



Hydrology Loading in VLBI Analysis

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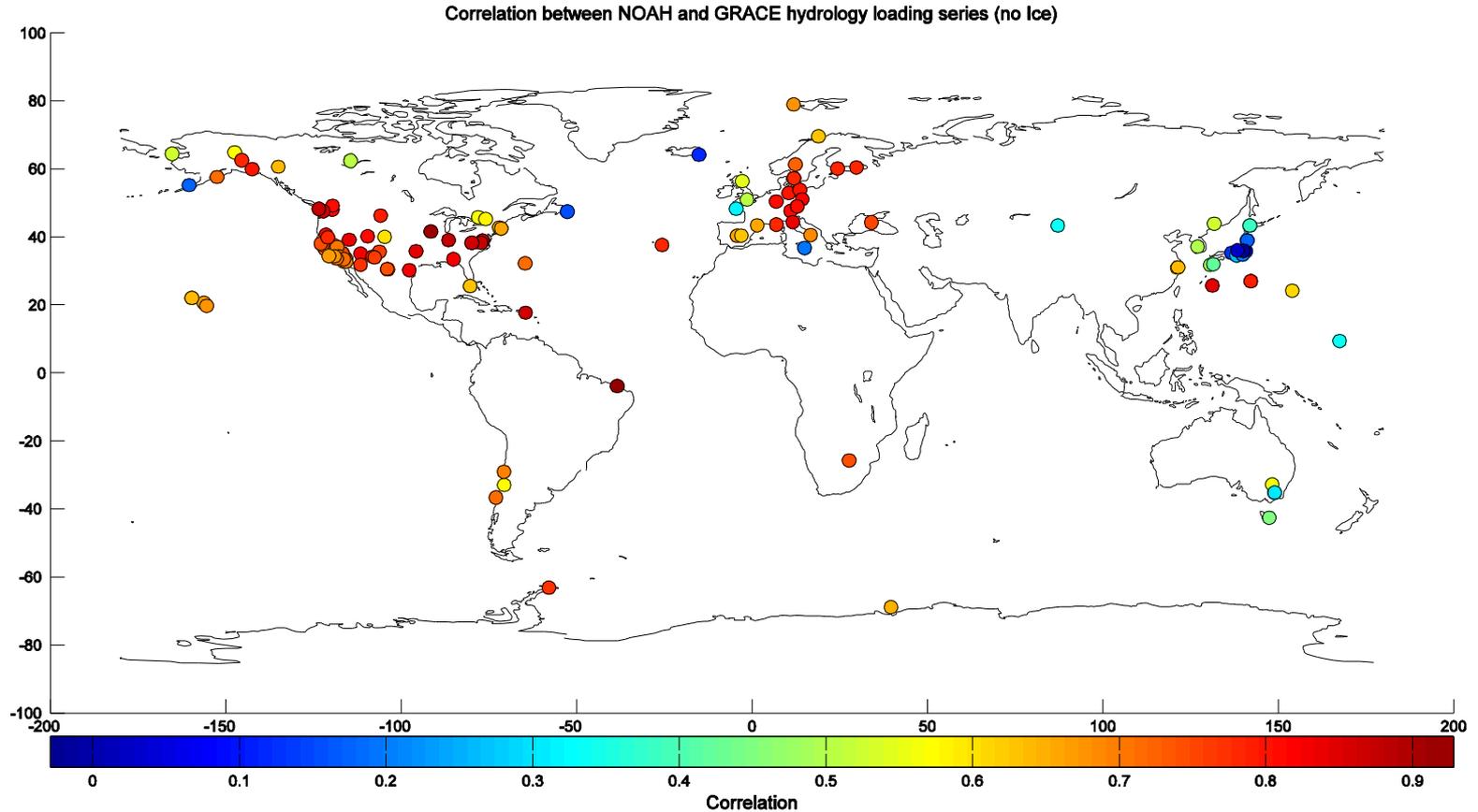
Overview



- Computed loading using NASA GSFC GRACE mascons
- Mascons were generated employing modeling for:
 - Atmospheric pressure variation
 - Non-barotropic ocean response
 - Ocean tides
- Model loading computed using the GSFC GLDAS (Global Land Data Assimilation System, Rodell et al.)
=> soil moisture + snow water equivalent



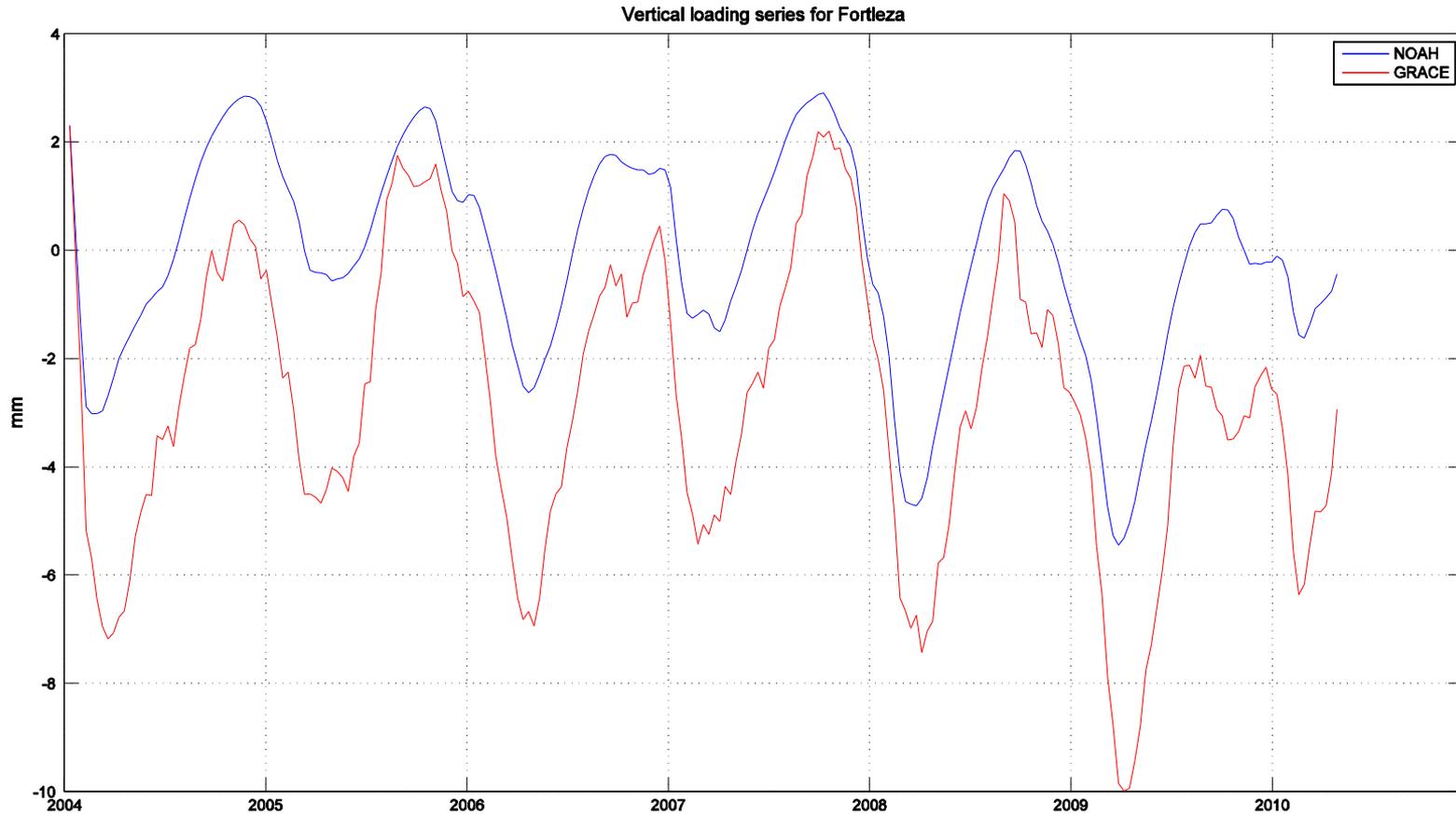
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Correlation tends to be less for sites near coasts



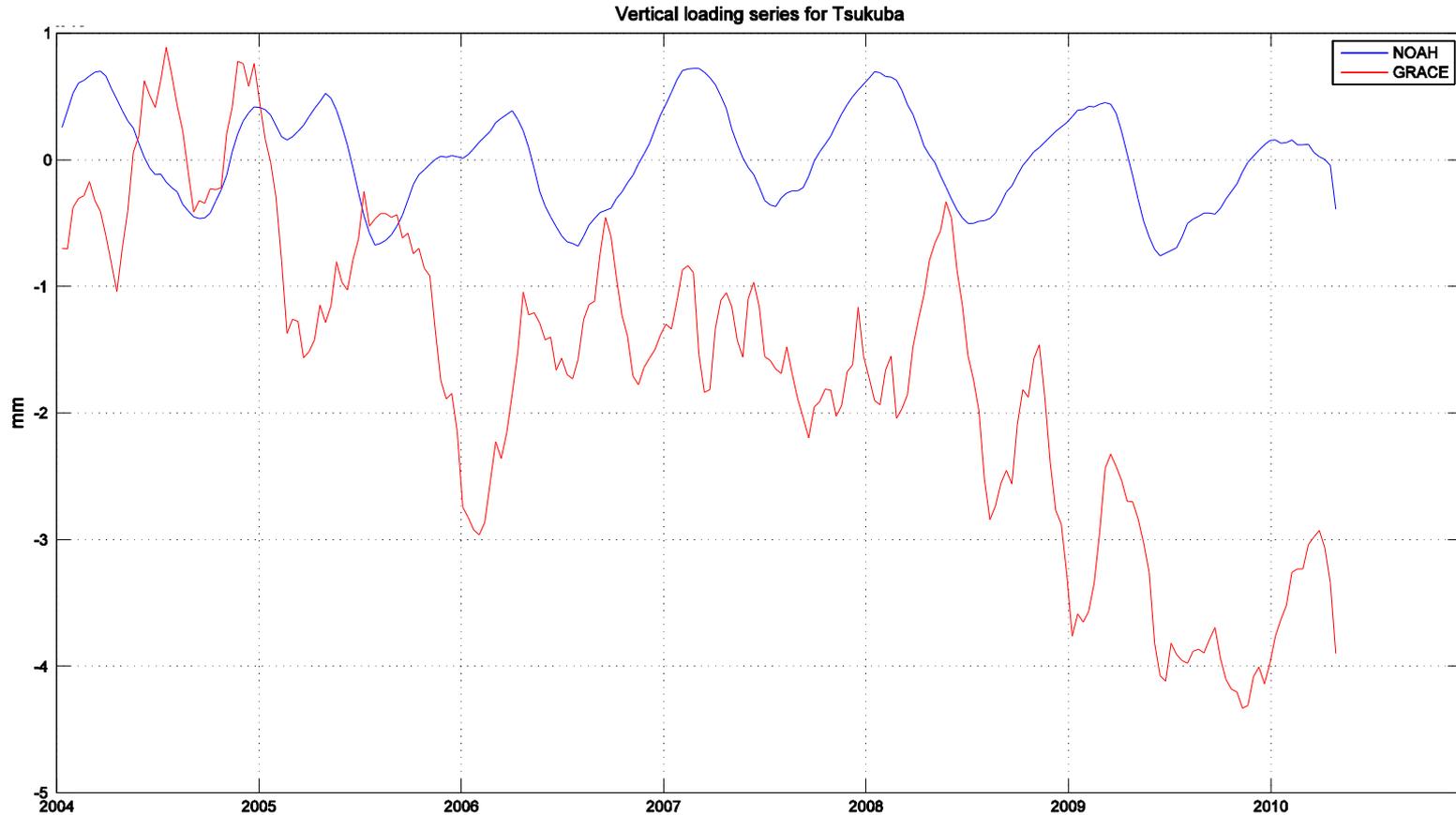
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Good correlation for FORTLEZA but GRACE amplitude is larger



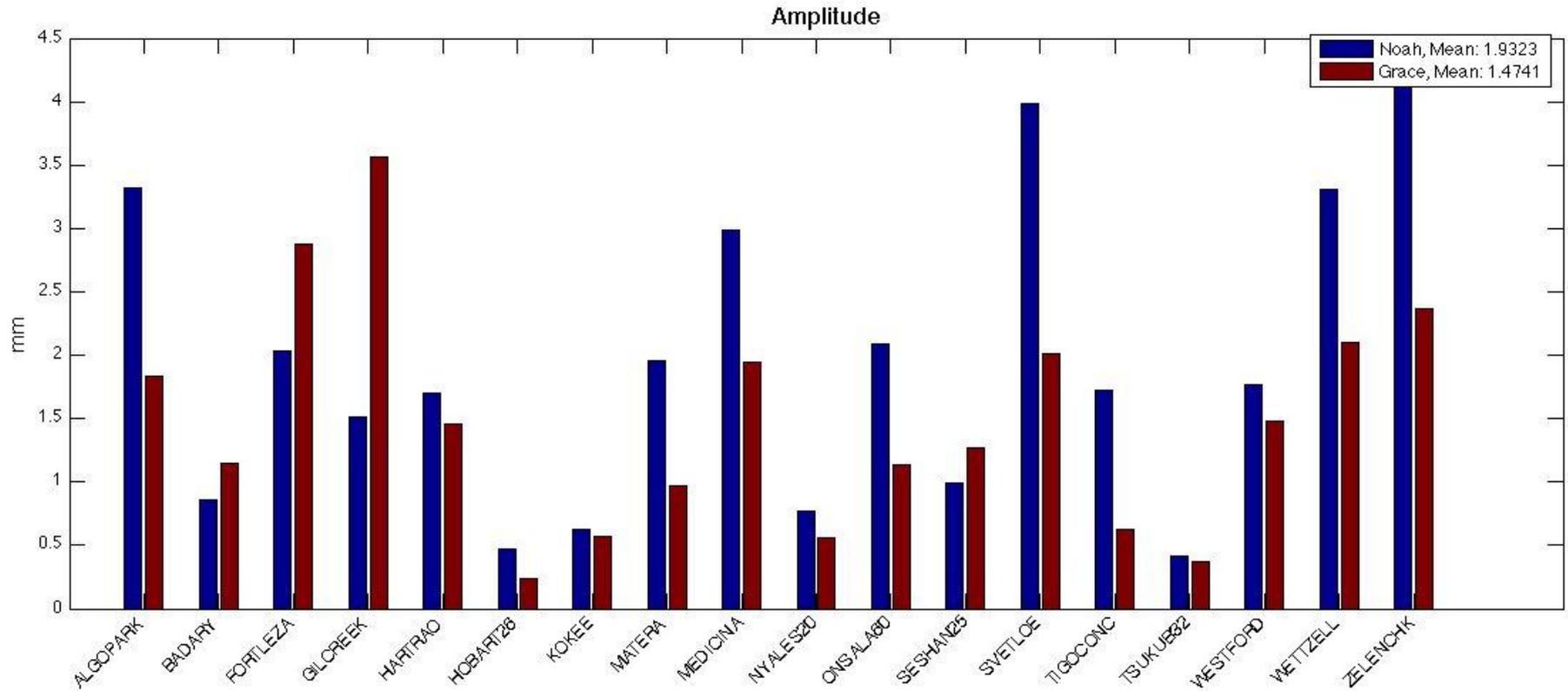
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- All the Japanese sites show poor correlation
- May be GRACE problem due to long, narrow north-south shape of Japan

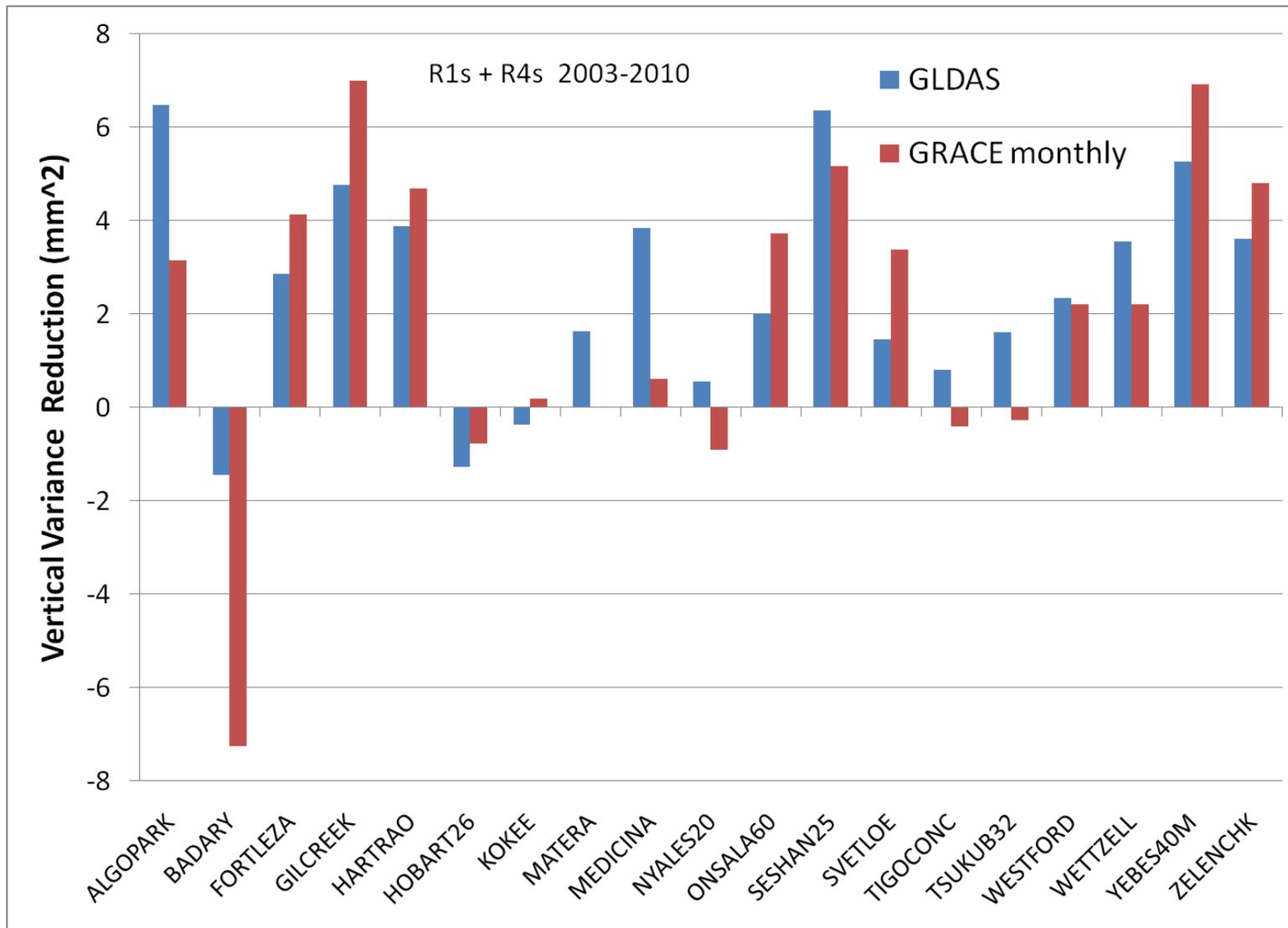


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Conclusions



- Both the GLDAS hydrology loading and GRACE loading reduce VLBI vertical scatter
- Most sites show good correlation between GLDAS and GRACE vertical loading series
- We are considering providing a service for hydrology loading series at VLBI sites using the GLDAS model since GLDAS is available over the full VLBI observing period (GRACE only since 2003)