**Score Type Names for the Imprex Verification Scoreboard**

**Version: 09/06/2017**

(\*) this is what you have to enter as identification of the name of the score in the input files to the scoreboard

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ScoreType (\*)** | **Description** | | **Formula**  **(see for reference: cawr[[1]](#footnote-1))** | |
| MAE | Mean Absolute Error | |  | |
| ME | Mean Error | |  | |
| RMSE | Root Mean Square Error | |  | |
| CC | Pearson correlation coefficient | |  | |
| R2 | Coefficient of determination | |  | |
| AC | Anomaly correlation | |  | |
| KGE | Kling Gupta Efficiency | | Gupta et al., 2009.[[2]](#footnote-2) [[3]](#footnote-3) | |
| KGEM | Modified Kling Gupta Efficiency | | Kling et al., 2012.[[4]](#footnote-4) | |
| KGE\_BR | Kling Gupta Efficiency Decomposition: bias ratio | | Gupta et al., 2009. | |
| KGE\_SDR | Kling Gupta Efficiency Decomposition: alpha standard deviation ratio | | Gupta et al., 2009. | |
| KGE\_CVR | Kling Gupta Efficiency Decomposition: gamma coefficient of variation ratio | | Kling et al., (2012). | |
| CRPS | | Continuous Rank Probability Score | |  |
| CRPS\_POT | | Potential CRPS | | CRPS (Resolution - Uncertainty) |
| CRPS\_REL | | Reliability term of the CRPS | |  |
| RPS | | Ranked Probability Score | |  |
| BS<XX> | | Brier Score for quantile X%  *(ex.: median: BS50; upper tercile: BS66; lower tercile: BS33; quantile 80%: BS80, etc.)* | |  |
| BS<XX>\_REL | | Brier Score for quantile X% - Reliability term | |  |
| BS<XX>\_RES | | Brier Score for quantile X% - Resolution term | |  |
| BS<XX>\_UNC | | Brier Score for quantile X%- Uncertainty term | |  |
| **Skill Scores:** | | | | |
| CRPSS\_CLI | | Continuous Rank Probability Skill Score | | Reference = Climatology |
| CRPSS\_ESP | | Continuous Rank Probability Skill Score | | Reference = ESP |
| BSS<XX>\_CLI | | Brier Skill Score for quantile X% | | Reference = Climatology |
| BSS<XX>\_ESP | | Brier Skill Score for quantile X% | | Reference = ESP |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Scores derived from the contingence table:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | **OBSERVED** | |  | |  |  | **YES** | **no** | Total | | **FORECAST** | **YES** | Hits | False alarms | **Forecast yes** | | **no** | Misses | Correct negatives | **Forecast no** | | **Total** |  | **Observed yes** | **Observed no** |  | | | |
| **ScoreType** | **Description** | **Formula**  **(see for reference: cawr[[5]](#footnote-5))** |
| BIAS | Bias score (frequency bias) |  |
| POD | Probability of detection (hit rate) |  |
| FAR | False alarm ratio |  |
| POFD | Probability of false detection (or false alarm rate) |  |
| SR | Success ratio |  |
| TS | Threat score (or Critical Success Index) |  |
| AUC | Area under the ROC | *The relative operating characteristic (ROC) curve plots the probability of detection (POD) versus the probability of false detection (POFD), as a decision threshold is varied across the full range of a continuous forecast quantity The AUC is the area under the curve. An AUC of 0.5 reflects random forecasts, while AUC = 1 implies perfect forecasts.* |
| V<XX> | Relative value for C/L = X.X |  |

1. [*http://www.cawcr.gov.au/projects/verification/*](http://www.cawcr.gov.au/projects/verification/) [↑](#footnote-ref-1)
2. Gupta et al., 2009. Decomposition of the mean squared error and NSE performance criteria: Implications for improving hydrological modelling. Journal of Hydrology, 377 (1-2): 80-91. [↑](#footnote-ref-2)
3. For Kling Gupta Efficiency Decomposition: correlation coefficient (*r*), see score CC in the table. Gupta et al., 2009. [↑](#footnote-ref-3)
4. Kling et al., 2012. Runoff conditions in the upper Danube basin under an ensemble of climate change scenarios. Journal of Hydrology, 424-425: 264-277. [↑](#footnote-ref-4)
5. [*http://www.cawcr.gov.au/projects/verification/*](http://www.cawcr.gov.au/projects/verification/) [↑](#footnote-ref-5)