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Please send comments and suggestions to SWPC.Webmaster@noaa.gov

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