# *Evaluation of Coastal NCOM Models Nested in Global HYCOM*

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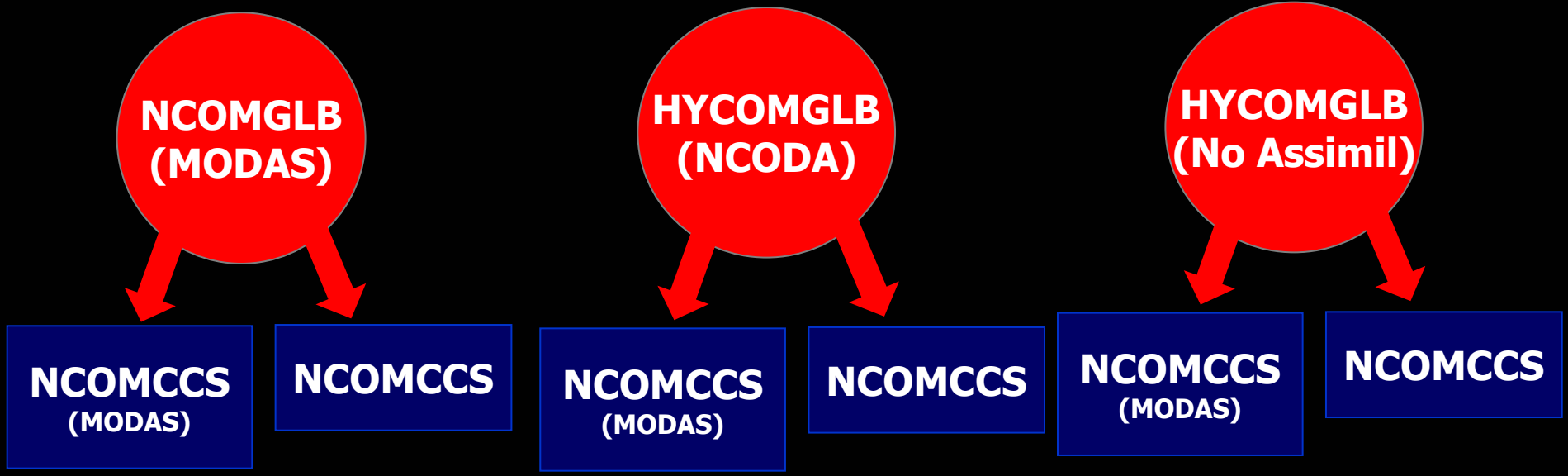
# EXPERIMENTS




- 20040101-20041231 (IC from global on 20040101), daily OB update
- HYCOM: Method of Characteristics, buffer-zone (.1-1 e-folding, 10-point*)
  NCOM: Flather scheme, vertical distribution/radiative (1-point)
- (x,y,v) --> (x,y,z) --> (x′,y′,v′)

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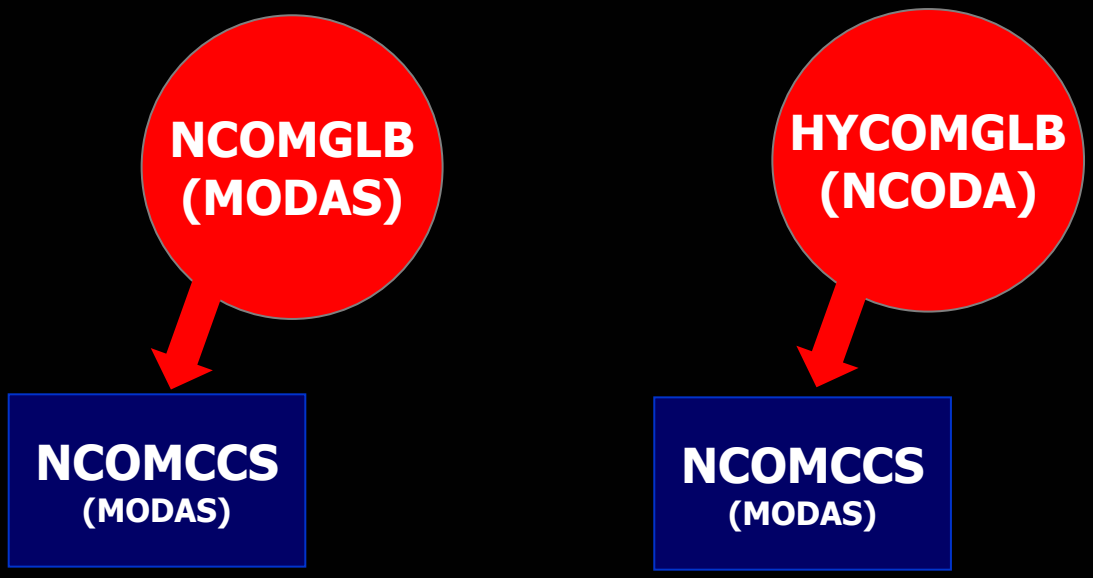


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# CONCLUSIONS

- Data Assimilation in HYCOM improves nested results
  - Now consistent with NCOM and observations
  - Warm bias in the CCS region has subsided*

    -Ecosystem model
- Consistently better results seen with HYCOM OBC
  - Possibly due to higher horizontal resolution
  - Possibly due to higher atmospheric resolution
- HYCOM->NCOM nesting extensively evaluated (CCS)
  - HYCOM viable as a IC/BC provider
  - Well behaved "nesting" methodology
  - Regional, Coastal Models w/wo data-assimilation
  - Real Time HYCOMGLB->NCOMCCS N/F System

"Nesting Regional and Coastal NCOM Models in Global HYCOM: Evaluation and Influence of Remote Forcing"; deRada, et. al.; Ocean Modeling

# CURRENT WORK & FUTURE PLANS

- ~4Km NCOMCCS and HYCOMCCS models
  - Same Grid/Geometry
- Real-Time-Modeling
  -Ensemble: NCOMCCS, HYCOMCCS
  -Multinest: GLOBAL->NCOMCCS->NCOMMB
- NCODA implementation in regional models
- Implementation of HYCOMMB (OCG)
- Indian-Ocean/Arabian-Sea Domains (possible collaborations)
- Further nesting studies:
  -Conservation, Heat Budget analysis (OSU group)
  -Baroclinic assessment
  -Separation/Isolation of contributions
    - Atmospheric Forcing
    - Vertical/horizontal resolution
    - temporal resolution (BC update)

Nesting Regional and Coastal NCOM Models in Global HYCOM: Evaluation and Influence of Remote Forcing