NEWS Water and Energy Cycle Climatology: The State of the Global Water Cycle

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The State of the Global Water Cycle

Premise: In order to evaluate water cycle consequences of climate change, we must establish the current "state of the global water cycle".

Methods: Use modern observation-integrating products and associated error-analyses to develop a climatology of water cycle components for each continental/oceanic to global scale region.

Outcomes: (1) A baseline for water cycle / climate change studies and model assessments. (2) Quantitative graphical depictions of the water cycle.

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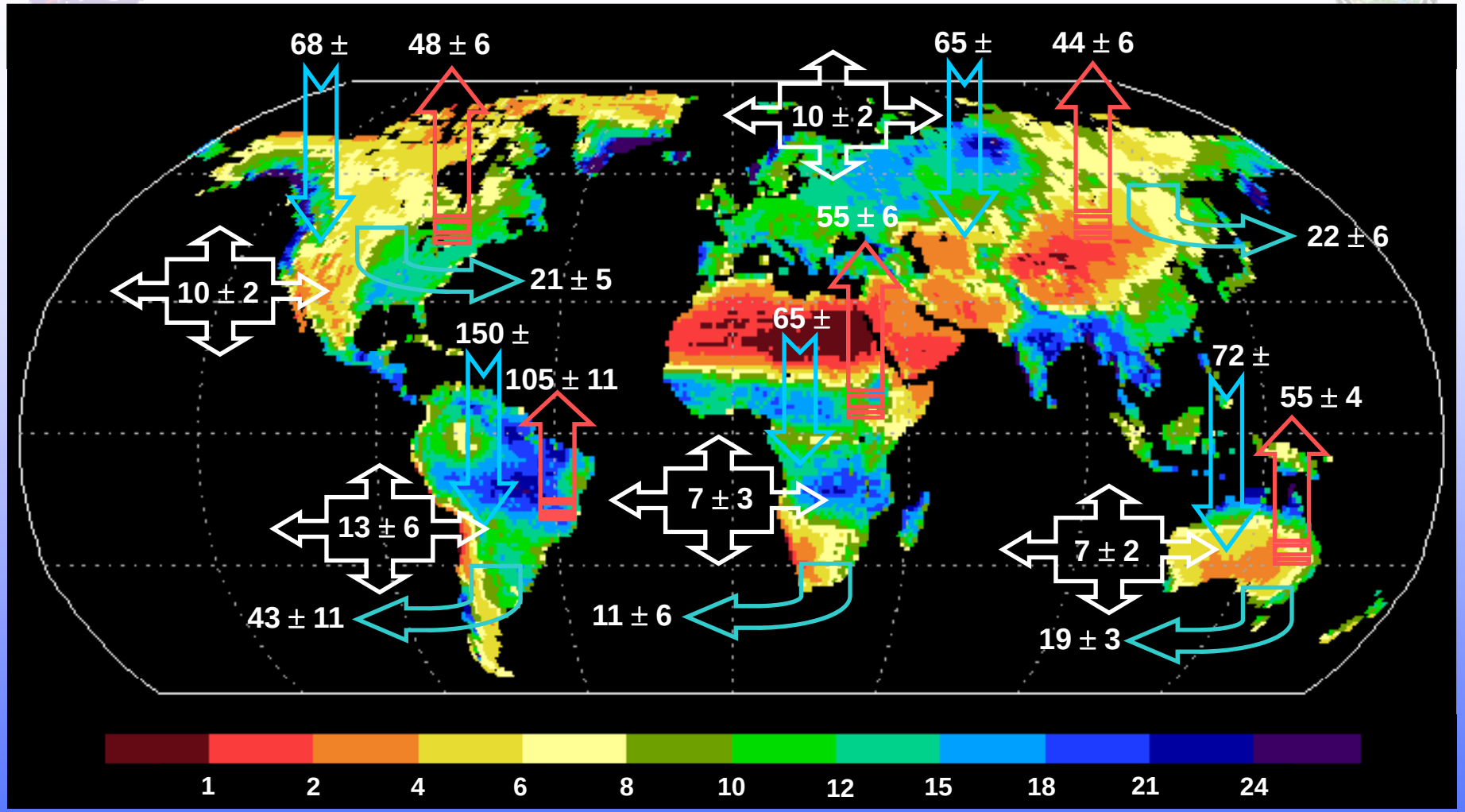
Possible Continental Figure Design



These are old numbers

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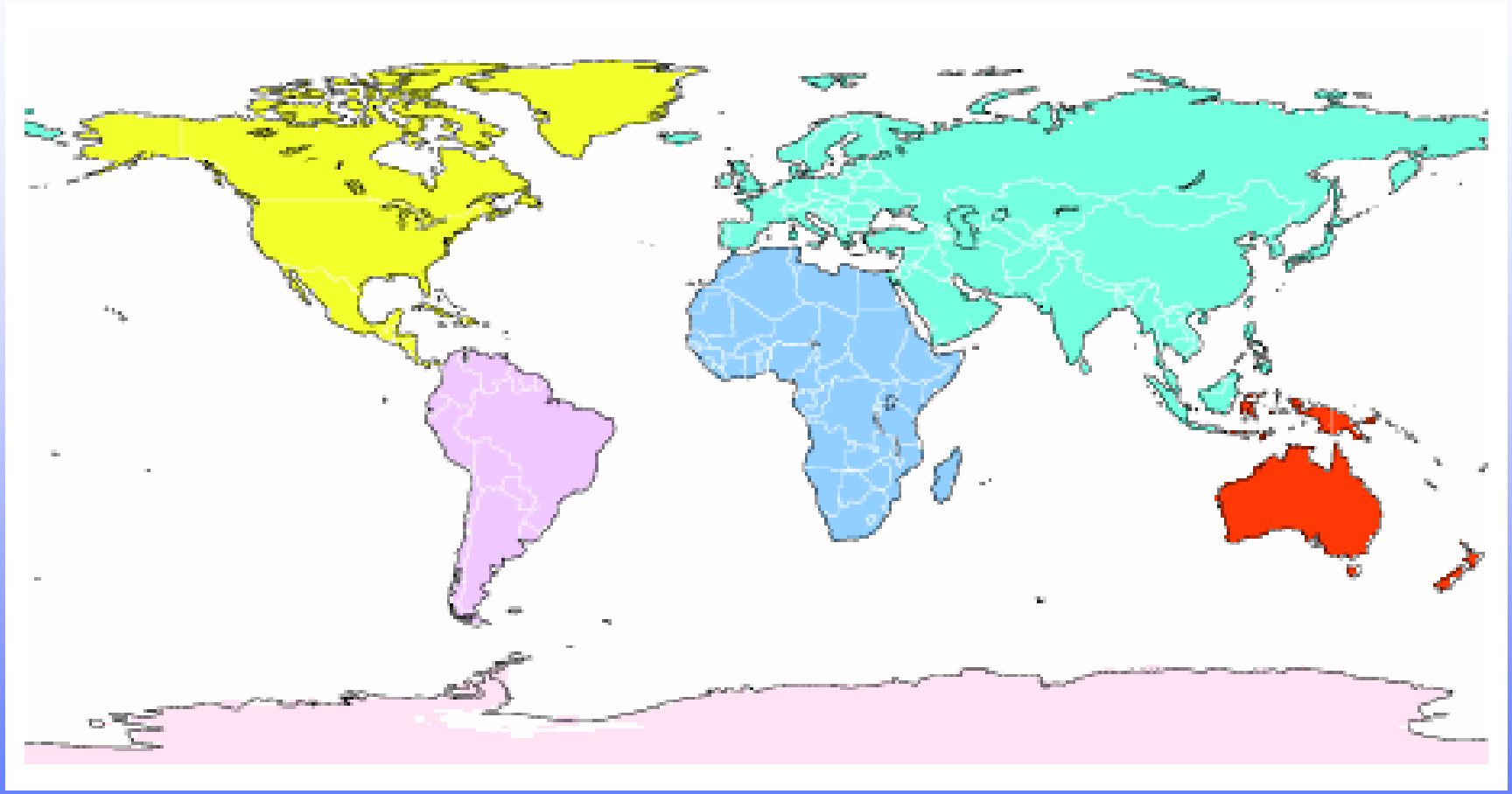
Continental Regions



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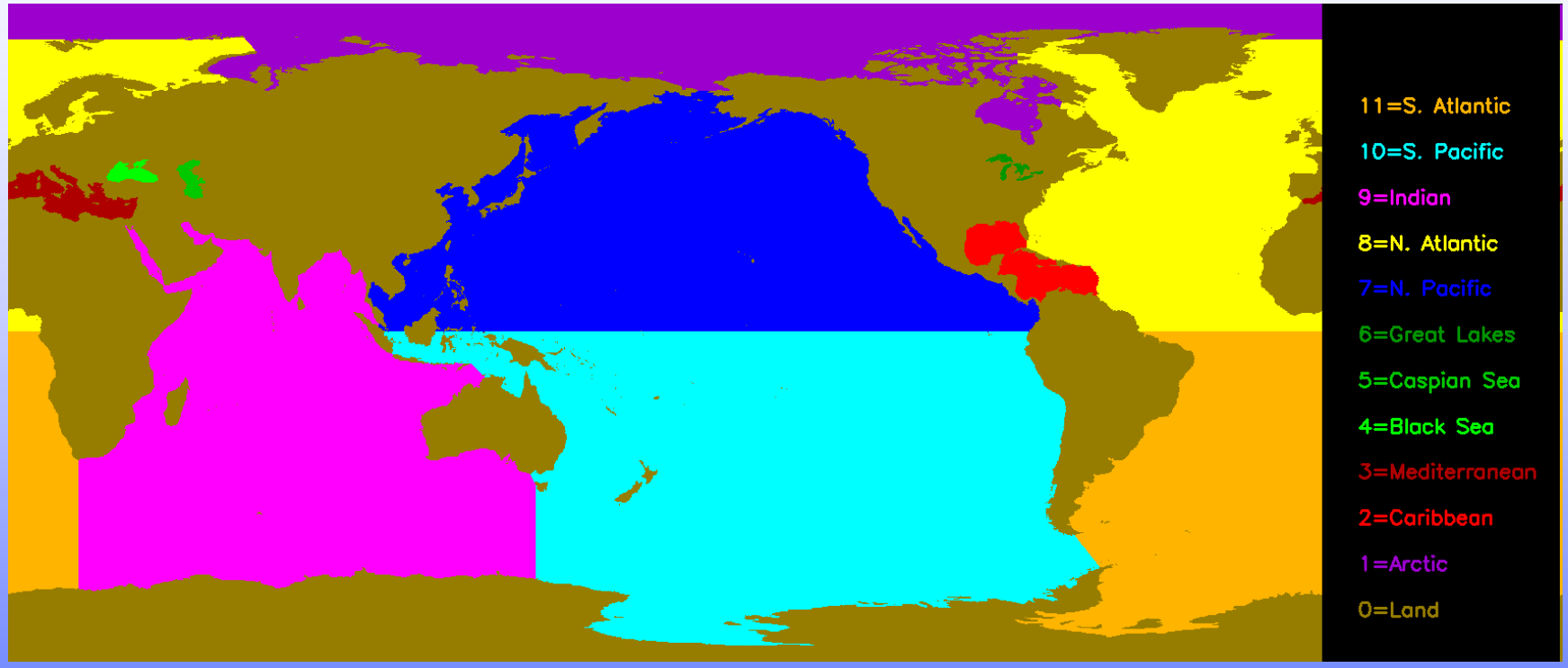
Oceanic Regions



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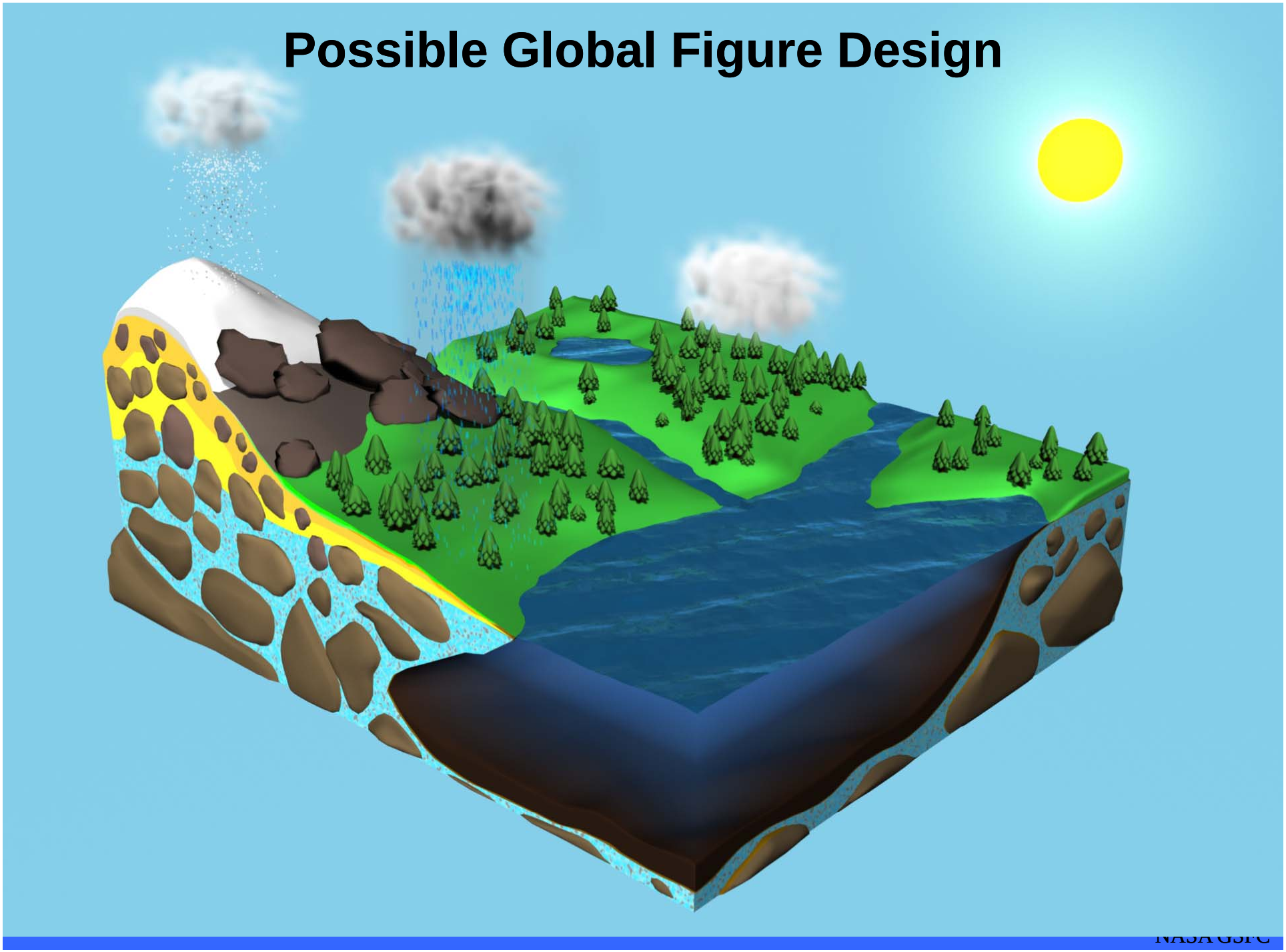
Possible Global Figure Design



Achieving Water Balance

$$ET_{balanced} = ET_{best\_guess} + (WBR * \sigma_{ET} / (\sigma_P + \sigma_{ET} + \sigma_Q))$$

WBR = Water balance residual

σ = uncertainty/error (standard deviation of estimates)

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Talking Points

- Improve/fill in uncertainty estimates
- What additional directions for current manuscript? zonal means, maps of annual averages, seasonal (monthly) cycle?
- What do we save for future efforts?
- How to incorporate GRACE data
- Manuscript outline

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