



Vietnam Institute of Meteorology, Hydrology and Environment

# Sensitivity of resolution BATS in a climate simulation over Viet Nam with RegCM3

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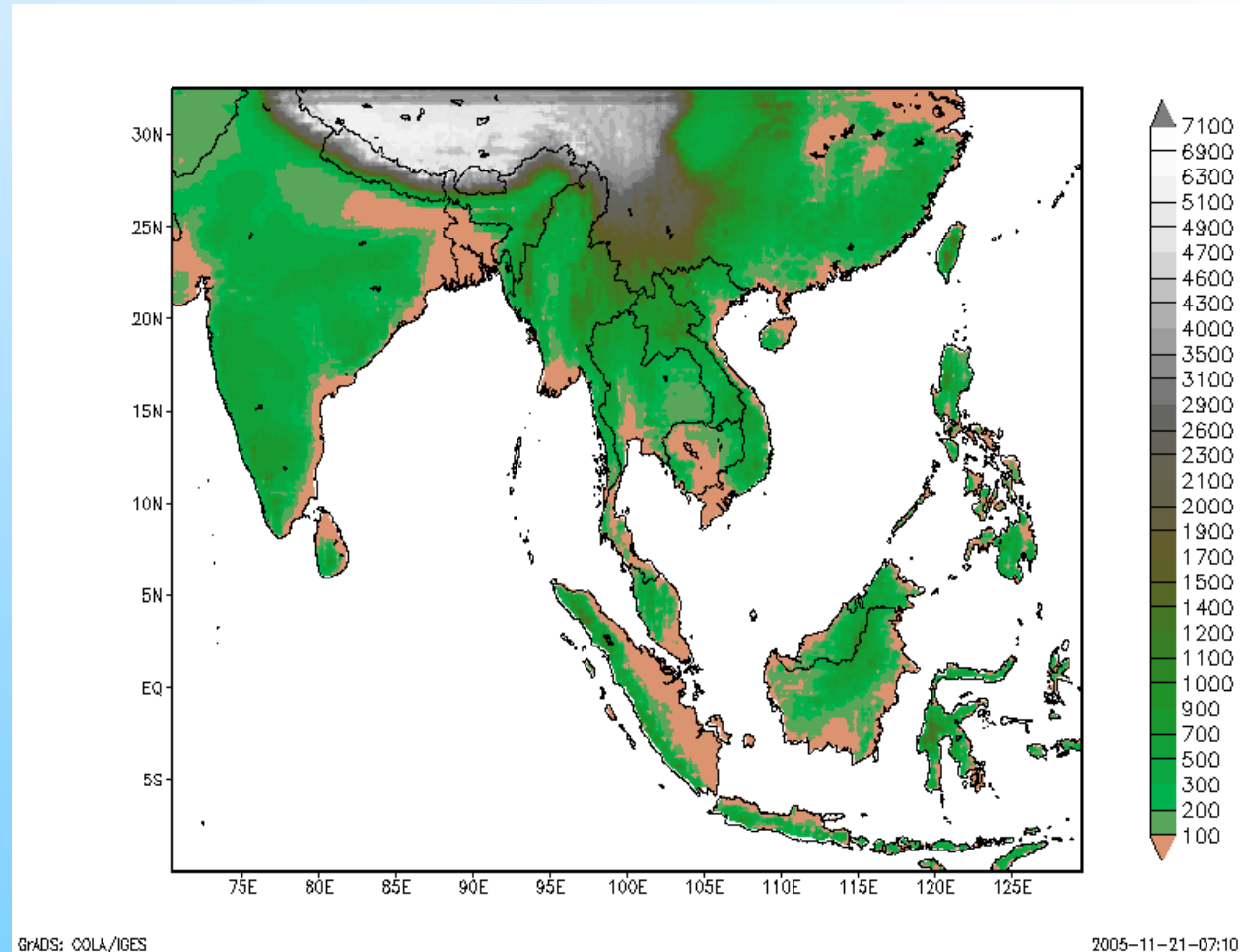
- Experiment design
- Result
- Conclusion



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## Experiment design

- 3 experiments with the different resolution of BATS model: 55 Km, 22.5 Km and 11.25 Km
- Resolution of atmosphere model: 55 Km
- dt of Atmosphere model: 150s
- dt of BATS model: 450s





## PHYSICS

- Radiation scheme: NCAR/CCM
- Land surface model: BATS
- Planetary boundary layer scheme: HotIsIag
- Convective precipitation scheme: Kuo

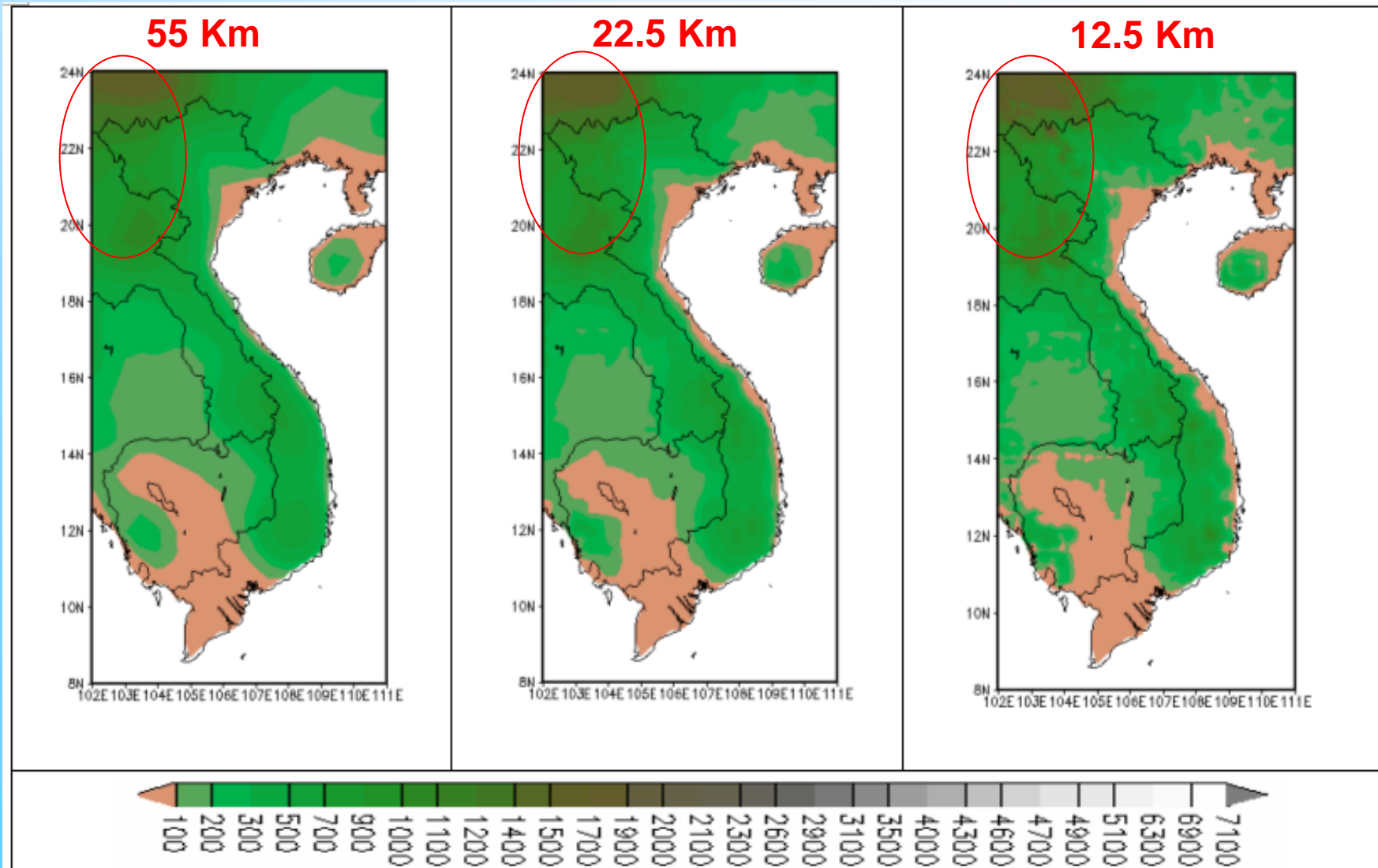
## DATA

- DATTYP: ERA40
- SSTYP: OISST



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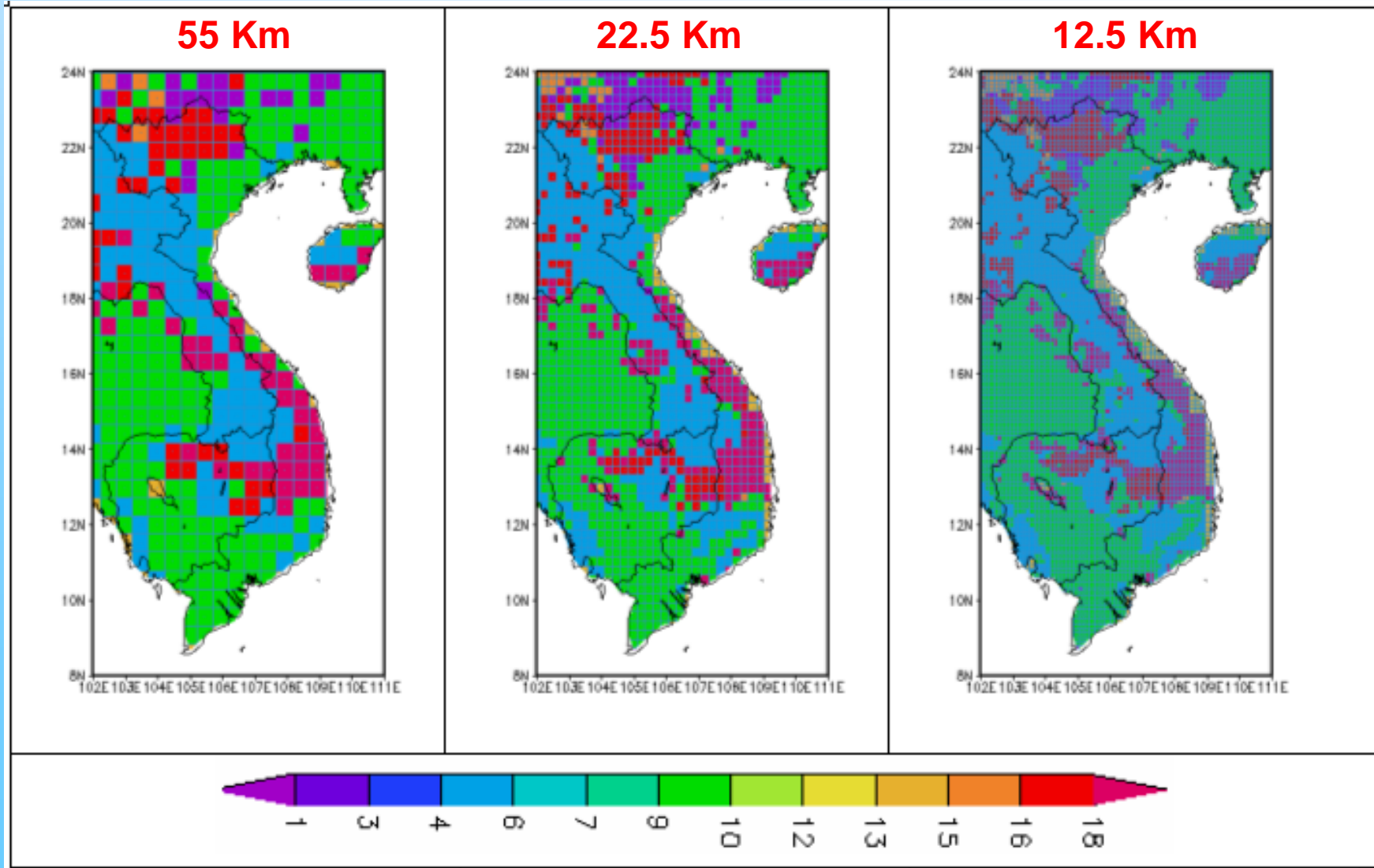
## Effect of resolution-BATS on topography





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## Effect of resolution-BATS on land use



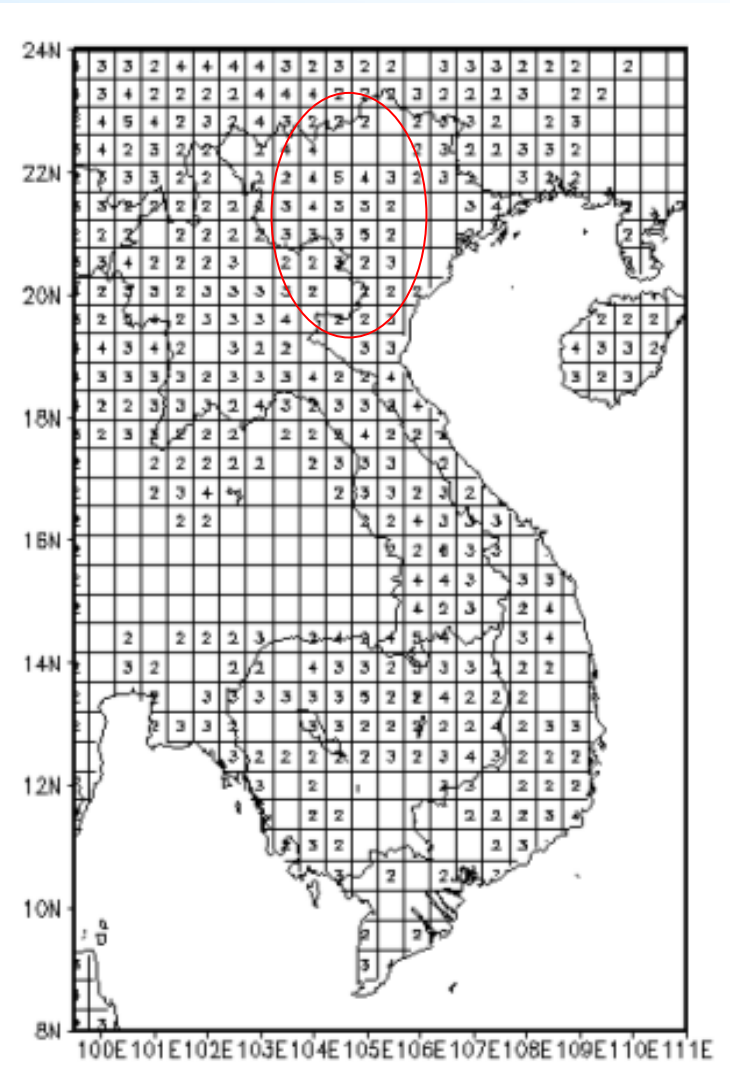
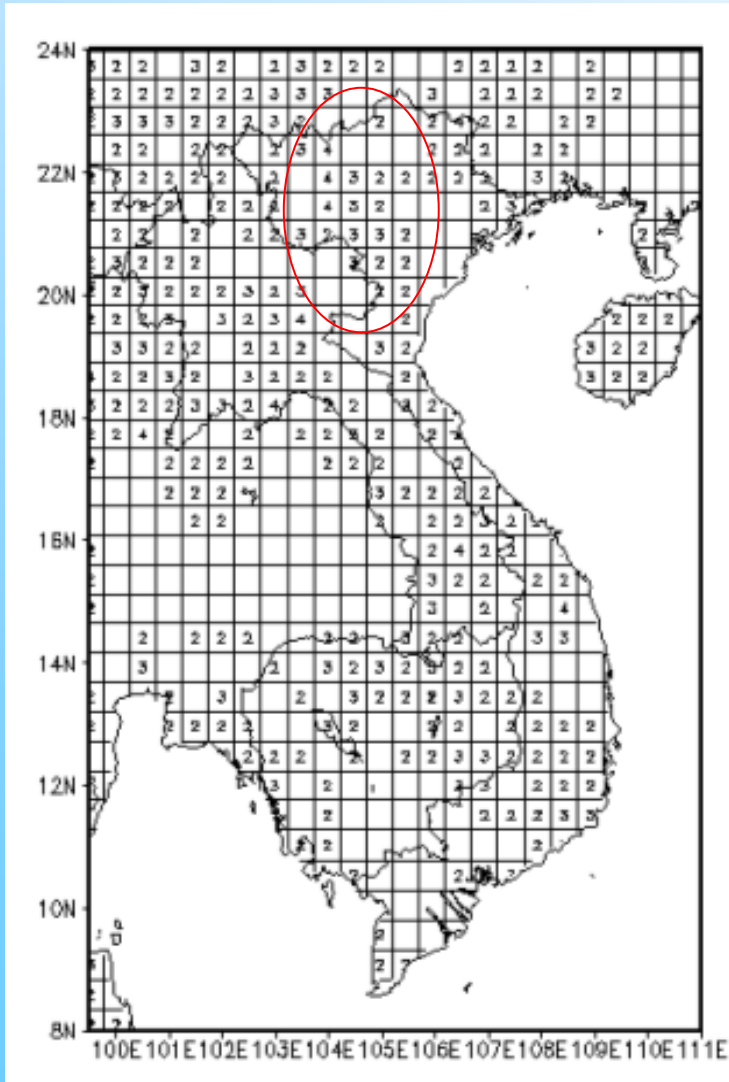


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## Effect of resolution-BATS on land use

22.5 Km

12.5 Km





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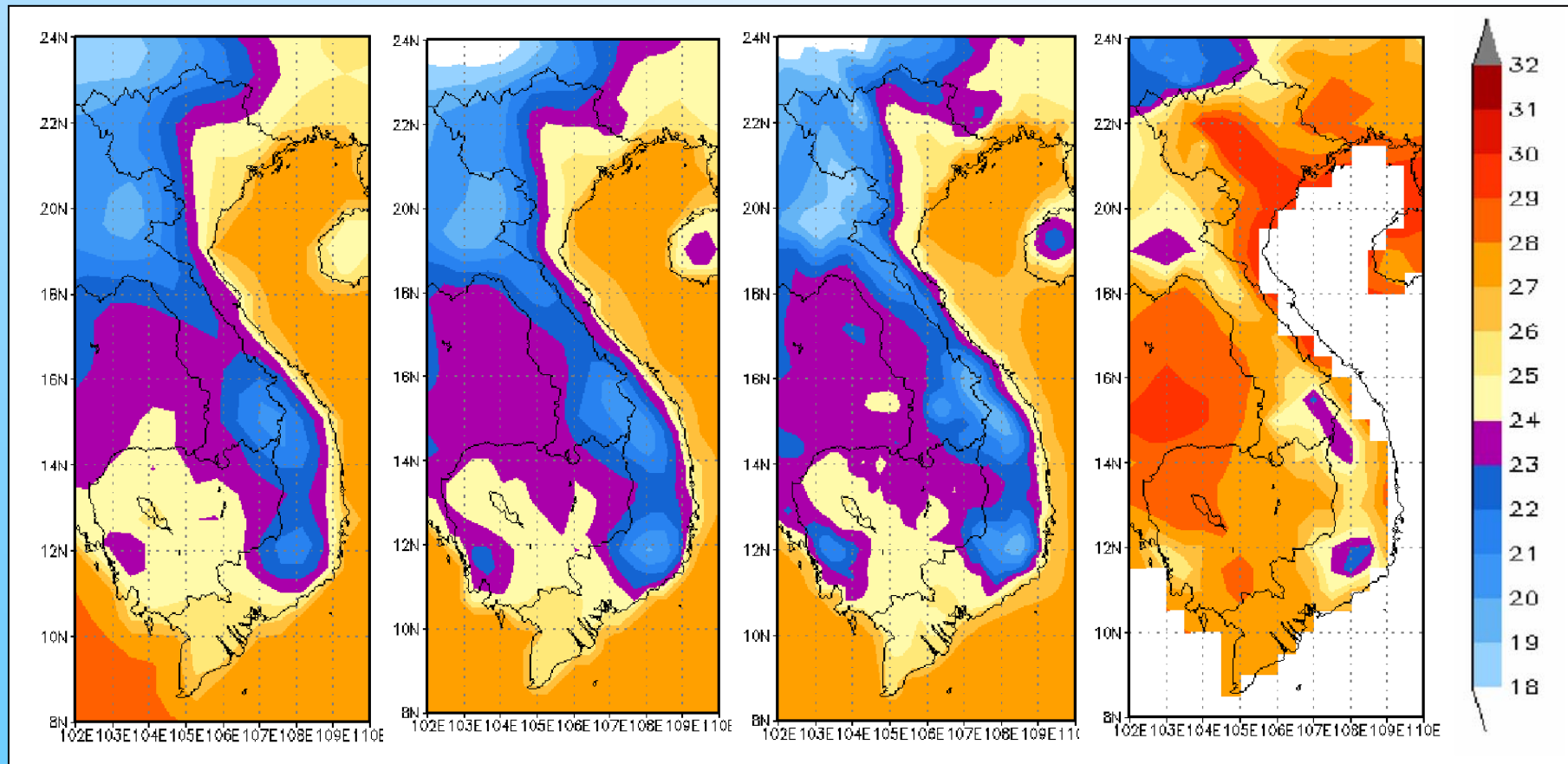
## Effect of resolution-BATS on simulating temperature

55 Km

22.5 Km

12.5 Km

CRU







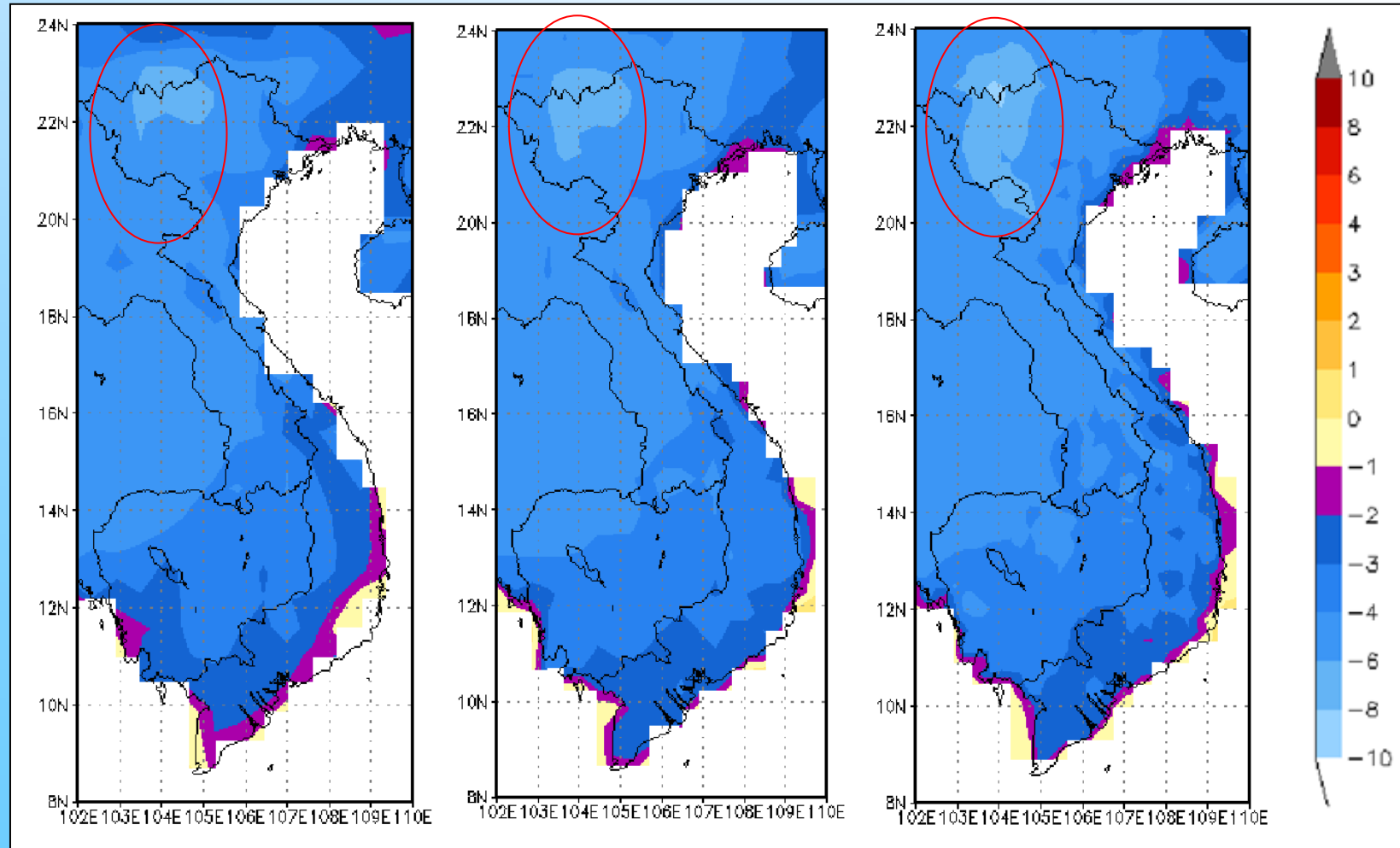
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## Compare the different temperature between RegCM out put and CRU

**55 Km-CRU**

**22.5 Km-CRU**

**12.5 Km-CRU**

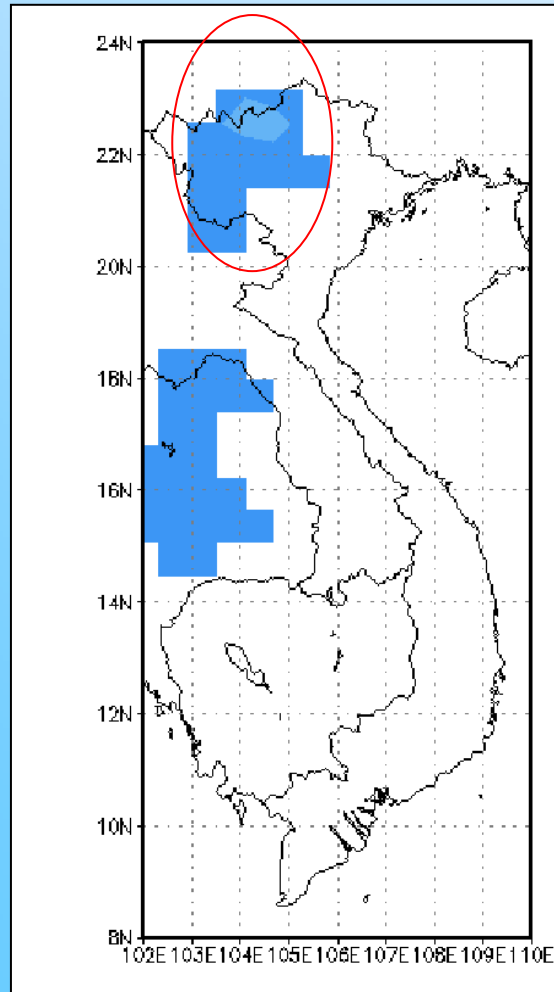




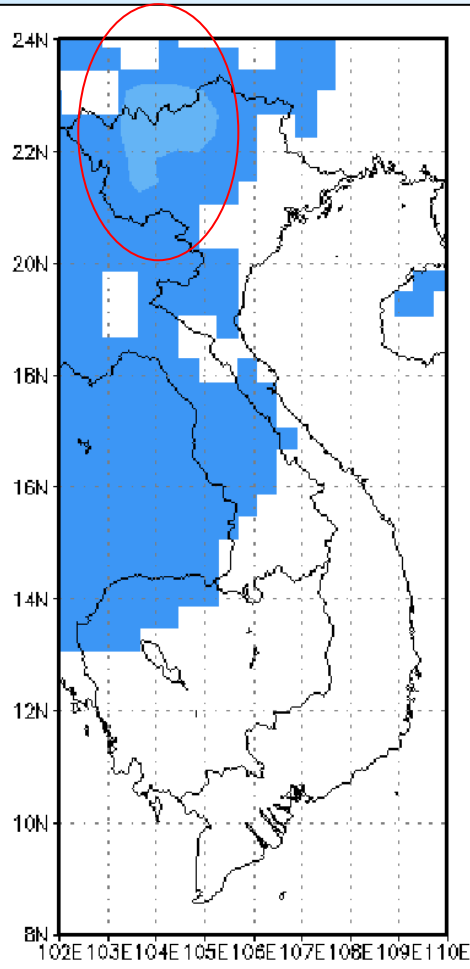
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## Compare the different temperature between RegCM out put and CRU

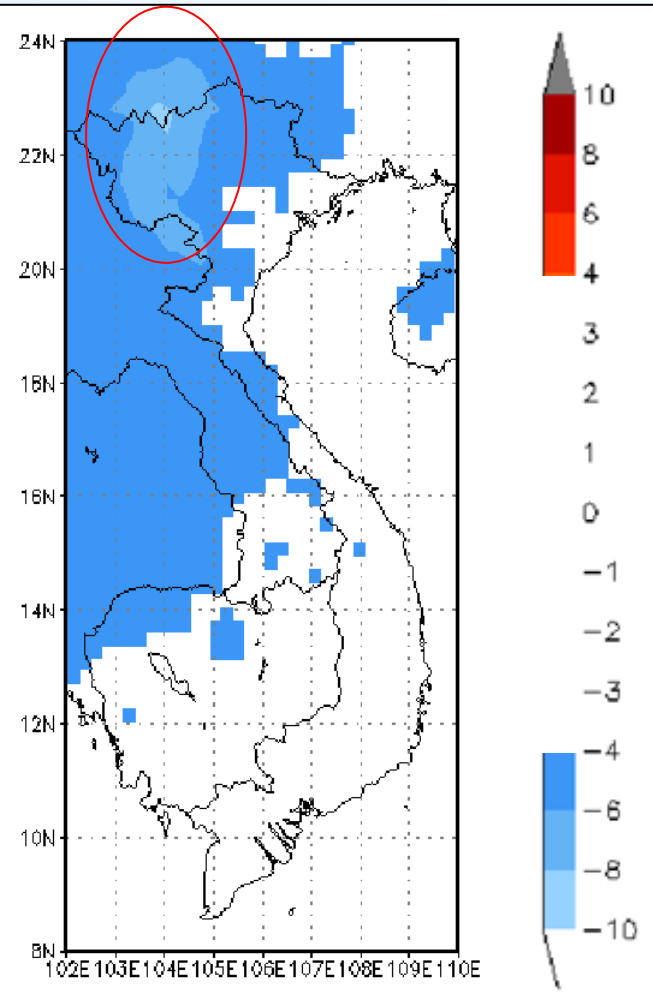
### 55 Km-CRU



### 22.5 Km-CRU



### 12.5 Km-CRU





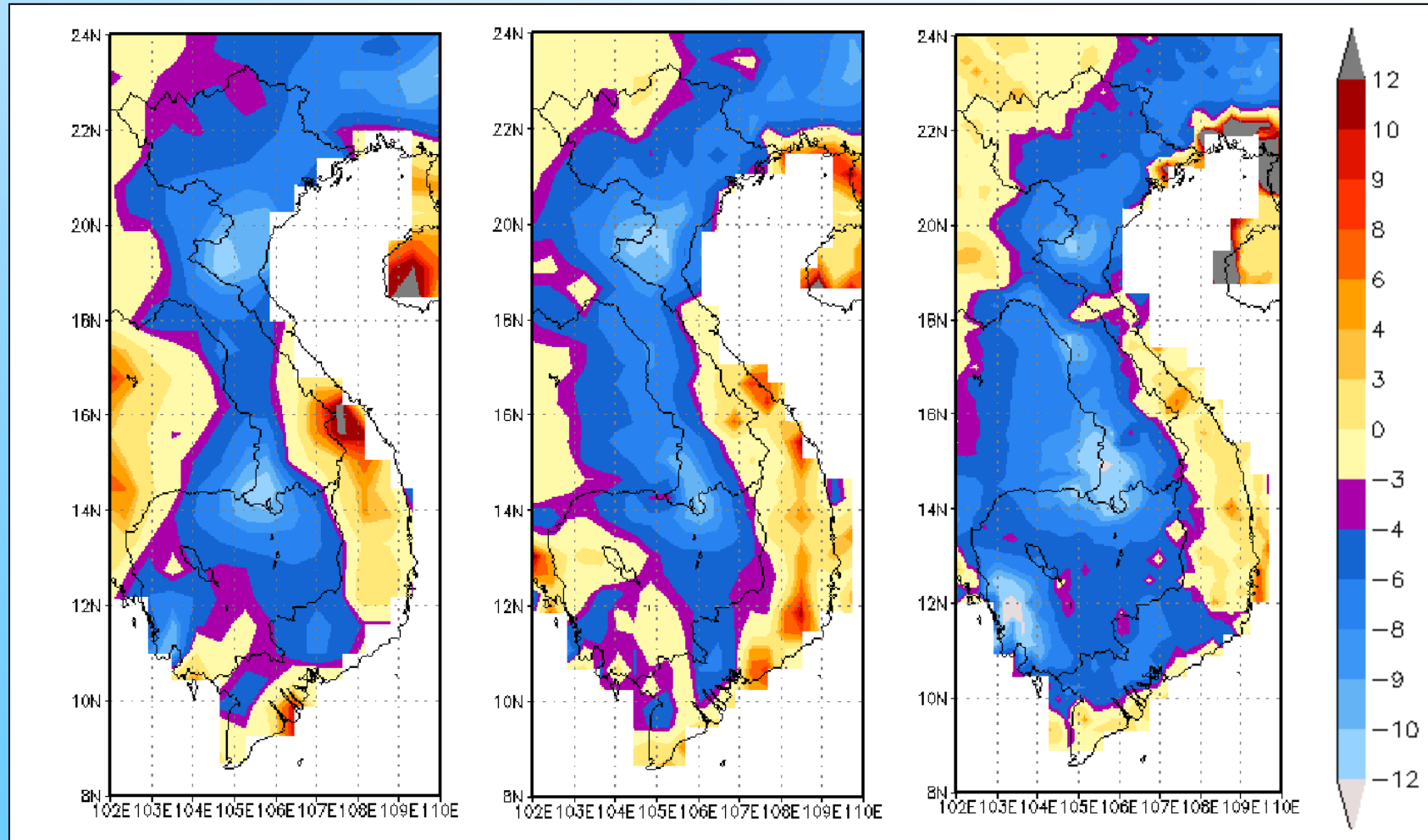
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Compare the different precipitation between RegCM out put and CRU

**55 Km-CRU**

**22.5 Km-CRU**

**12.5 Km-CRU**





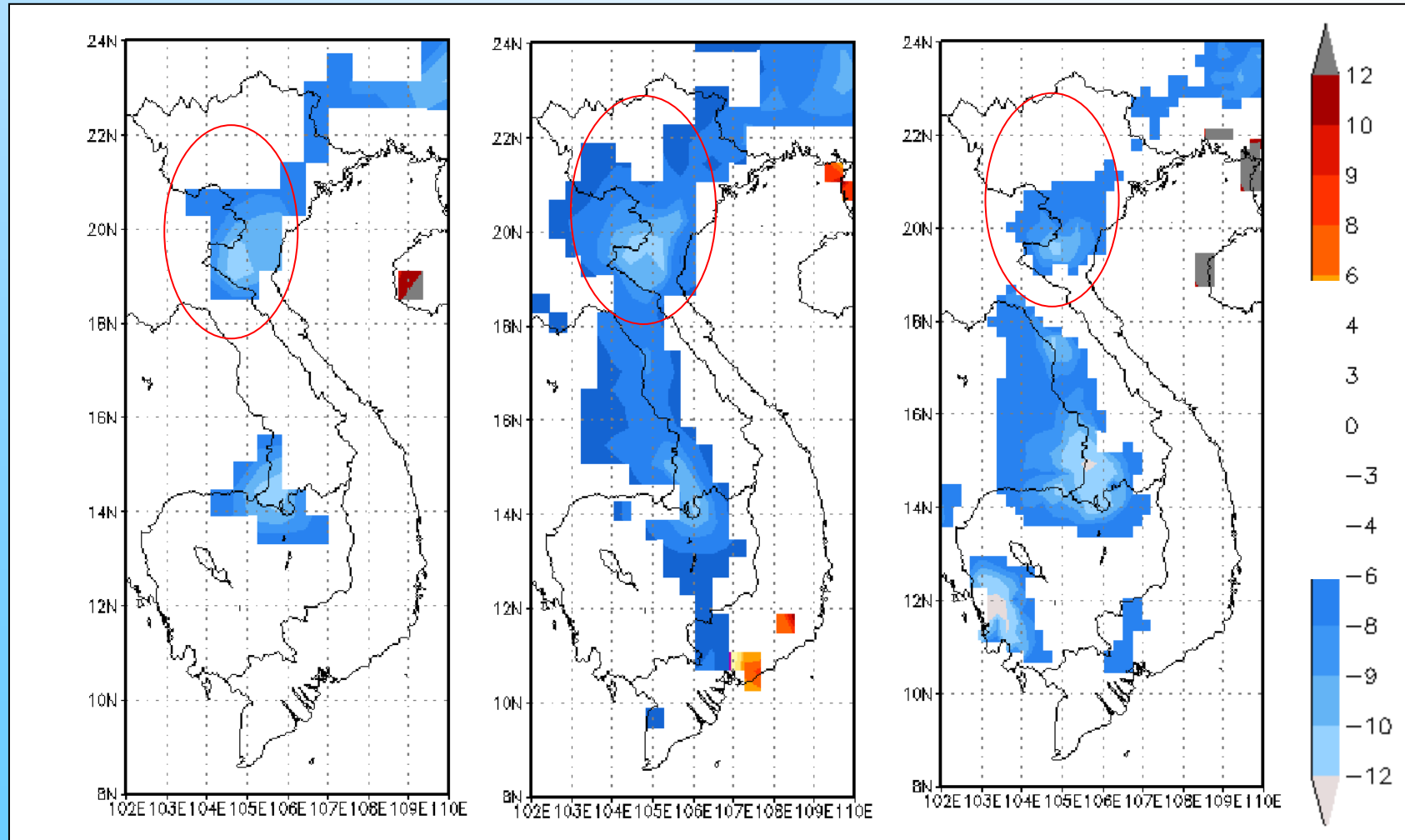
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Compare the different precipitation between RegCM out put and CRU

**55 Km-CRU**

**22.5 Km-CRU**

**12.5 Km-CRU**





## CONCLUSION

- Resolution Sub-BATS plays a very important role in simulating climate, especially in the high land and mountain area.
- In the plain and delta area, it doesn't affect more on the climate simulation.



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Thank you very much!