Workshop on Water, Food and Energy Nexus for Climate Risk Management: Advanced Seasonal Forecasting System to Support Decision Making in Colombia

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Optimization expected related to seasonal prediction modeling

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Improving weather forecast
High resolution (2018-2019)
Improving S2S
High resolution (2018-2019)

MJO – Monitoring and forecast
Improving S2S
High resolution (2018-2019)
Improving S2S
Biweekly verification
Improving seasonal forecast
High resolution (2018-2019)

CFSv2 Present climate
Dashborad GRIB2
C-shell $\rightarrow$ g2ctl $\rightarrow$ gribmap

Seasonal forecast CFSv2
GRIB2
$\rightarrow$ g2ctl $\rightarrow$ gribmap

Several Runs

Downscaling WRF (NetCDF)

GrADS (NCL)
Analysis
Extract data

Verification Scripts in R

Presentation in PDF file

R
Generation of graphics
Probability seasonal forecast depend from computational capacity and number of monthly runs using WRF model
Probabilistic model (2018-2019)

Dynamical Models

- NMME(8) Global Model NOAA
- CFSv2(31) Global Model NOAA
- WRF (8+1) Regional Model IDEAM

Statistical Models

- CAM (3) Global Model OLE2
- CPT – Rain gauges (18)
  - Canonical correlation
  - TSM lags and forecast
  - Kendall – Pearson
  - Transformation settings
  - 3 predictor regions
- CPT – CHIRPS (18)
  - Canonical correlation
  - TSM lags and forecast
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  - 3 predictor regions
- JAZIKU (3) Compound Analysis

Analogous Method

- Clúster Analysis (1)

Probability

- IRI ideal model
- Seasonal forecast by month

Early-Jun CPC/IRI official probabilistic ENSO forecast

Probability (%)
THANKS

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