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2008 Verification Statistics for Daily M flare, X flare, and Proton Event Probability Forecasts

Forecast Type: Likelihood (probability) of the occurrence of an M flare, X flare, or Proton Event

Note: Mpred1 = M flare PREDiction day 1
Mpred2 = M flare PREDiction day 2
Mevents = Observed number of M flares,
etc.

Missing data: NA
Total Records: Total number of daily forecast/observation records used to generate statistics
366

Event Days: Total number of days in the sample on which at least one (M, X, Proton event) occurred

| Mevents | Xevents | Pevents |
|---|---|---|
| 1 | 0 | 0 |

Mean observation

| Mevents | Xevents | Pevents |
|---|---|---|
| 0.0027 | 0 | 0 |

Mean, Median, and Standard Deviation of all forecasts

| | Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|---|
| mean | 0.015 | 0.015 | 0.015 | 0.0105 | 0.0105 | 0.0105 | 0.01 | 0.01 | 0.01 |
| median | 0.010 | 0.010 | 0.010 | 0.0100 | 0.0100 | 0.0100 | 0.01 | 0.01 | 0.01 |
| sd | 0.039 | 0.039 | 0.039 | 0.0046 | 0.0046 | 0.0046 | 0.00 | 0.00 | 0.00 |

Mean, Median and Standard Deviation of forecast given the non-occurrence (f|x=0) of an event

| | Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|---|
| mean | 0.015 | 0.015 | 0.015 | 0.0105 | 0.0105 | 0.0105 | 0.01 | 0.01 | 0.01 |
| median | 0.010 | 0.010 | 0.010 | 0.0100 | 0.0100 | 0.0100 | 0.01 | 0.01 | 0.01 |
| sd | 0.039 | 0.039 | 0.039 | 0.0046 | 0.0046 | 0.0046 | 0.00 | 0.00 | 0.00 |

Mean, Median and Standard Deviation of forecast given the occurrence (f|x=1) of an event

| | Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|---|
| mean | 0.05 | 0.01 | 0.01 | NA | NA | NA | NA | NA | NA |
| median | 0.05 | 0.01 | 0.01 | NA | NA | NA | NA | NA | NA |
| sd | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Discrimination: The difference between [Mean (f|x=1)] and [Mean (f|x=0)]

| Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|
| 0.0355 | -0.0048 | -0.0048 | NA | NA | NA | NA | NA | NA |

Linear correlation (r) between forecasts and observations

| Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|
| 0.0476 | -0.0064 | -0.0064 | NA | NA | NA | NA | NA | NA |

Mean Error, Mean Absolute Error, Mean Square Error, and Root Mean Square Errors of forecasts.

| | Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|---|
| ME | 0.012 | 0.017 | 0.004 | 0.011 | 0.011 | 0.000 | 0.01 | 0.01 | 0.00 |
| MAE | 0.012 | 0.017 | 0.065 | 0.011 | 0.011 | 0.012 | 0.01 | 0.01 | 0.01 |
| MSE | 0.012 | 0.004 | 0.066 | 0.011 | 0.000 | 0.012 | 0.01 | 0.00 | 0.01 |
| RMSE | 0.017 | 0.004 | 0.066 | 0.011 | 0.000 | 0.012 | 0.01 | 0.00 | 0.01 |

Forecast skill with respect to observed climatology (same as prediction efficiency)

| Mpred1 | Mpred2 | Mpred3 | Xpred1 | Xpred2 | Xpred3 | Ppred1 | Ppred2 | Ppred3 |
|---|---|---|---|---|---|---|---|---|
| -0.53 | -0.61 | -0.61 | -Inf | -Inf | -Inf | -Inf | -Inf | -Inf |