



Hydrology Loading in VLBI Analysis

D. MacMillan and D. Eriksson
NVI, Inc. and NASA/GSFC



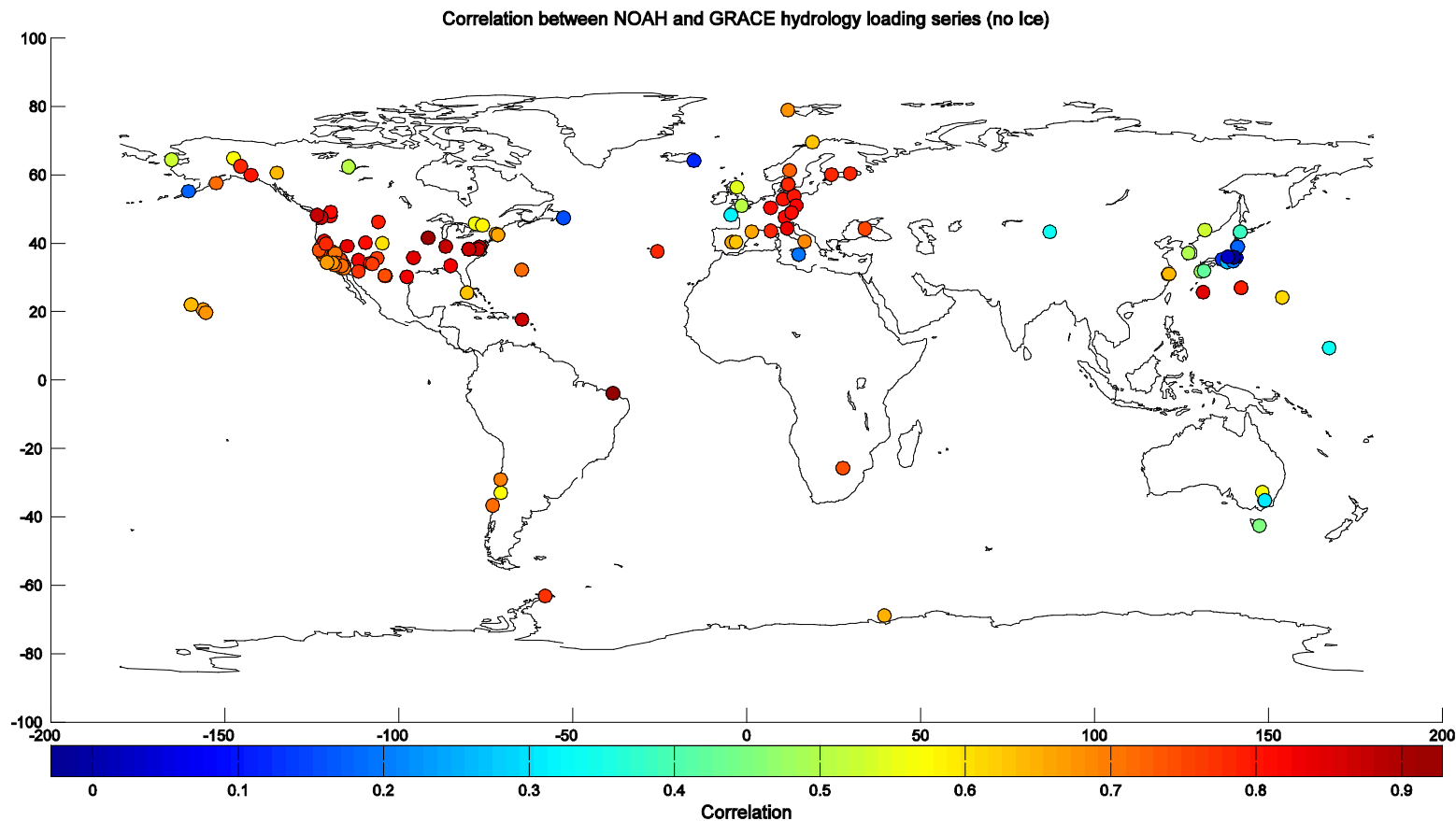
Overview



- Computed loading using NASA GSFC GRACE solution
- Model loading also computed using the GSFC GLDAS (Global Land Data Assimilation System, Rodell et al.)
=> soil moisture + snow water equivalent



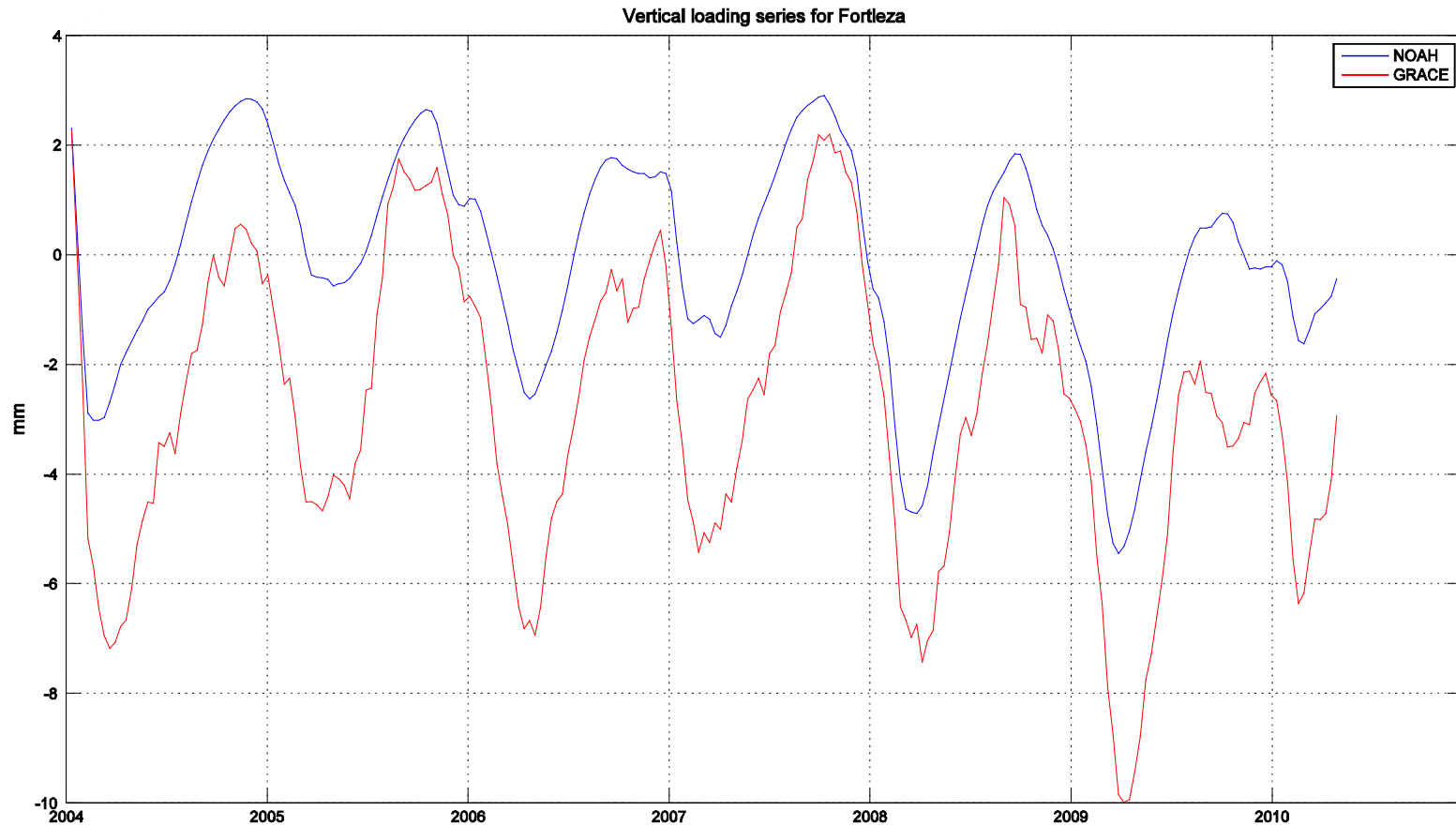
Hydrology Loading



Correlation tends to be less for sites near coasts



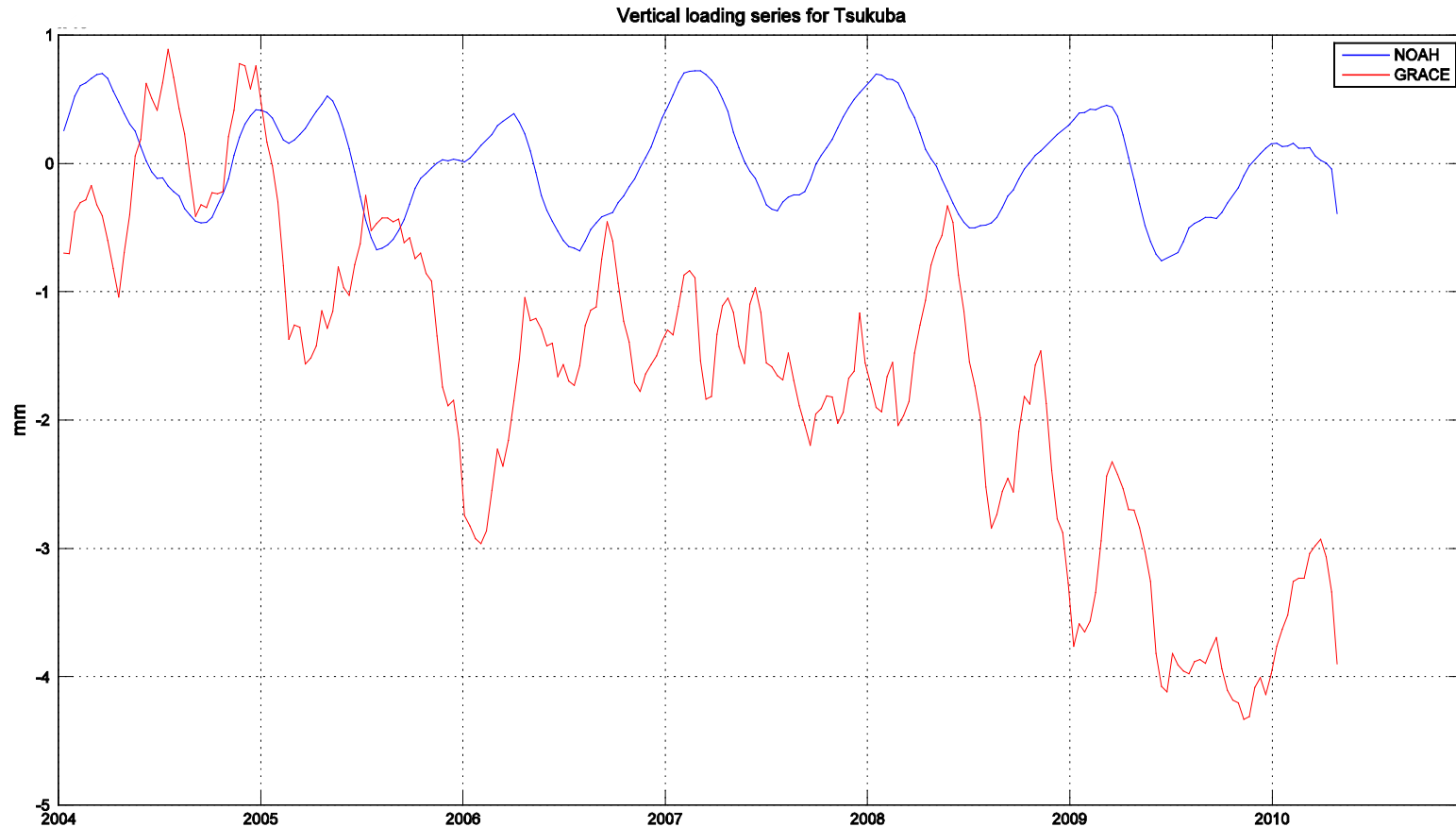
Hydrology Loading



Good correlation for FORTLEZA but GRACE amplitude is larger



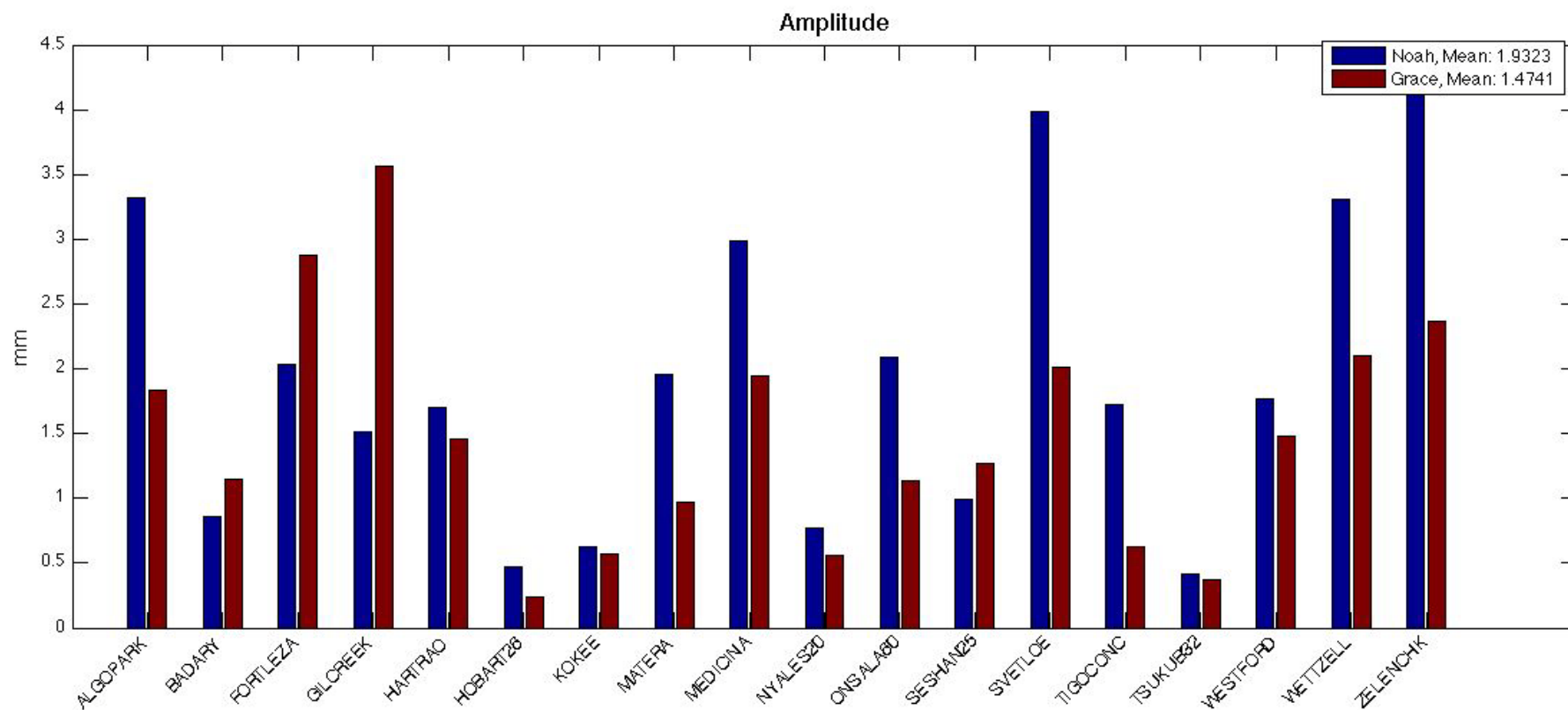
Hydrology Loading



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

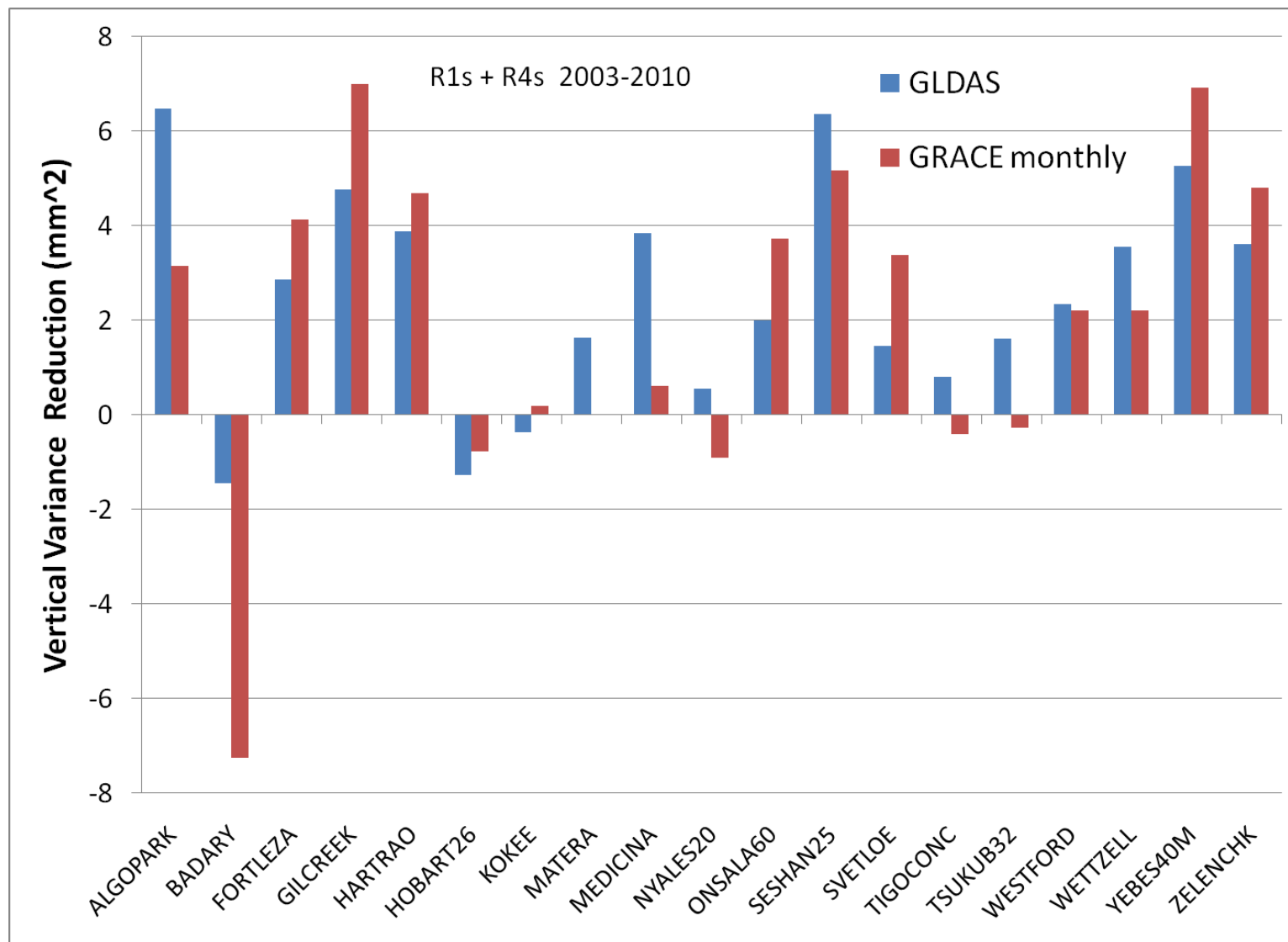


Hydrology Loading





Hydrology Loading





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)