

Performance of RegCM3 in Simulating Western Africa Present Time Climate

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third international workshop on verification methods, reading 29 Jan to 02 Feb 2007

OUTLINE

- INTRODUCTION
- MODEL CONFIGURATION
- PRELIMINARY RESULTS
 - Temperature
 - AEWs
 - Precip
- CONCLUSION

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MOTIVATION

- PRESENT UNIQUE FEATURES OF REGION

- > DROUGHT
- > DESERTIFICATION
- > DEFORESTATION



GCM Resolution and deficiencies

Needs for High resolution

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MAIN CLIMATOLOGICAL FEATURES

- LOWER TROPOSPHERE (MONSOON)
- MIDDLE TROPOSPHERE (AEJ)
- UPPER TROPOSPHERE (TEJ)
- Easterly Waves dynamical features modulating rain producing systems
- MCS - large contribution to the total precipitation in Sahel
- Close correlation with cyclonic activity over Eastern Atlantic Basin

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MODEL CONFIGURATION

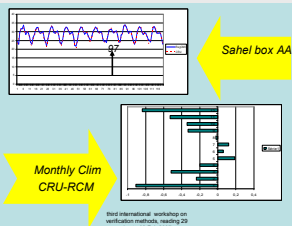
- Spatial resolution :
 - > Horizontal - 40 km
 - > Vertical - 18 levels

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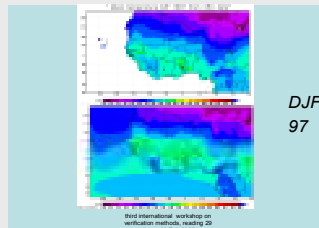
MODEL CONFIGURATION

- Run length : 16 years
 - > 01/01/1988 to 01/10/2003
 - SP.U.T. ----> 30 months
- Initial & lateral boundary conditions : NNRP2

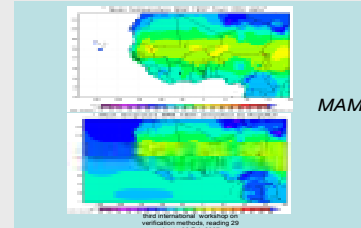
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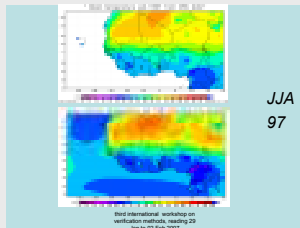
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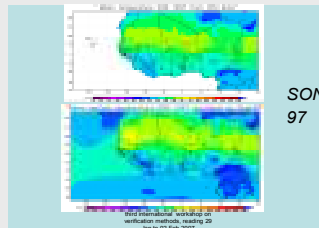
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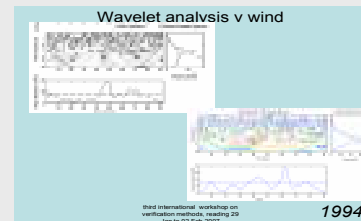
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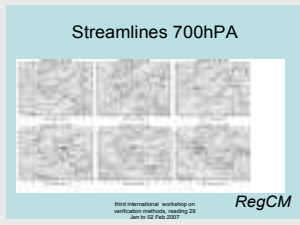
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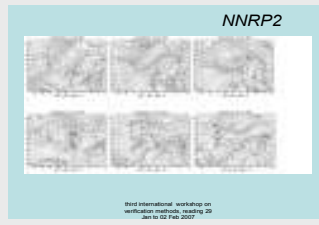
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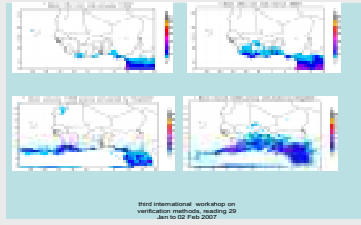
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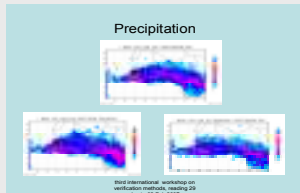
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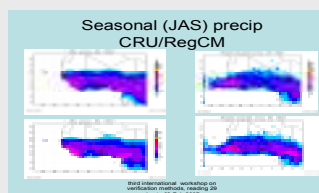
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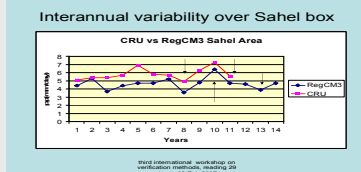
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CONCLUSION AND OUTLOOK FOR FUTURE RESEARCH

- GENERAL PATTERNS OF TEMP. WELL CAPTURED WITH FEW DISCREPANCIES (LOCALLY)
- PATTERNS PRECIP. FAIRLY CAPTURED WITH THIS CONFIGURATION OF THE MODEL
- COMPARED TO CRU THE INTERANNUAL VARIABILITY WELL SIMULATED
- CONFIGURATION SUITABLE FOR CLIMATE CHANGE PROJECTIONS? SEASONAL FORECAST DOWNSCALLING AND SENSITIVITY STUDIES.

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