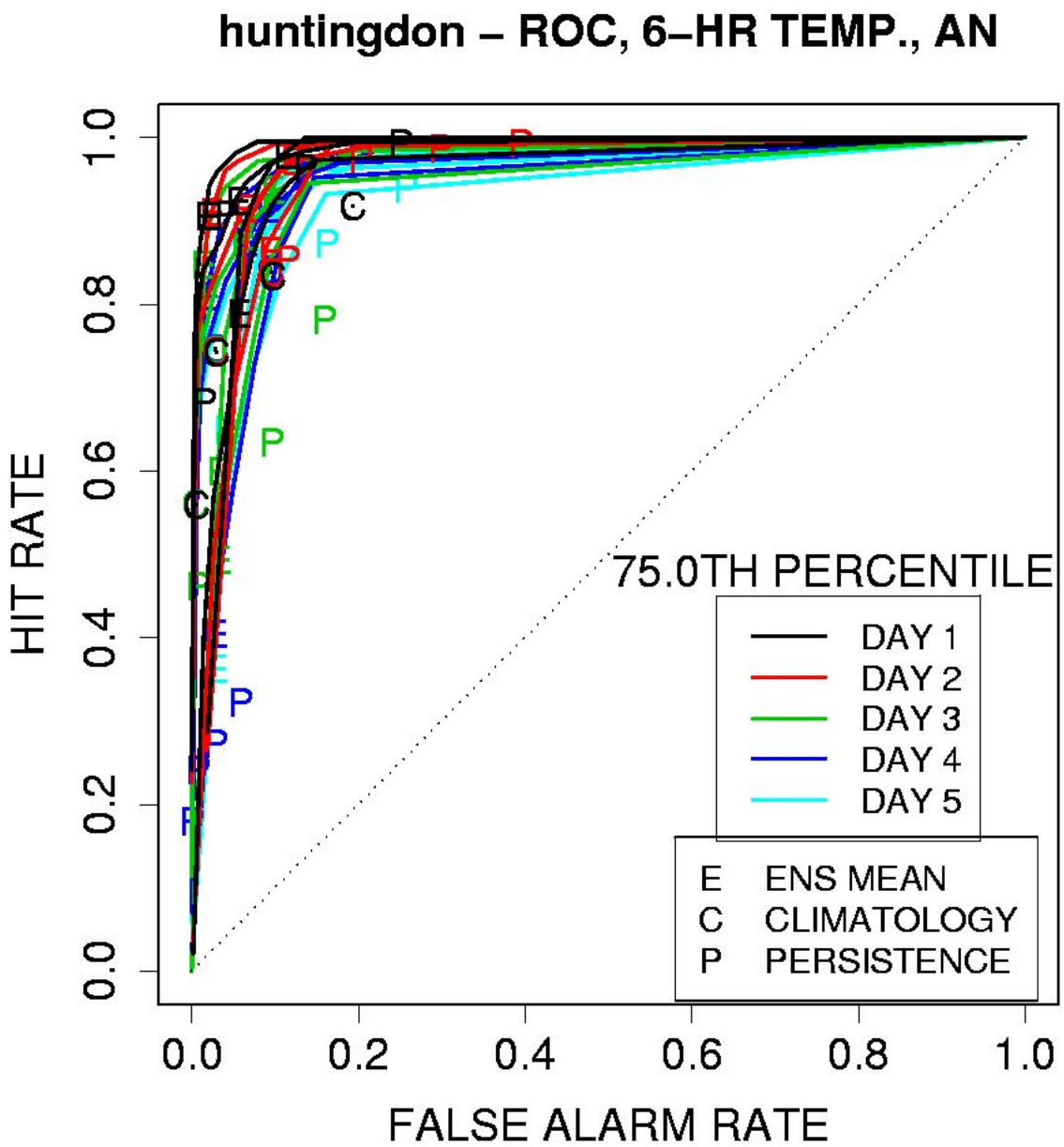
huntingdon – RELIABILITY DIAGRAM, 6–HR TEMP., AN

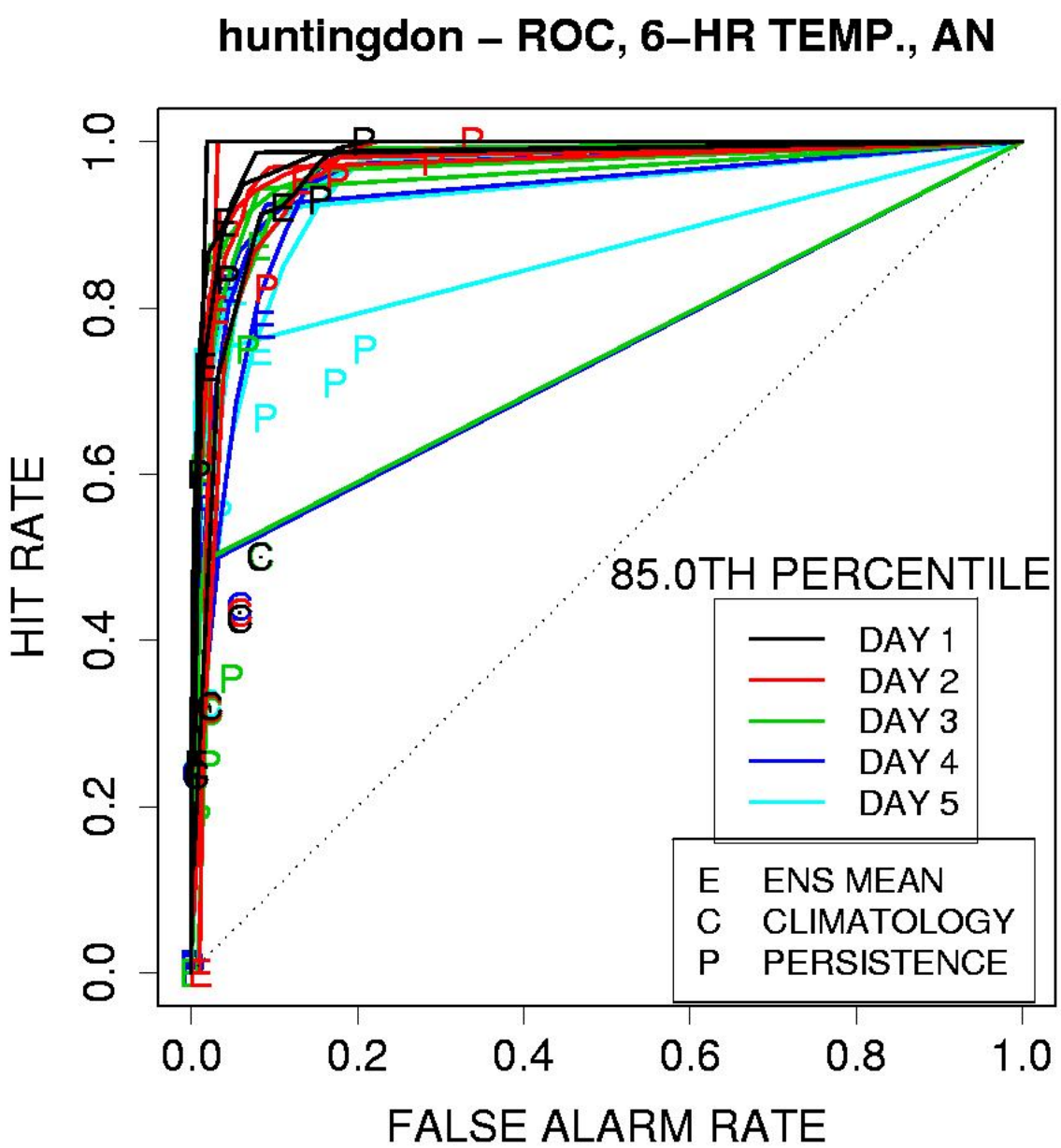


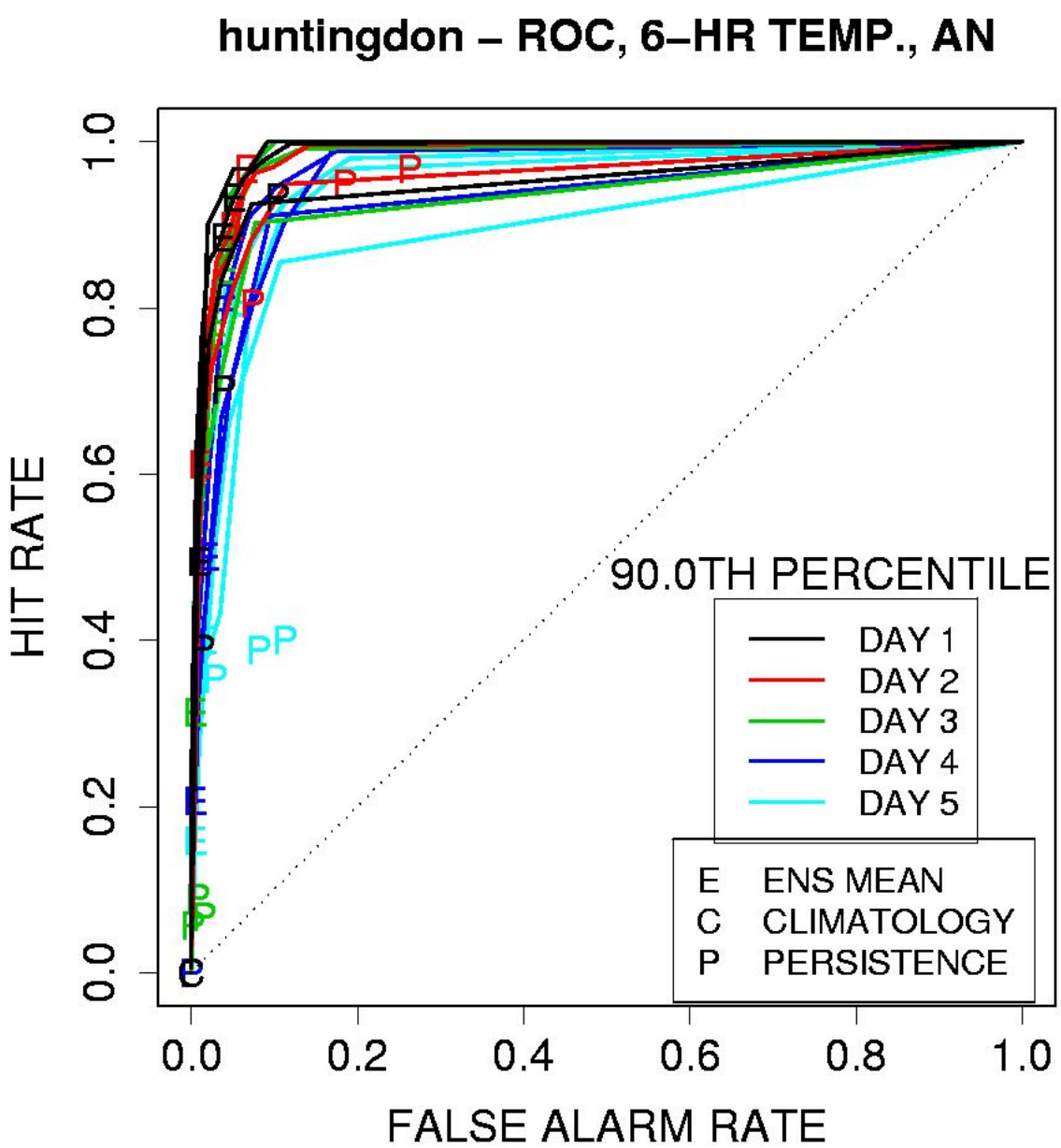

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
10.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

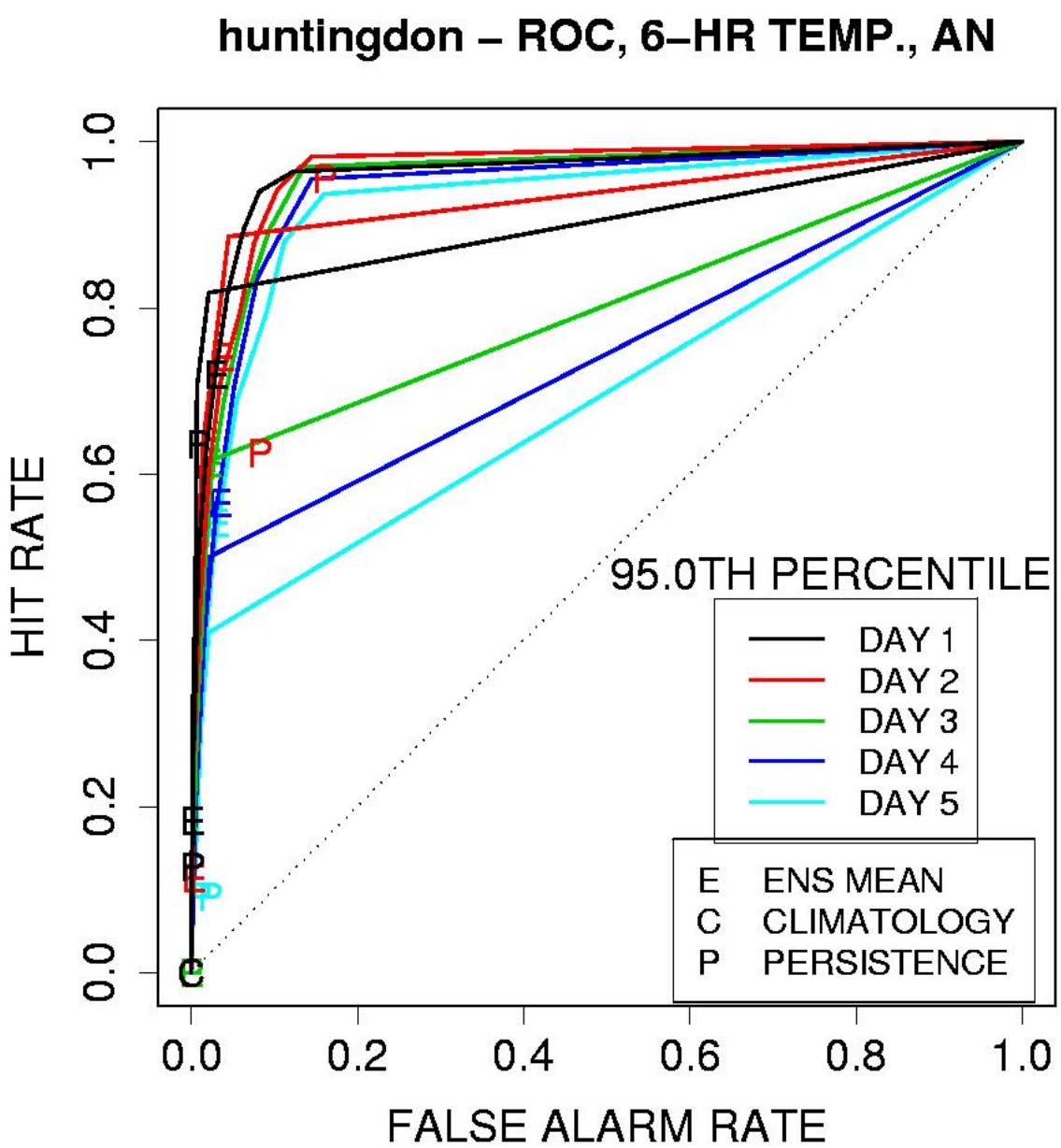

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
25.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

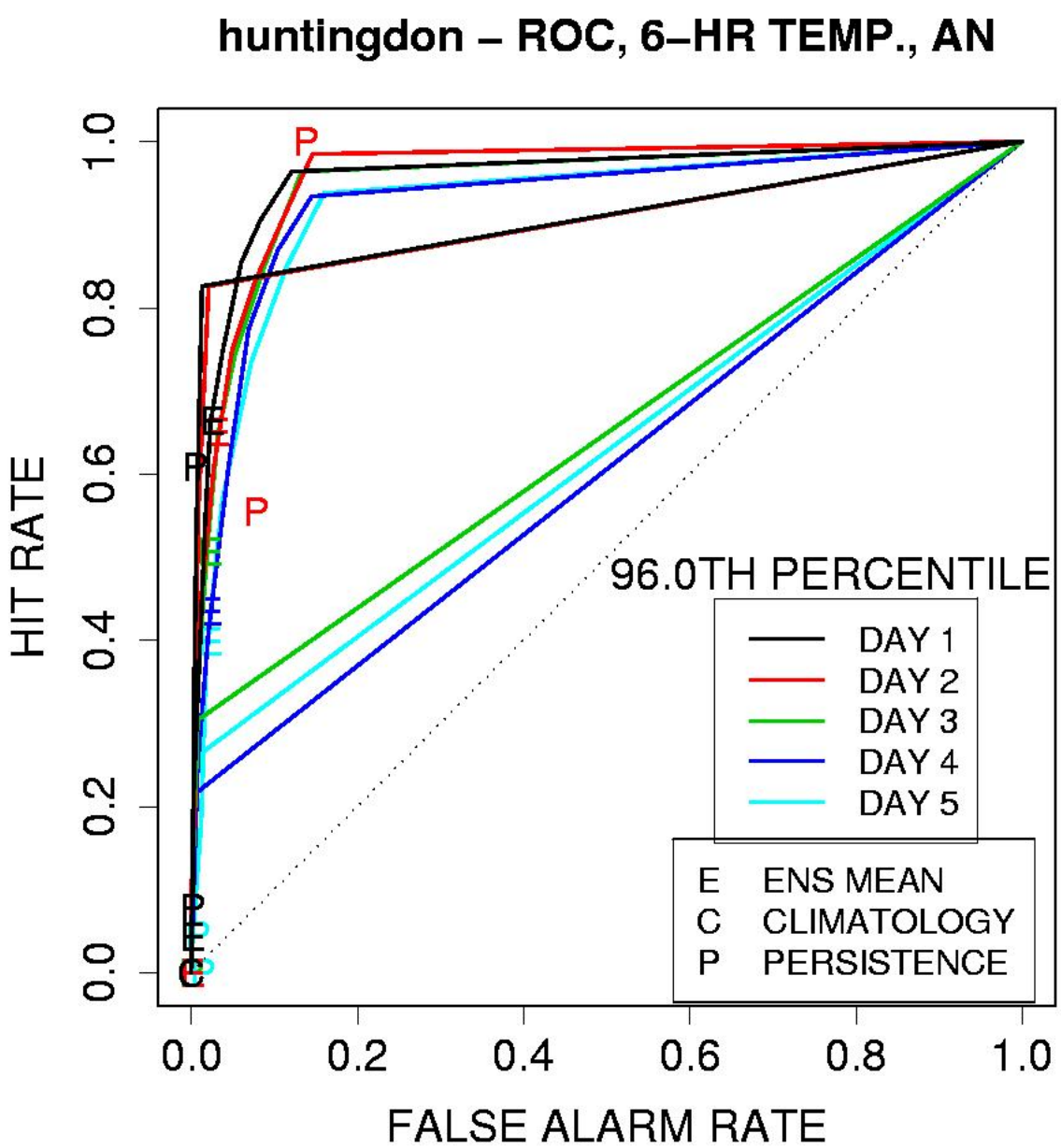

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
50.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

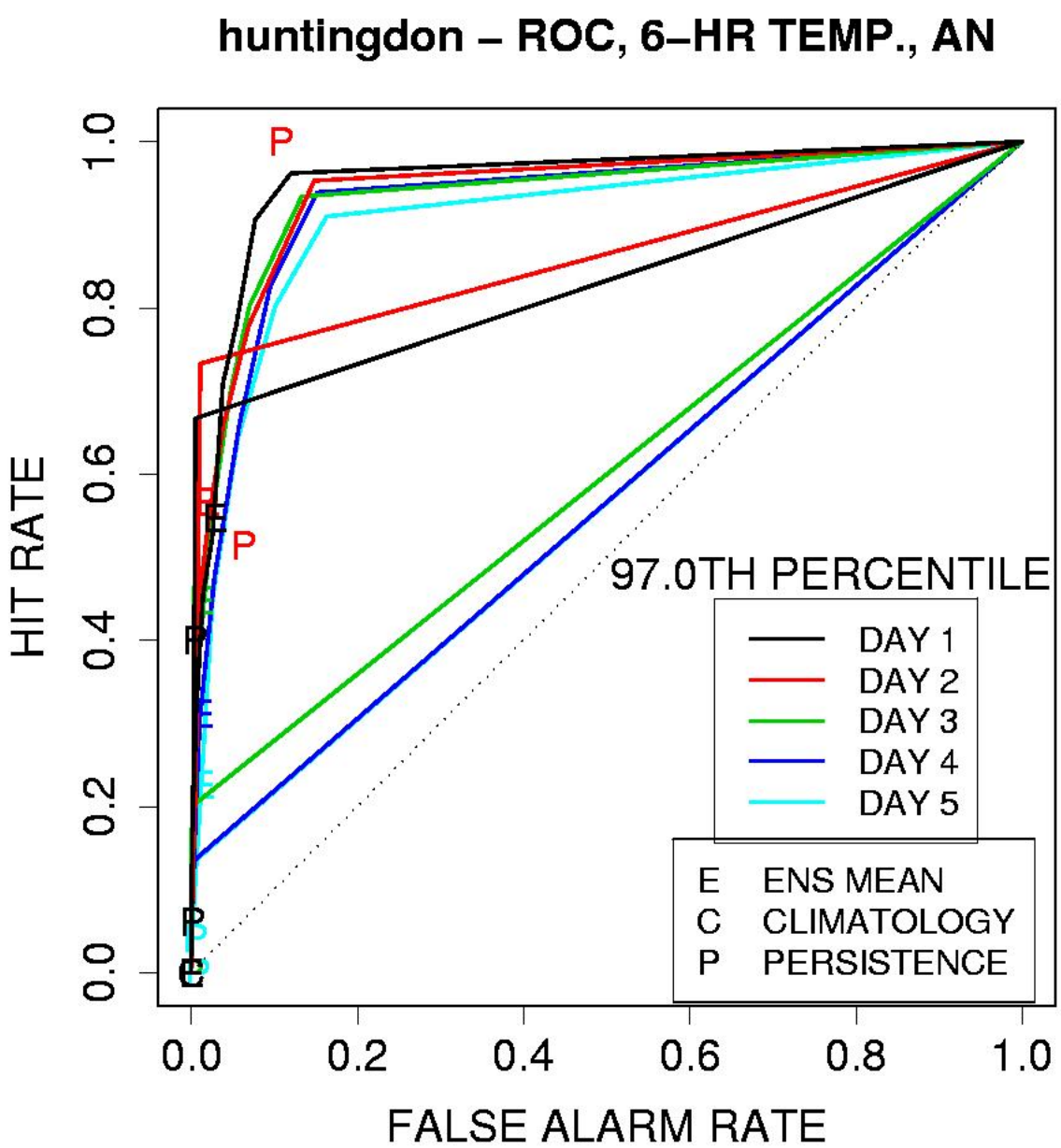

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
75.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

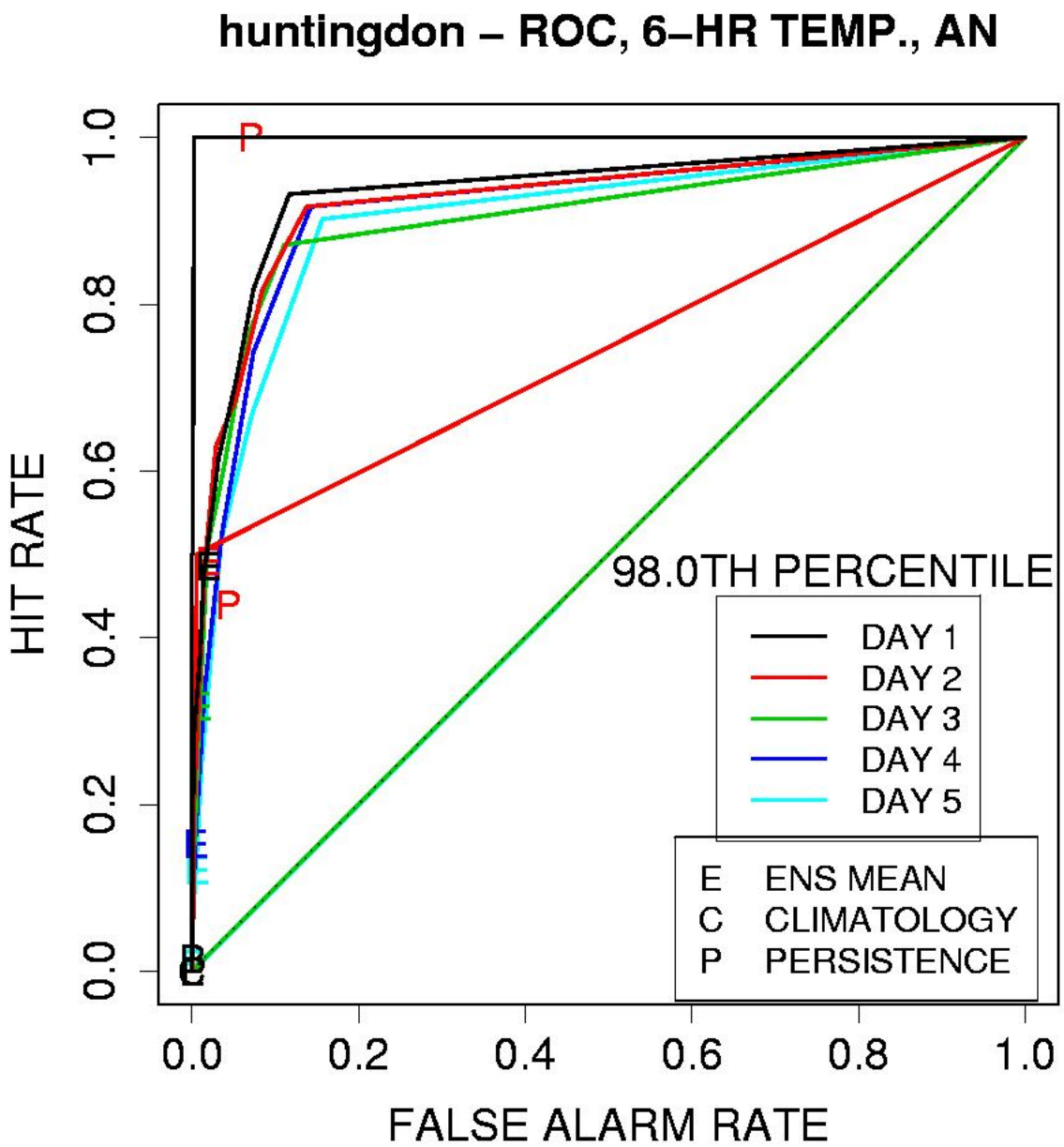

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
85.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

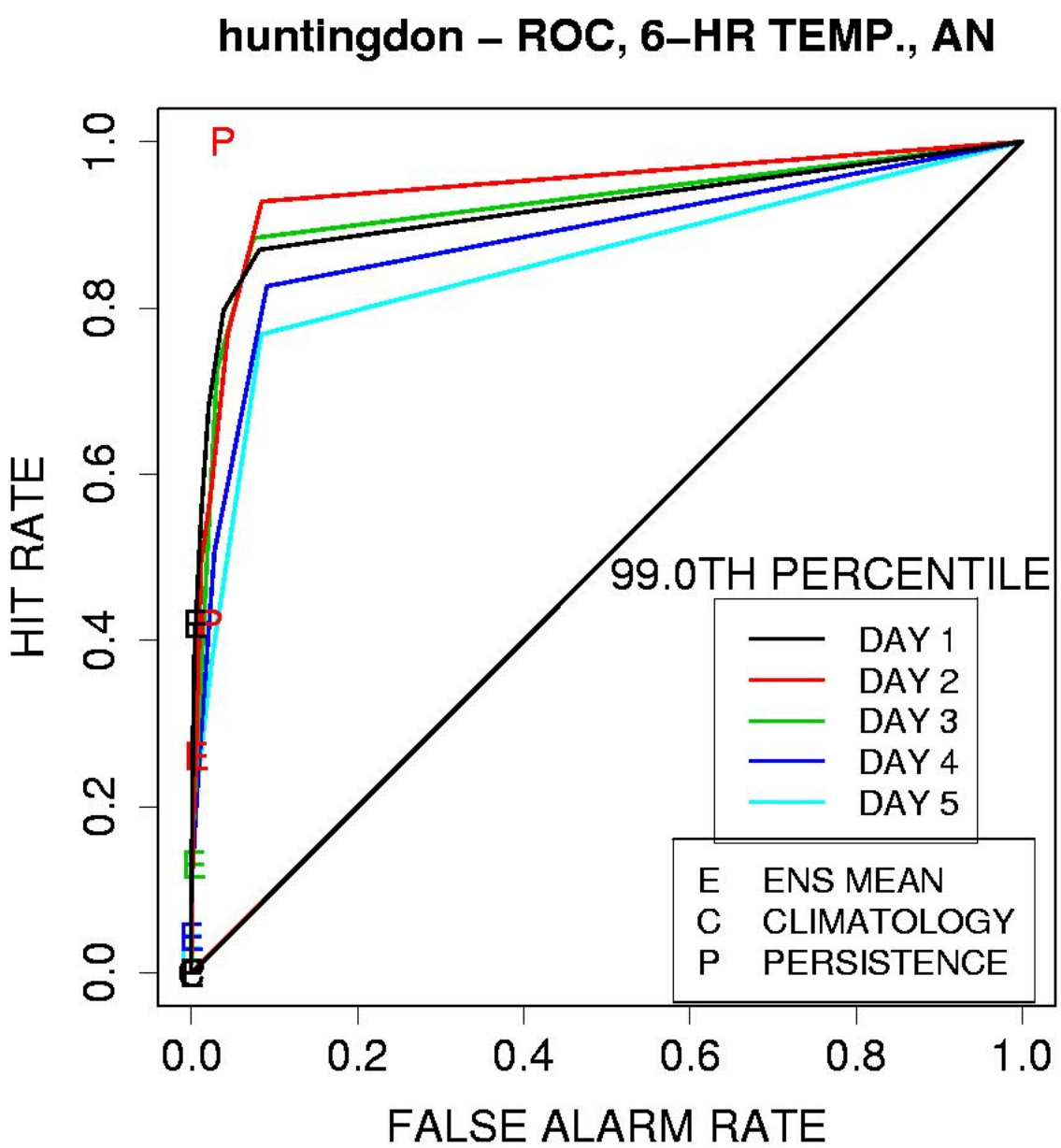

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
90.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

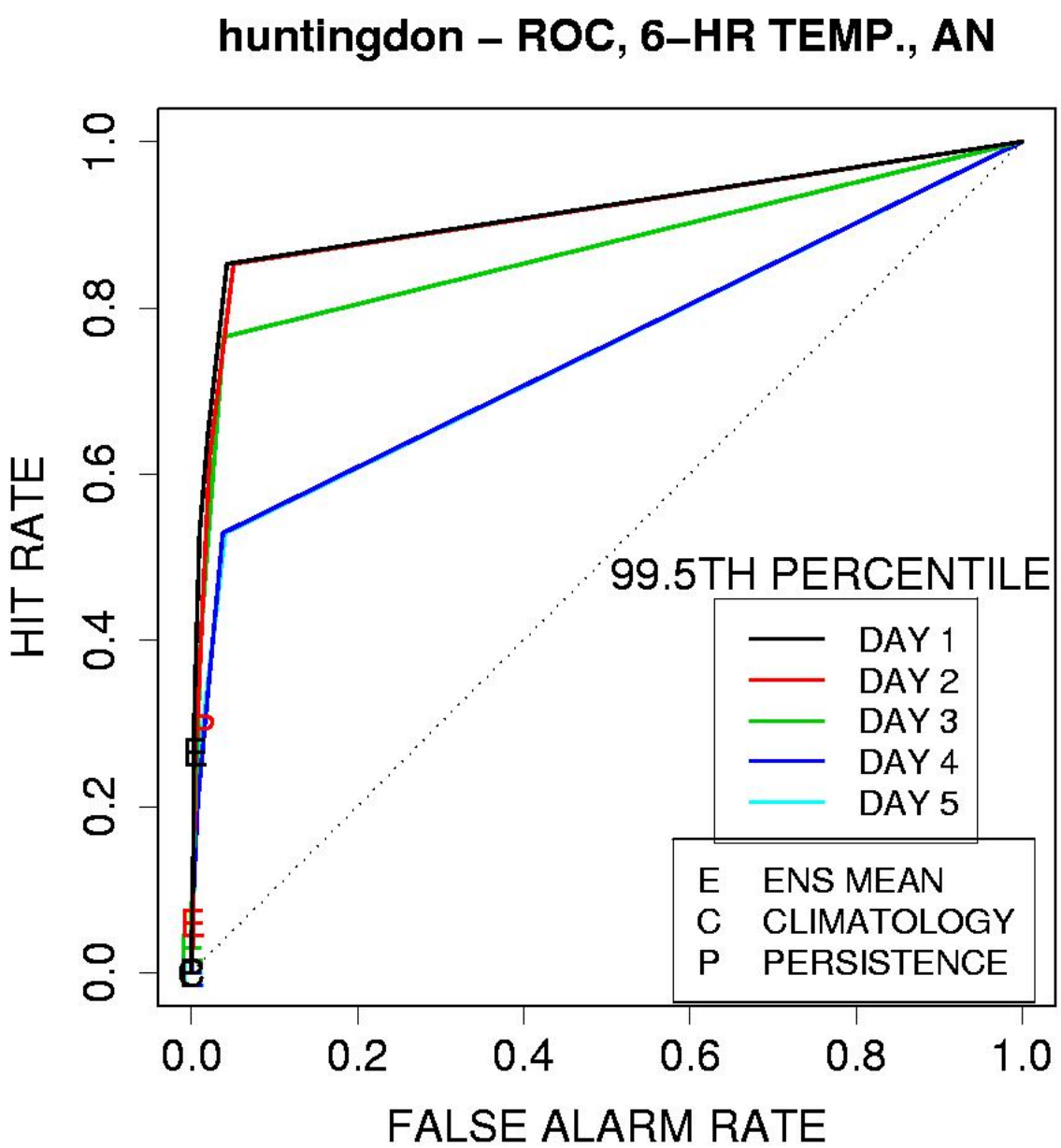

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
95.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

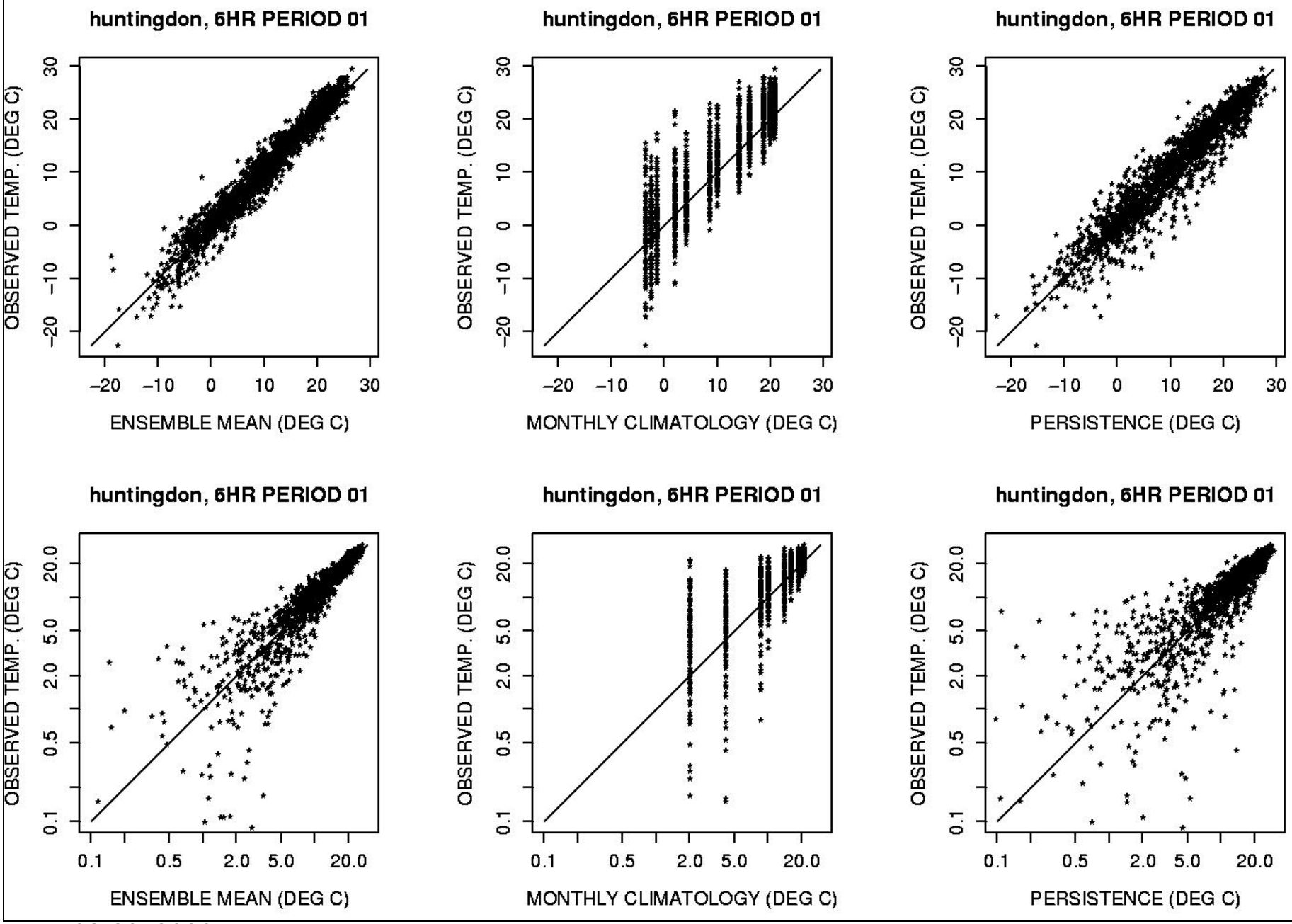

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
96.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

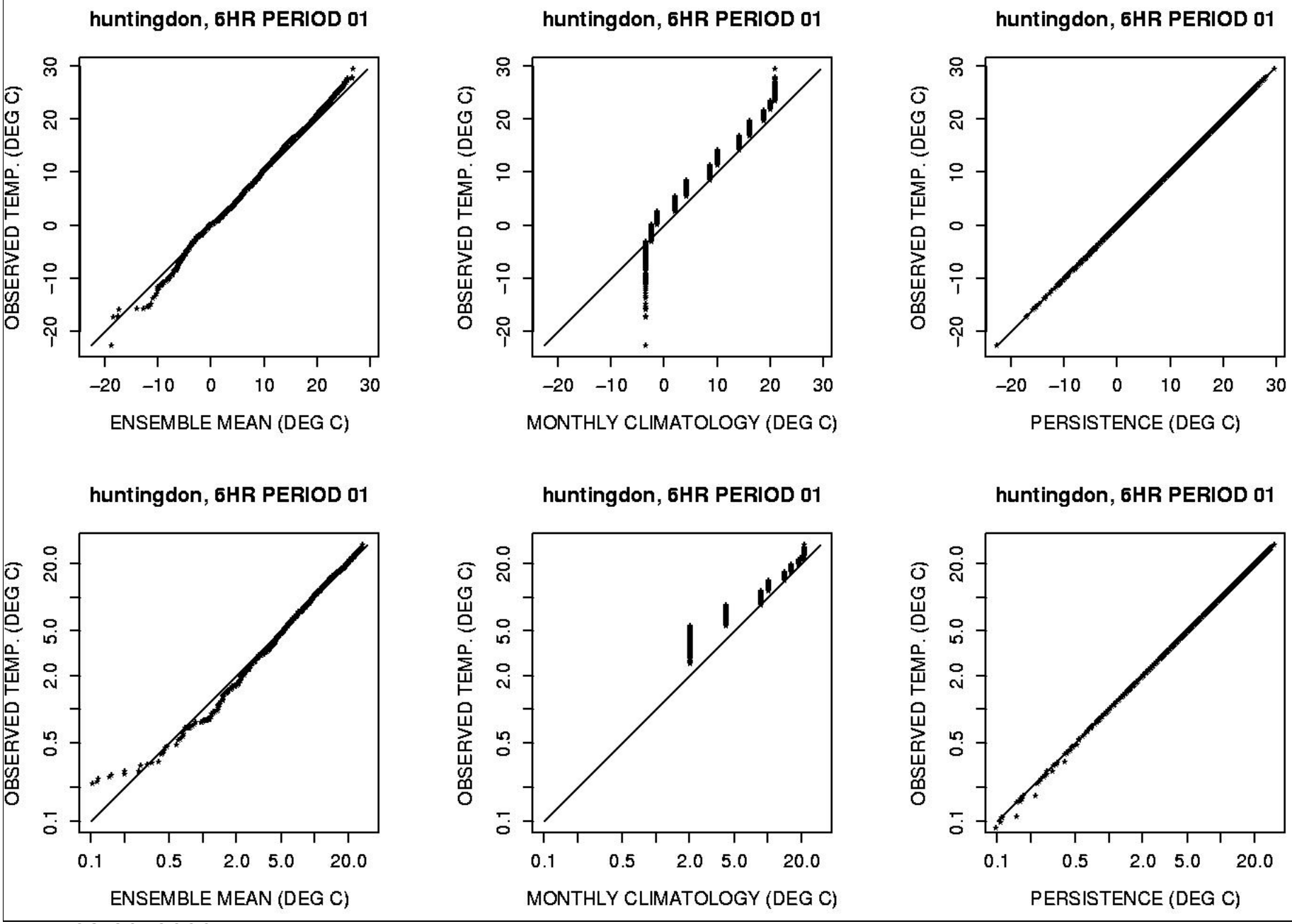

huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
P
P
97.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
98.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
99.0TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 6–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
99.5TH PERCENTILE
DAY 1
DAY 2
DAY 3
DAY 4
DAY 5
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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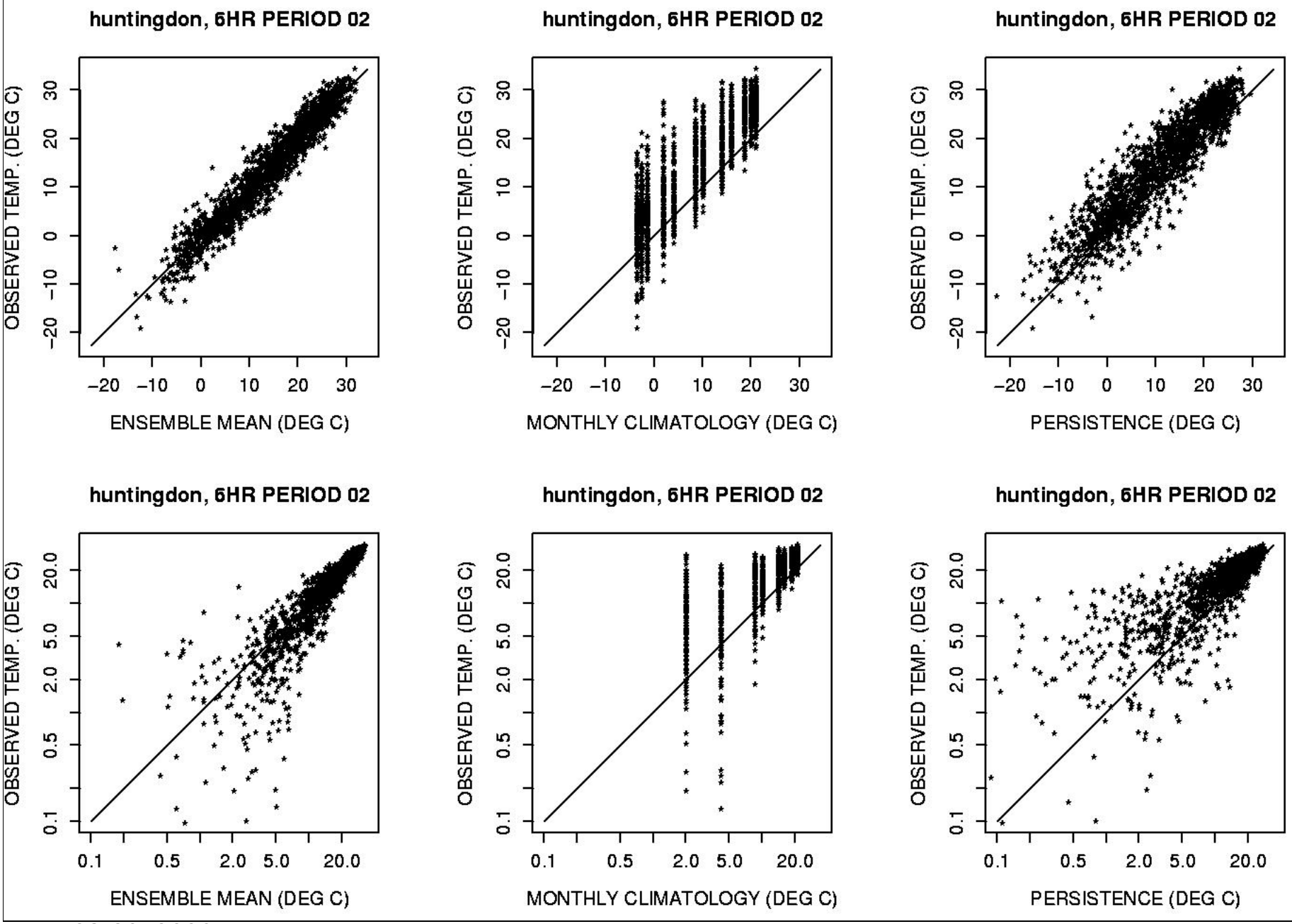
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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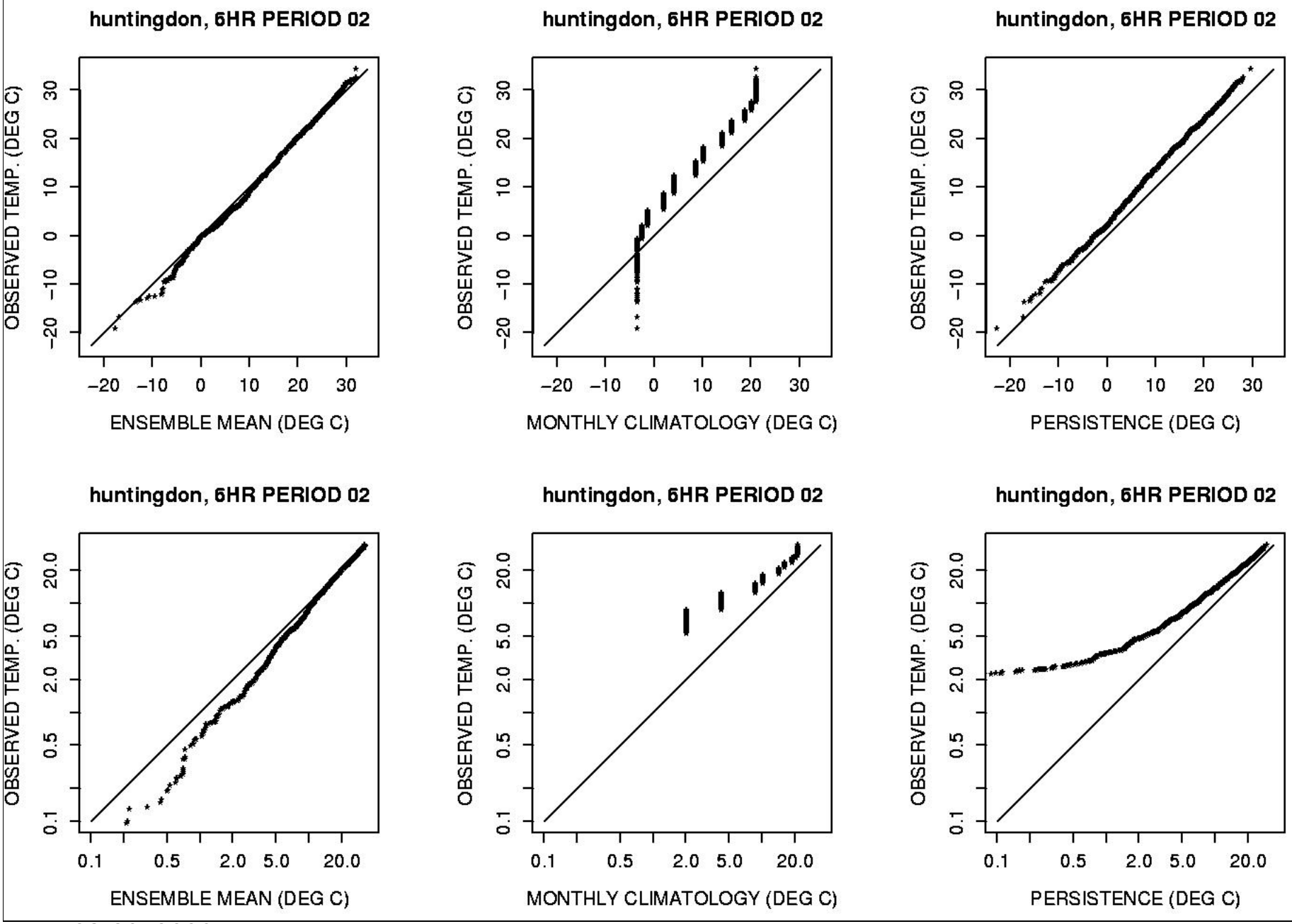
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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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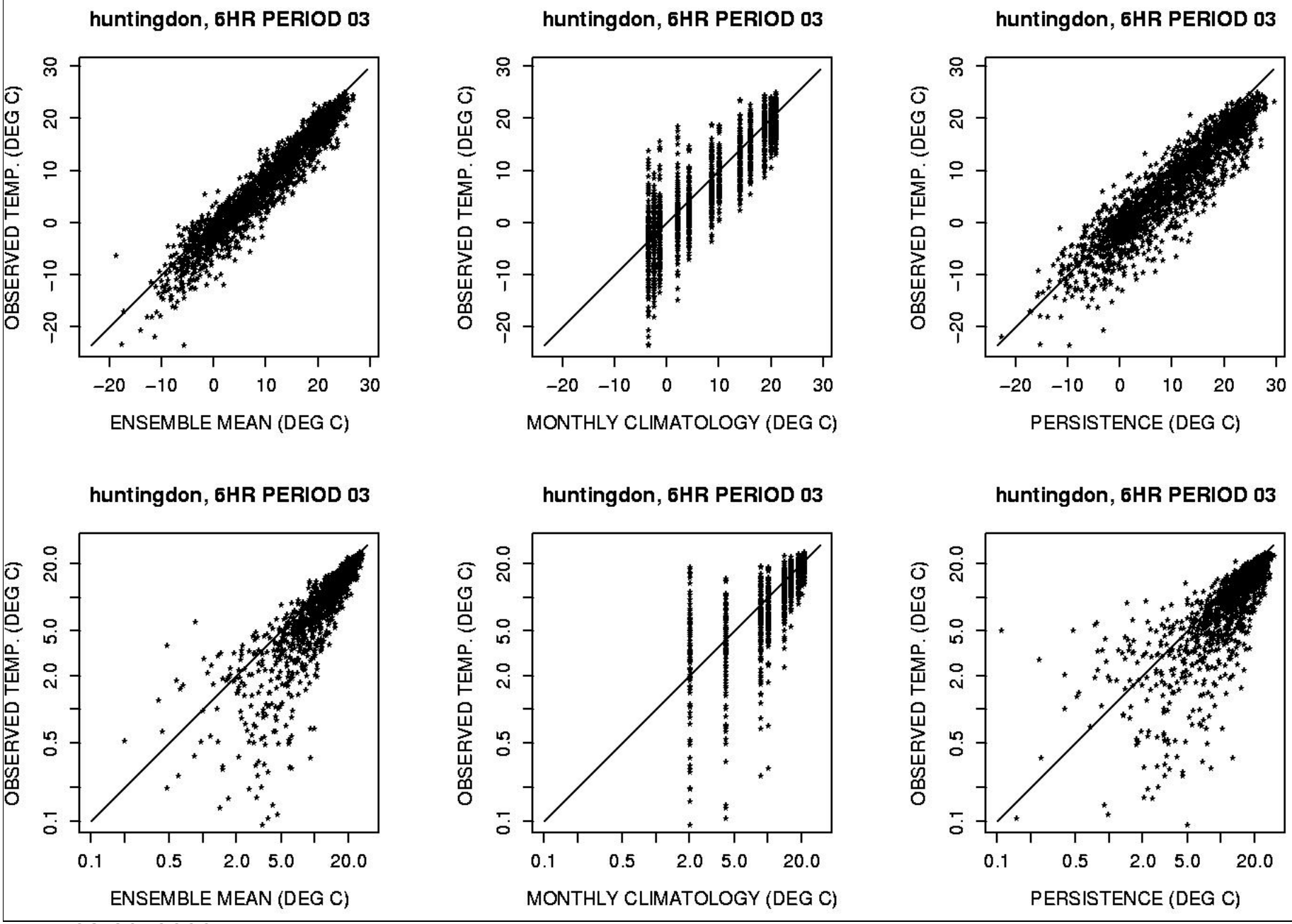
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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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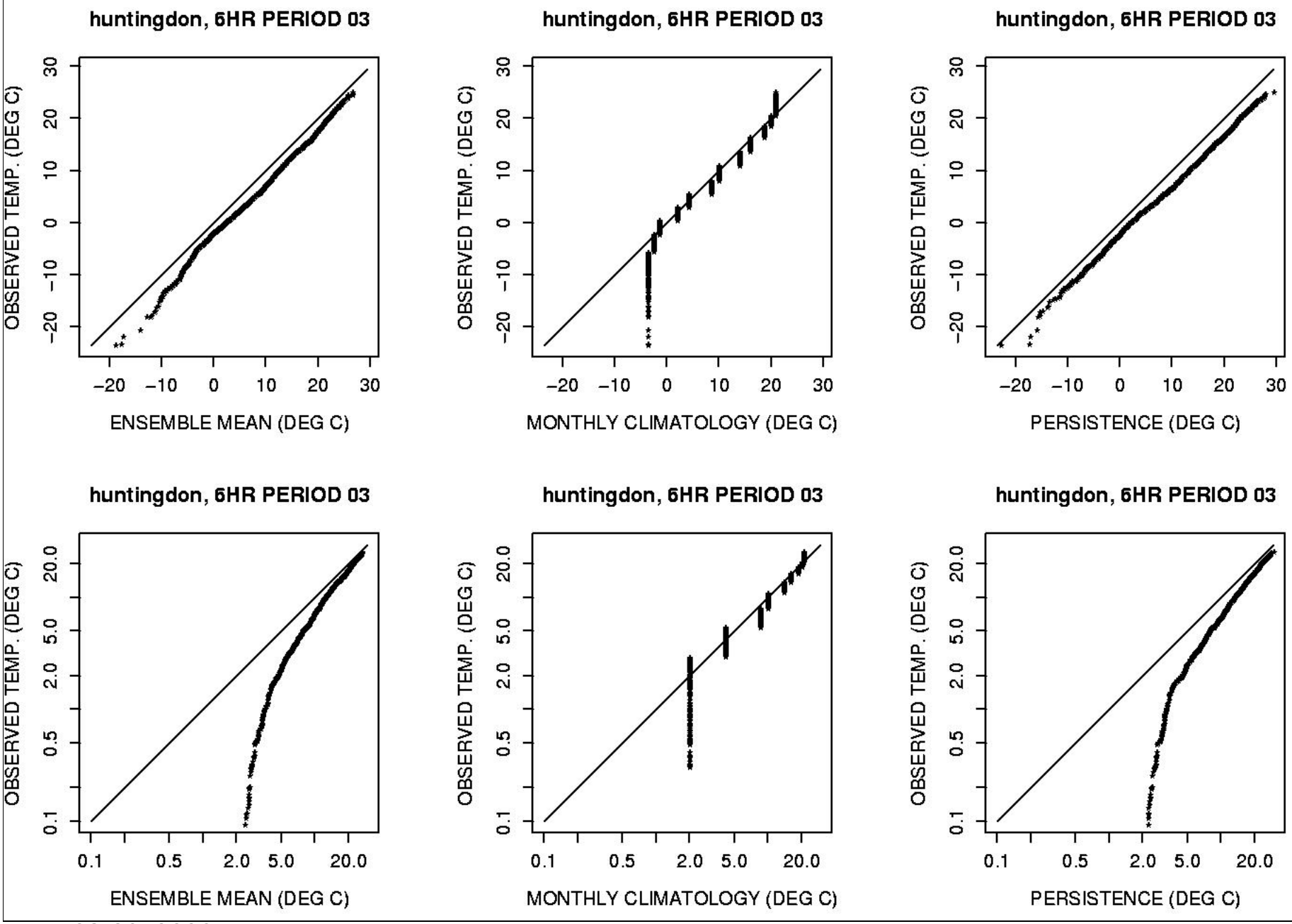
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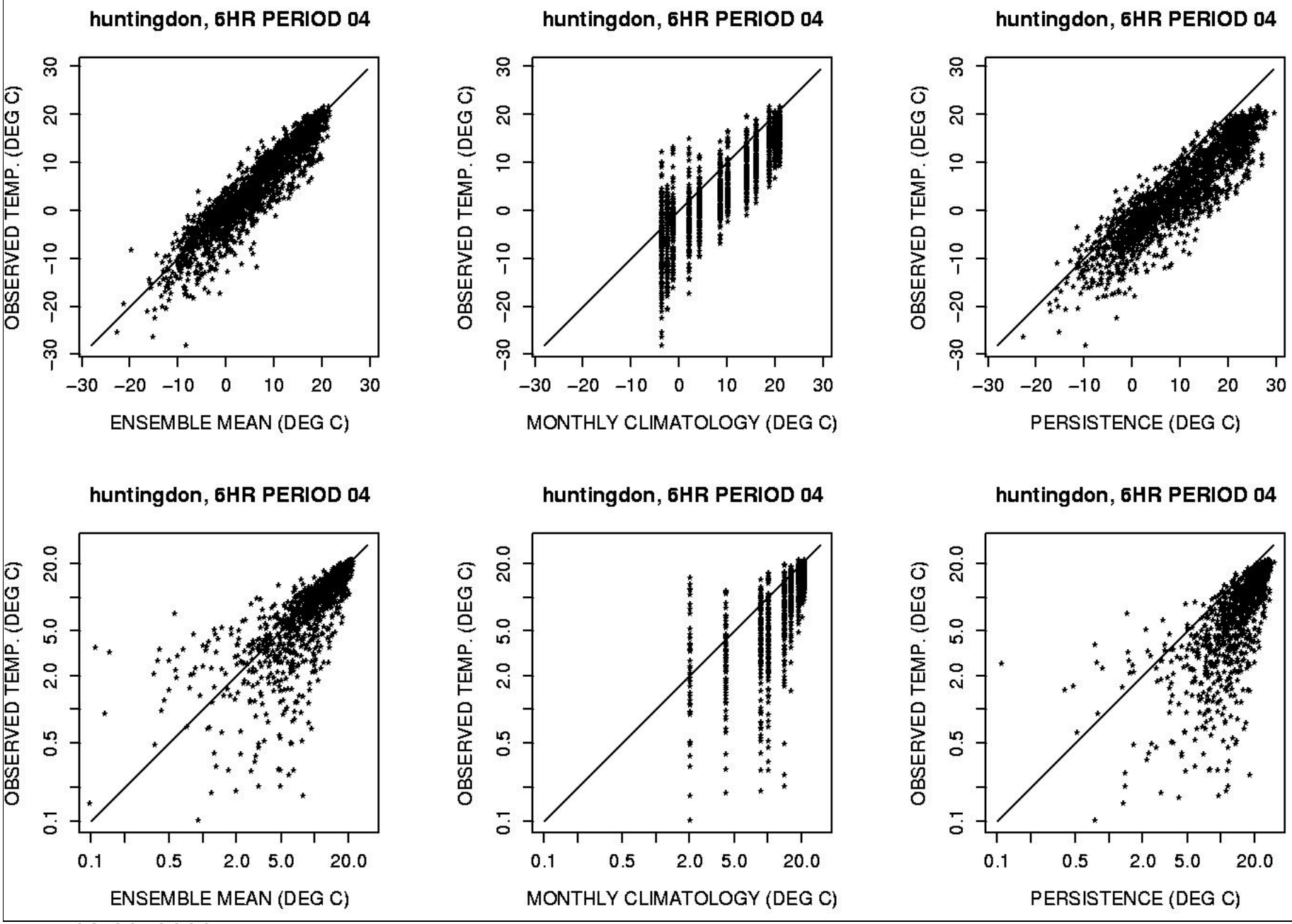
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 03
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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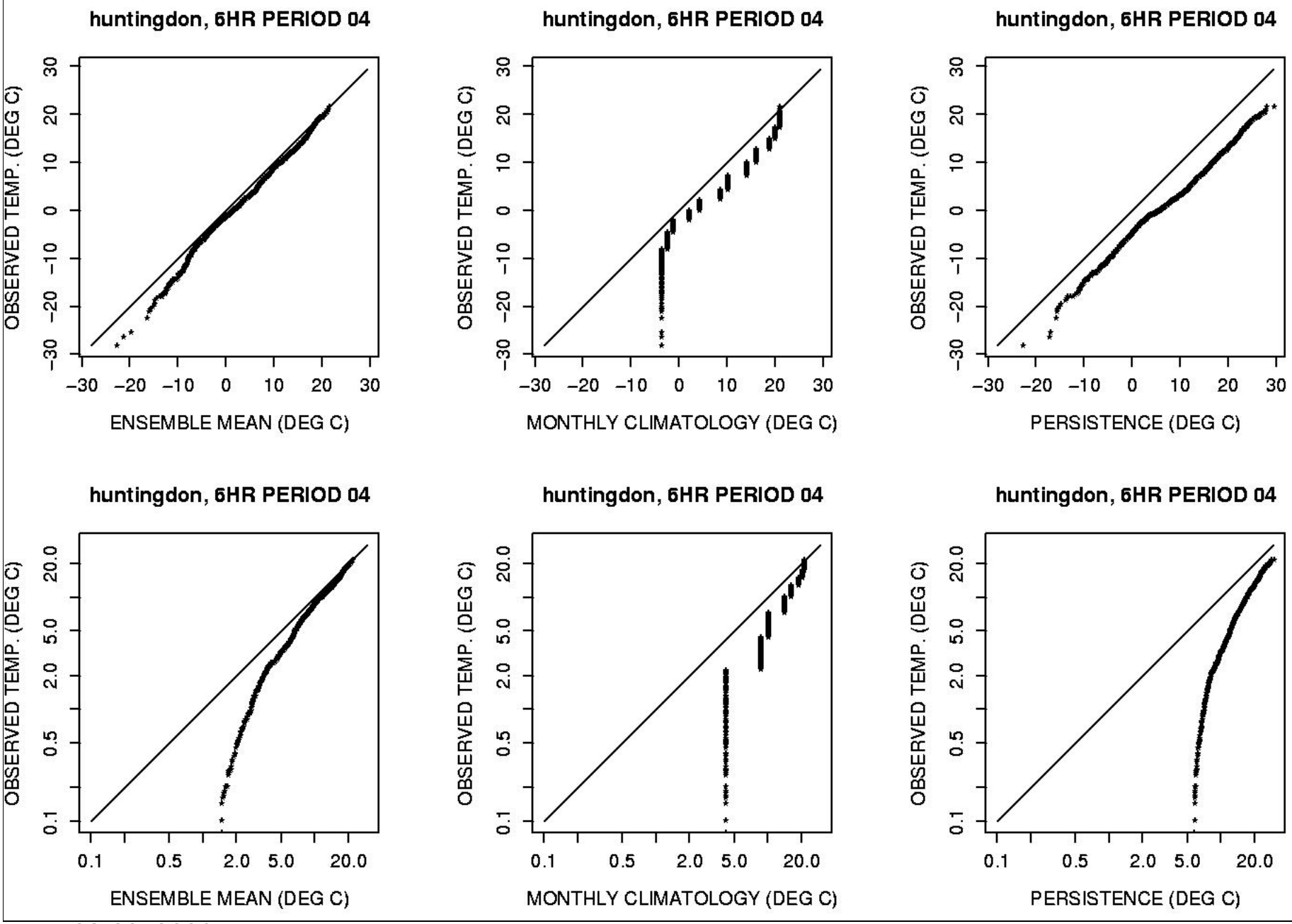
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
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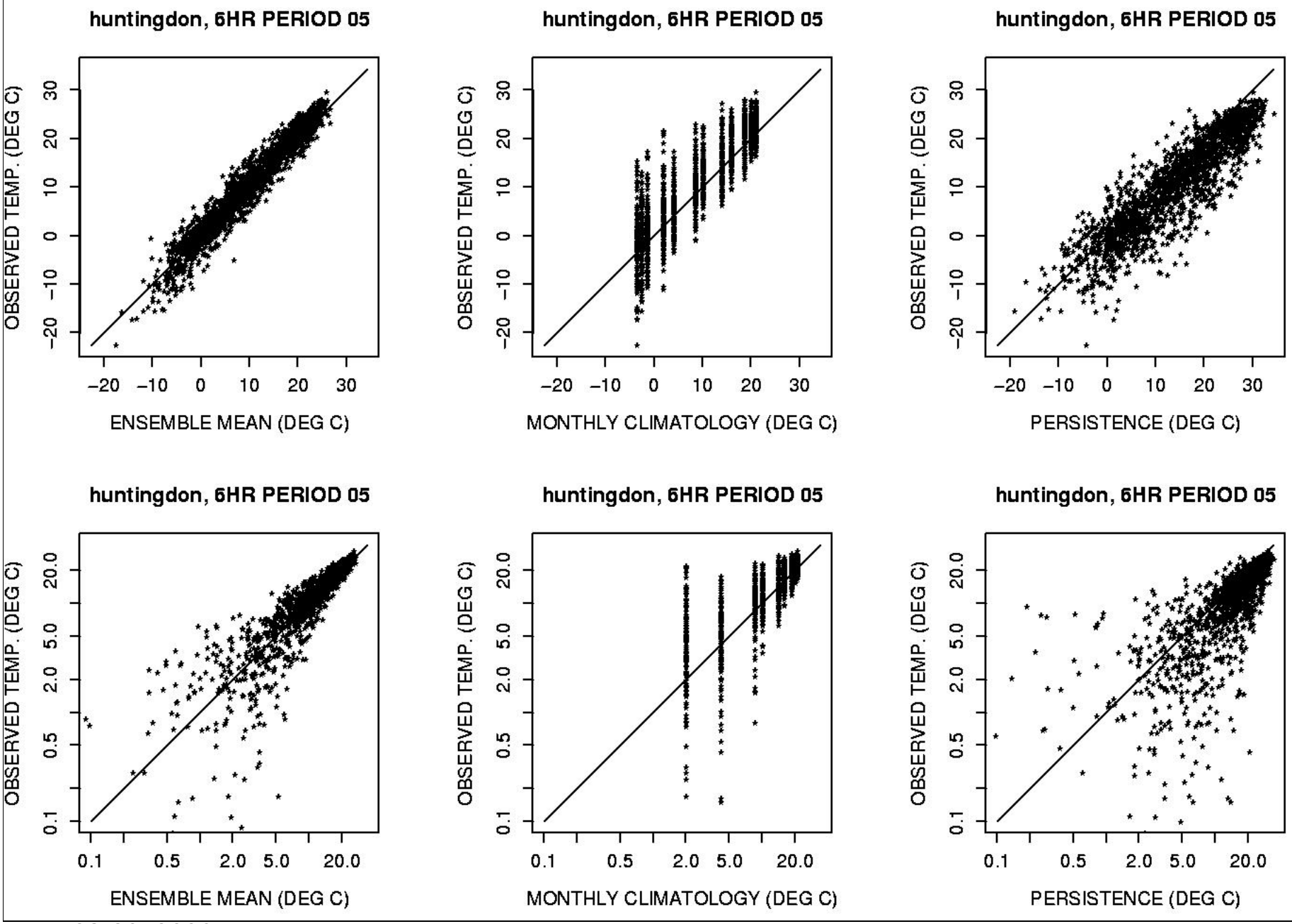
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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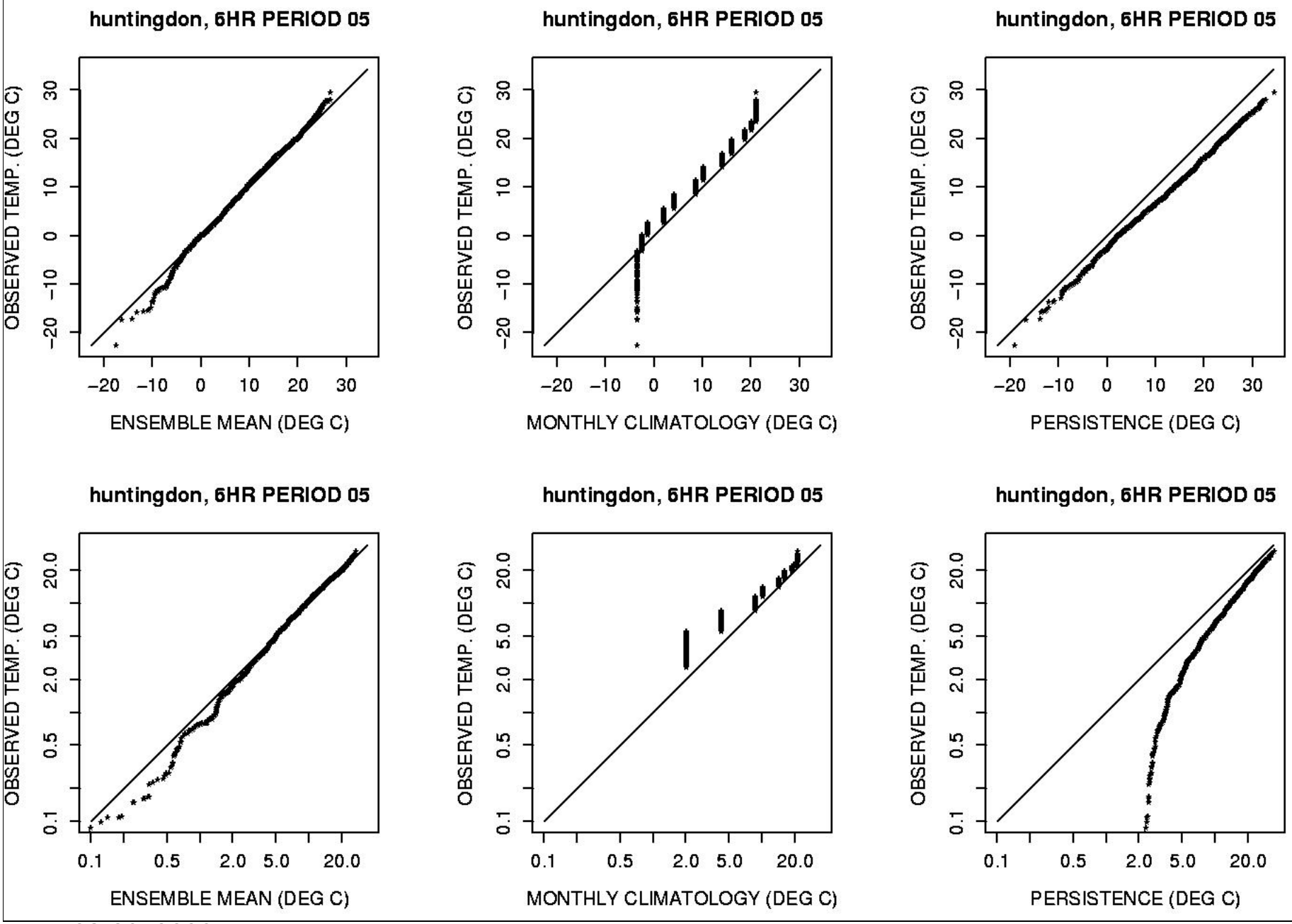
0.1 0.5 2.0 5.0 20.0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ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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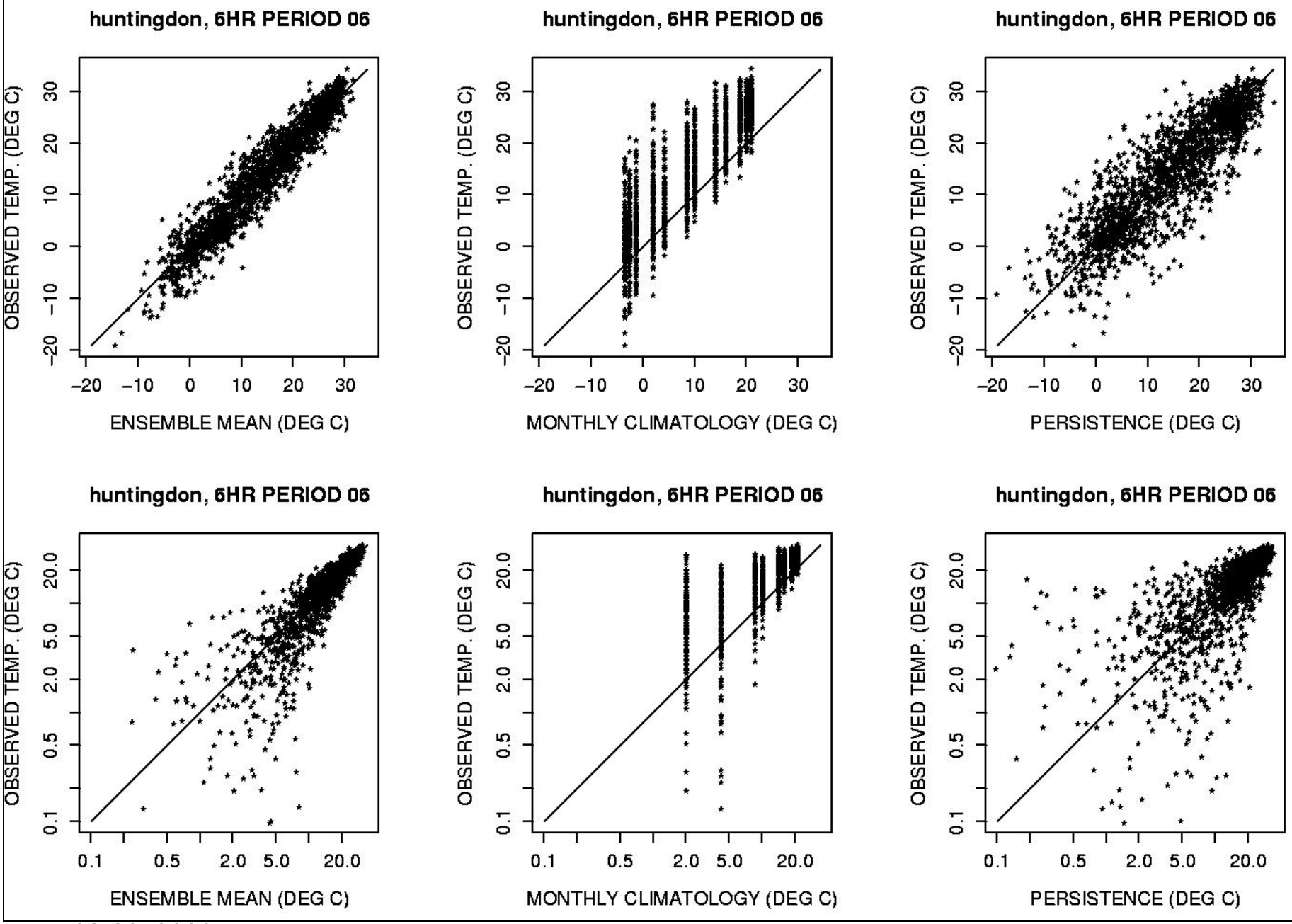
0.1 0.5 2.0 5.0 20.0


huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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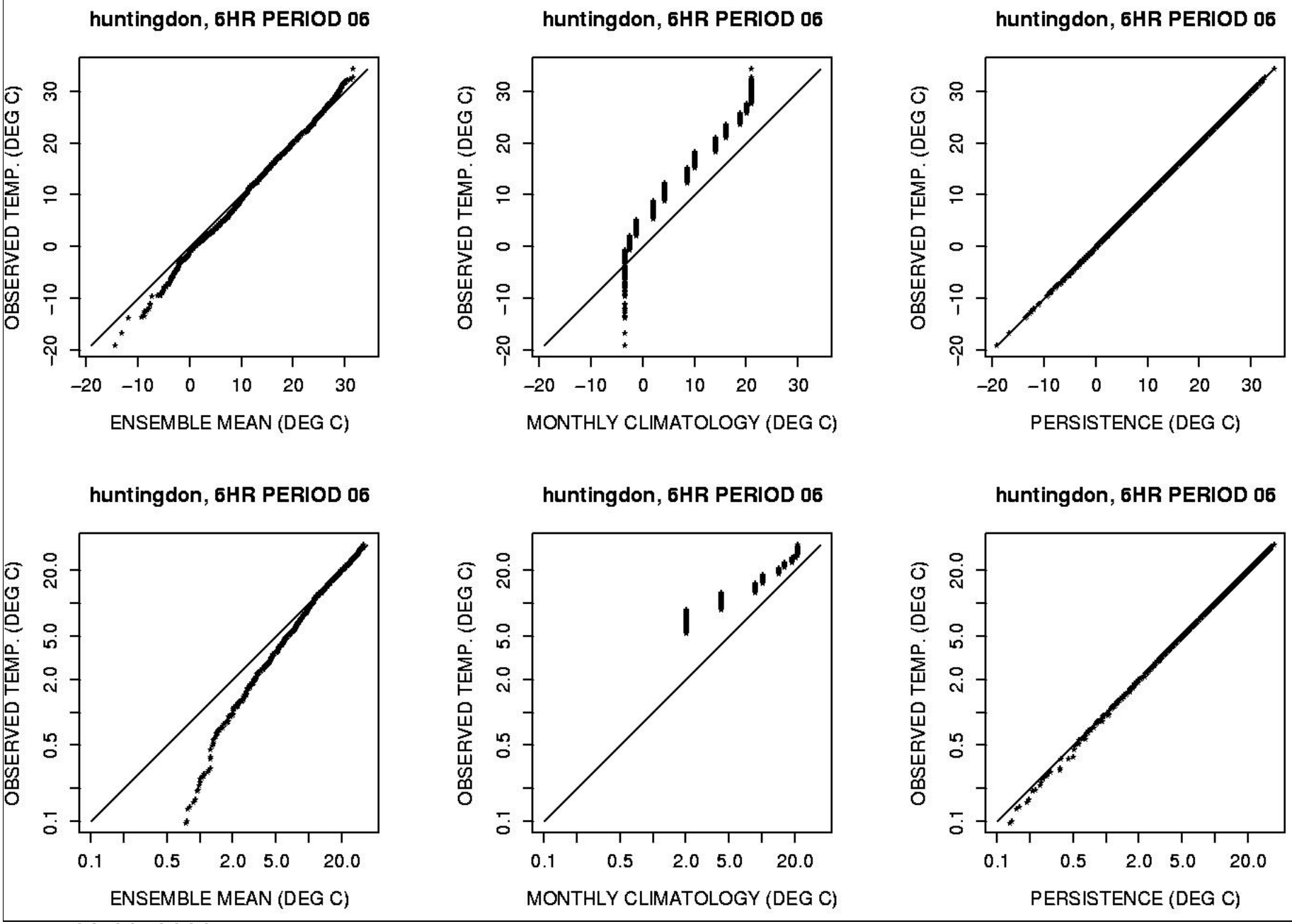
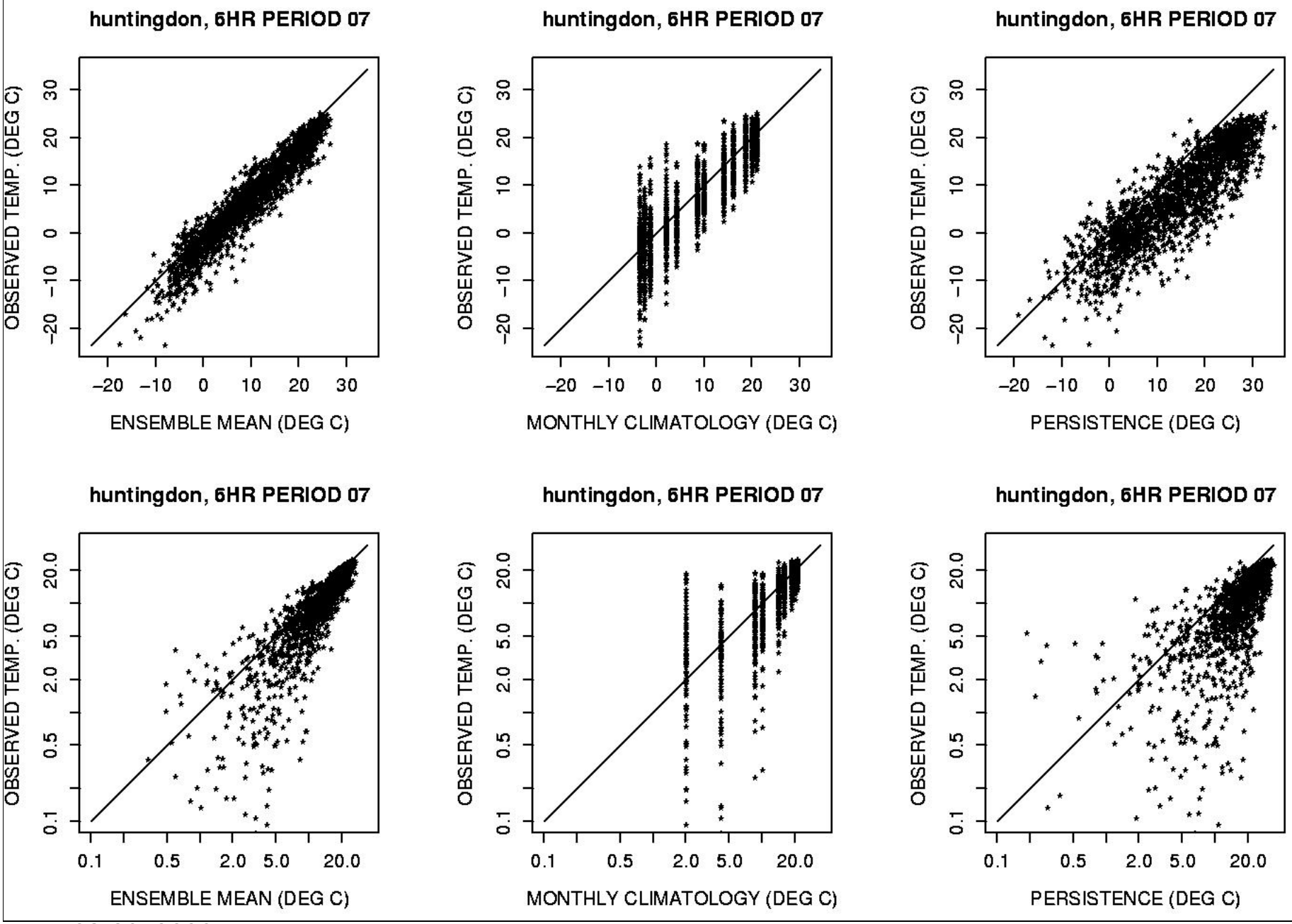
0.1 0.5 2.0 5.0 20.0


huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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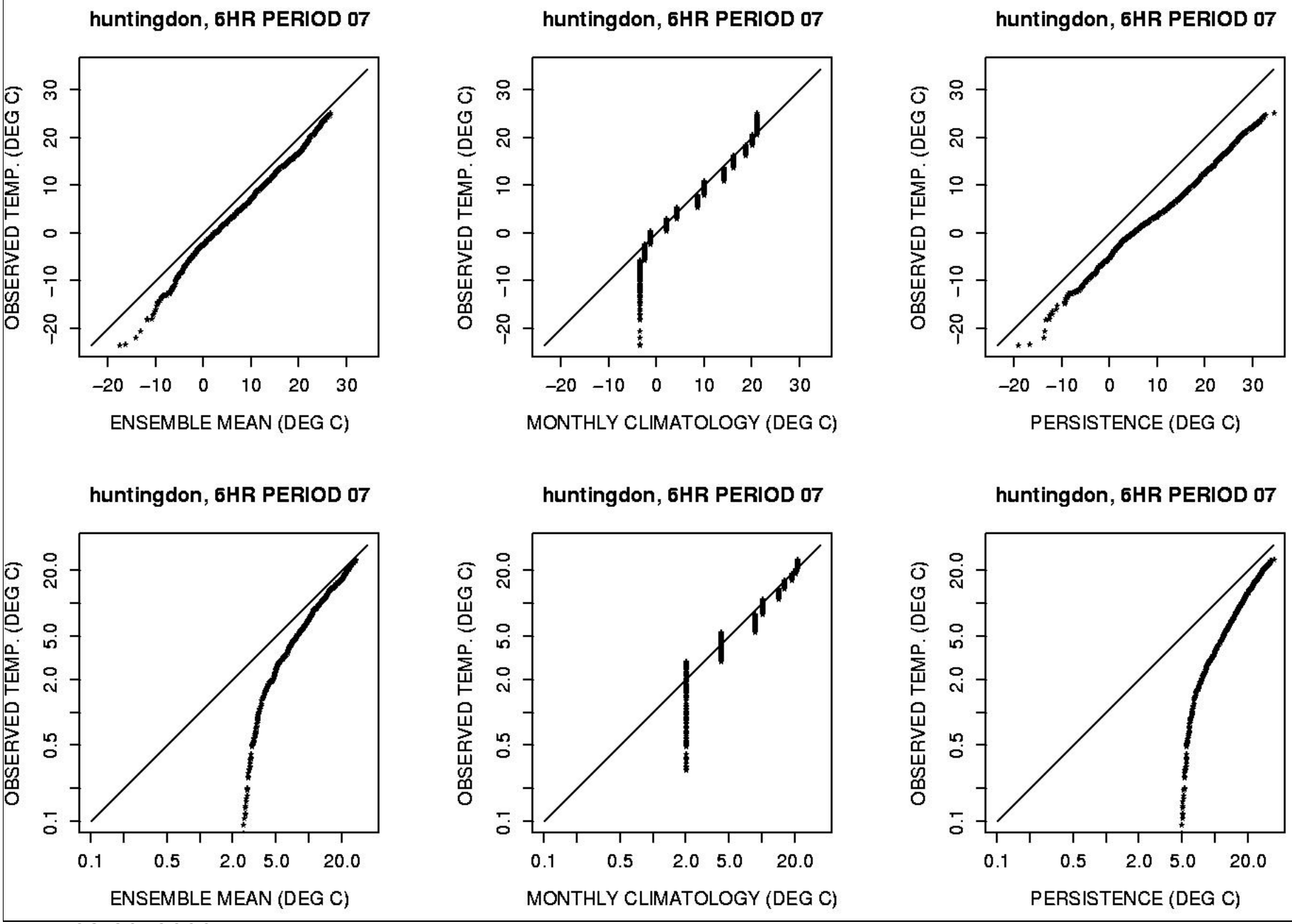
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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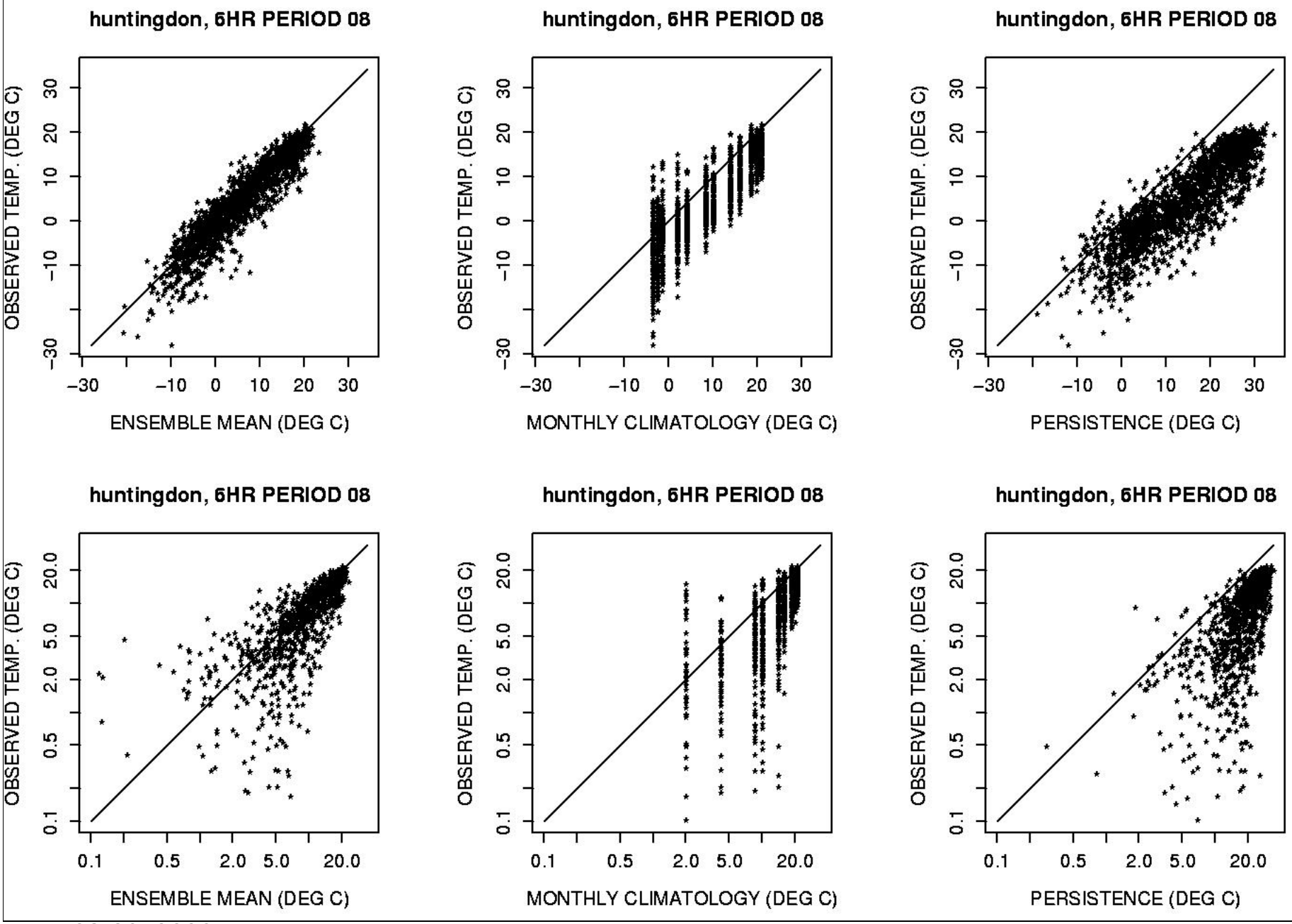
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 07
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 6HR PERIOD 08
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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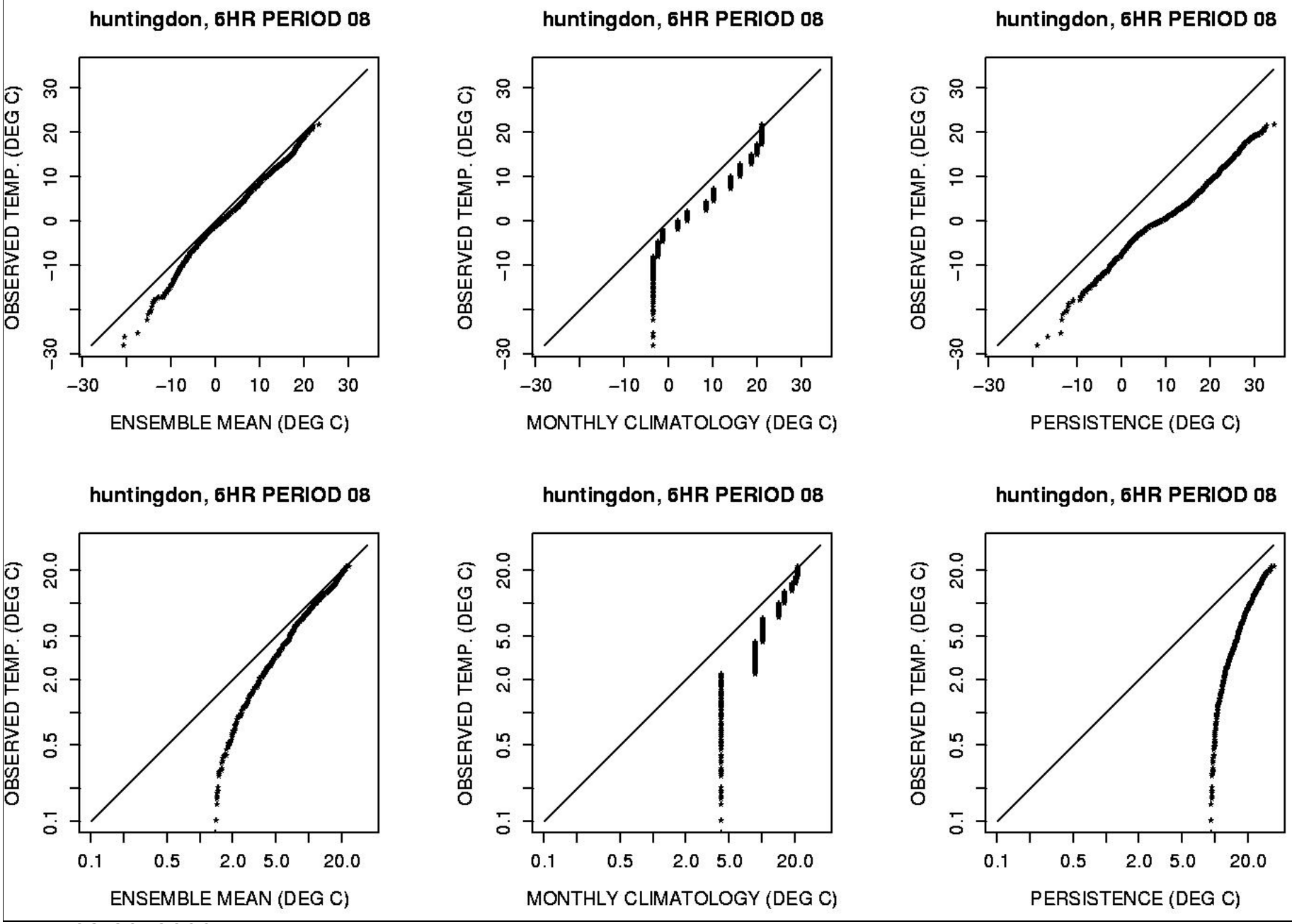
0.1 0.5 2.0 5.0 20.0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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 08
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 08
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 08
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 08
OBSERVED TEMP. (DEG C)
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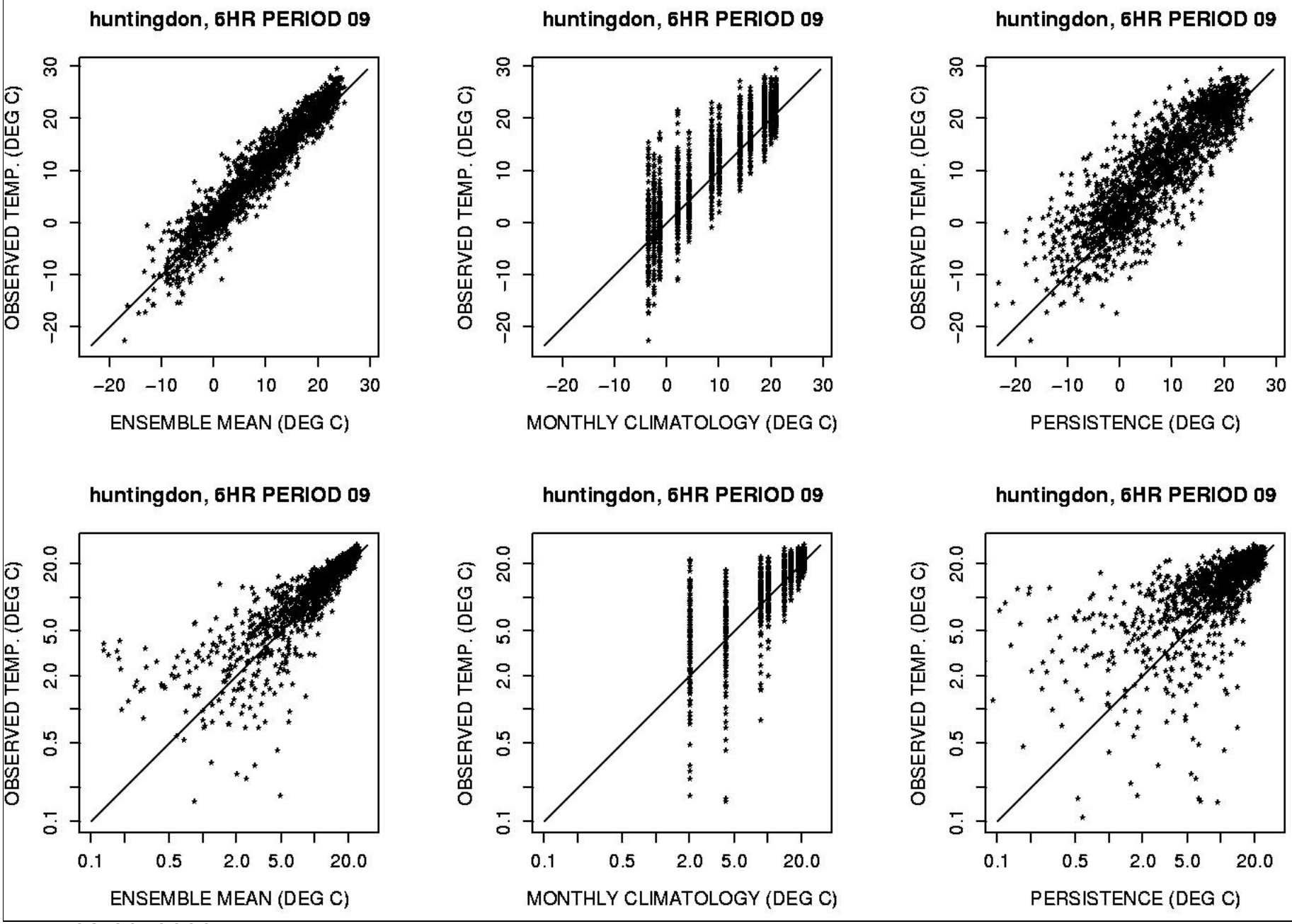
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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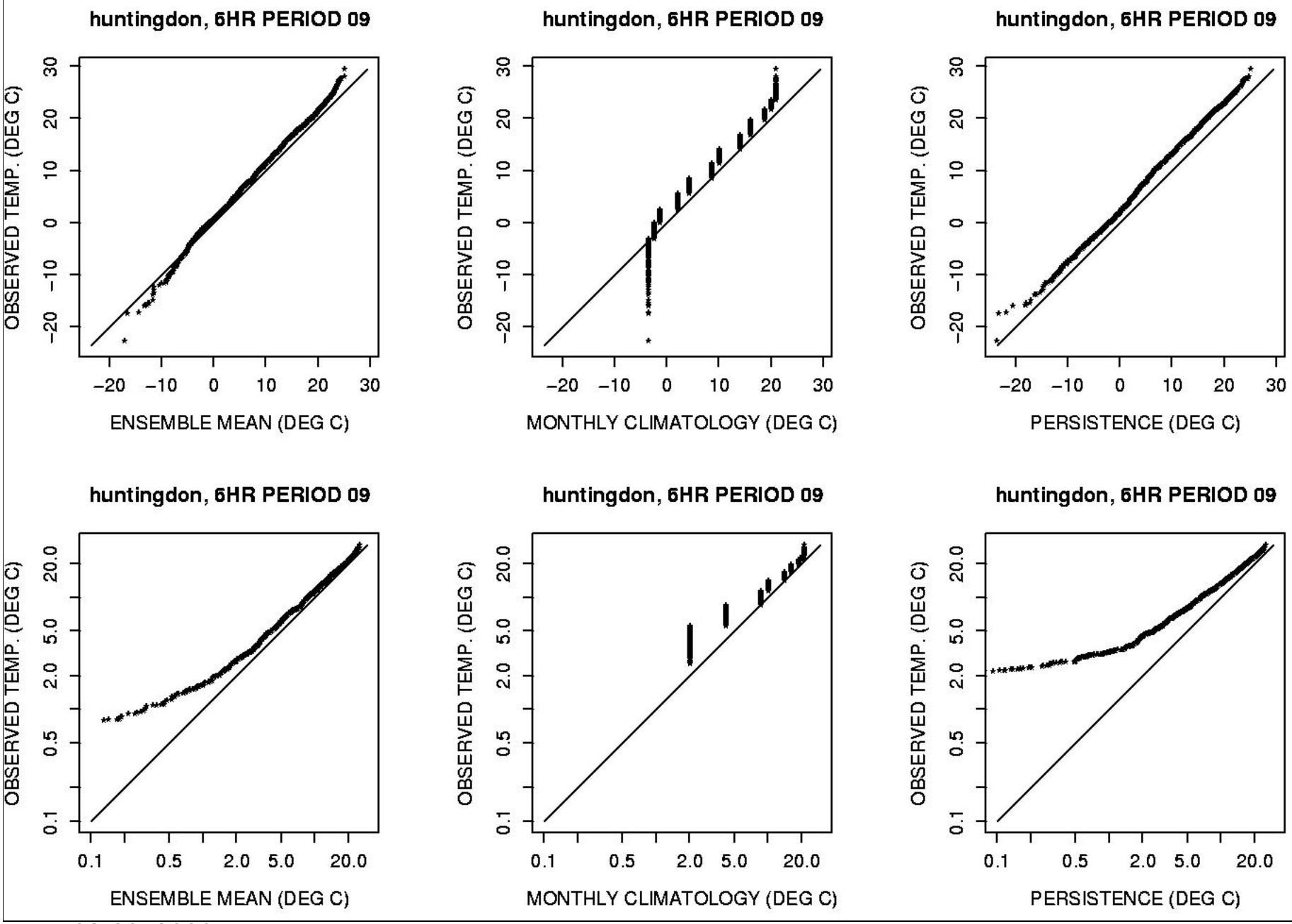
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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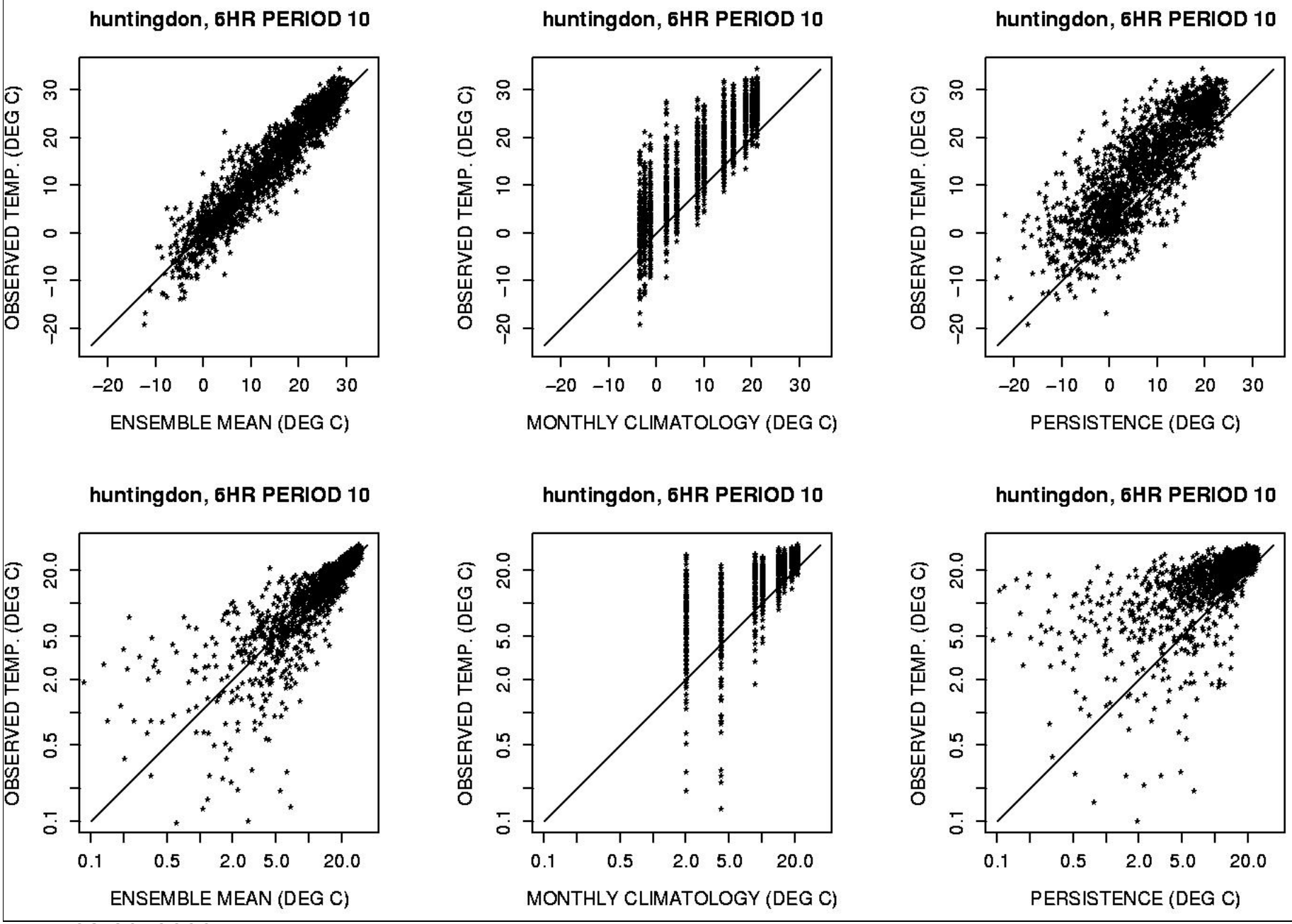
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 09
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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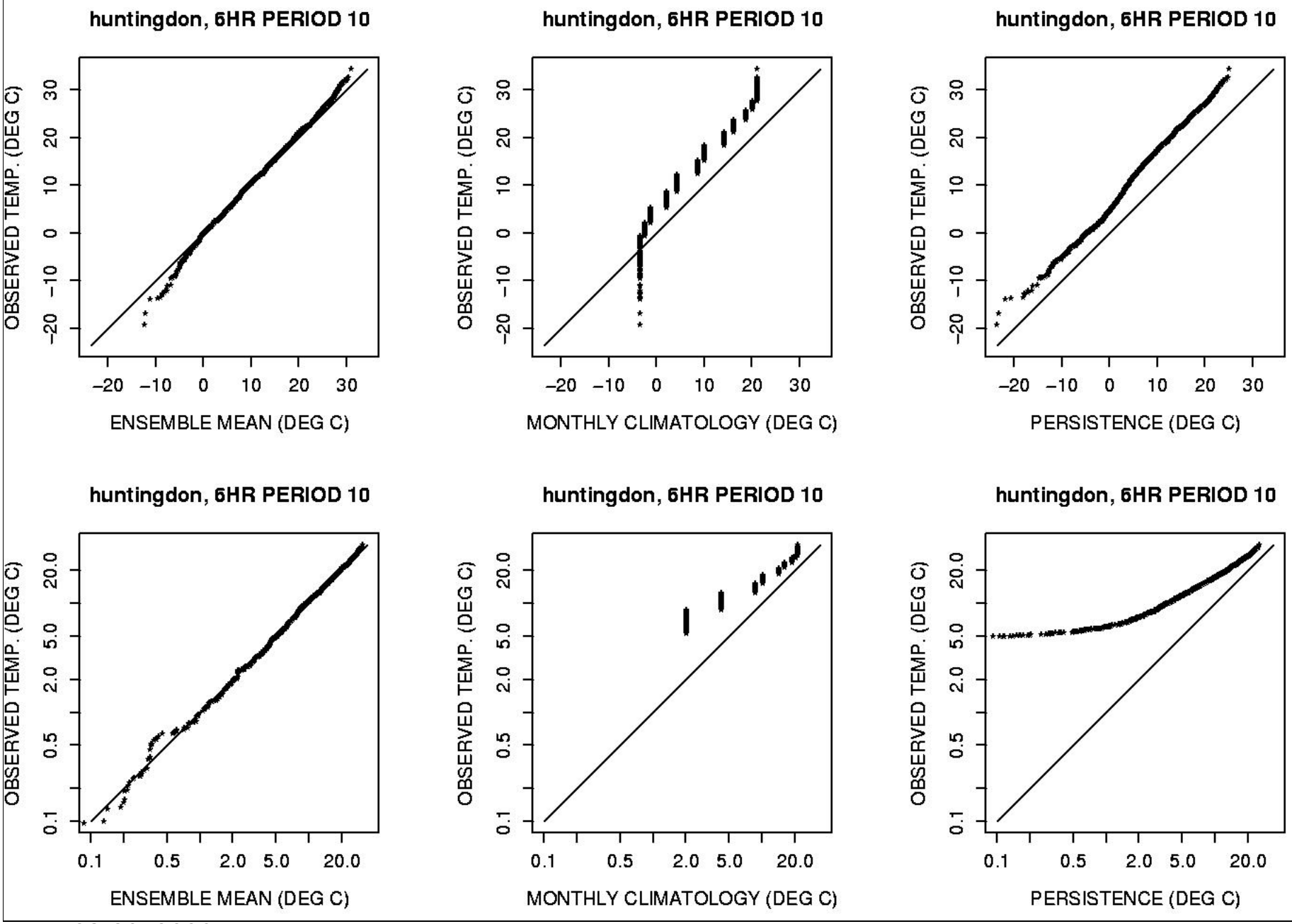
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
−20 −10 0 10 20 30
0.1 0.5 2.0 5.0 20.0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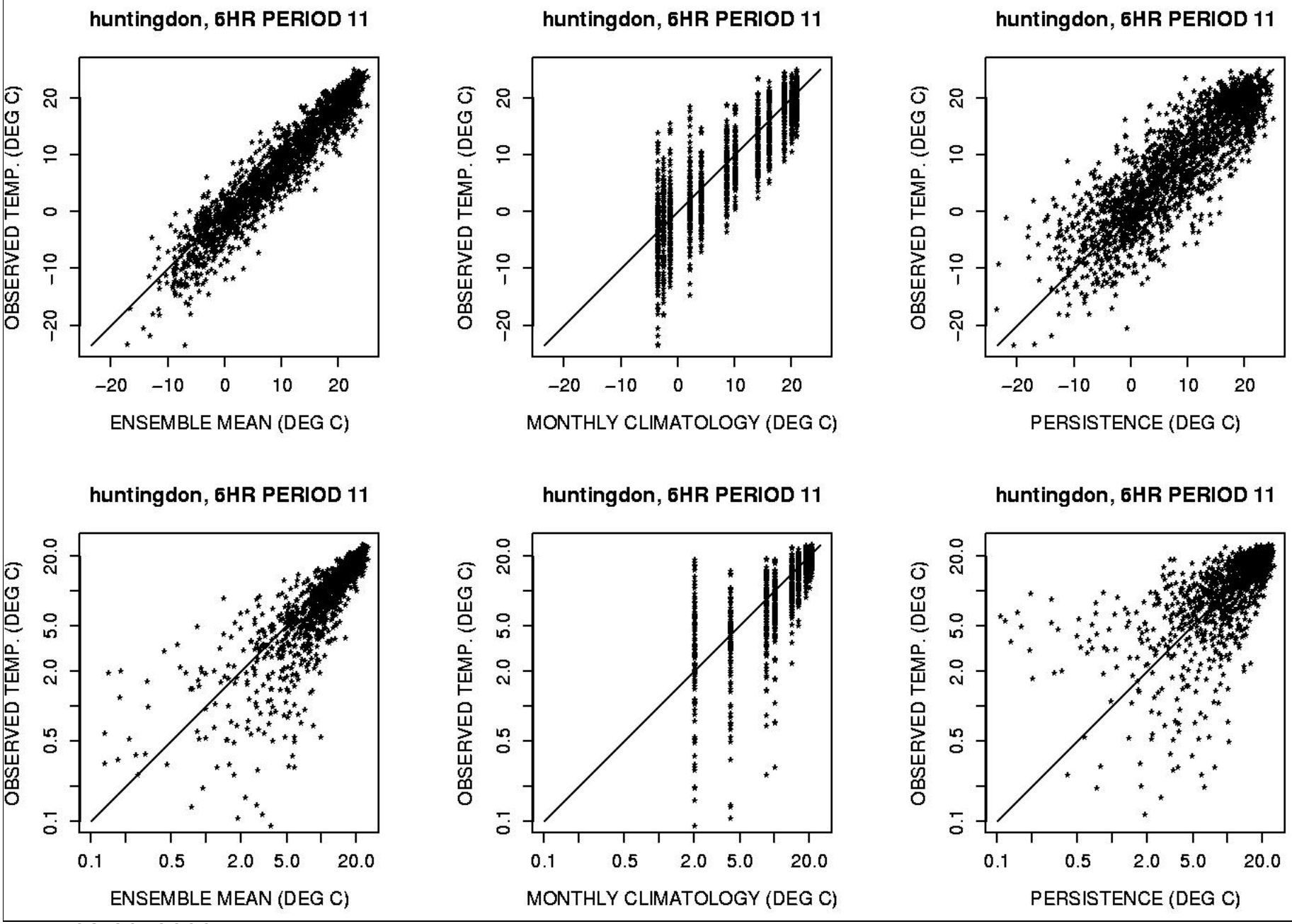
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 10
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 10
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 10
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 10
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 10
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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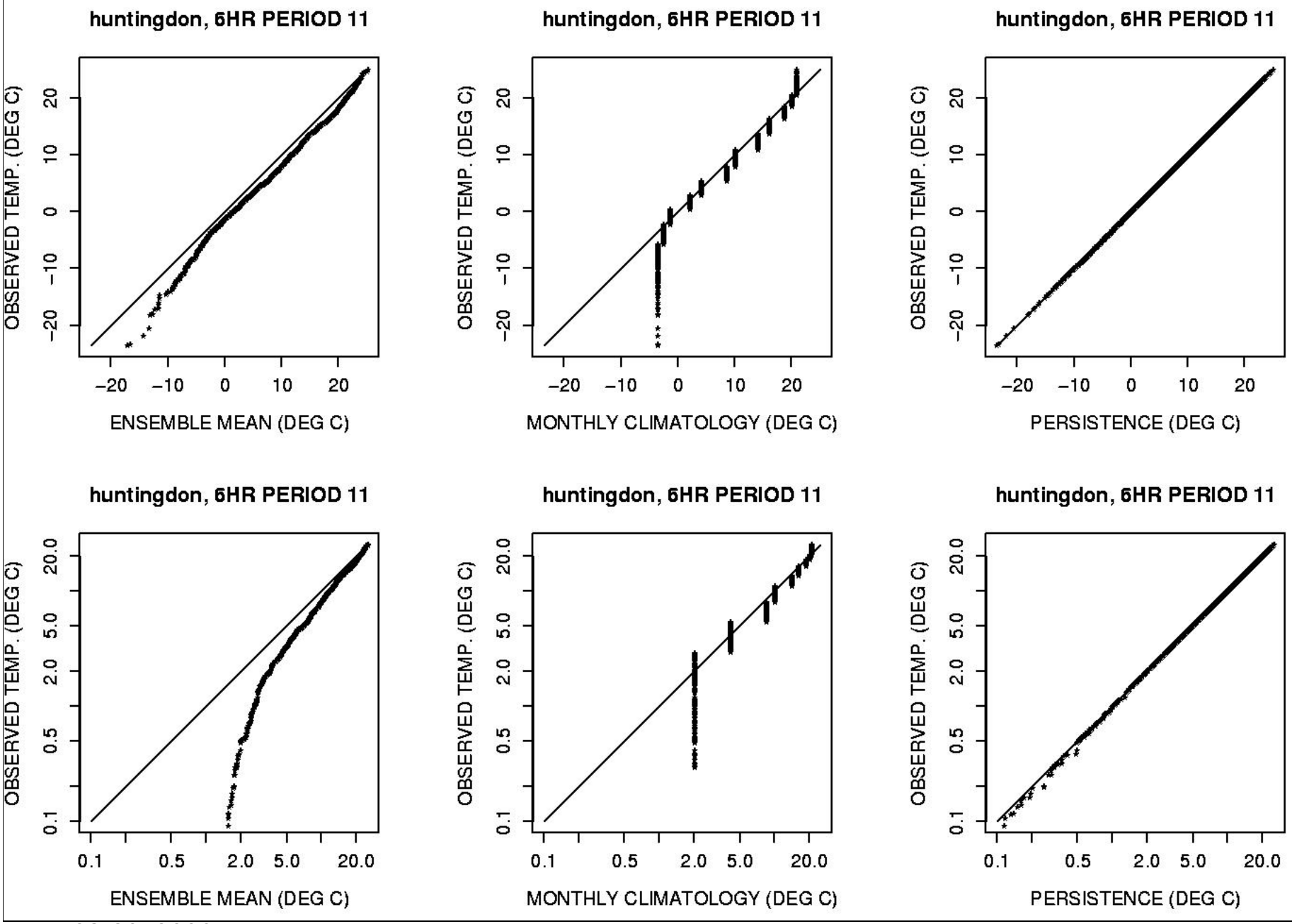
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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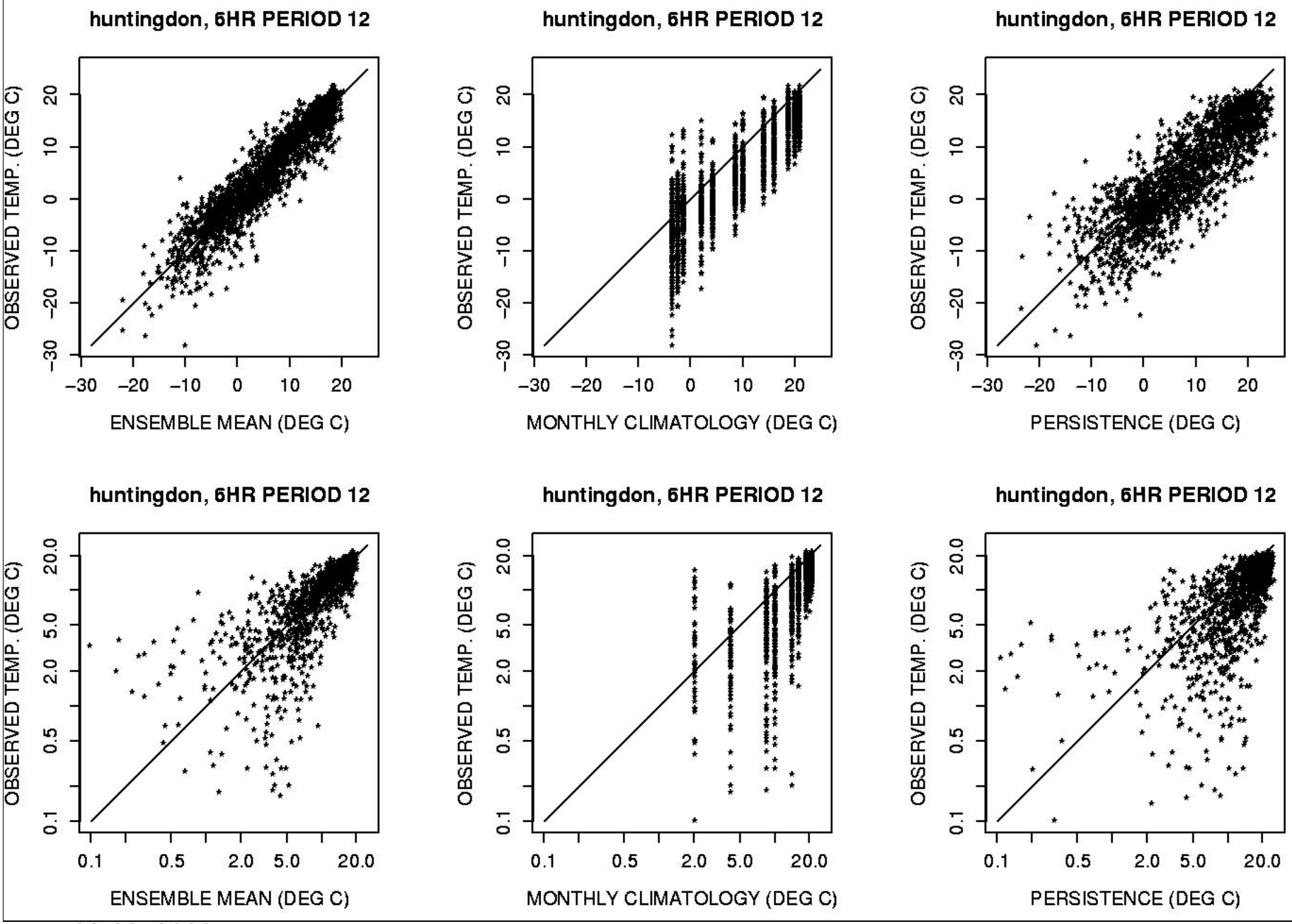
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 11
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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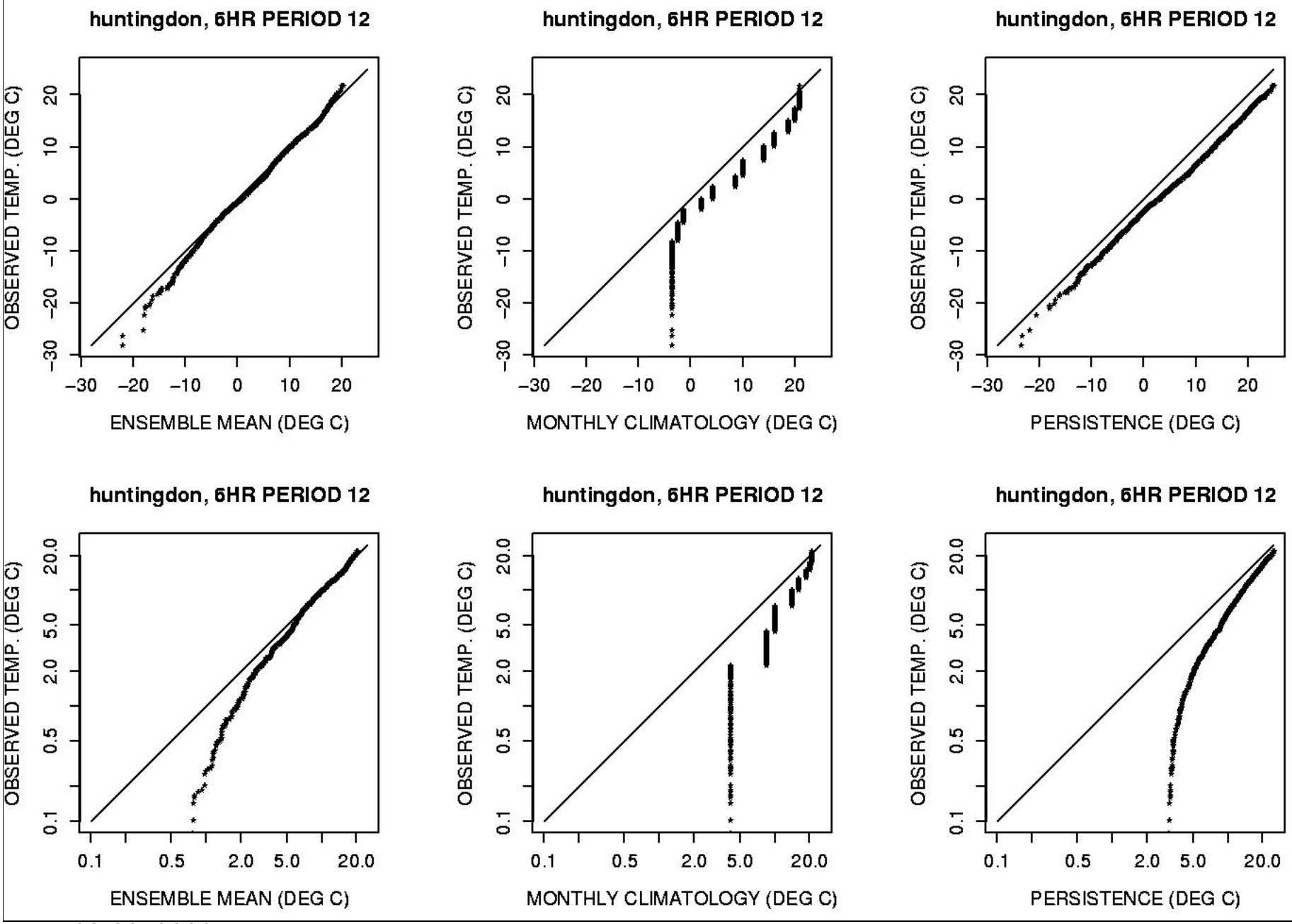
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
−30 −20 −10 0 10 20
0.1 0.5 2.0 5.0 20.0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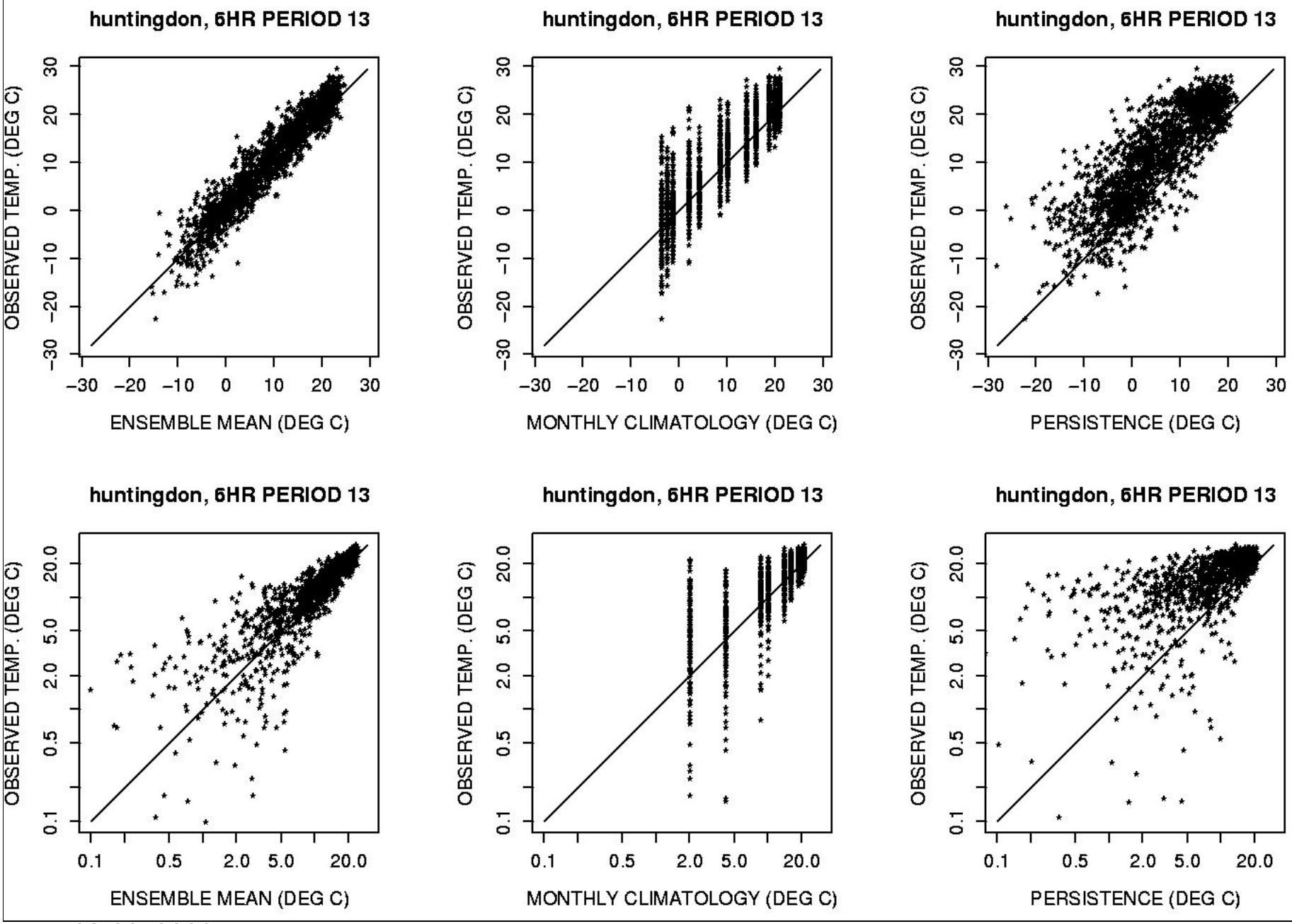
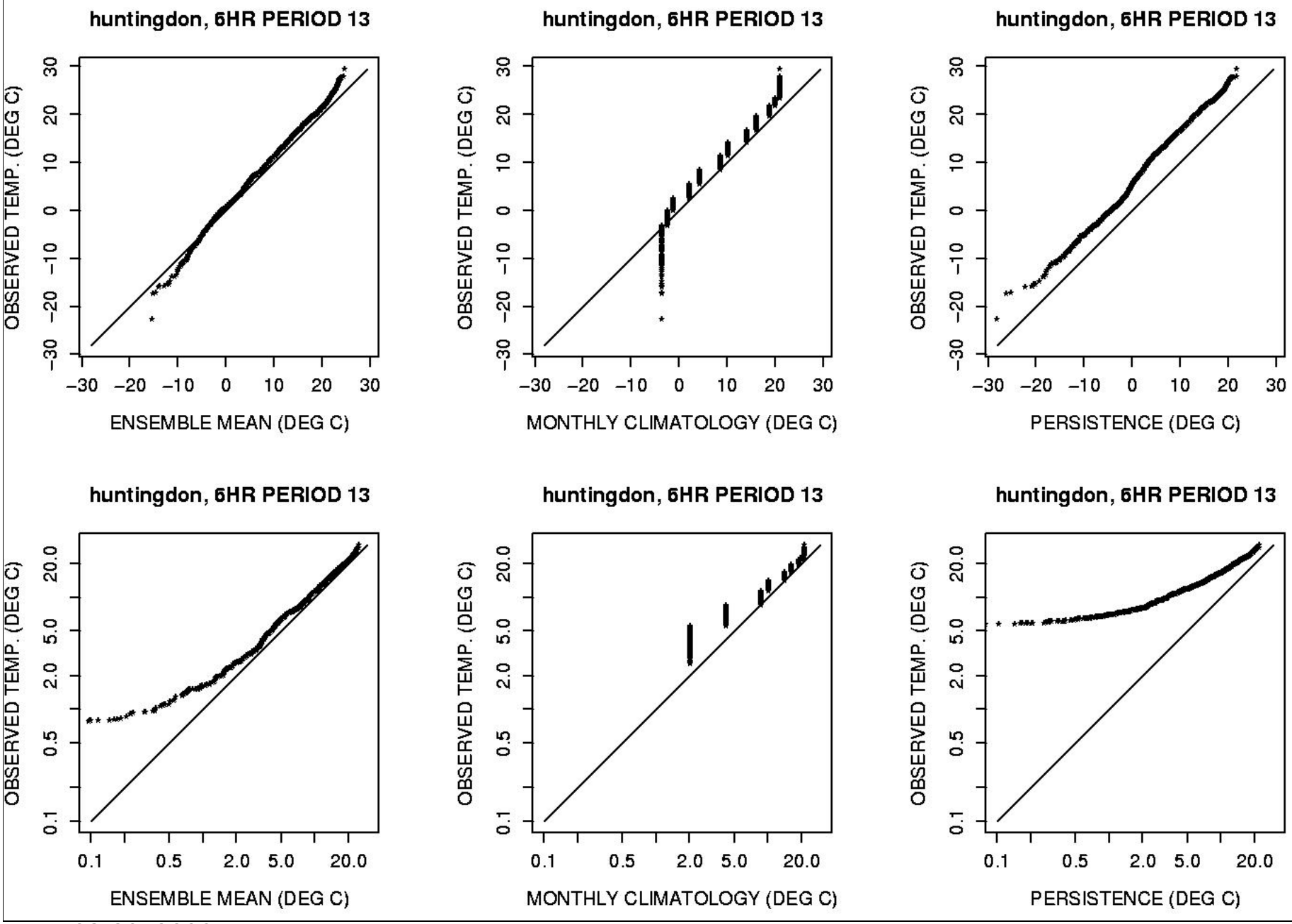
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 12
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 12
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 12
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 12
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 12
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
−30 −20 −10 0 10 20 30
0.1 0.5 2.0 5.0 20.0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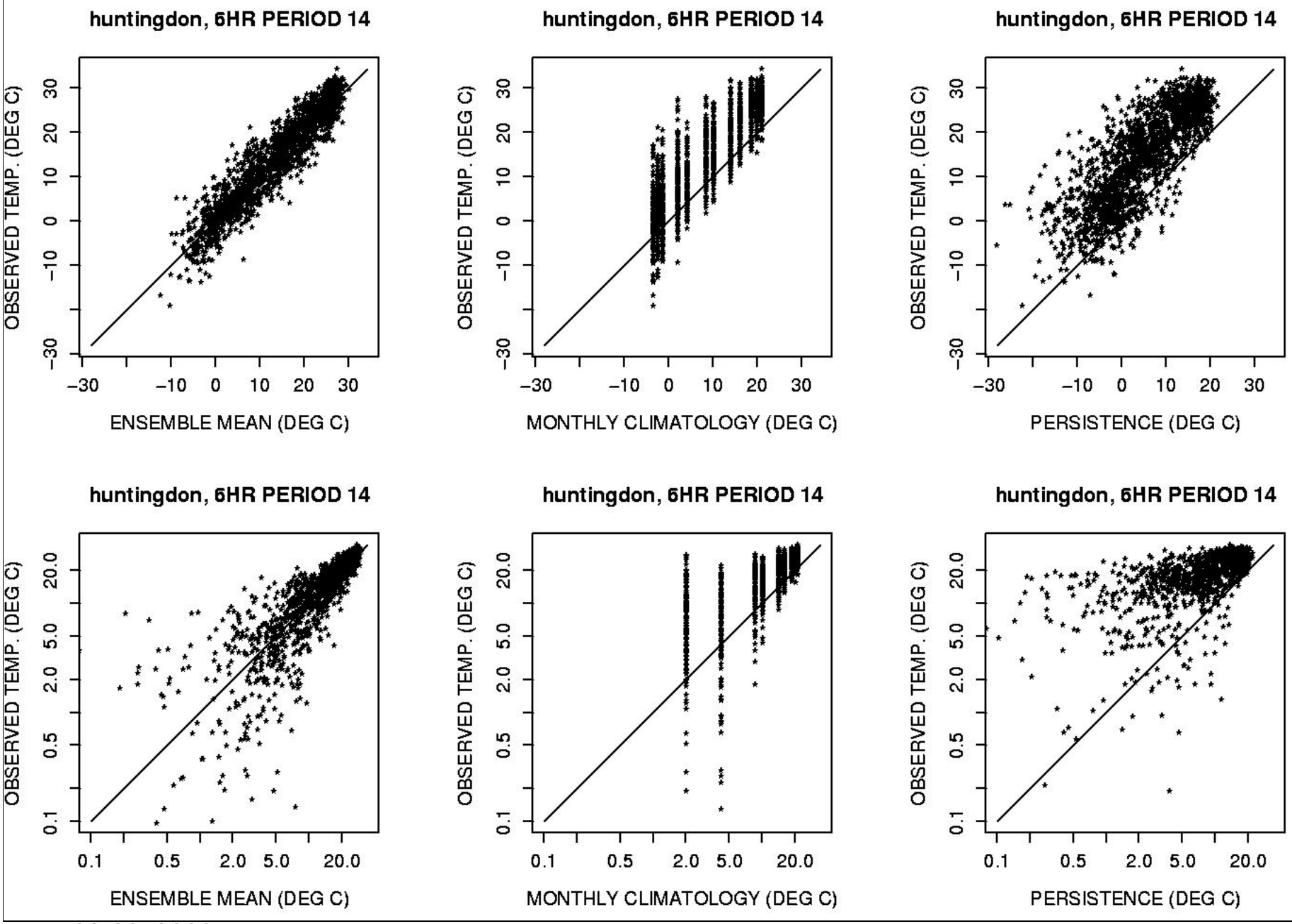
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 13
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
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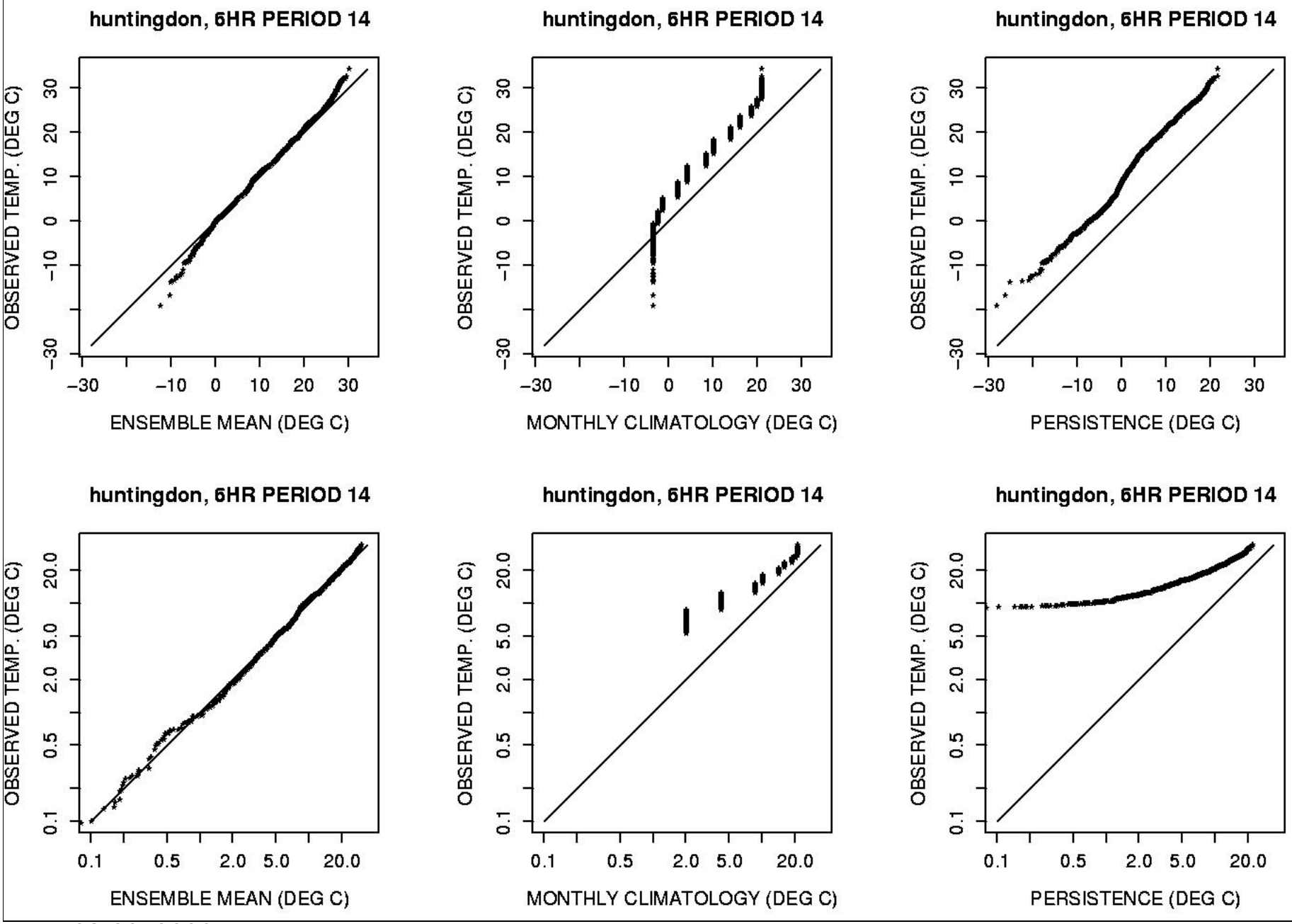
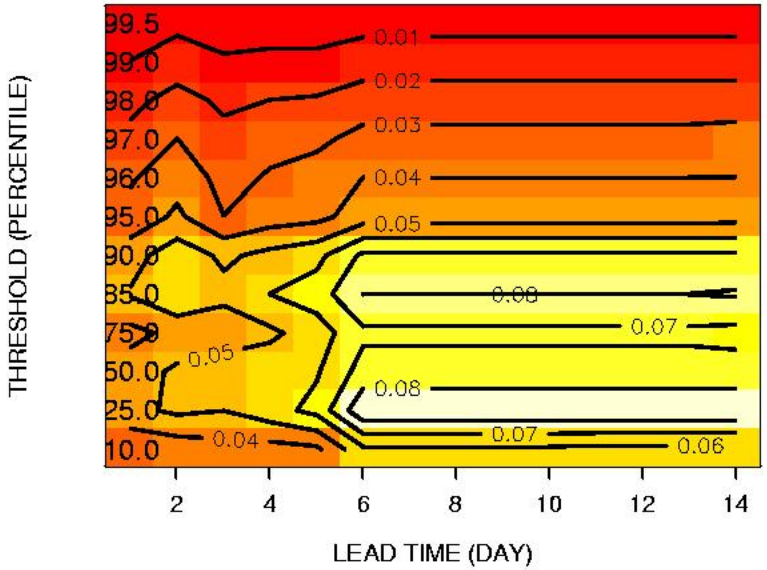
0.1 0.5 2.0 5.0 20.0

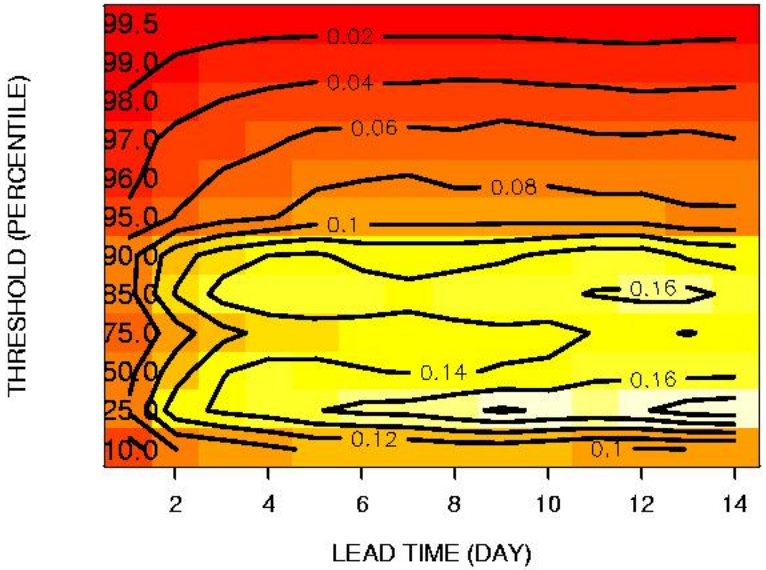

huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 6HR PERIOD 14
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)

Verification of 24-hr temperature ensembles

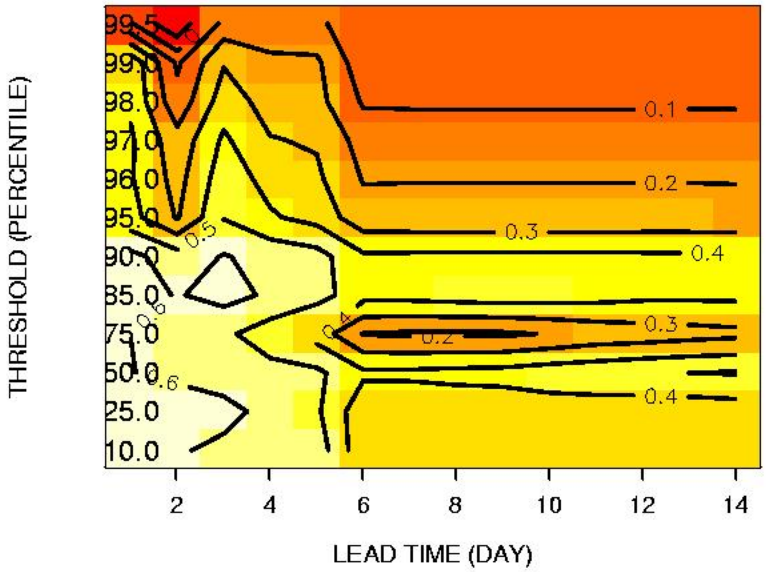
huntingdon – BS, ENSEMBLE FCST OF 24HR TEMP.



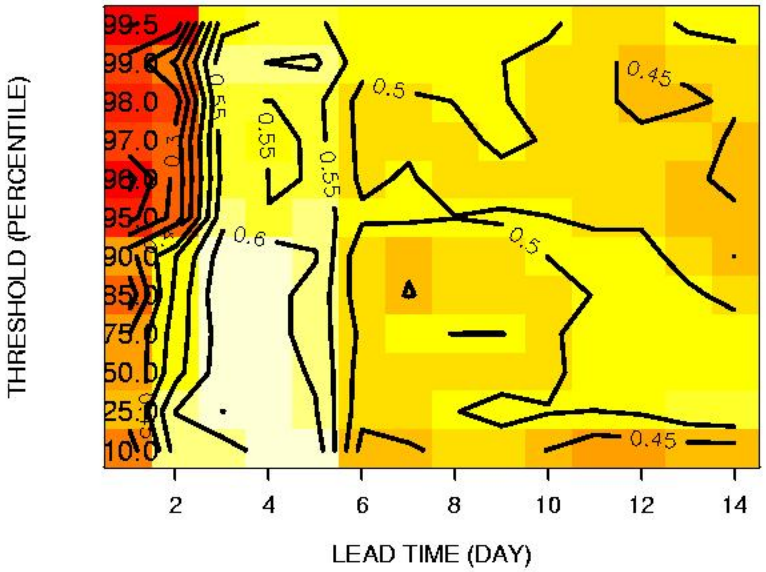
huntingdon – BS, PERSISTENCE FCST OF 24HR TEMP.



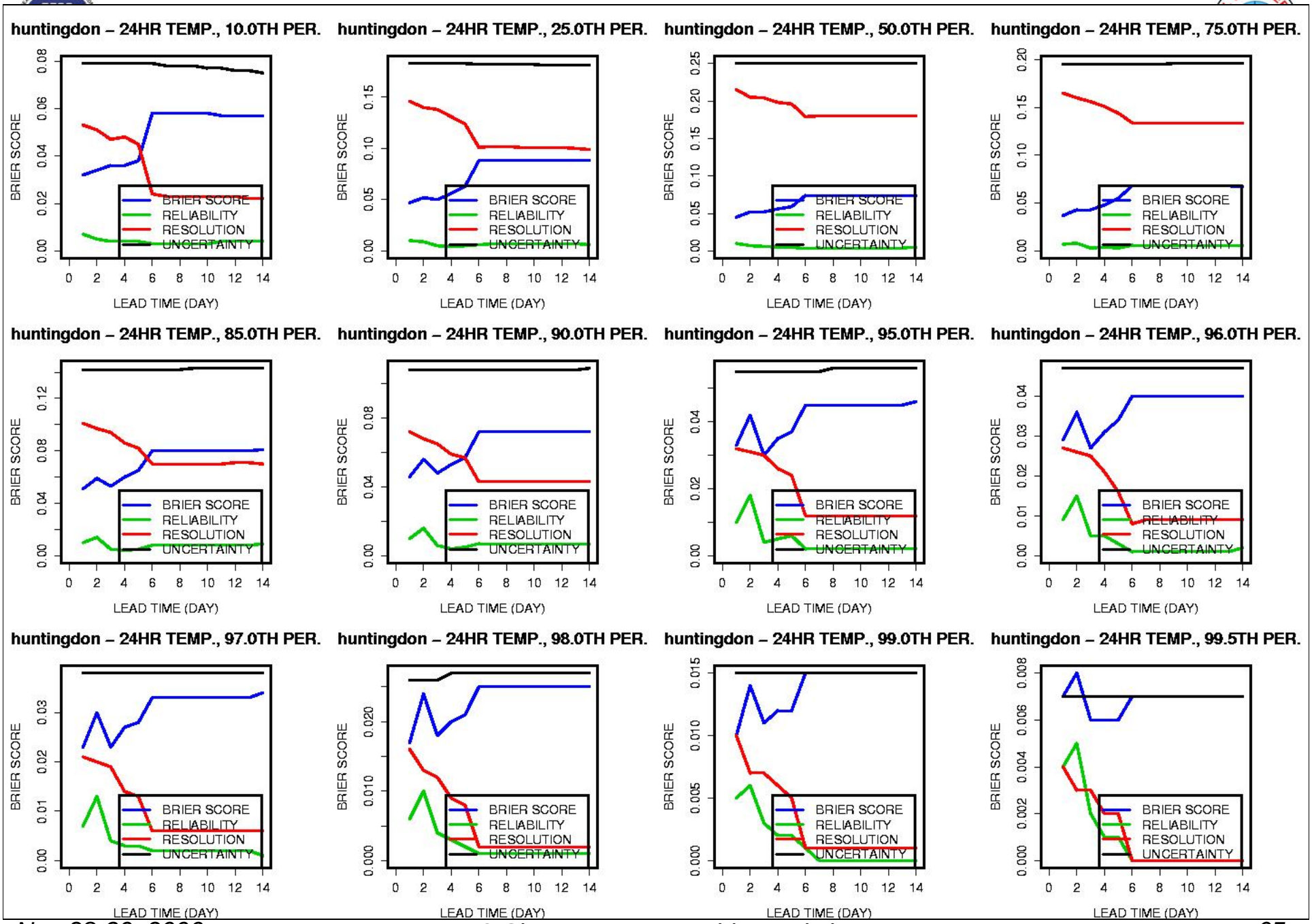
huntingdon – BSS, ENSEMBLE FCST VS. CLIMATOLOGY

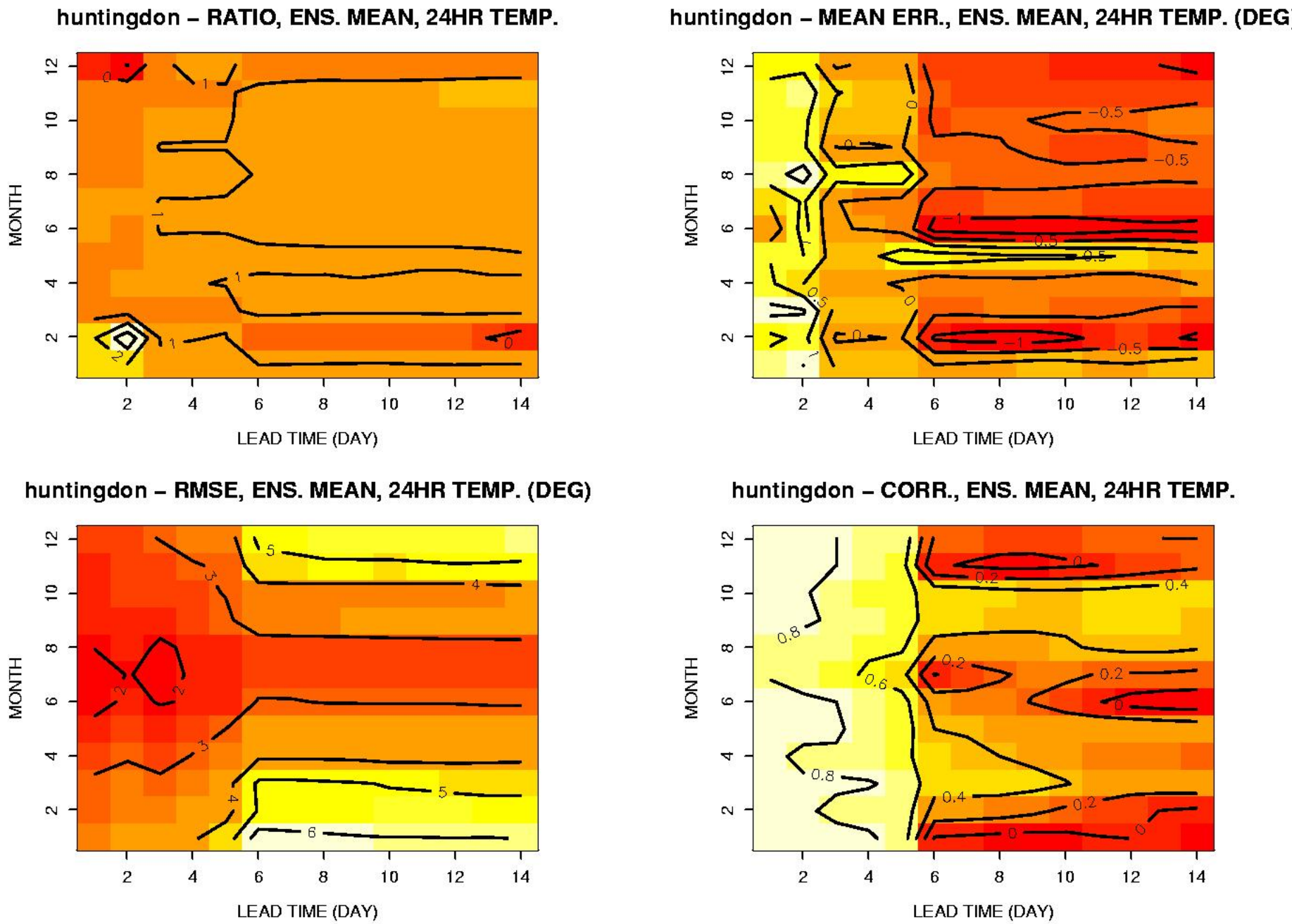


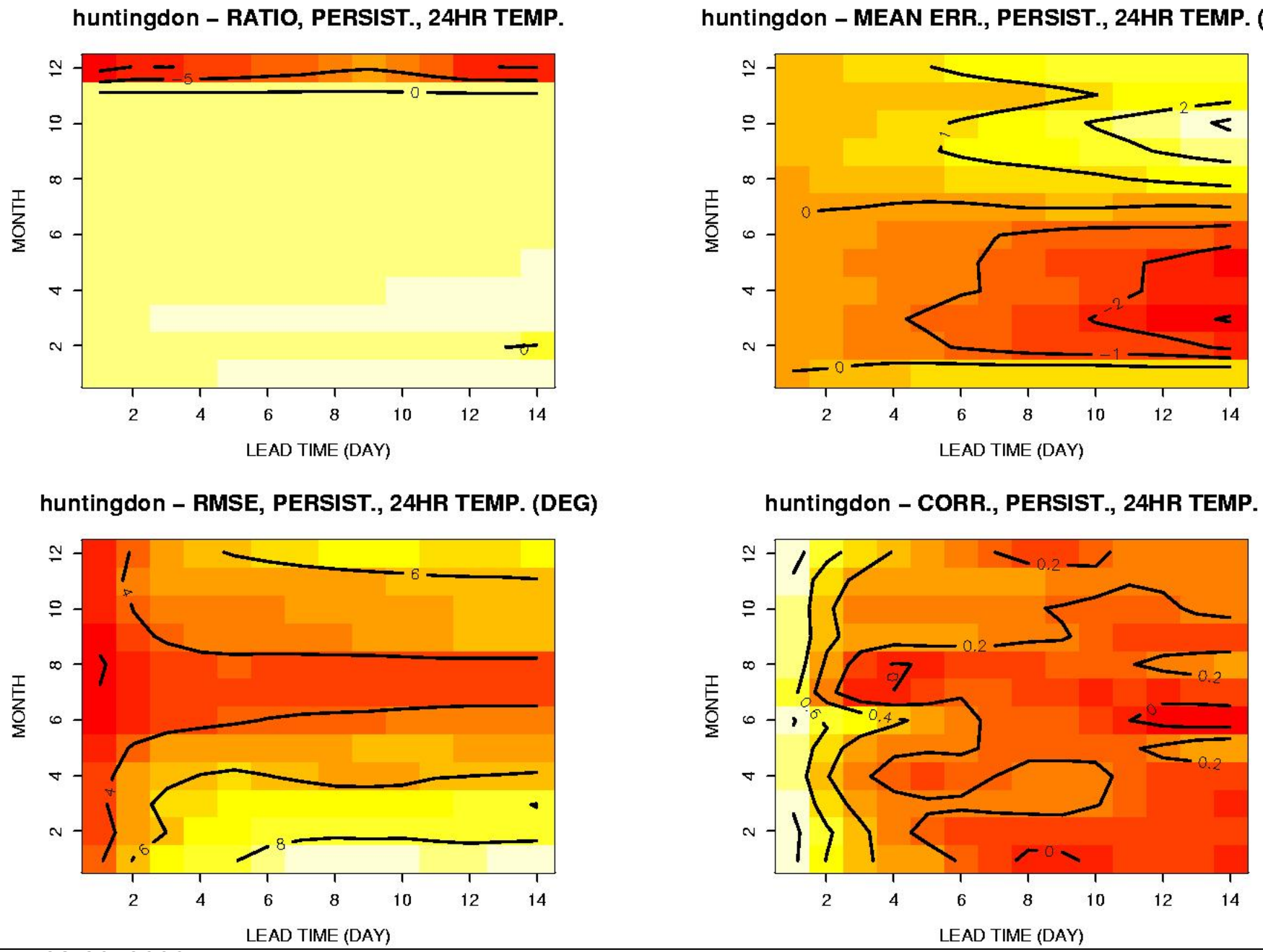
huntingdon – BSS, ENSEMBLE FCST VS. PERSISTENCE



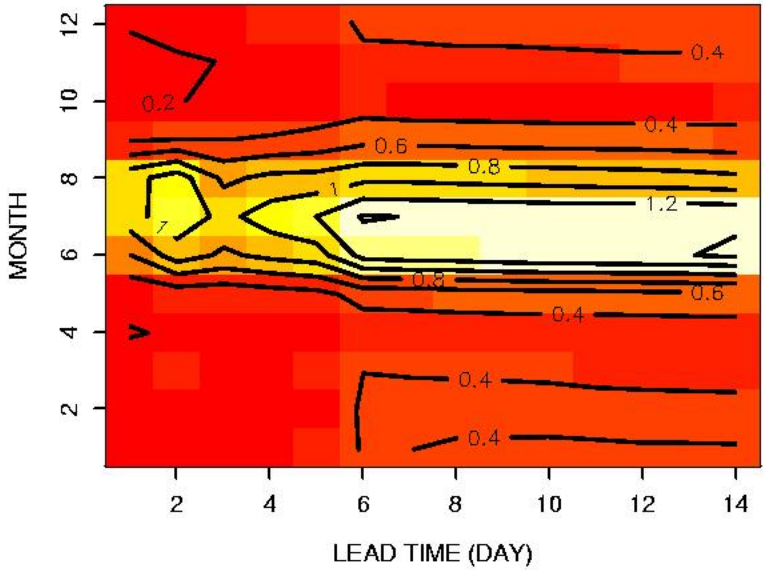
Percentile	24-hr Temperature (°C)
10	-4.1
25	1.1
50	9.5
75	17.5
85	20.1
90	21.2
95	22.6
96	22.9
97	23.4
98	23.9
99	24.7
99.5	25.4


huntingdon – 24HR TEMP., 10.0TH PER.
huntingdon – 24HR TEMP., 25.0TH PER.
huntingdon – 24HR TEMP., 50.0TH PER.
huntingdon – 24HR TEMP., 75.0TH PER.
huntingdon – 24HR TEMP., 85.0TH PER.
huntingdon – 24HR TEMP., 90.0TH PER.
huntingdon – 24HR TEMP., 95.0TH PER.
huntingdon – 24HR TEMP., 96.0TH PER.
huntingdon – 24HR TEMP., 97.0TH PER.
huntingdon – 24HR TEMP., 98.0TH PER.
huntingdon – 24HR TEMP., 99.0TH PER.
huntingdon – 24HR TEMP., 99.5TH PER.
BRIER SCORE
RELIABILITY
RESOLUTION
UNCERTAINTY
LEAD TIME (DAY)

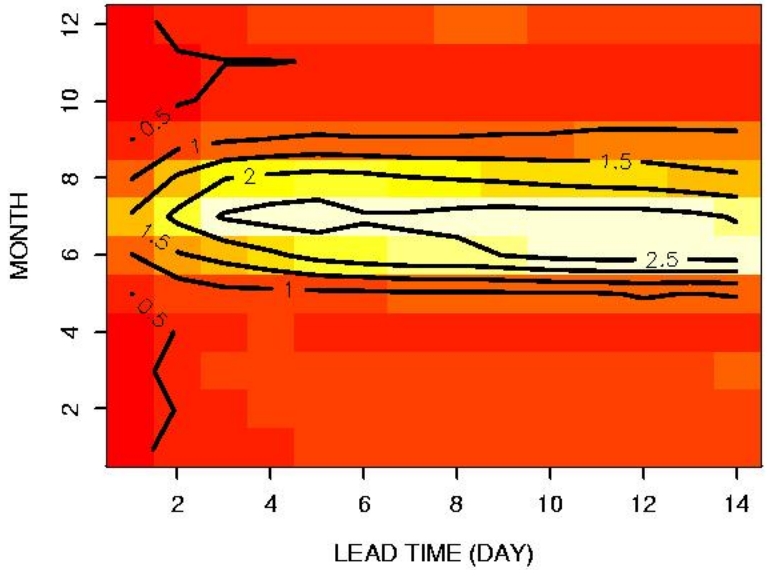

huntingdon – RATIO, ENS. MEAN, 24HR TEMP.
huntingdon – MEAN ERR., ENS. MEAN, 24HR TEMP. (DEG)
huntingdon – RMSE, ENS. MEAN, 24HR TEMP. (DEG)
huntingdon – CORR., ENS. MEAN, 24HR TEMP.
MONTH
LEAD TIME (DAY)


huntingdon – RATIO, PERSIST., 24HR TEMP.
huntingdon – MEAN ERR., PERSIST., 24HR TEMP. (DEG)
huntingdon – RMSE, PERSIST., 24HR TEMP. (DEG)
huntingdon – CORR., PERSIST., 24HR TEMP.
MONTH
LEAD TIME (DAY)

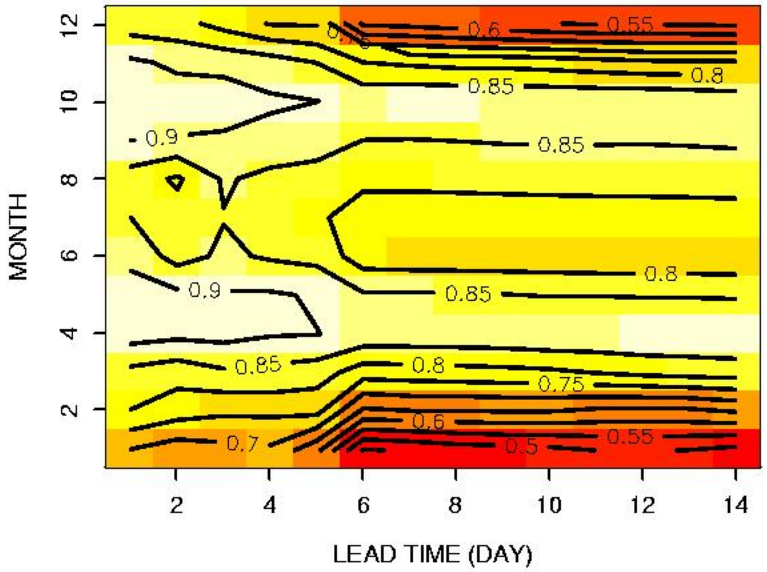
huntingdon – RPS, ENSEMBLE FCST OF 24HR TEMP.



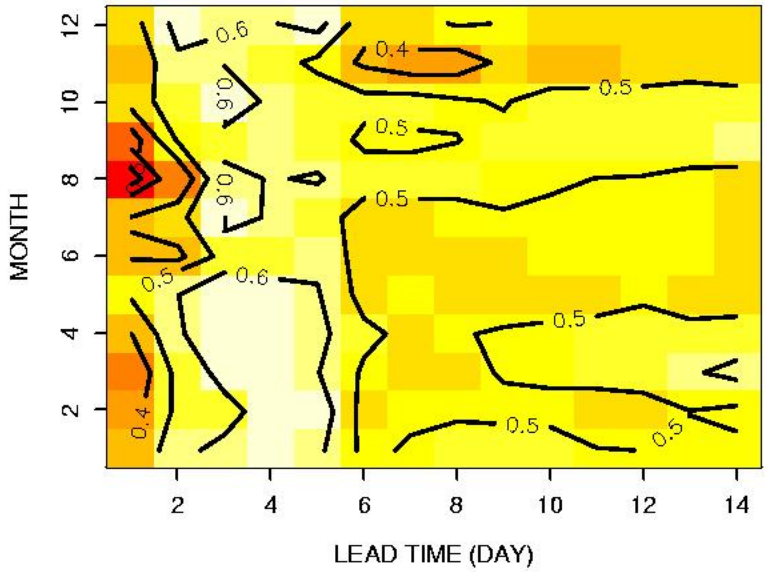
huntingdon – RPS, PERSISTENCE FCST OF 24HR TEMP.



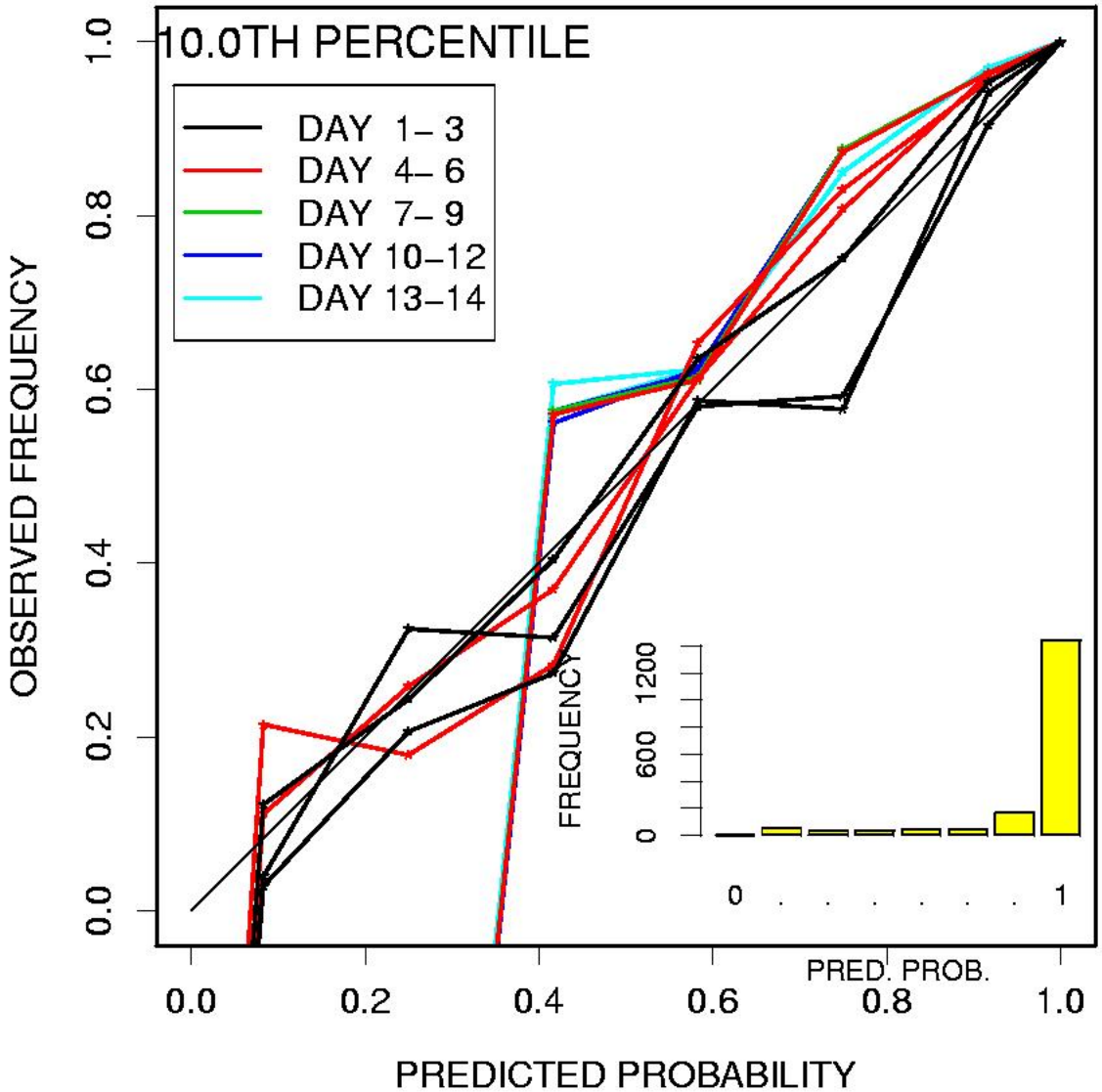
huntingdon – RPSS, ENSEMBLE FCST VS. CLIMATOLOGY



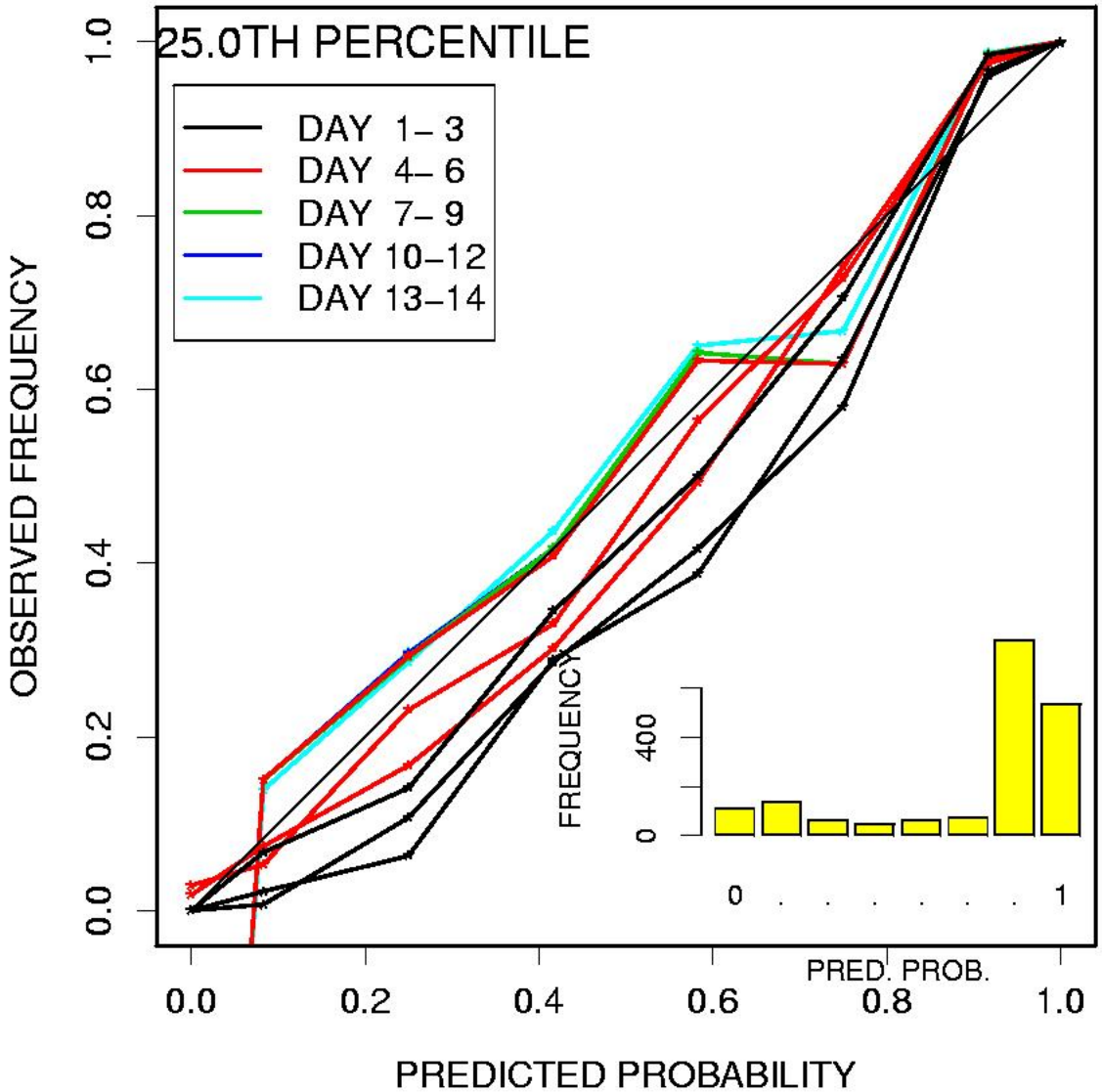
huntingdon – RPSS, ENSEMBLE FCST VS. PERSISTENCE



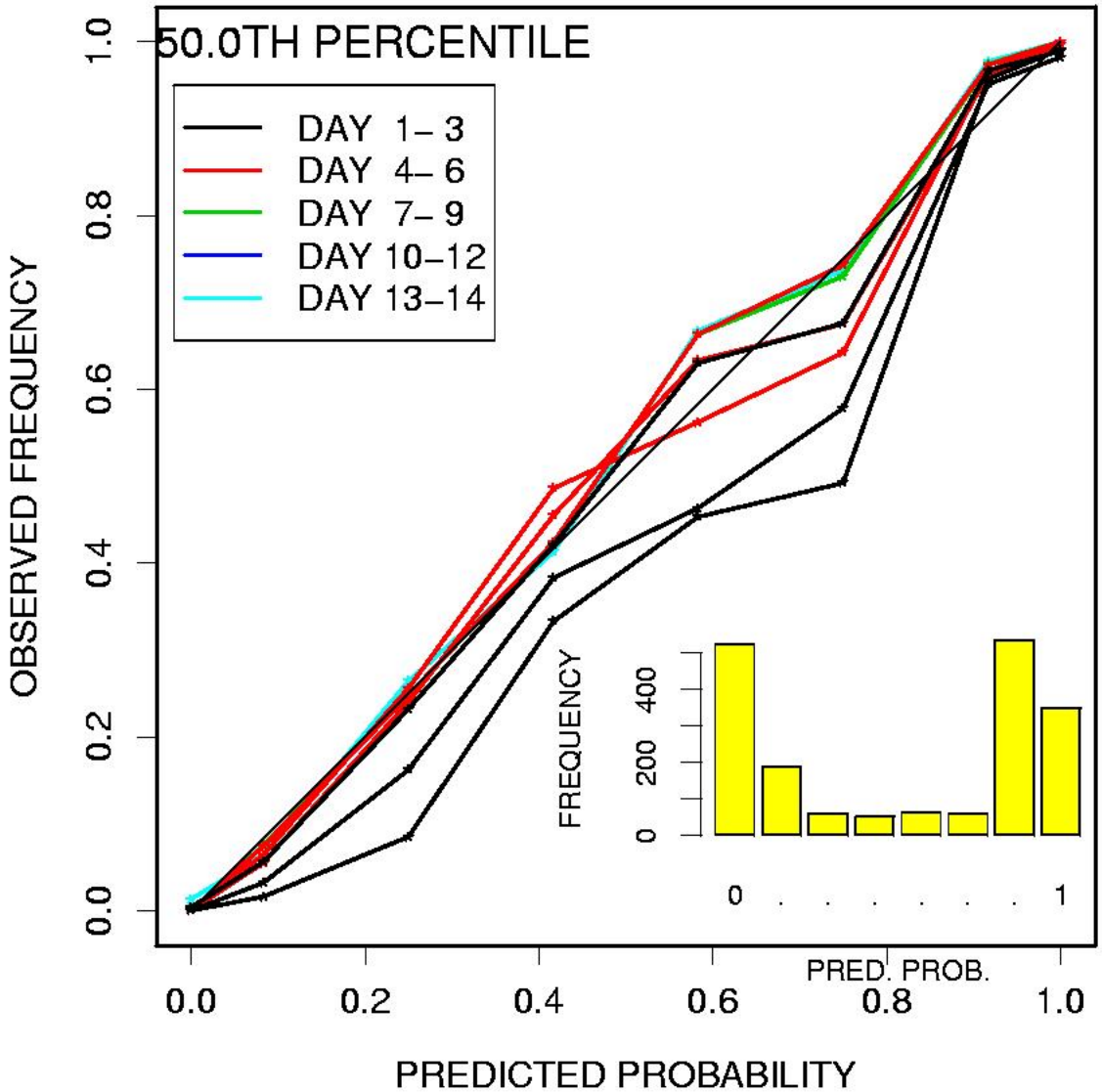
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



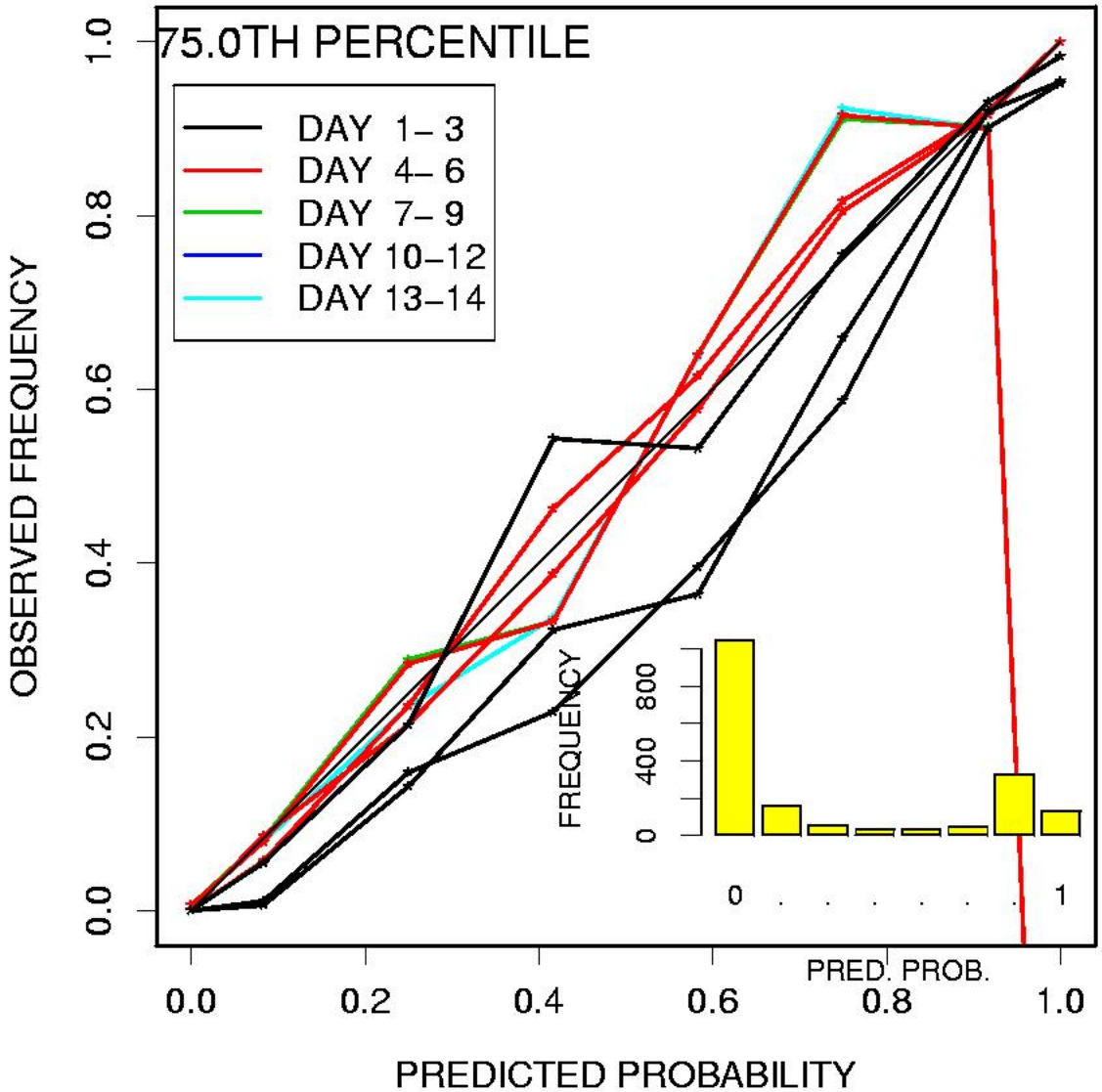
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



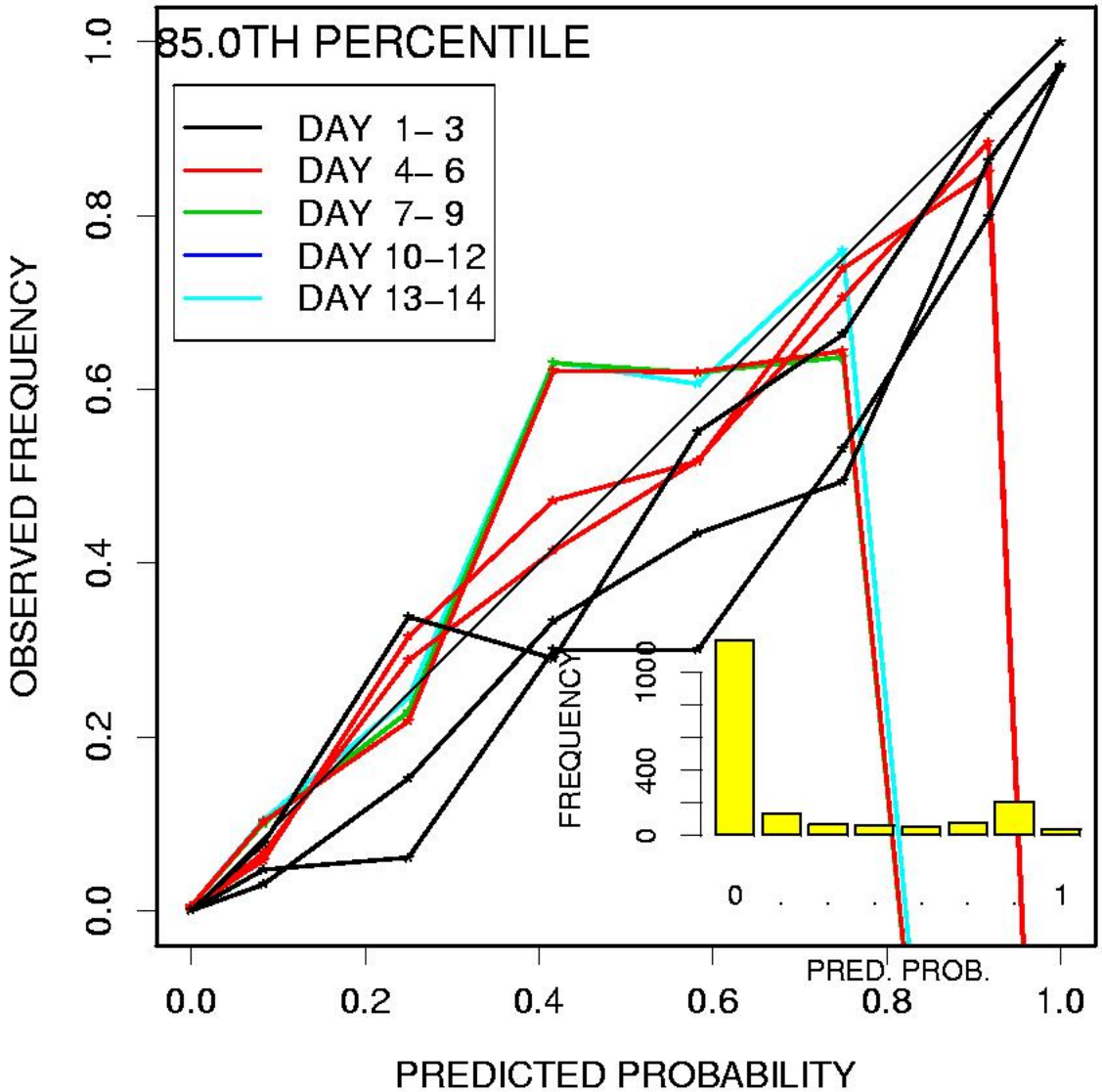
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



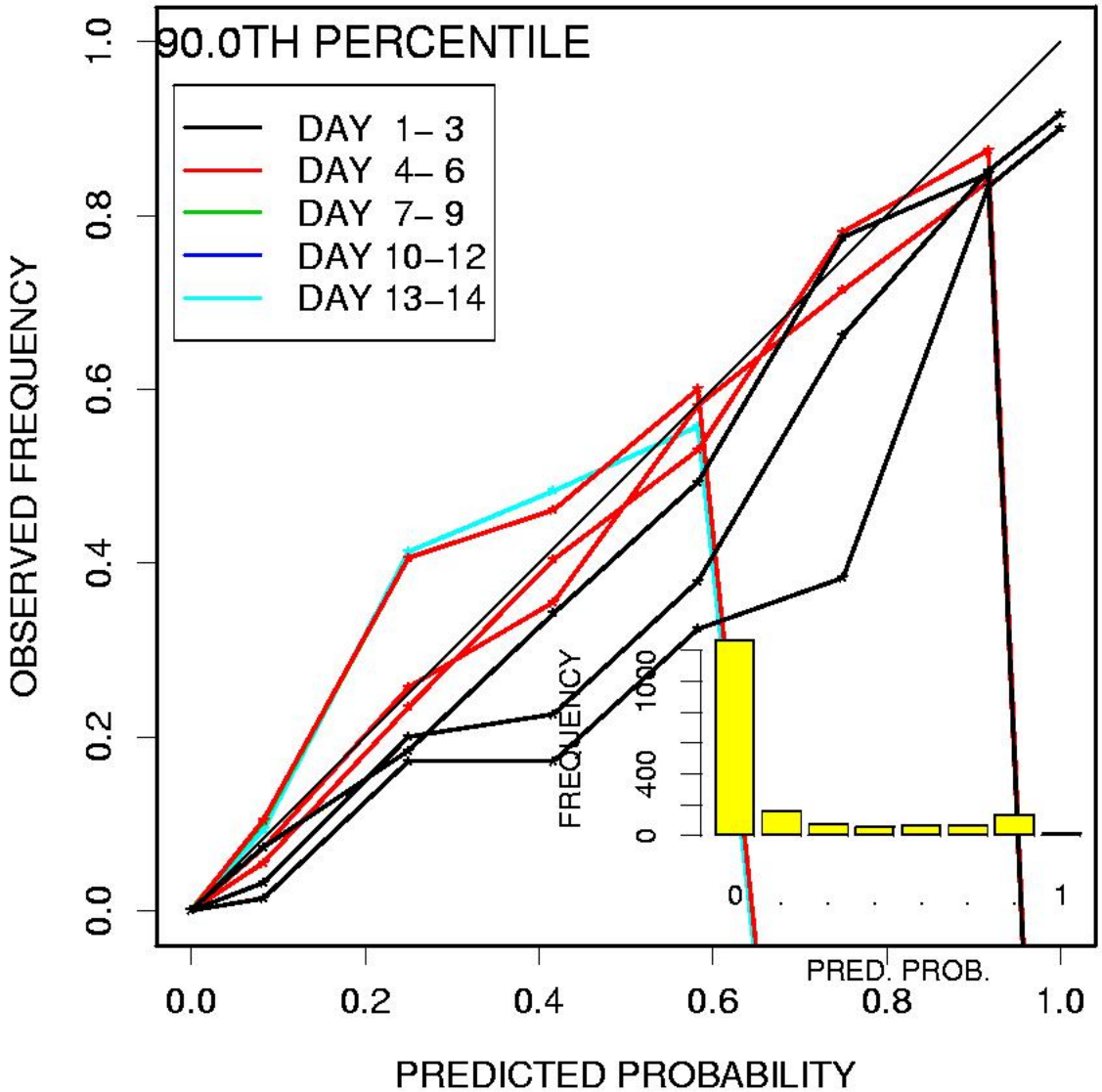
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



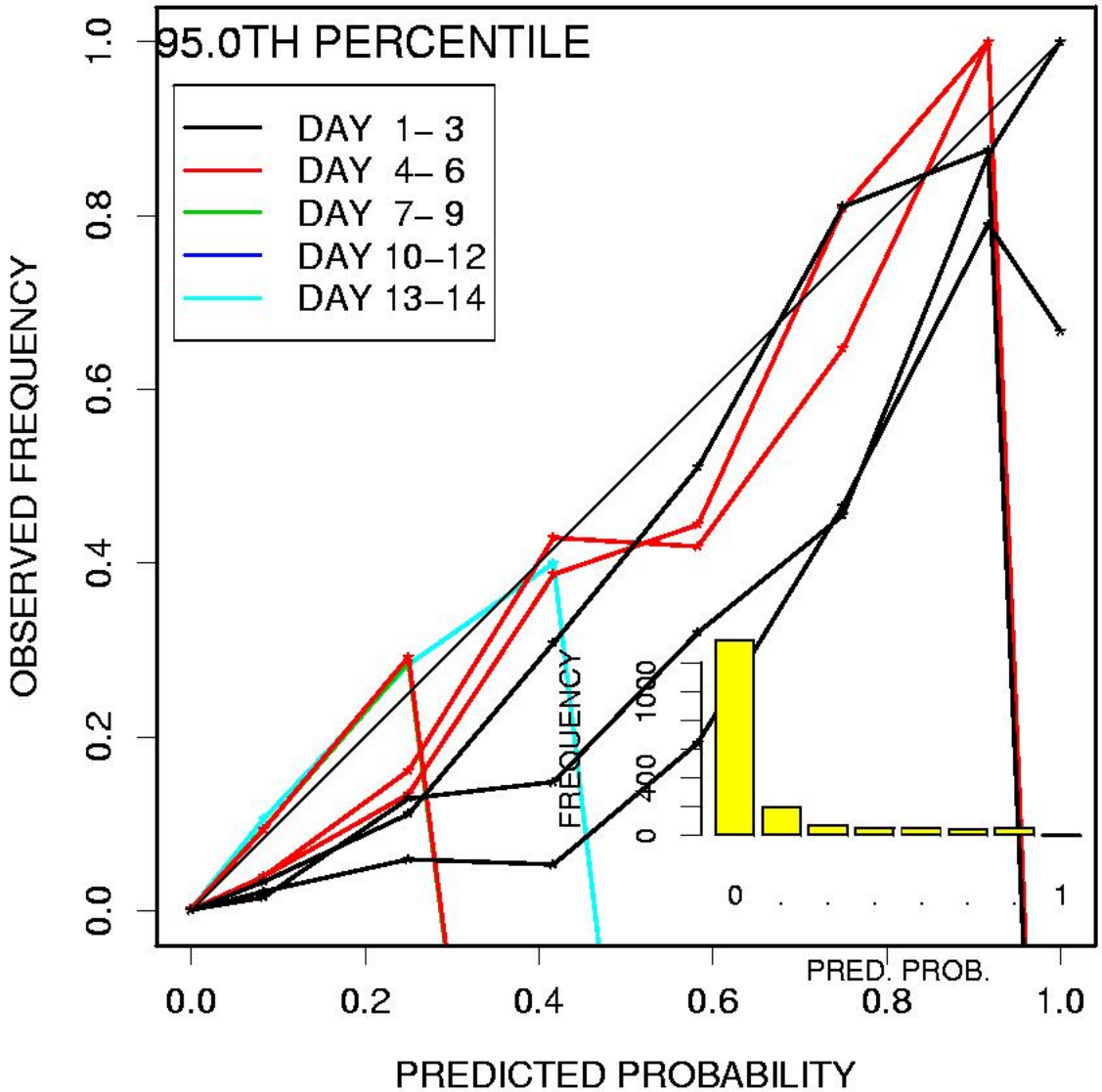
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



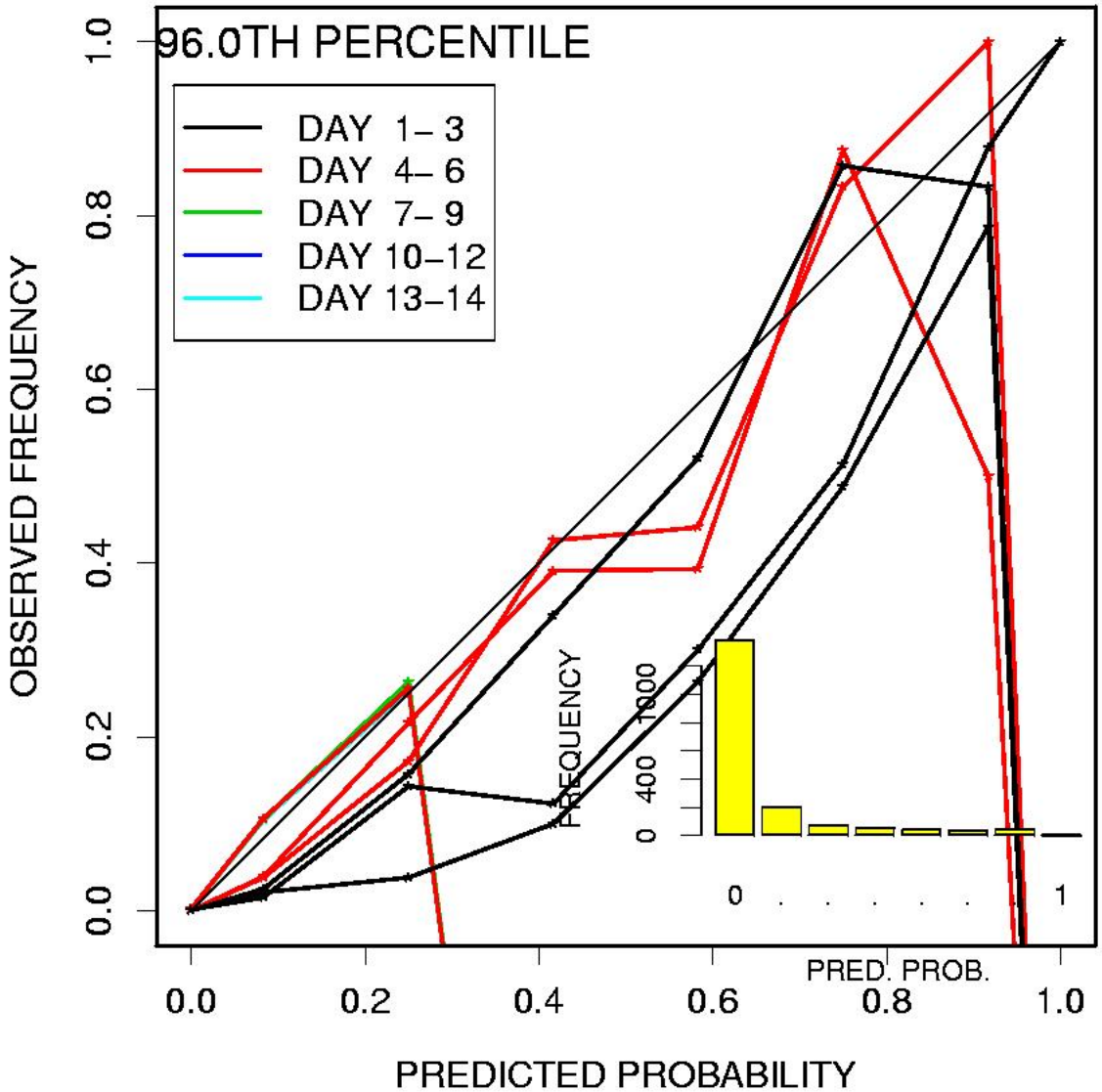
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



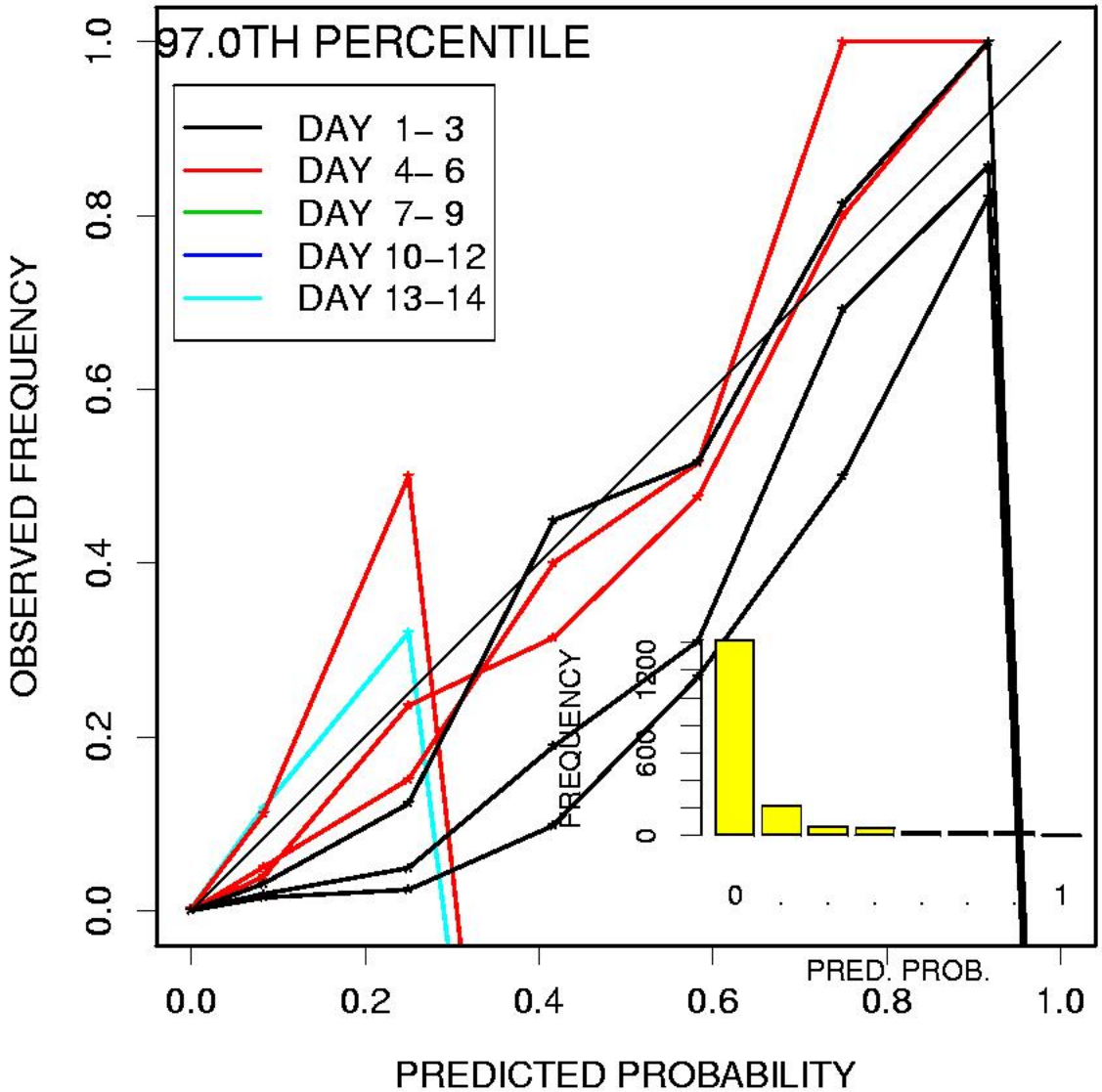
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



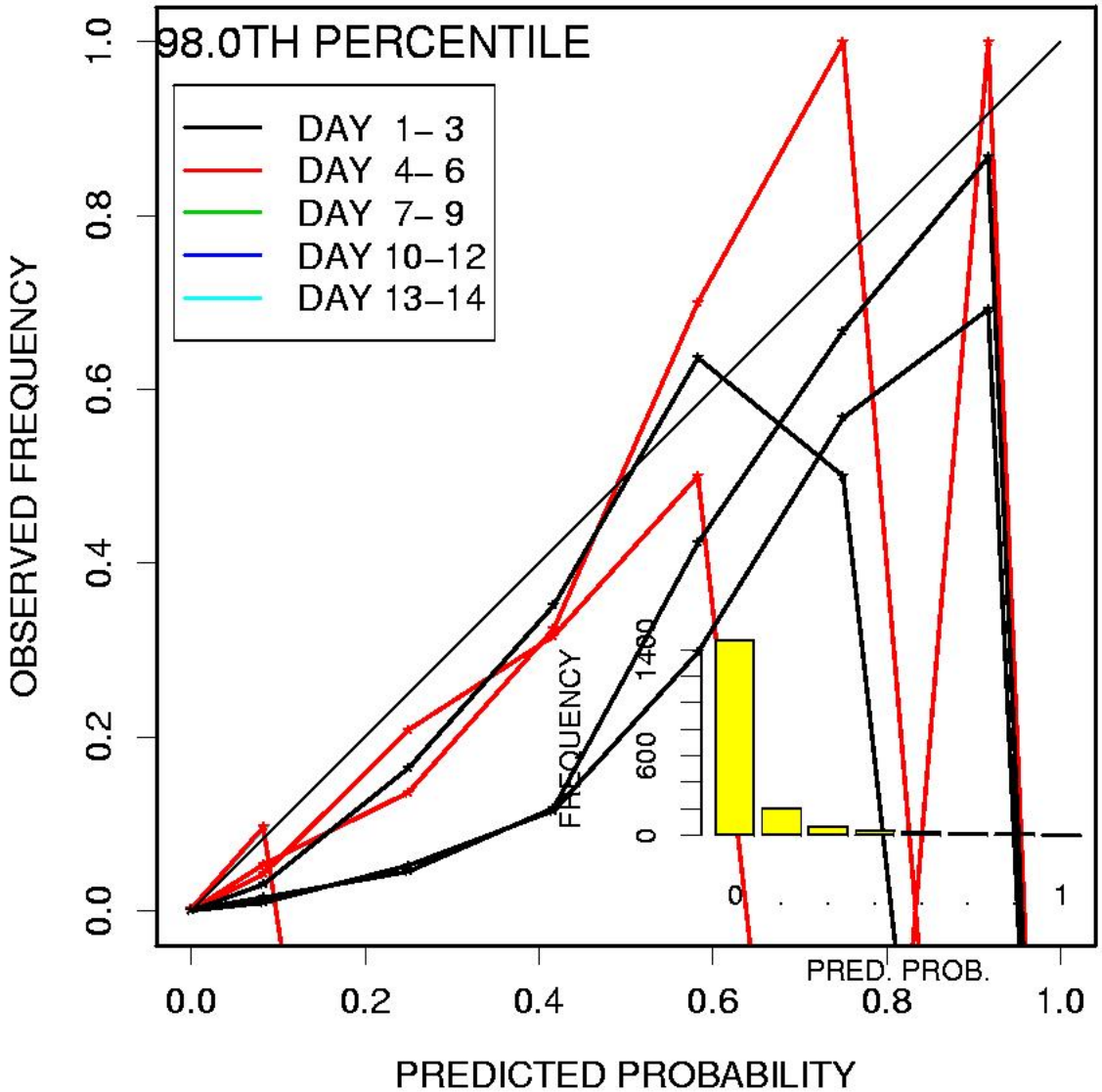
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



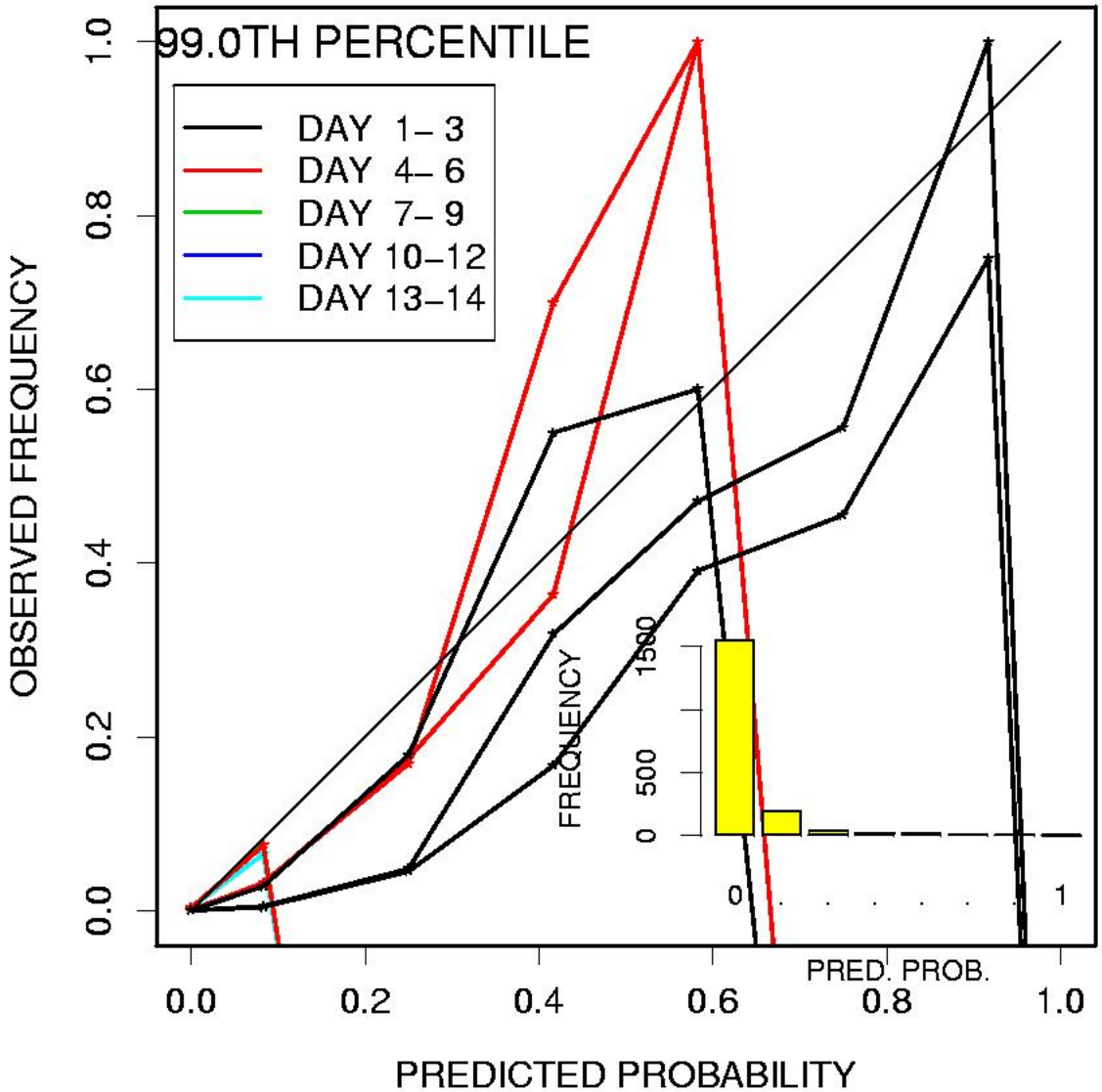
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN



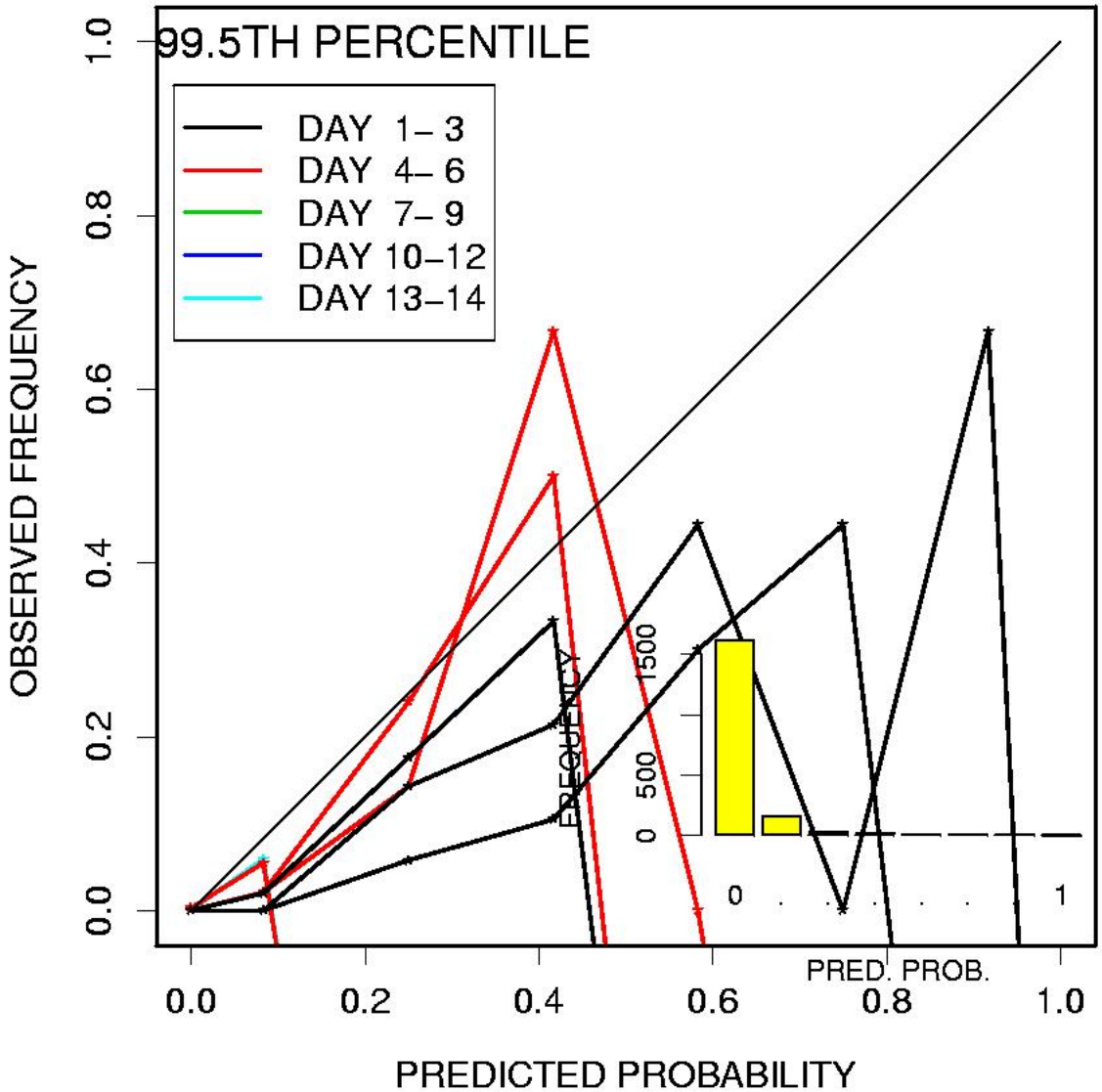
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN

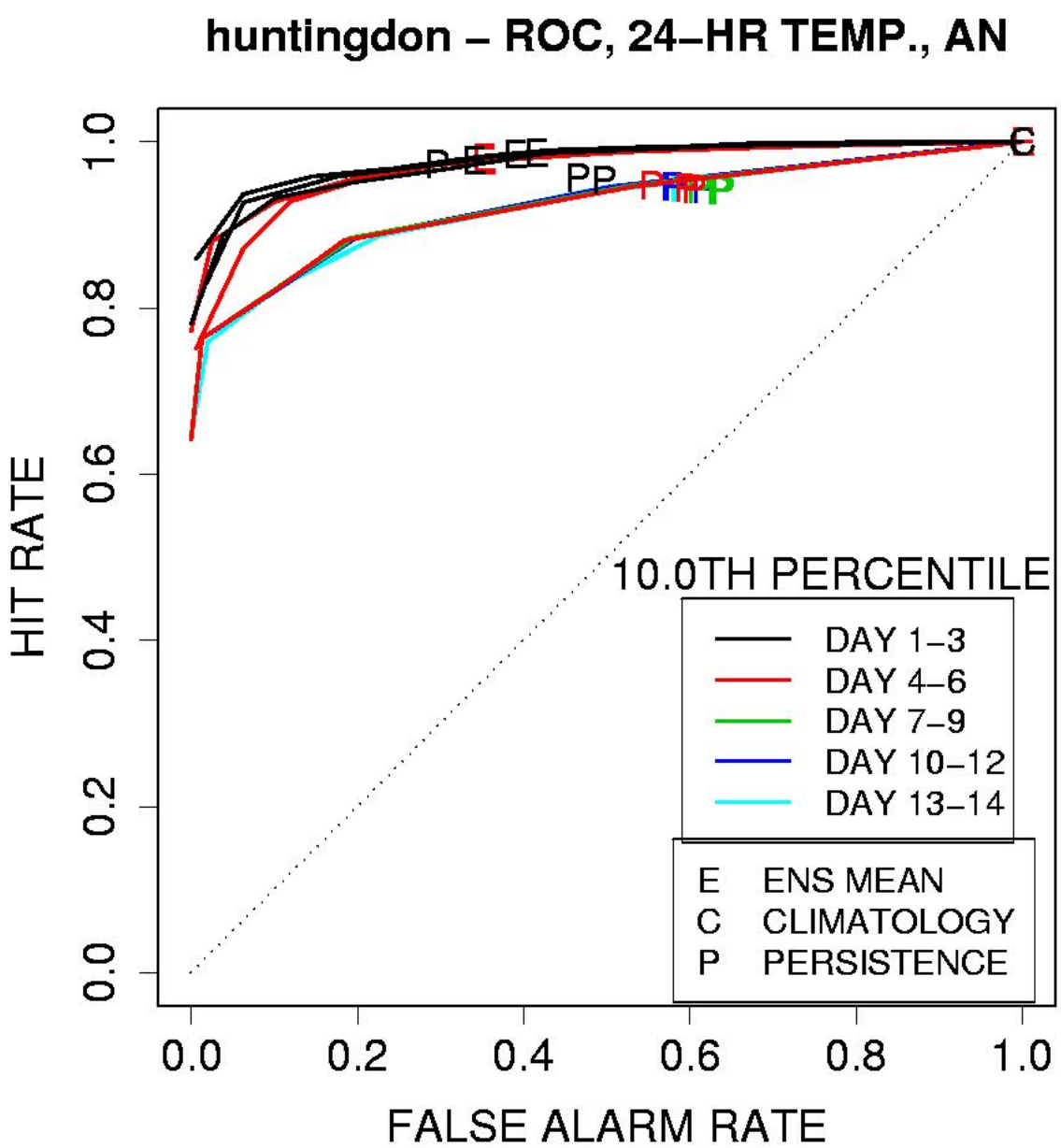


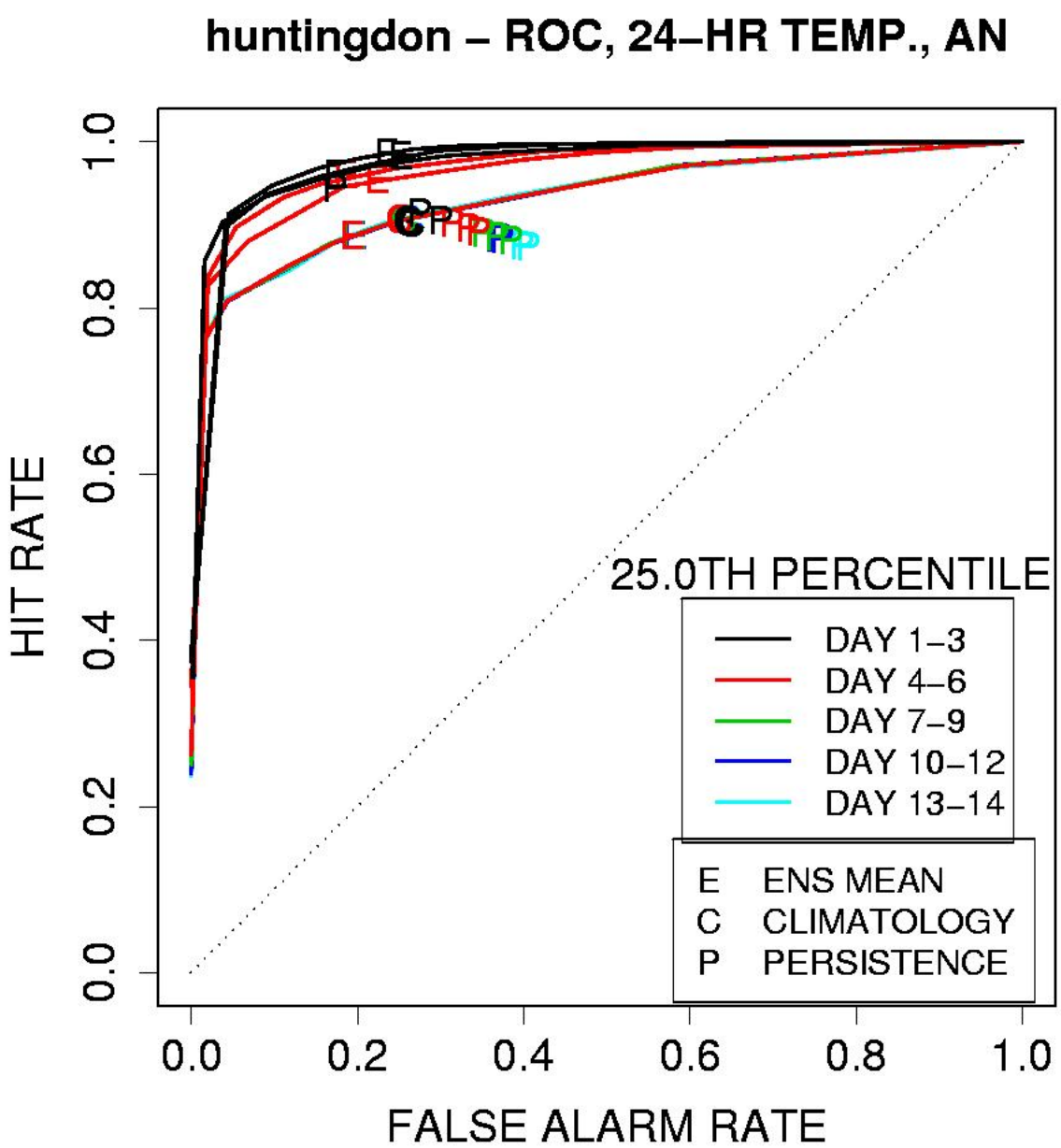
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN

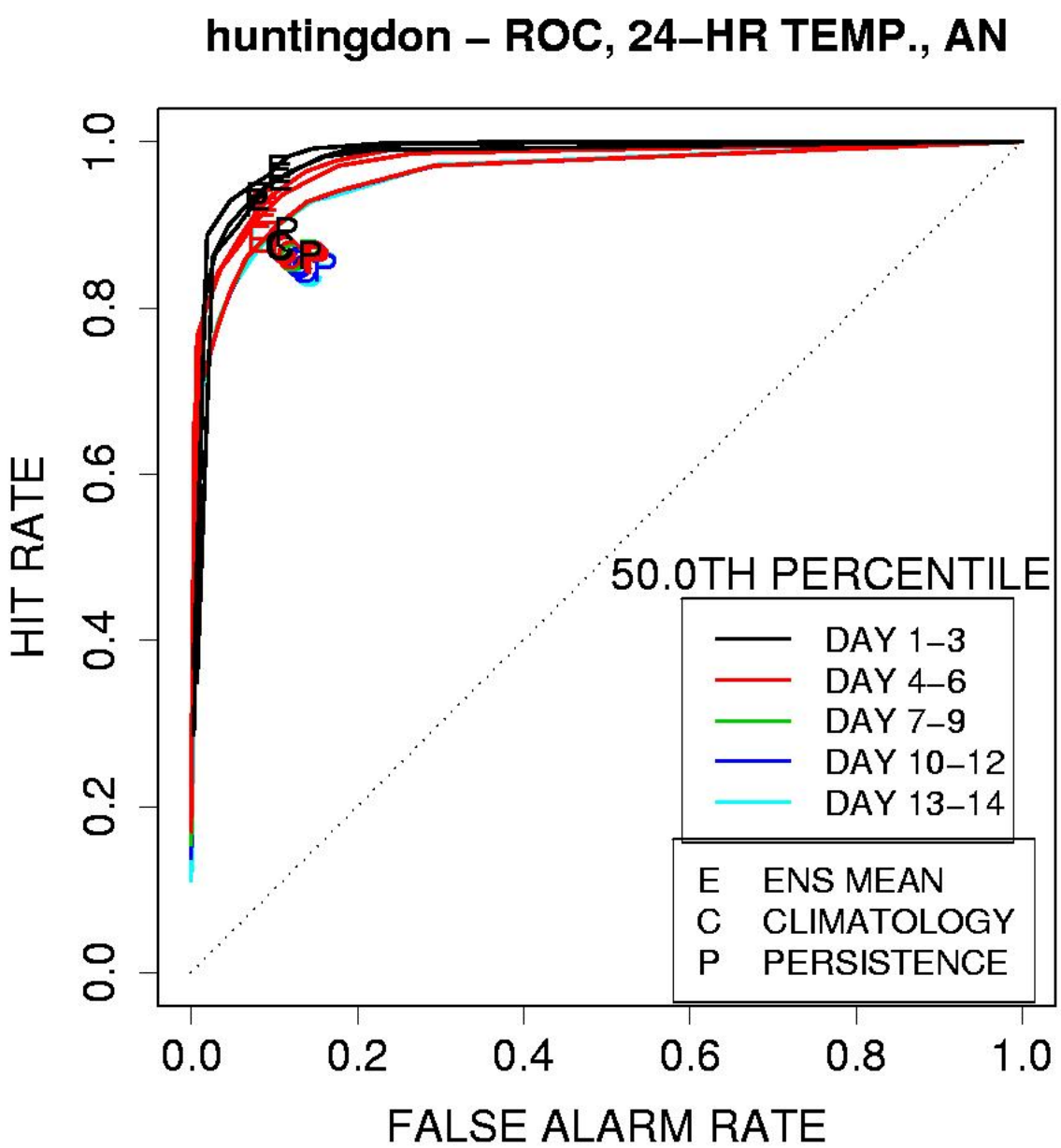


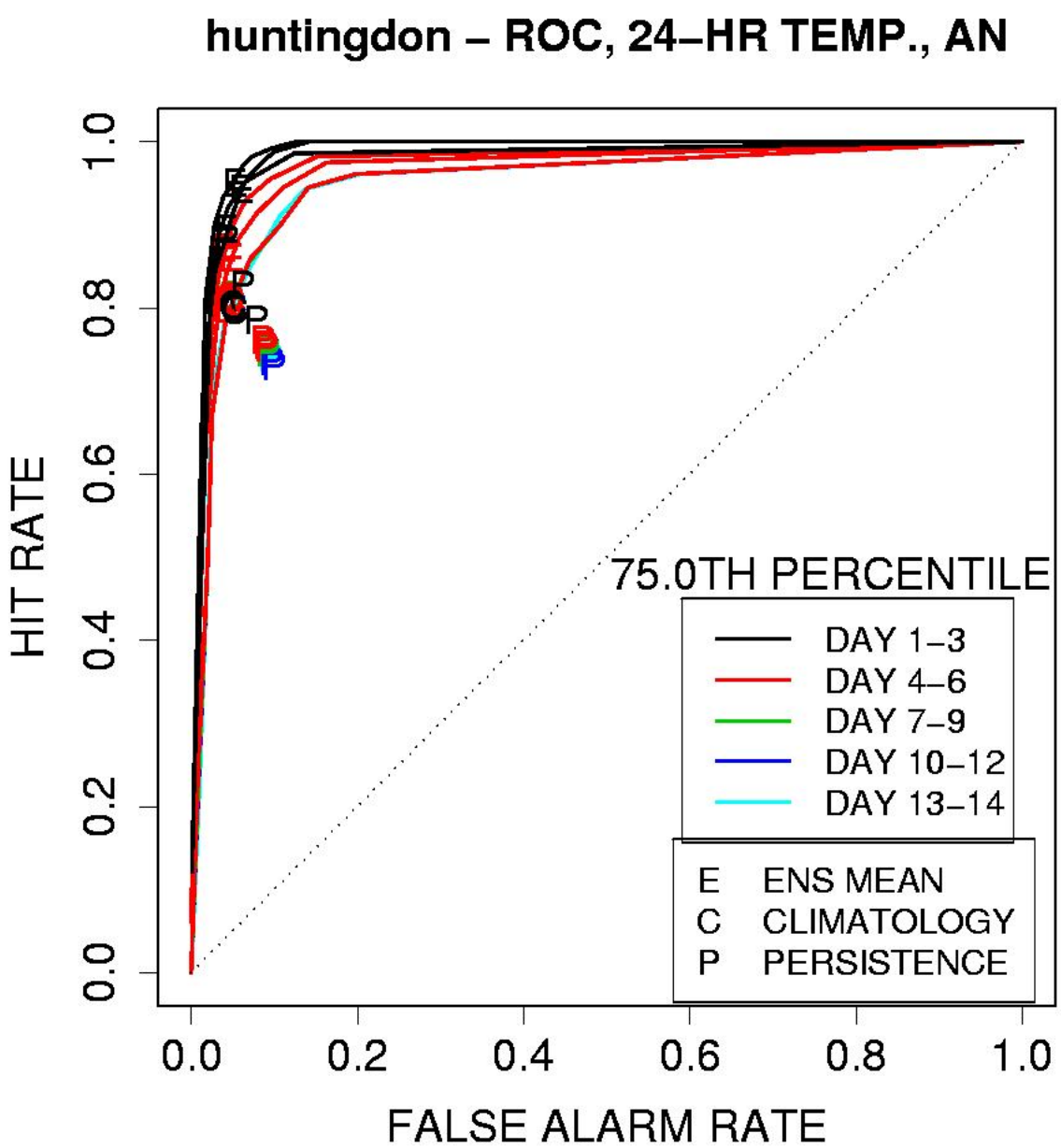
huntingdon – RELIABILITY DIAGRAM, 24–HR TEMP., AN




huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
10.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
25.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
50.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
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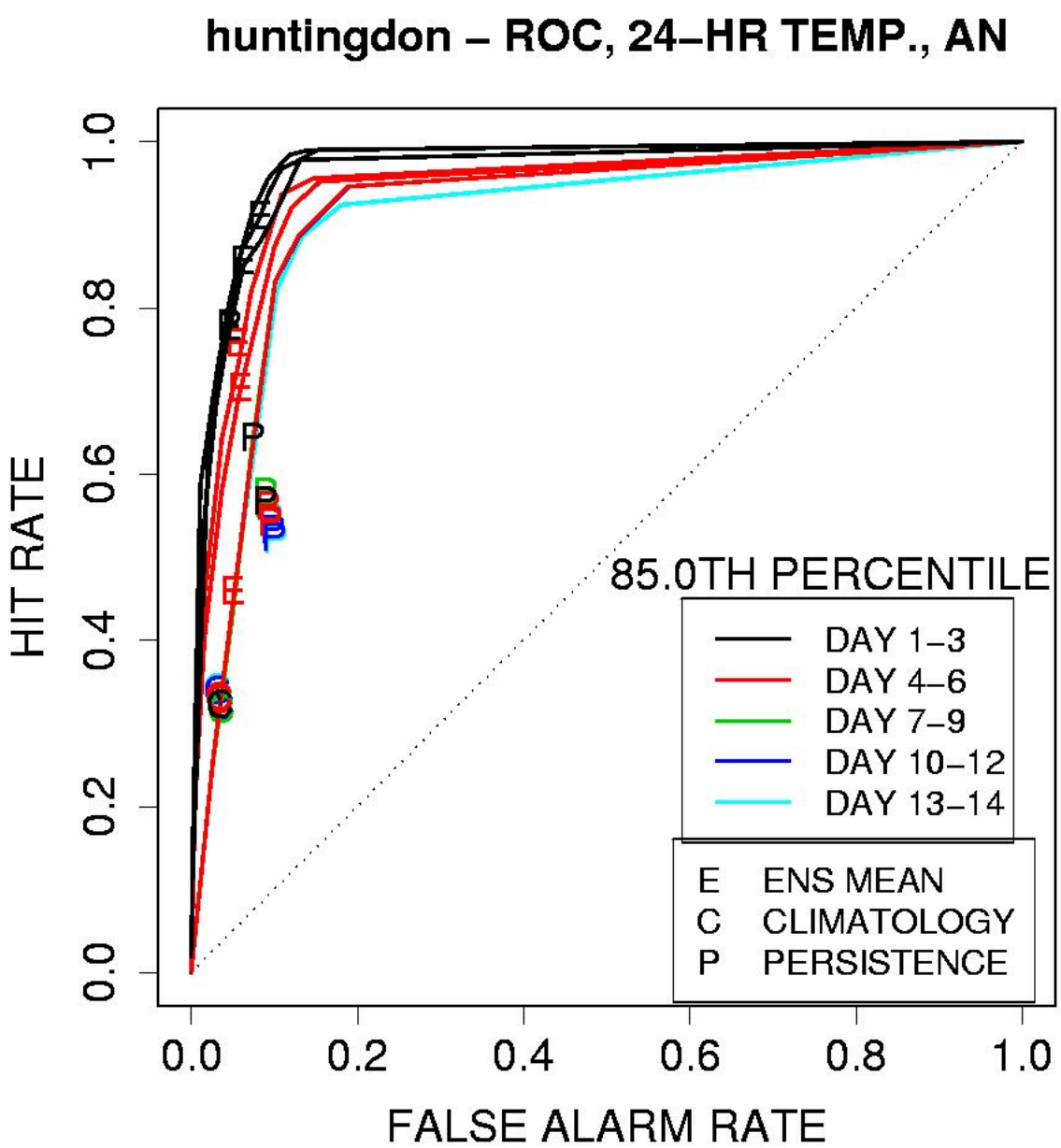
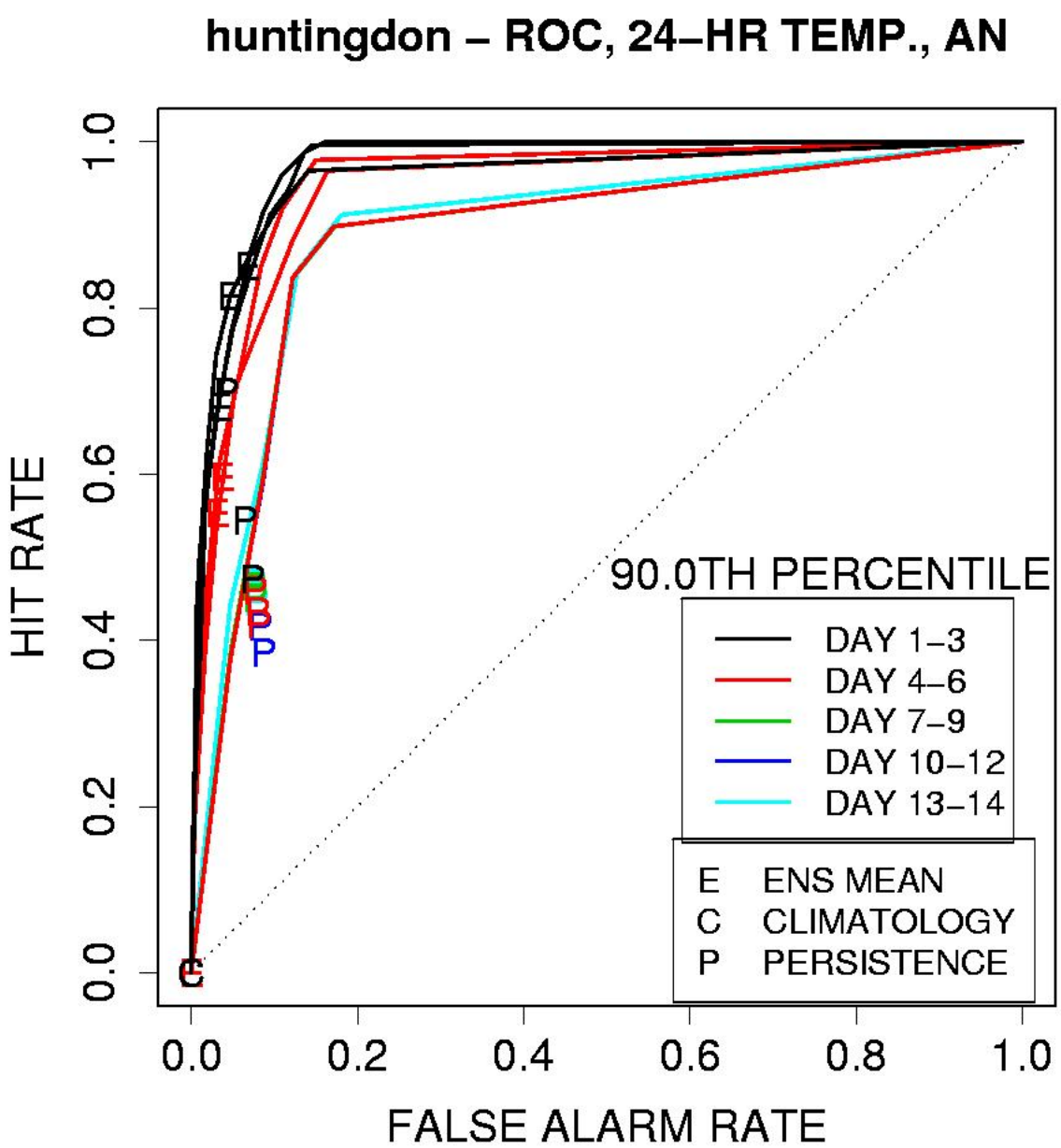
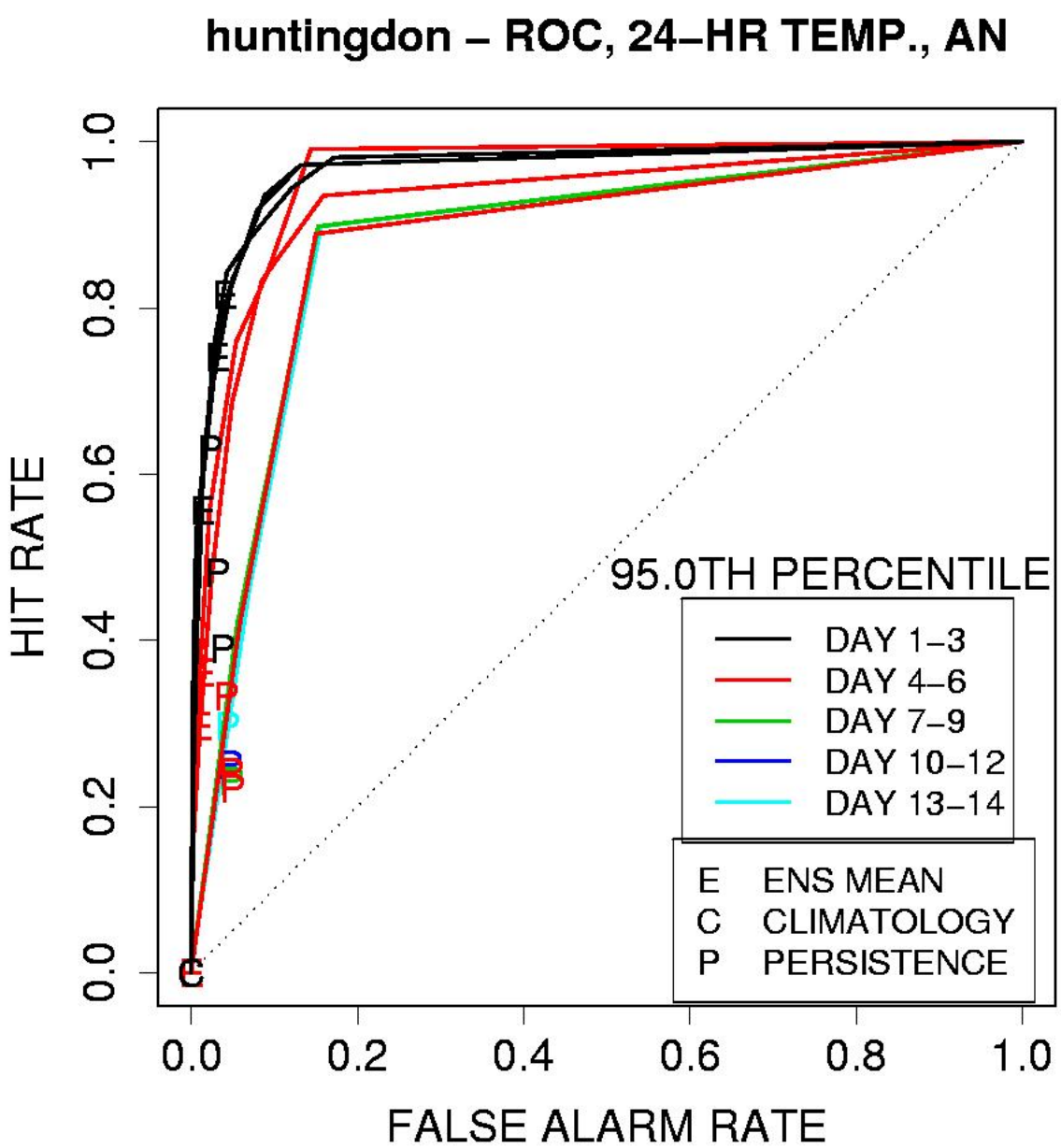
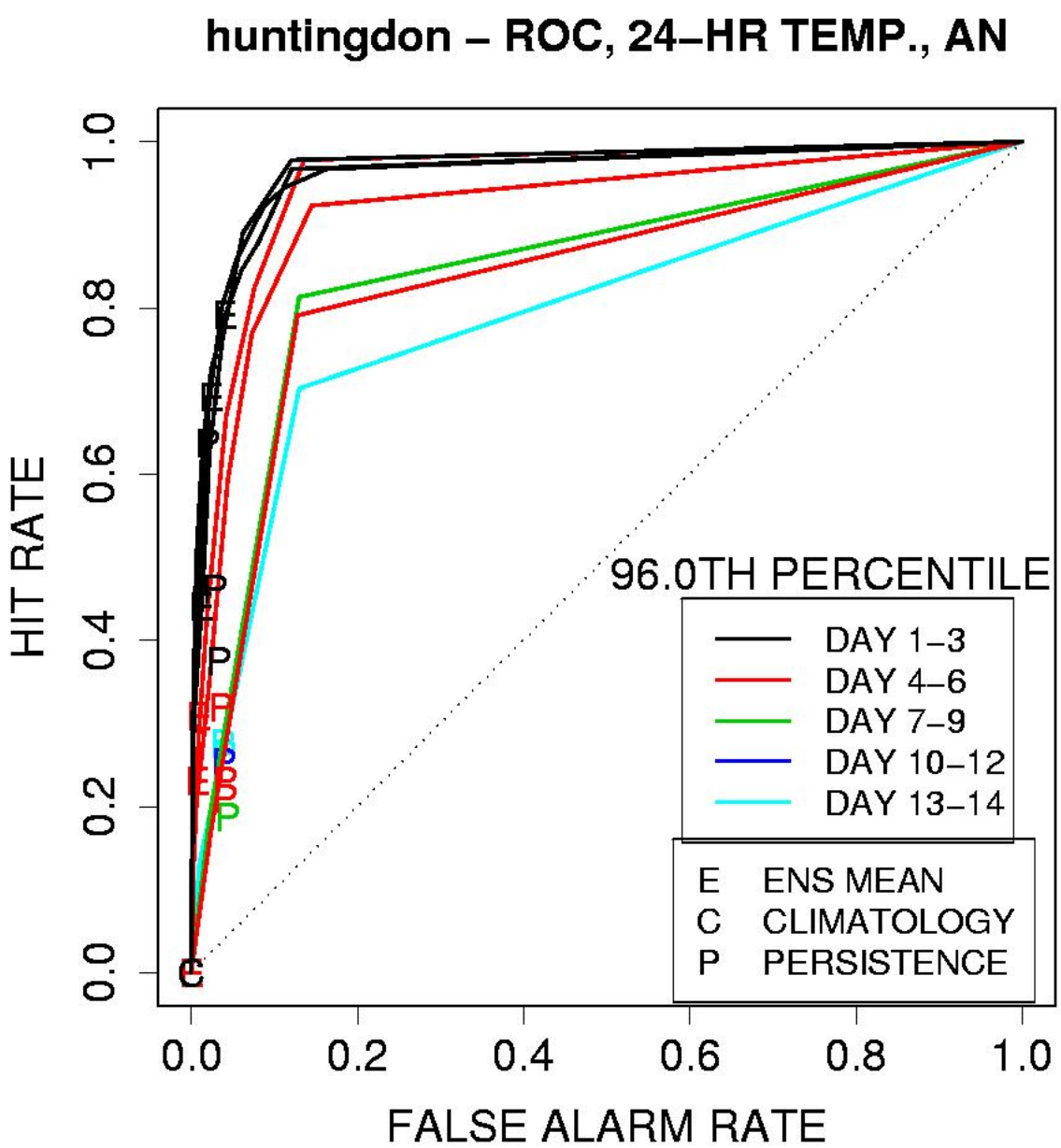
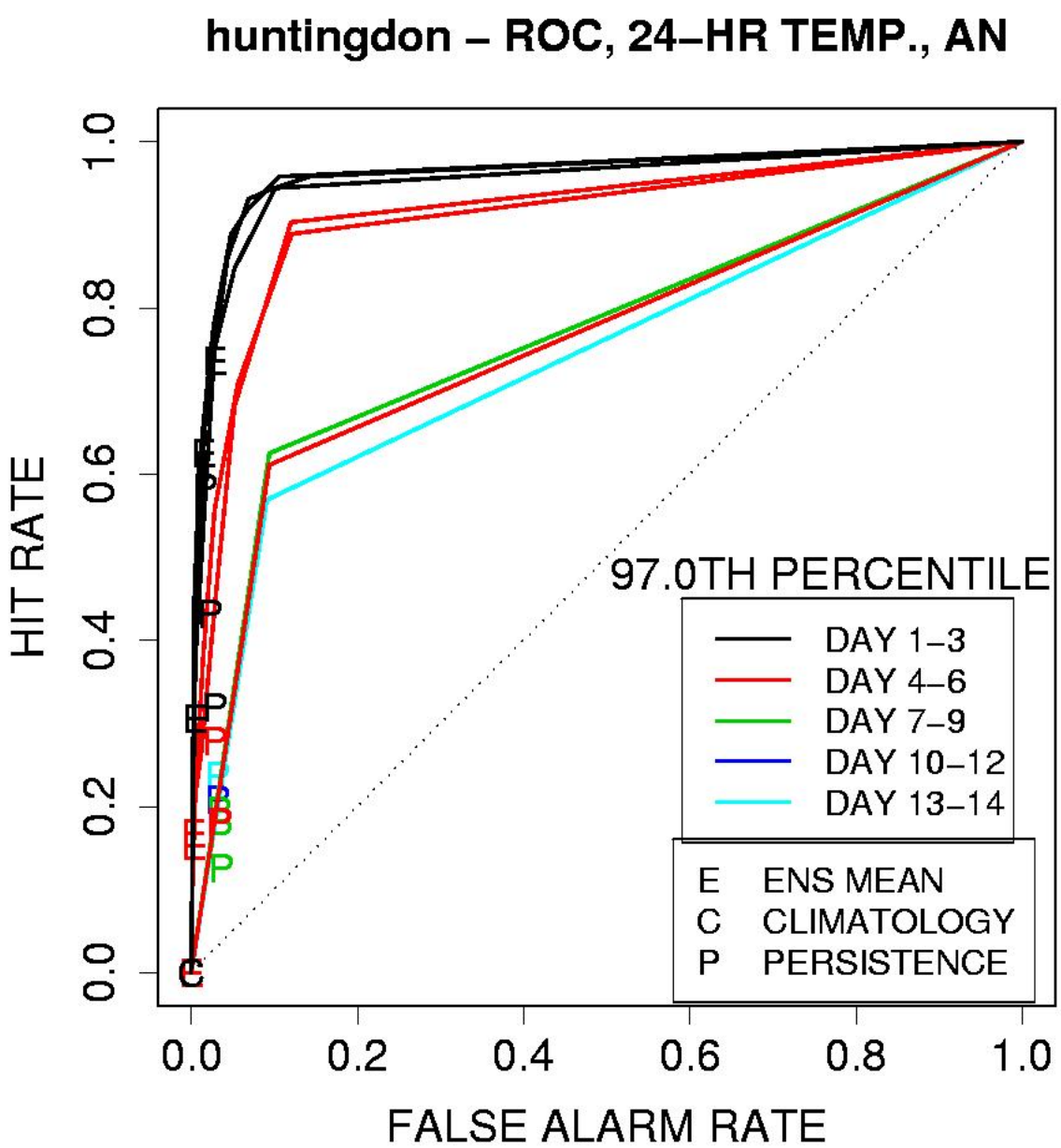
0.2
0.4
0.6
0.8
1.0
75.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

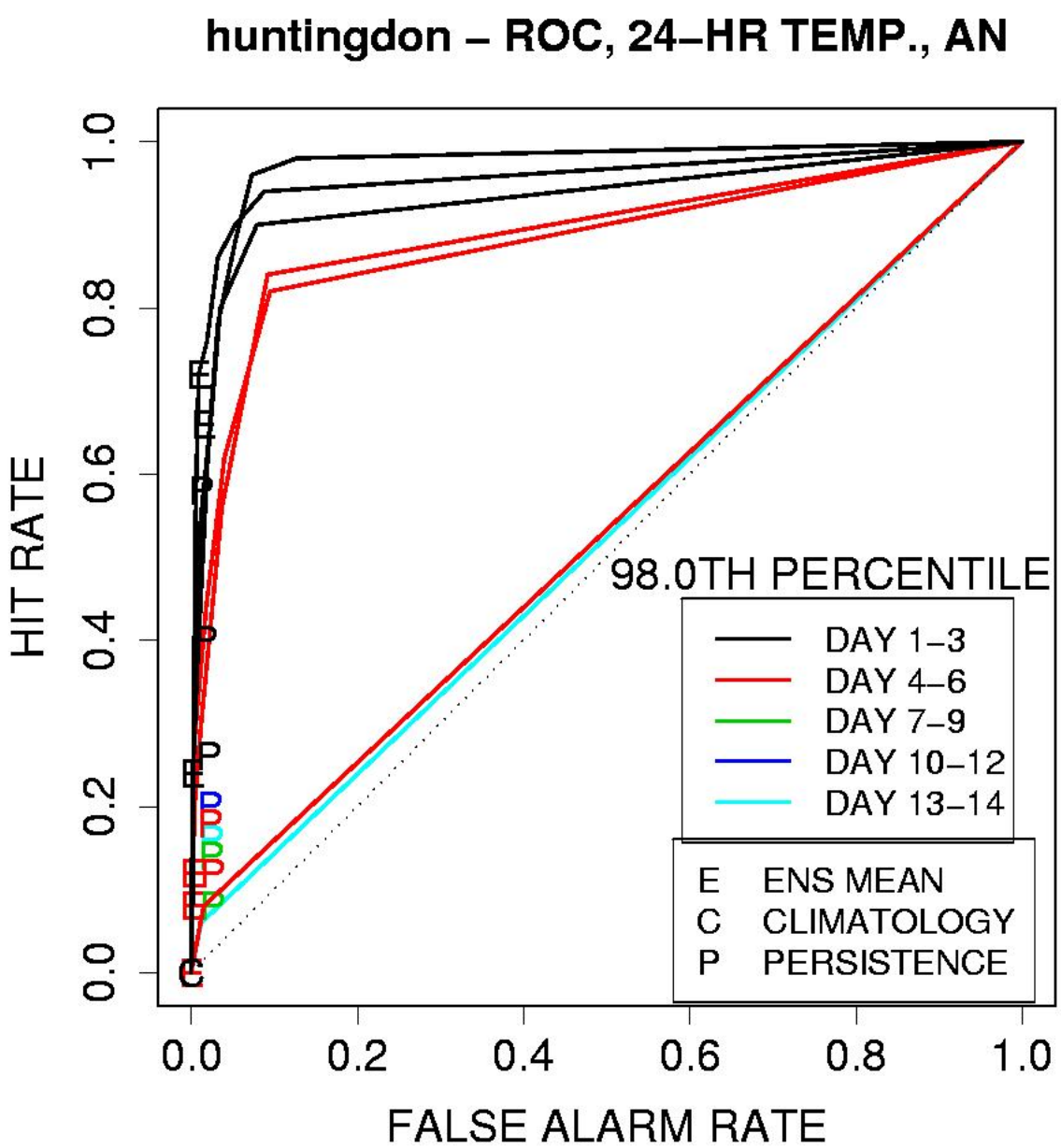

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
85.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

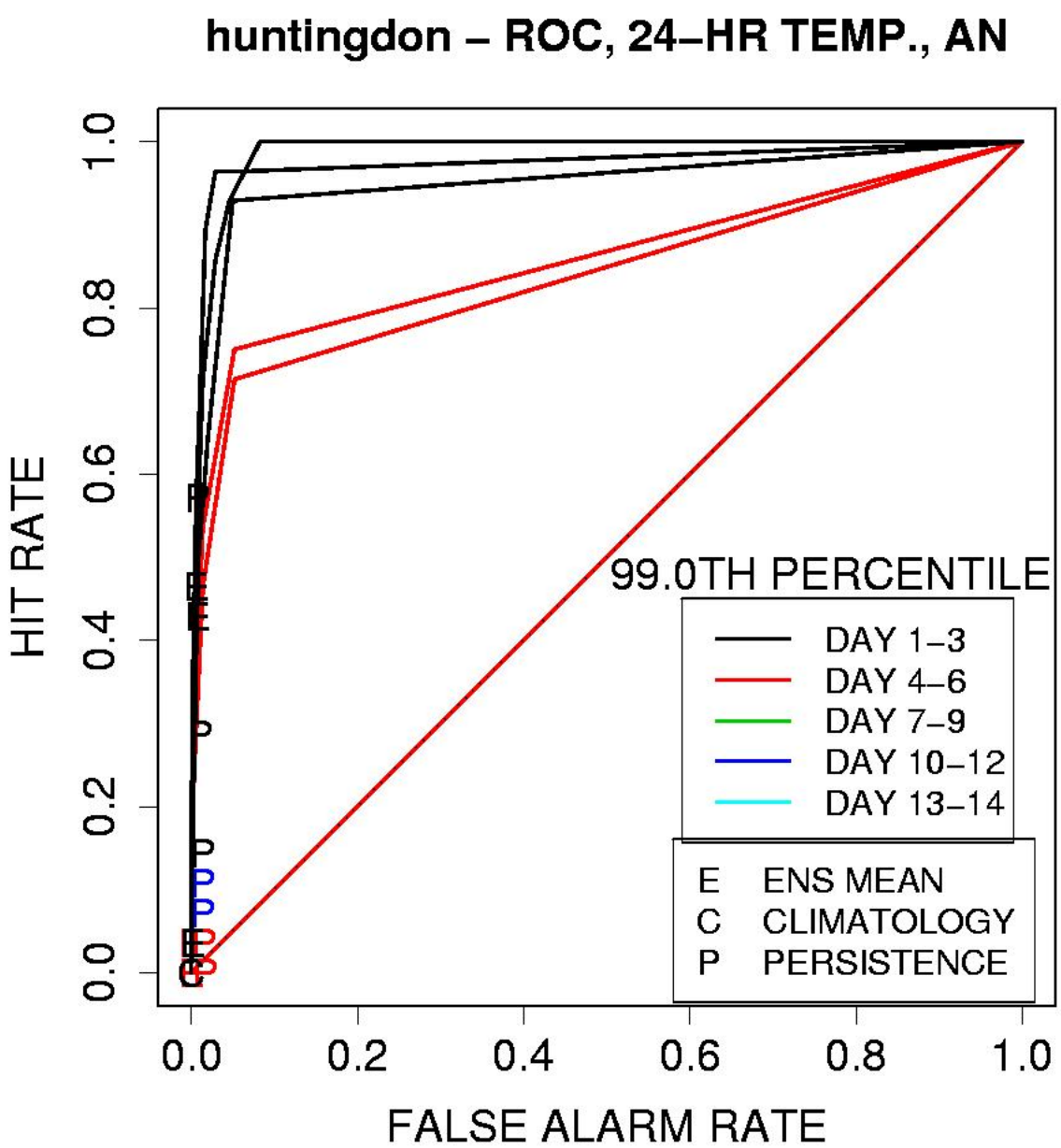

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
90.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

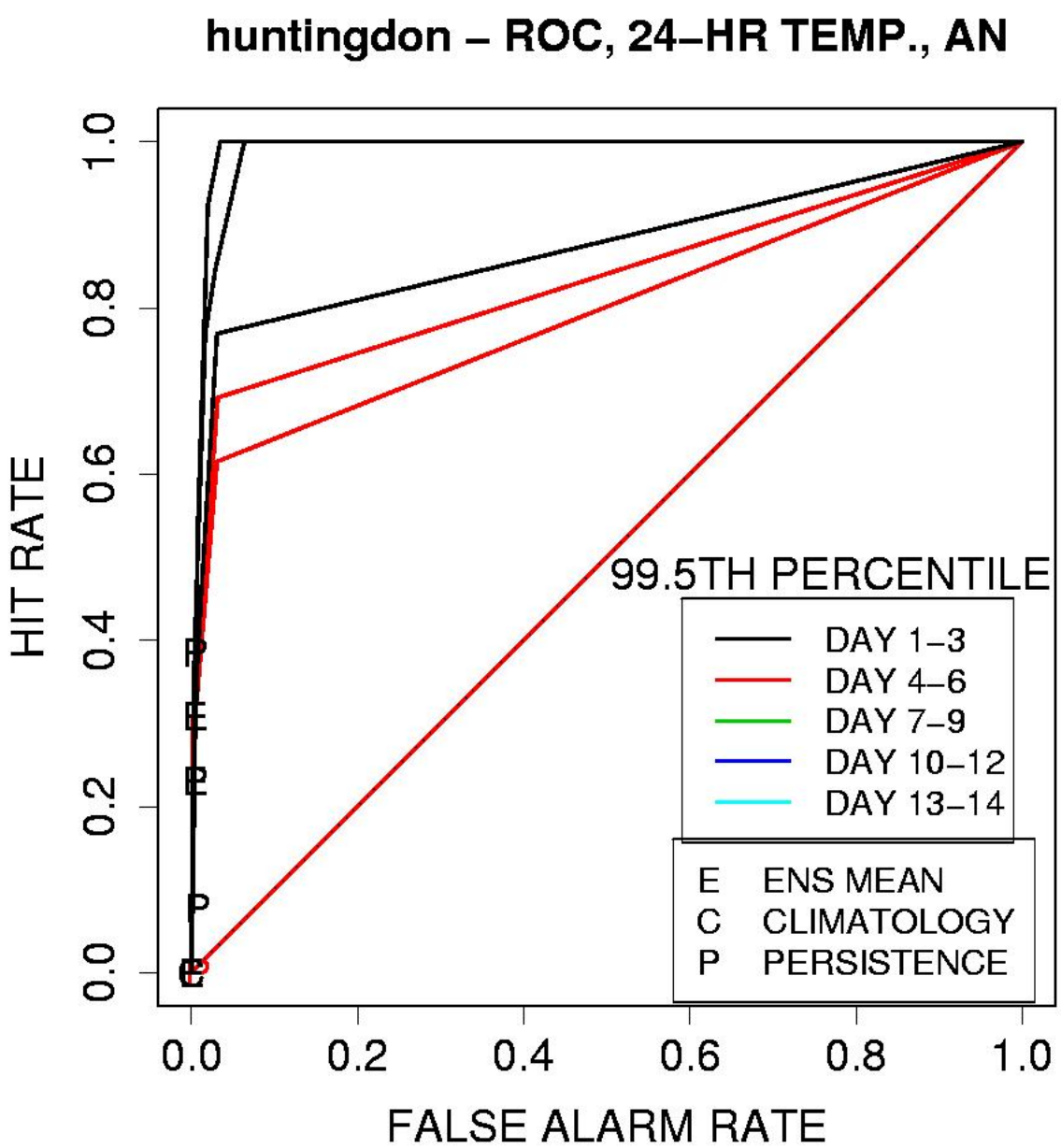

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
95.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

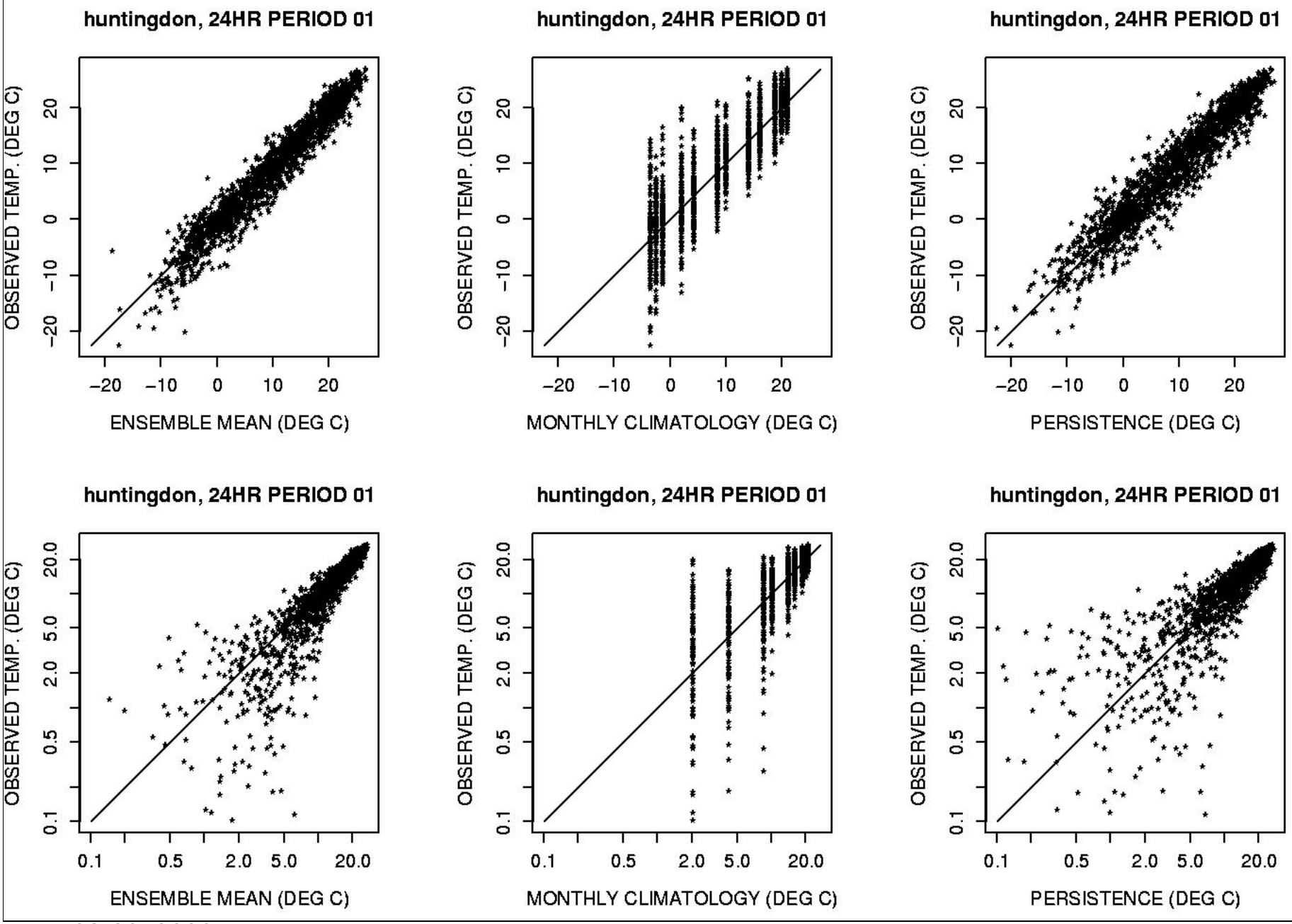

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
96.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

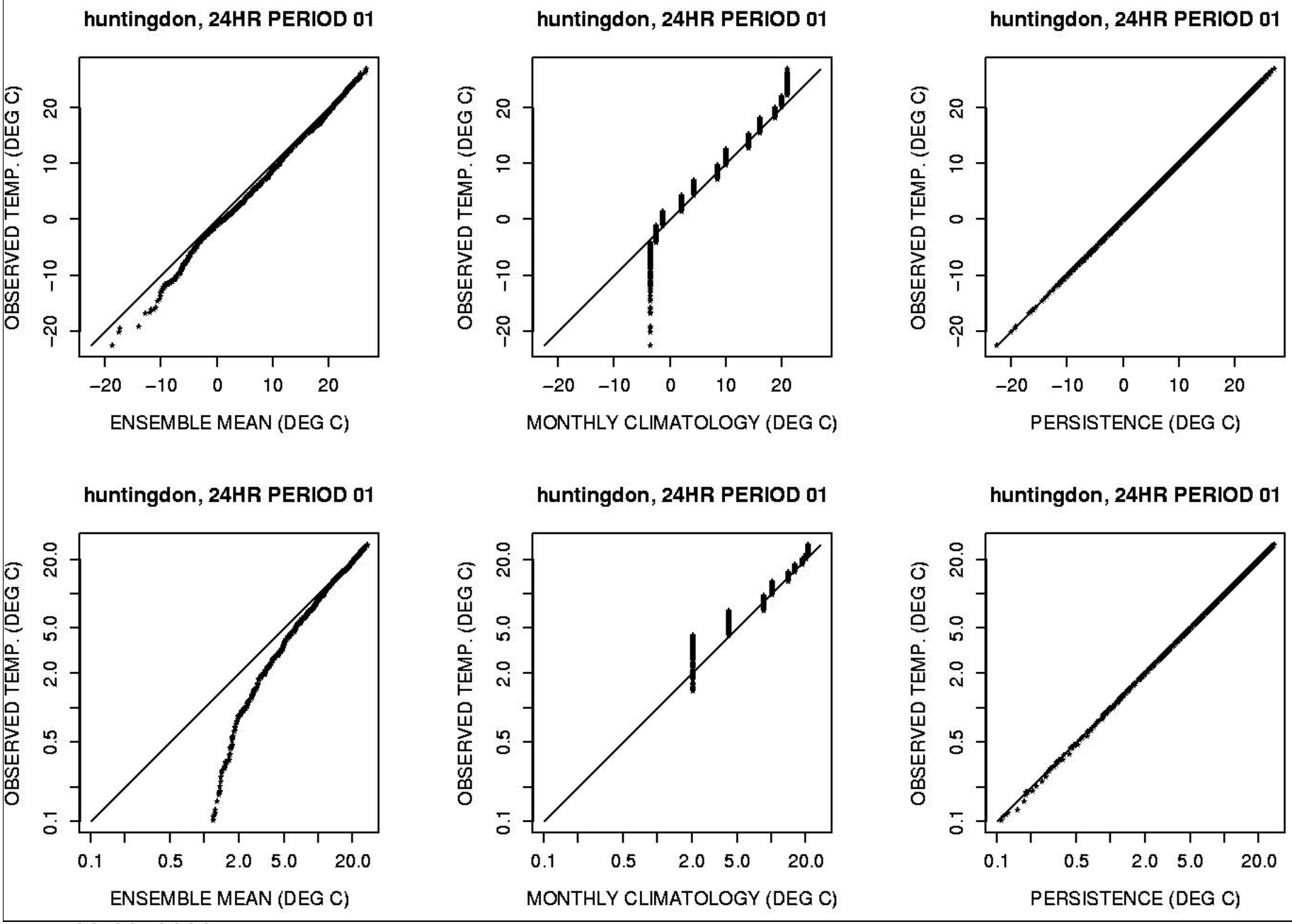

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
97.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

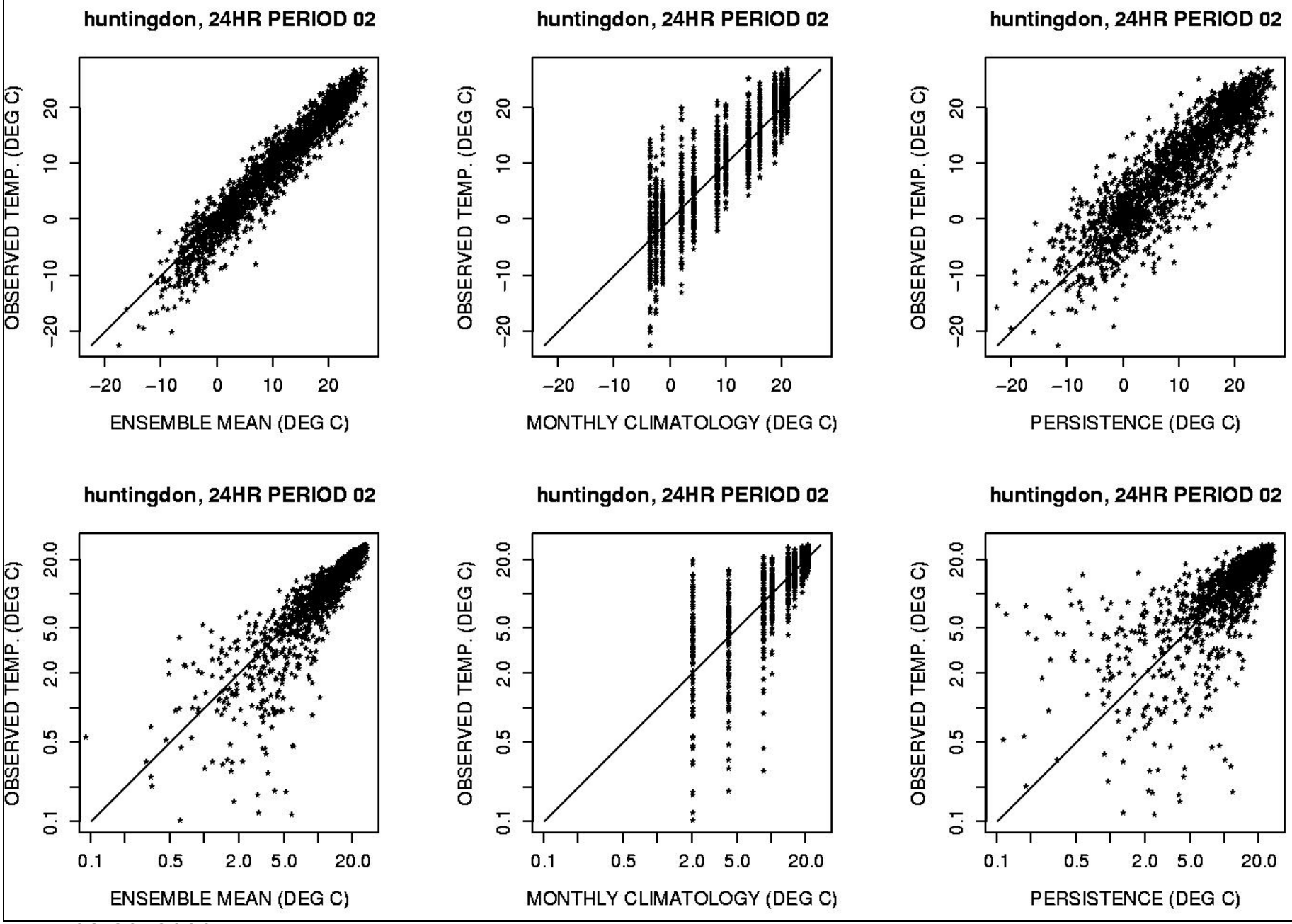

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
98.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE

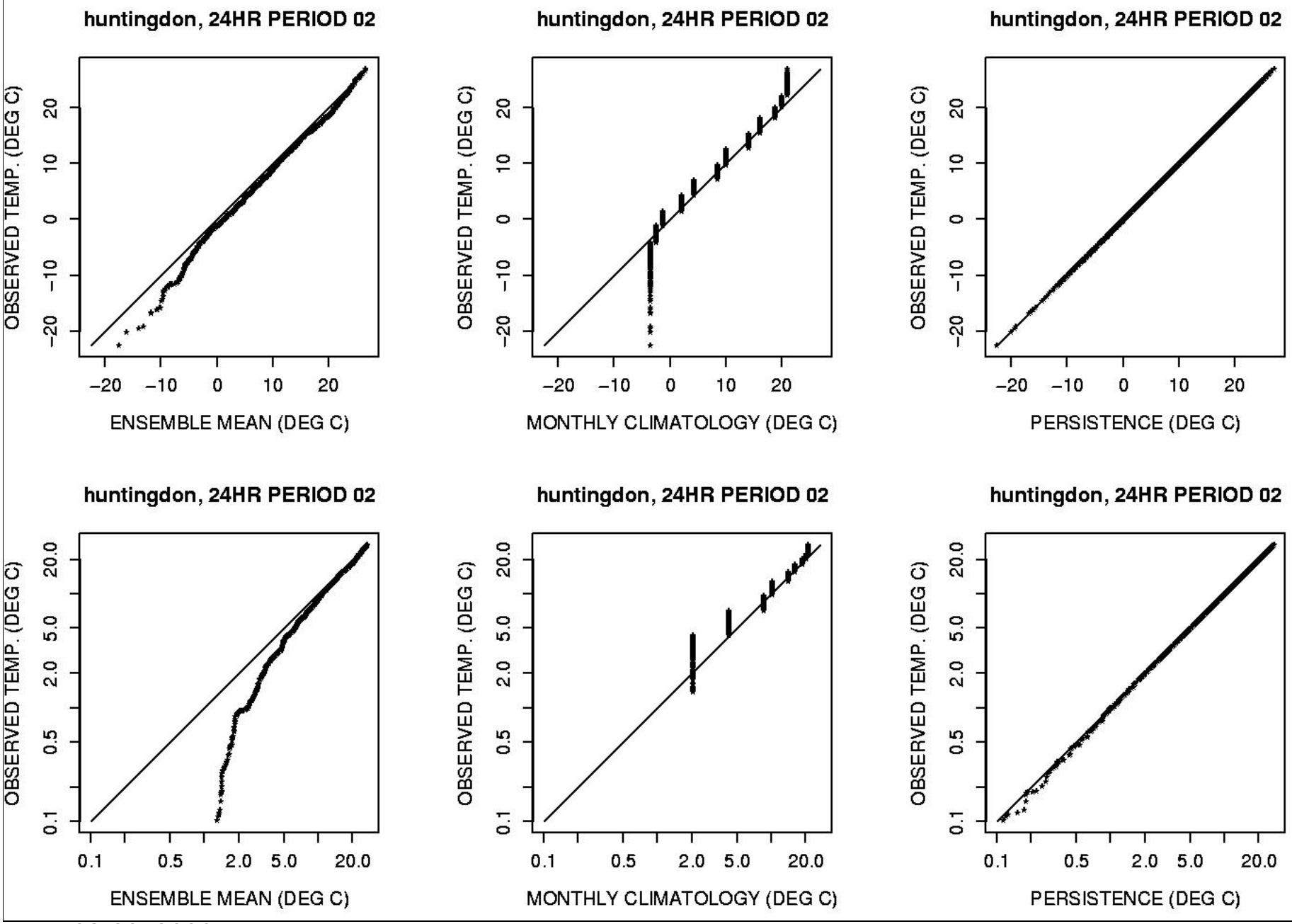

huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
99.0TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon – ROC, 24–HR TEMP., AN
HIT RATE
FALSE ALARM RATE
0.0
0.2
0.4
0.6
0.8
1.0
99.5TH PERCENTILE
DAY 1–3
DAY 4–6
DAY 7–9
DAY 10–12
DAY 13–14
E ENS MEAN
C CLIMATOLOGY
P PERSISTENCE


huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
PERSISTENCE (DEG C)
−20 −10 0 10 20
0.1 0.5 2.0 5.0 20.0


huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 01
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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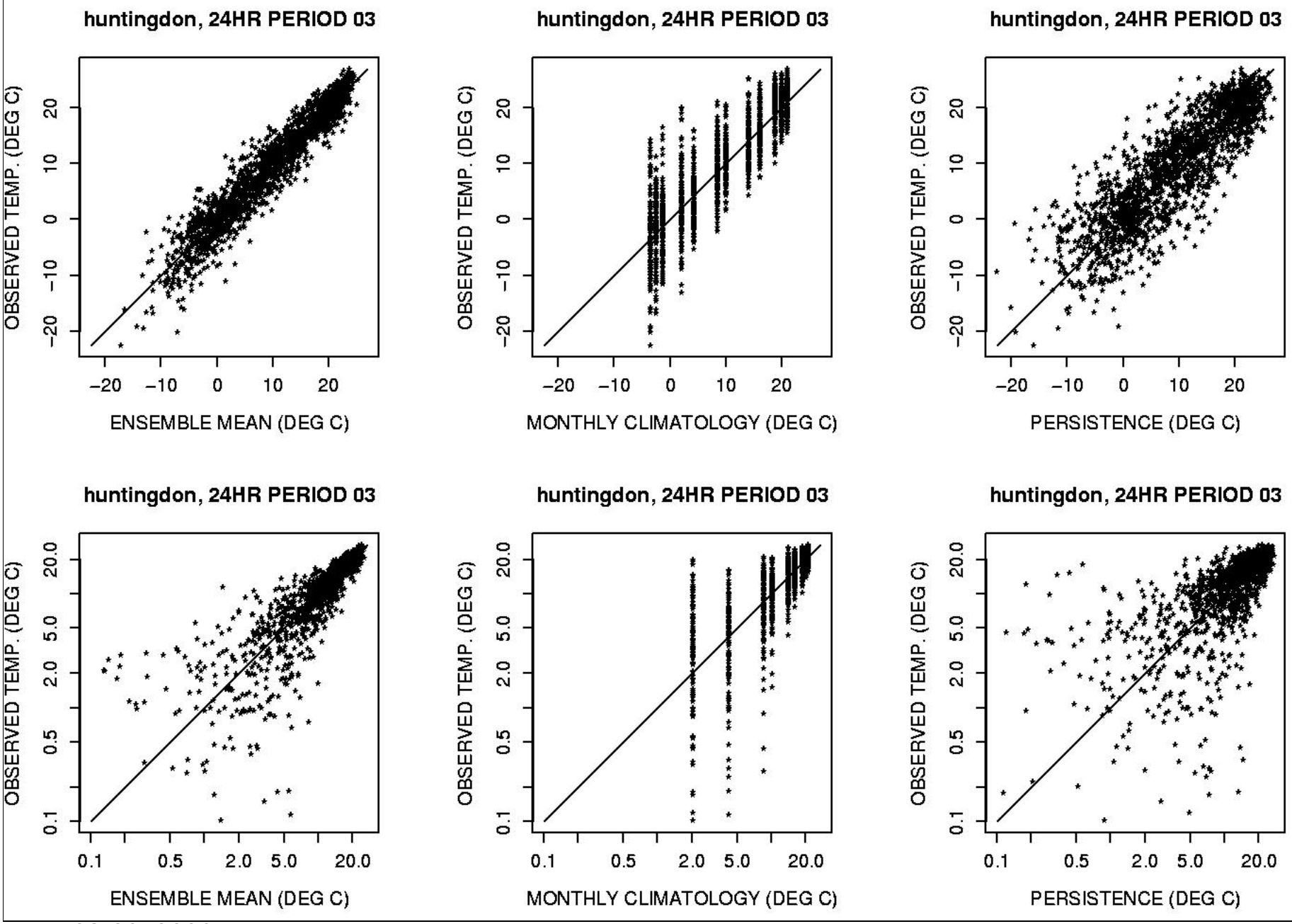
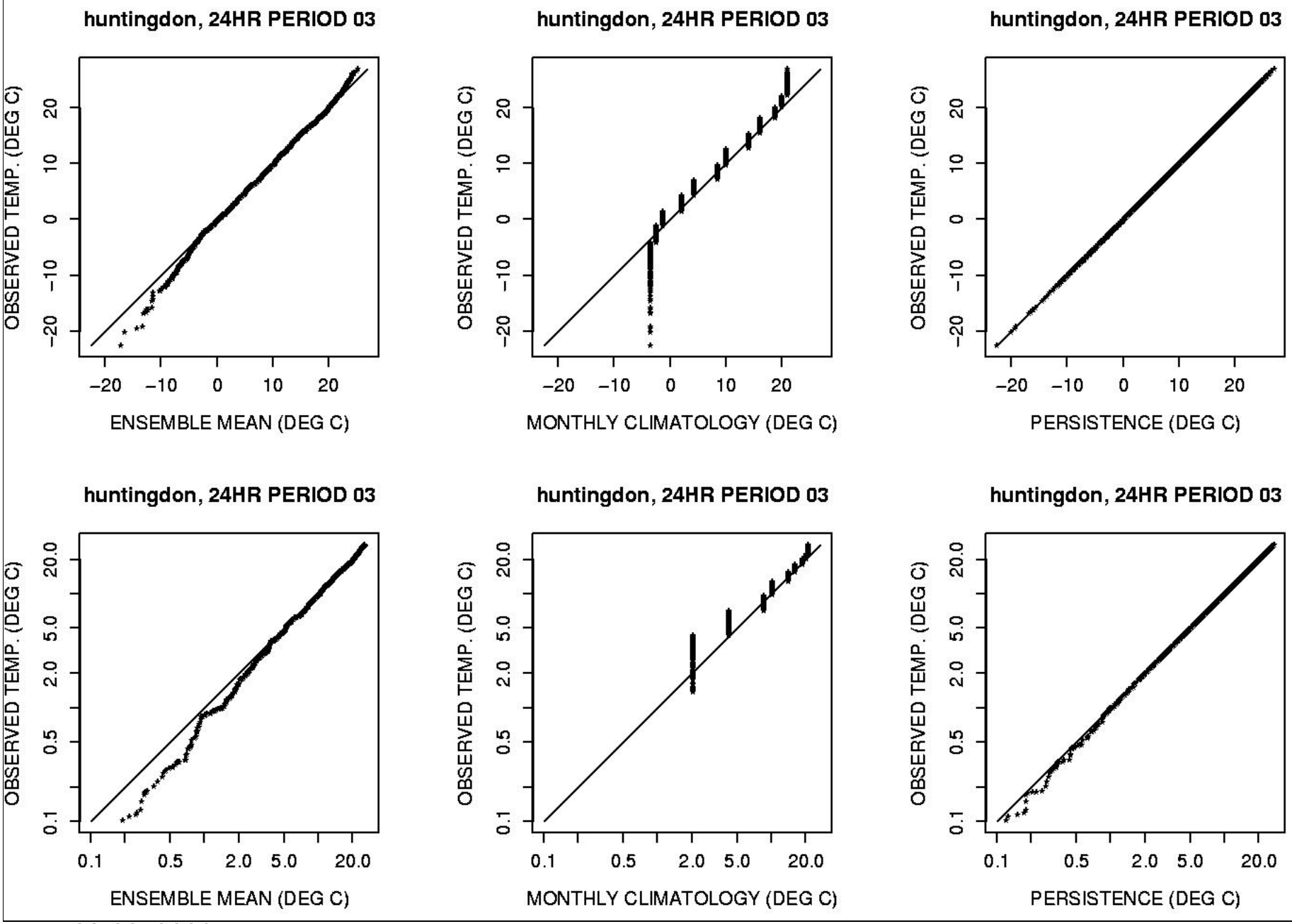
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 02
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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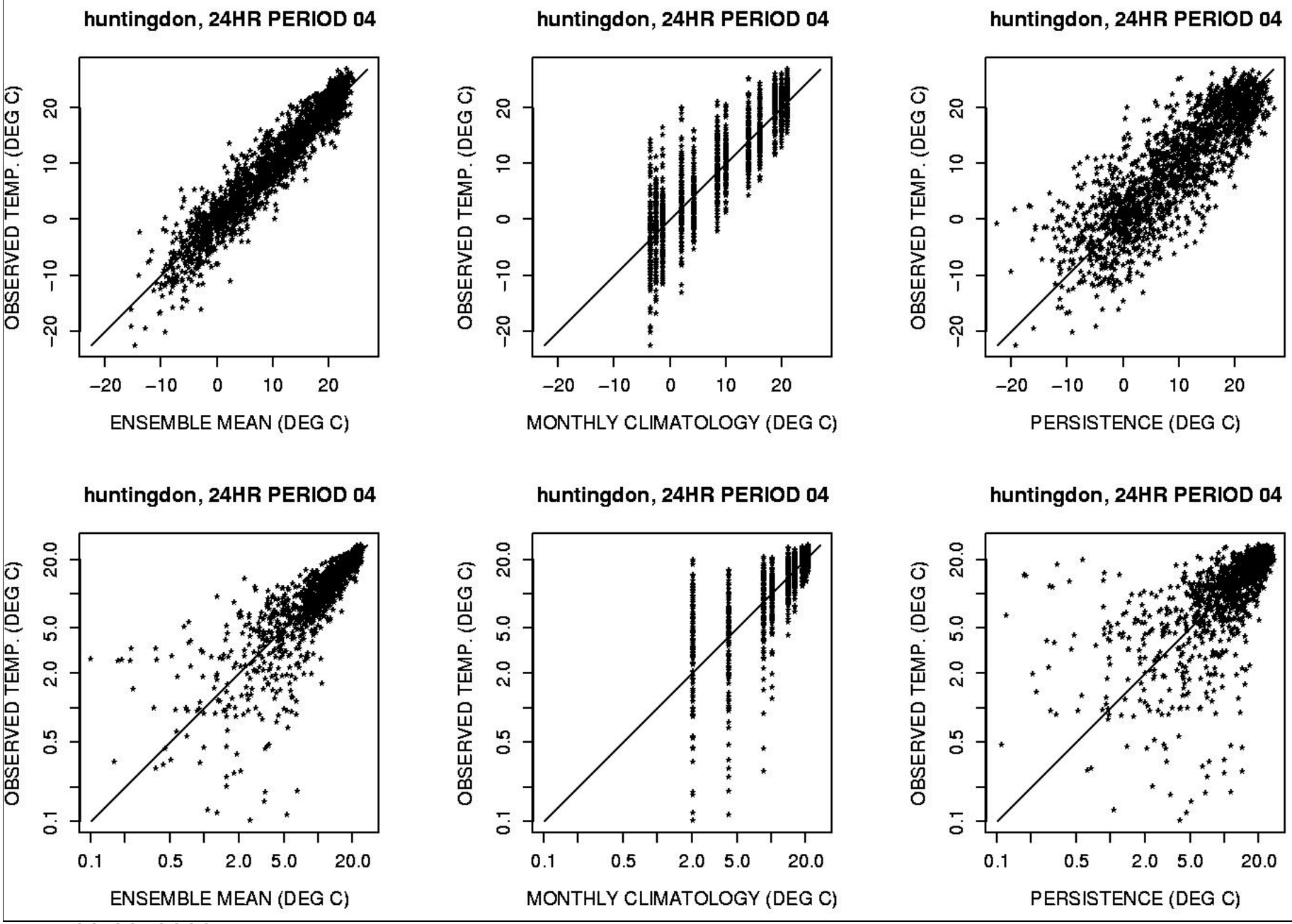
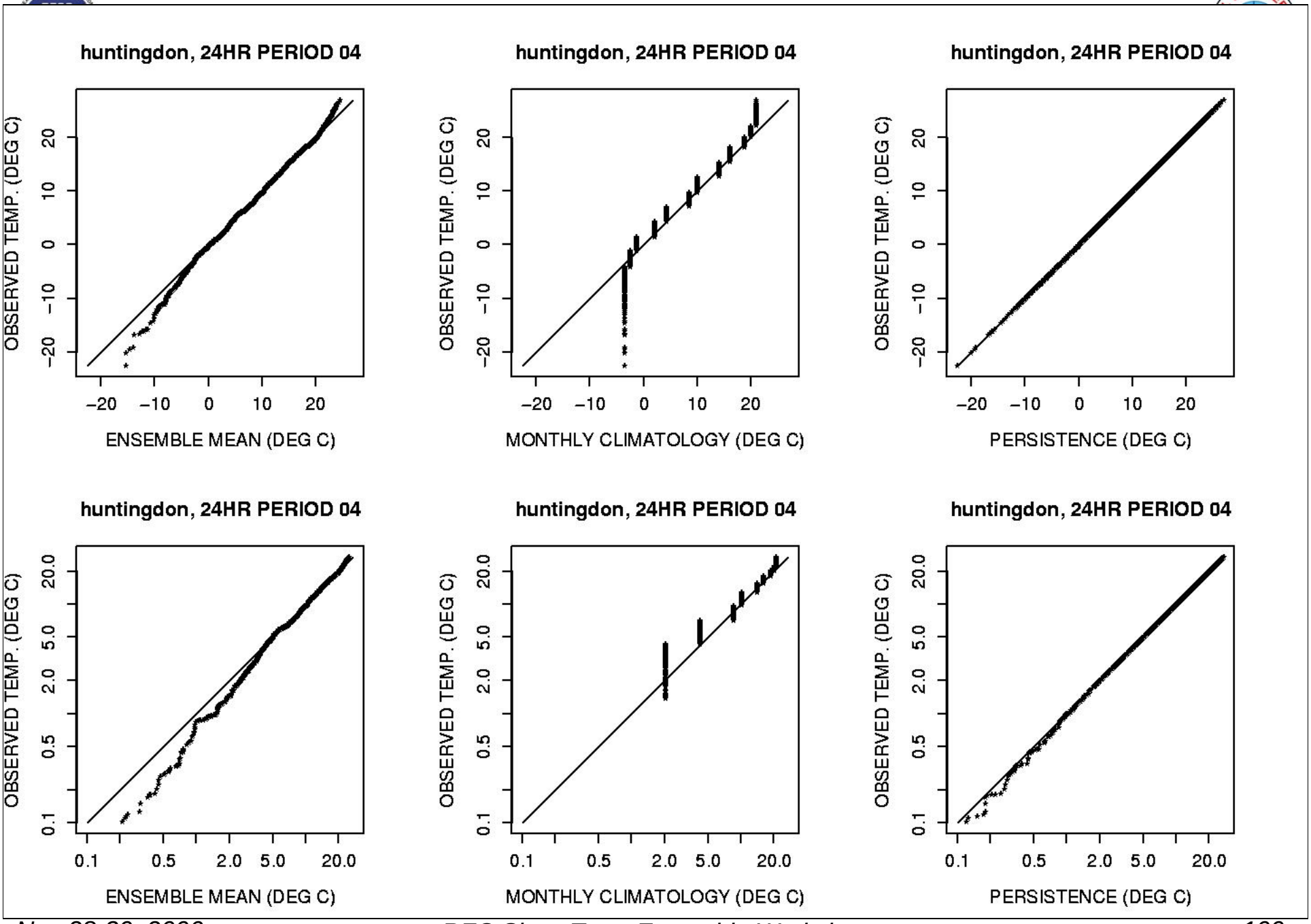
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 03
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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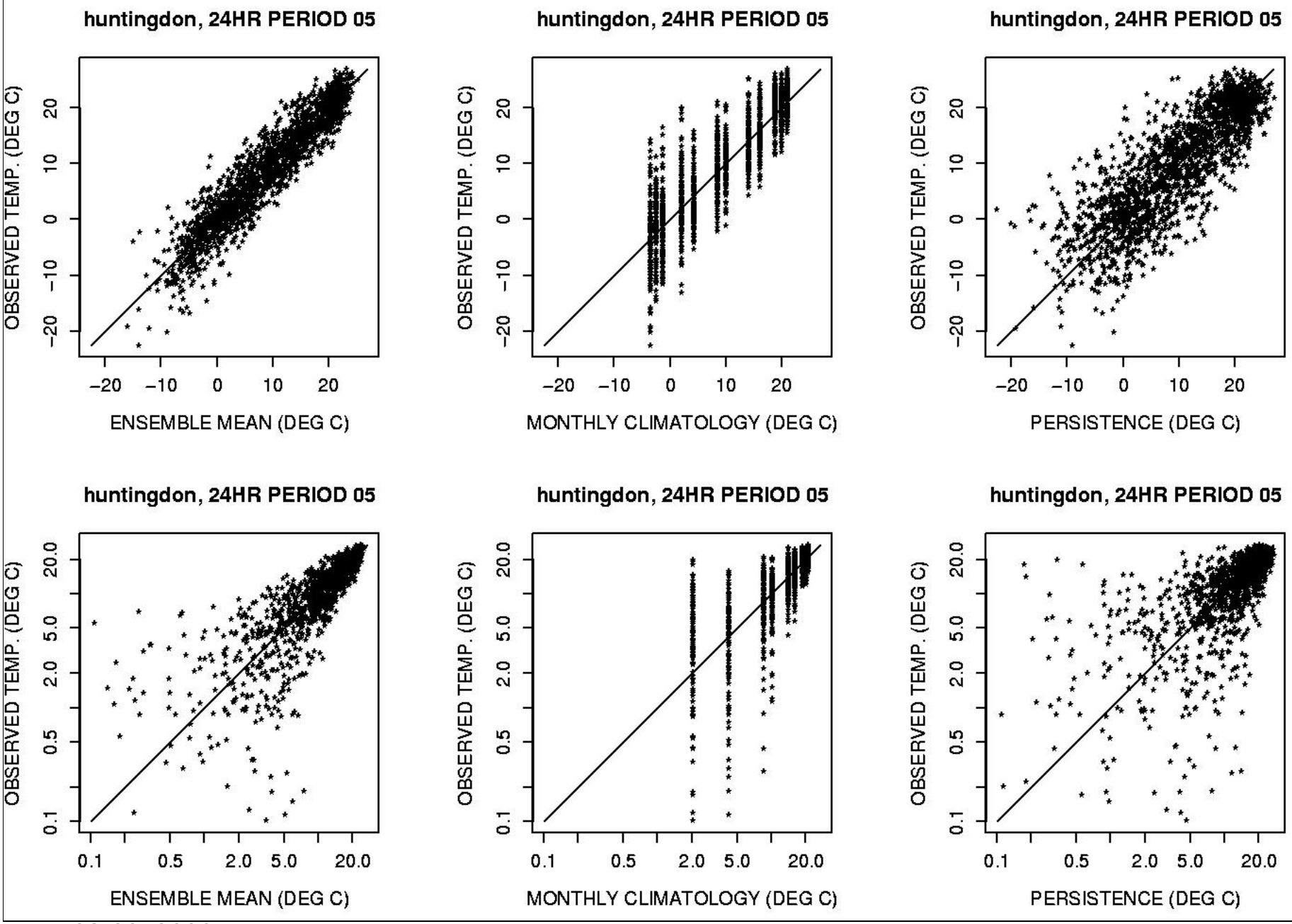
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 04
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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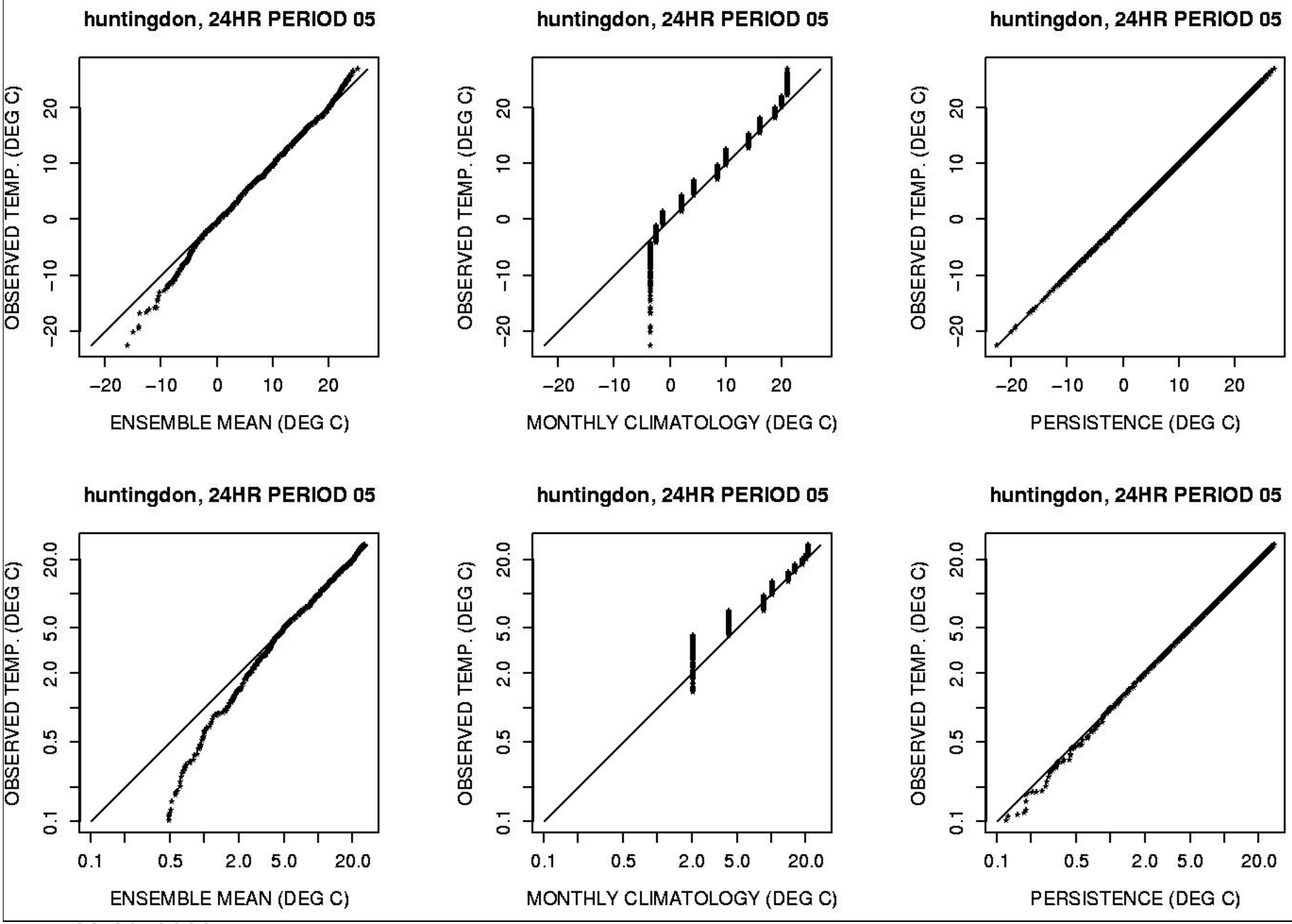
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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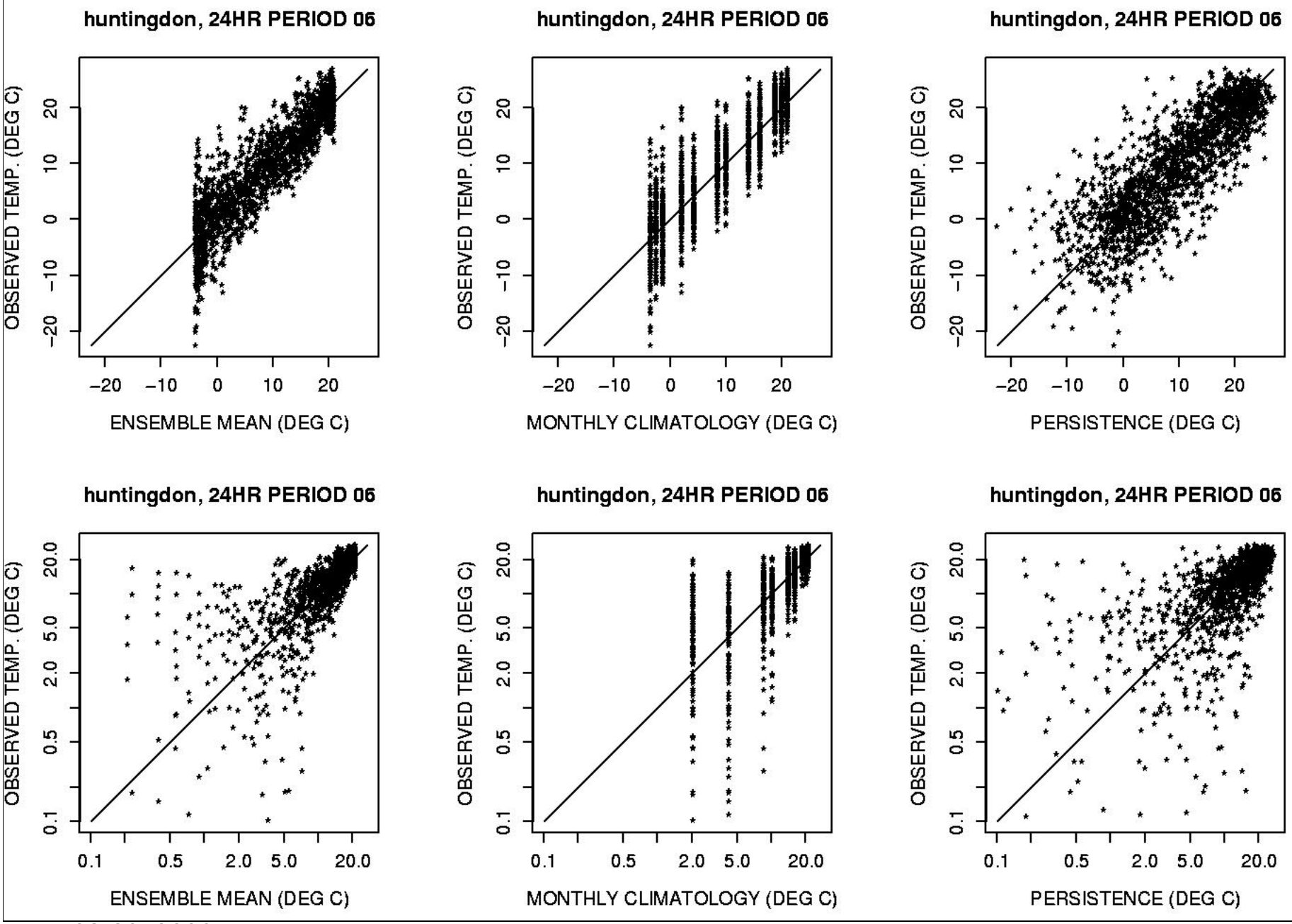
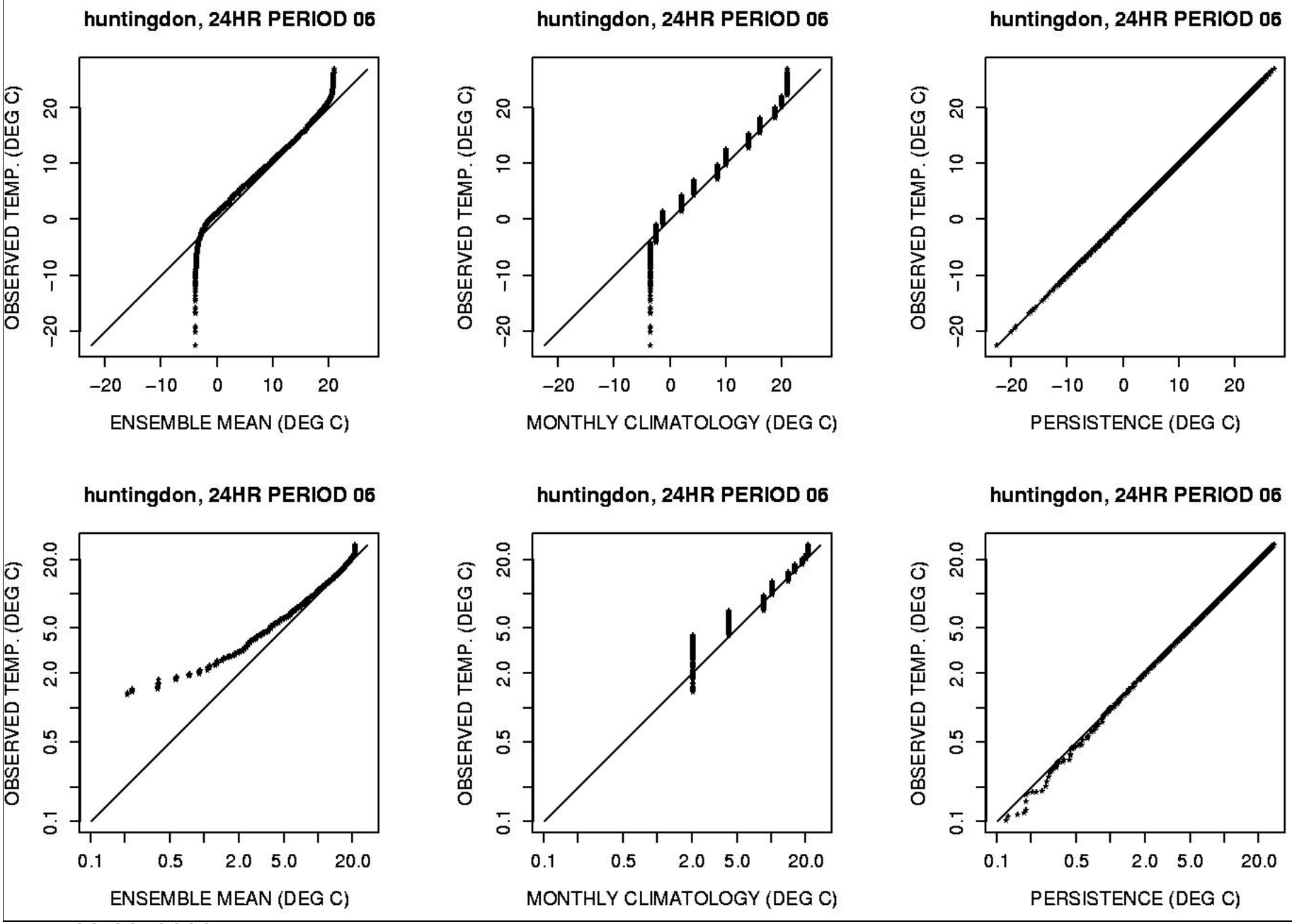
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 05
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)


huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)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OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
ENSEMBLE MEAN (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
MONTHLY CLIMATOLOGY (DEG C)
huntingdon, 24HR PERIOD 06
OBSERVED TEMP. (DEG C)
PERSISTENCE (DEG C)

End of slides