



NCAR

VAISALA



Development of WRF-Solar v2— Improving Solar Forecasts

June 10, 2019

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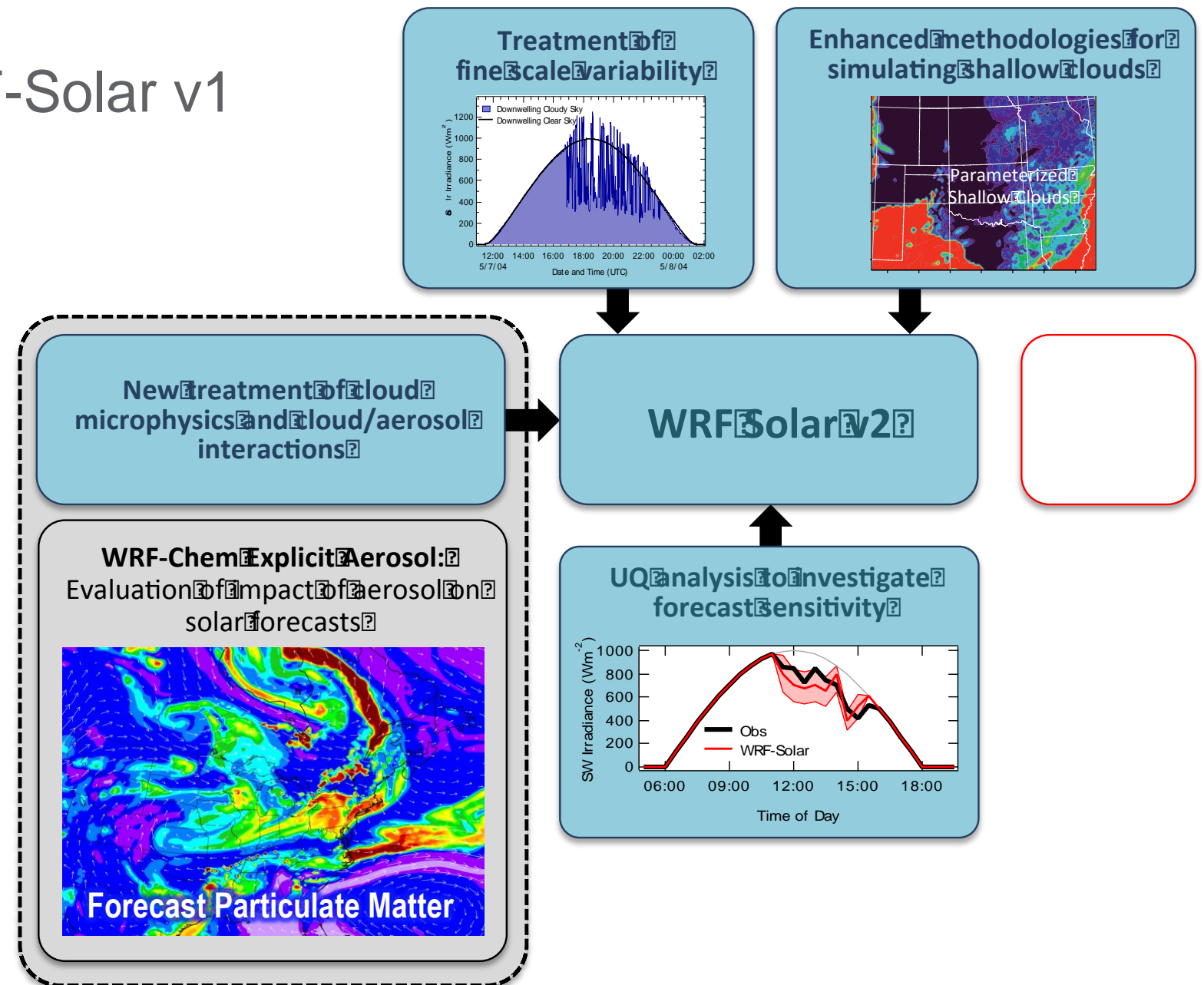
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U.S. Department Of Energy

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Improving physics in WRF-Solar

- Address shortcomings in WRF-Solar v1
- Project Goals:
 - Reduce forecast errors by 25%
 - Improve ramp forecasts
 - New estimates of sub-grid variability
- New tool for the community



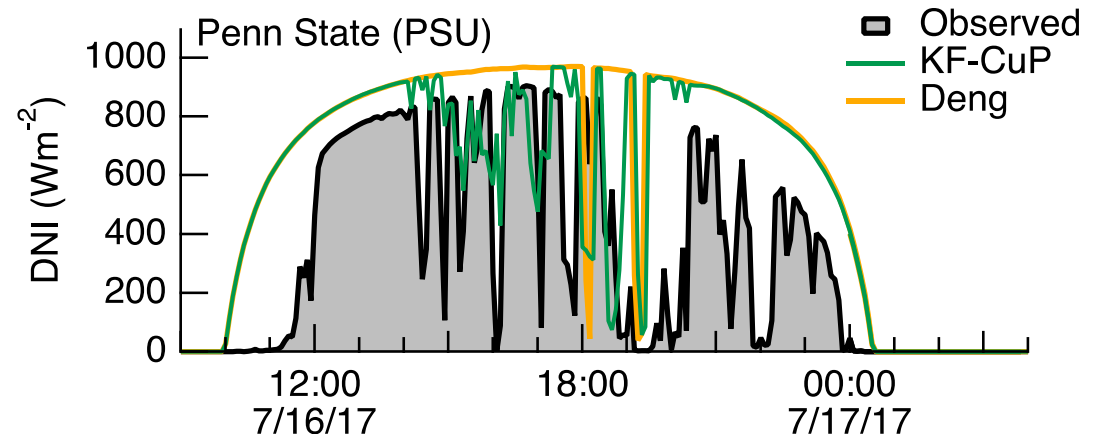
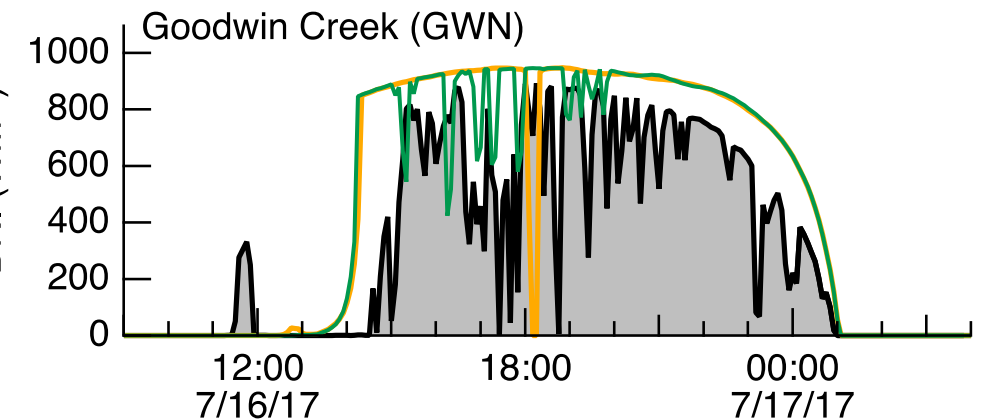
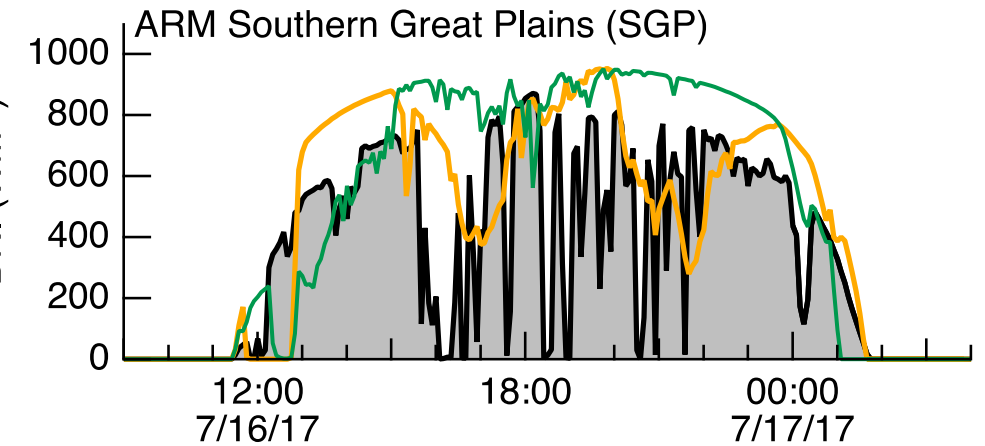
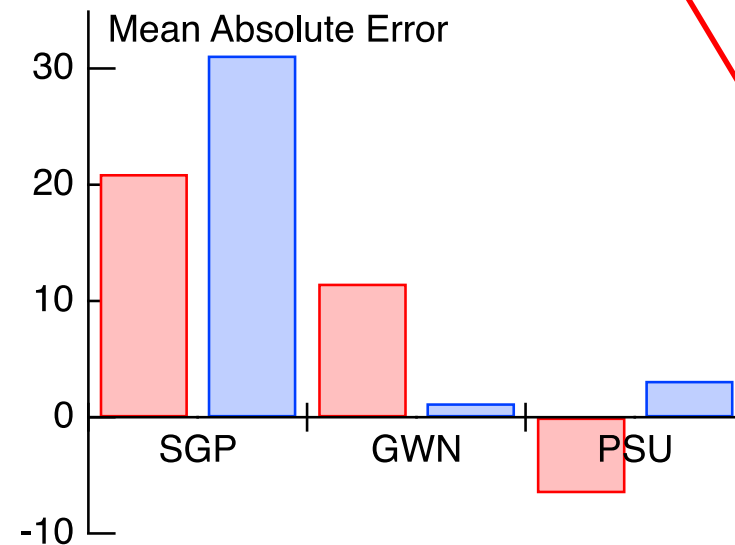
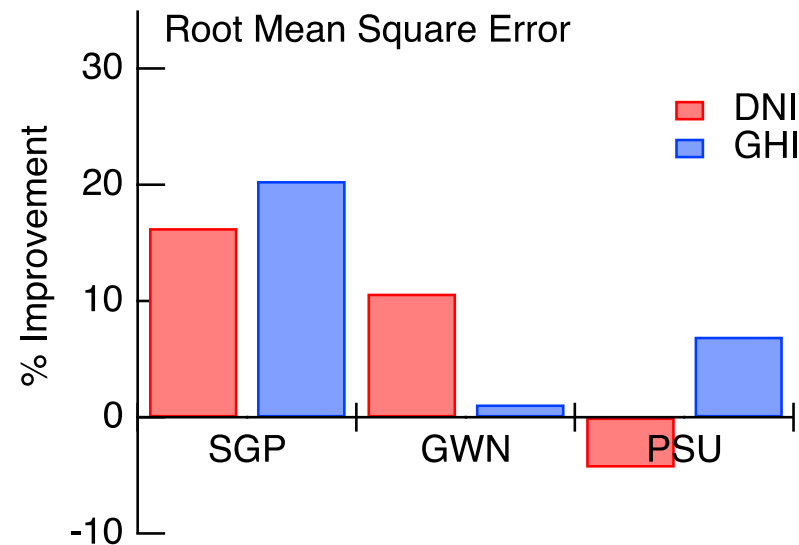
Improved treatment of shallow cumulus

Two common cumulus parameterizations

- Deng
- Kain-Fritsch-Cumulus Potential (KF-CuP)



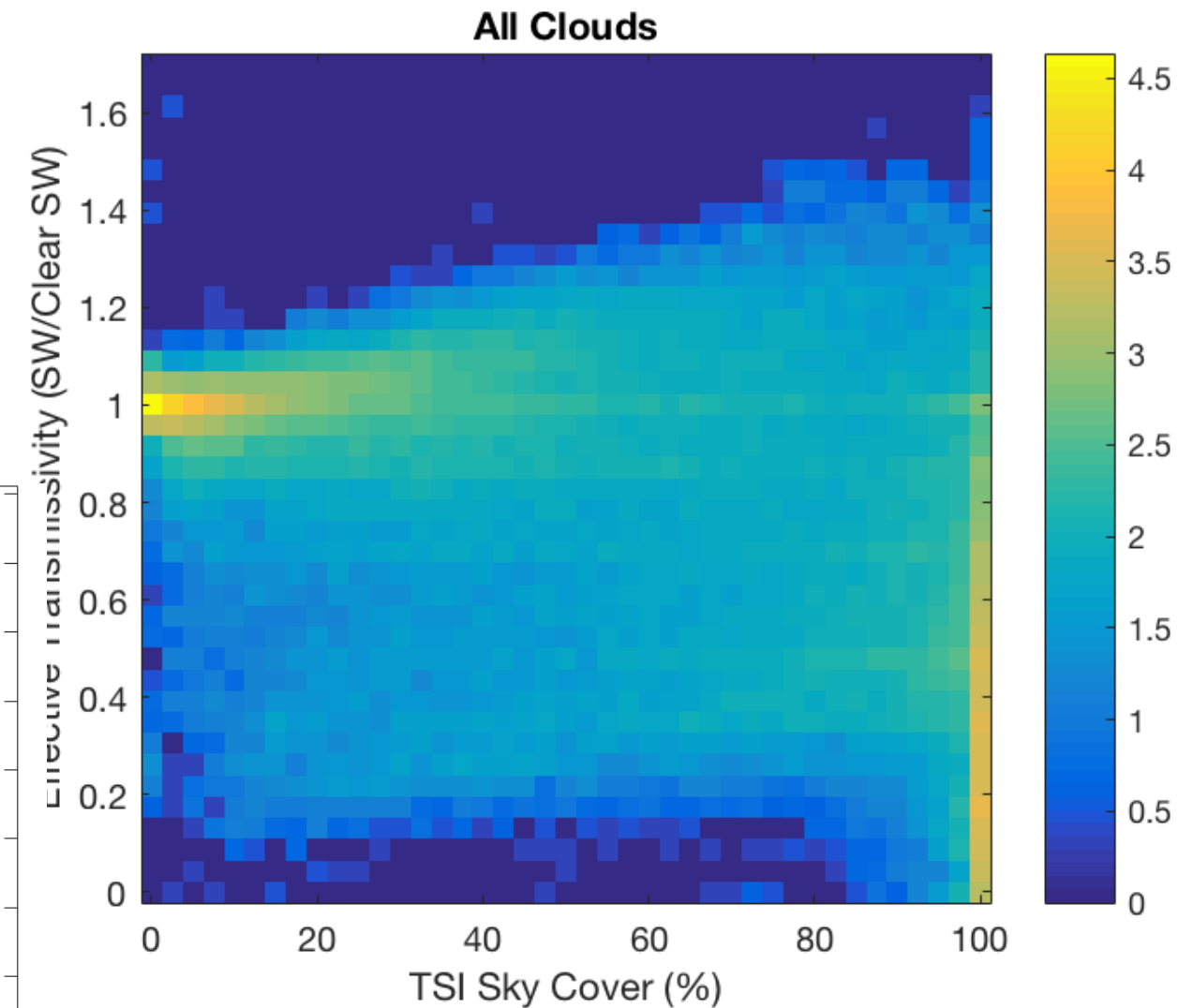
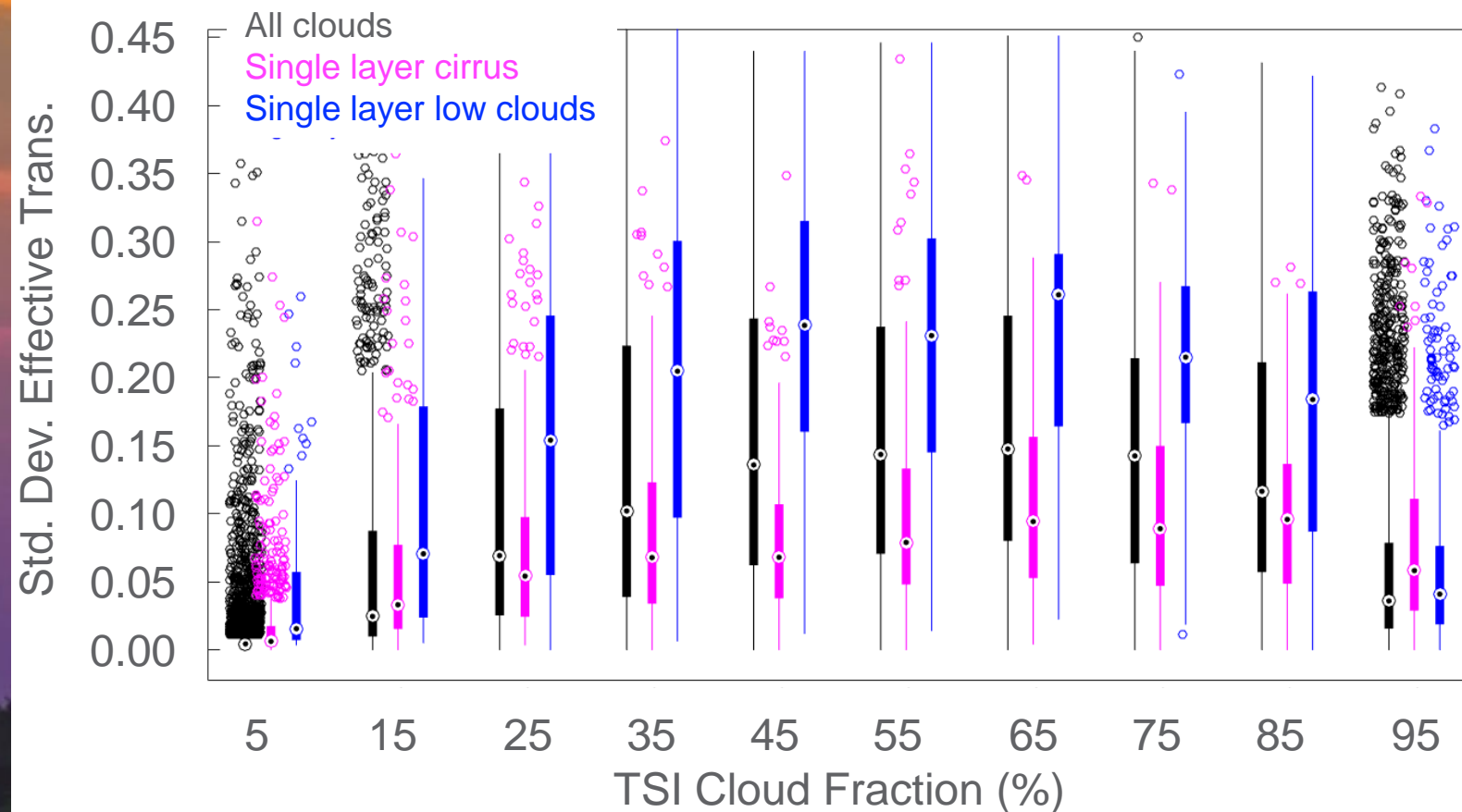
% improvement between KF-CuP and Deng (baseline) parameterizations over 20 case study days



Date and Time (UTC)

Improving representation of variability

- Using data from SGP to relate variability to cloud cover
- Focus on effective transmissivity



Goal: New treatment of variability applied in WRF-Solar