

Temporal and spatial mismatch effect between SMAP and SMOS soil moisture

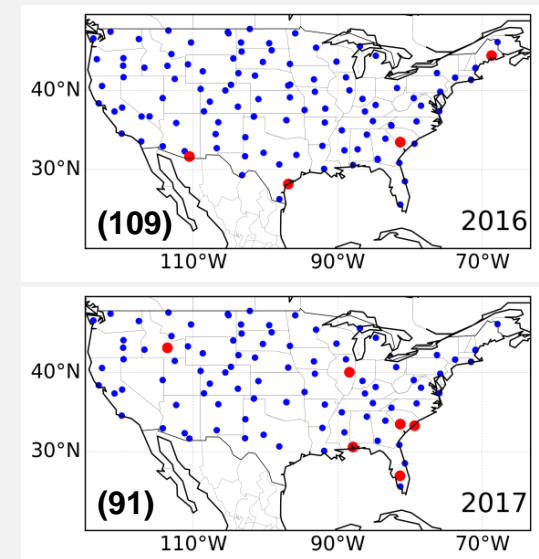
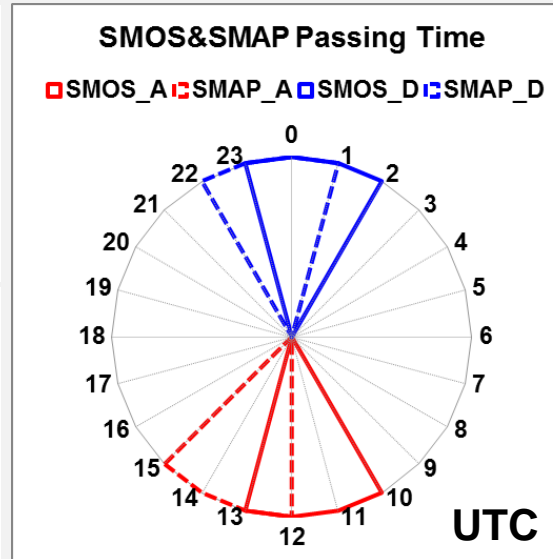
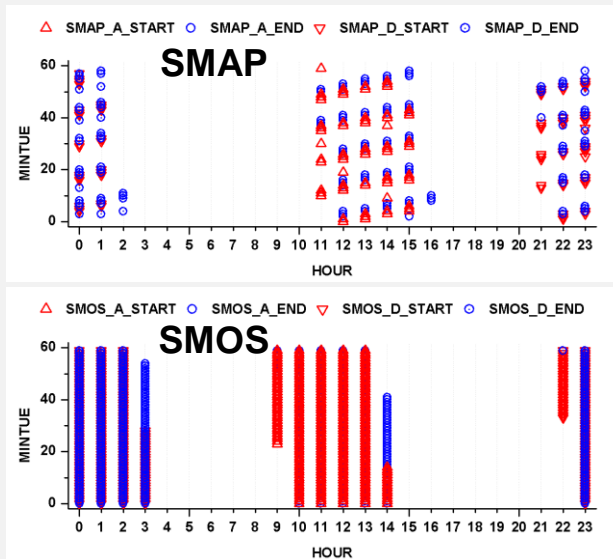
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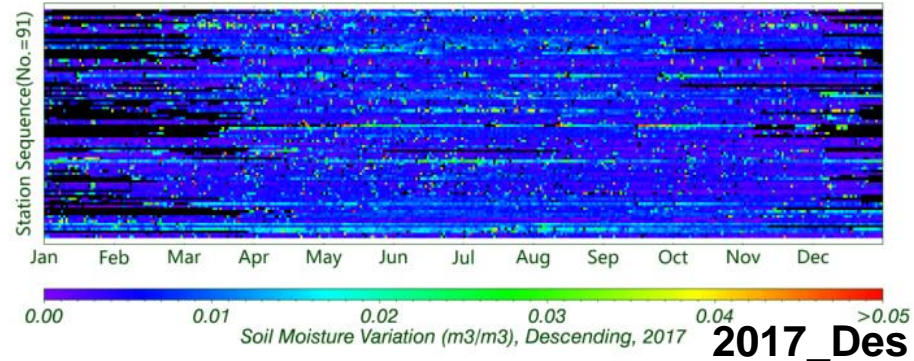
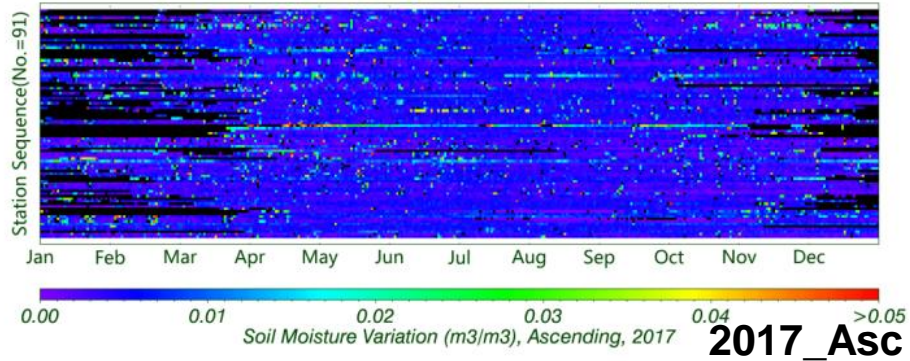
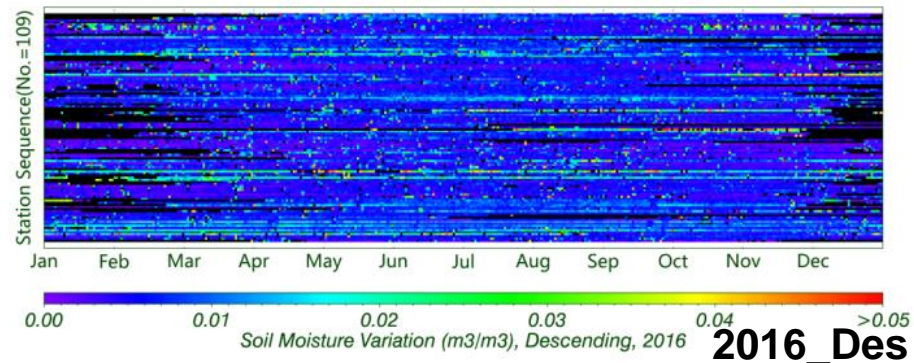
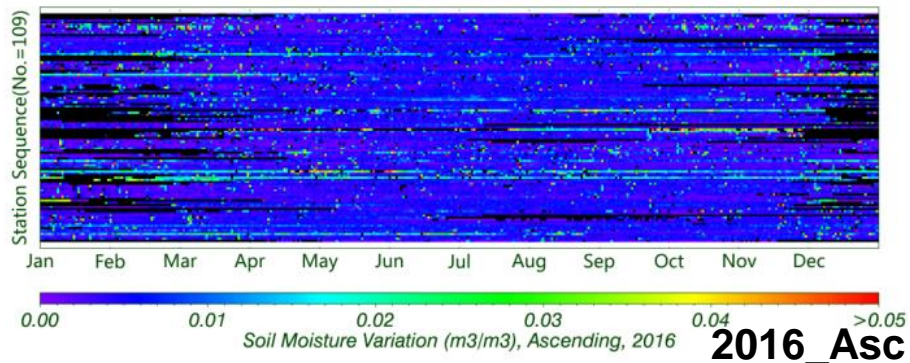
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The mismatch of SMOS, SMAP soil moisture and in situ measurements in passing time, observing depth and pixel resolution may induce comparison uncertainties and validation errors.

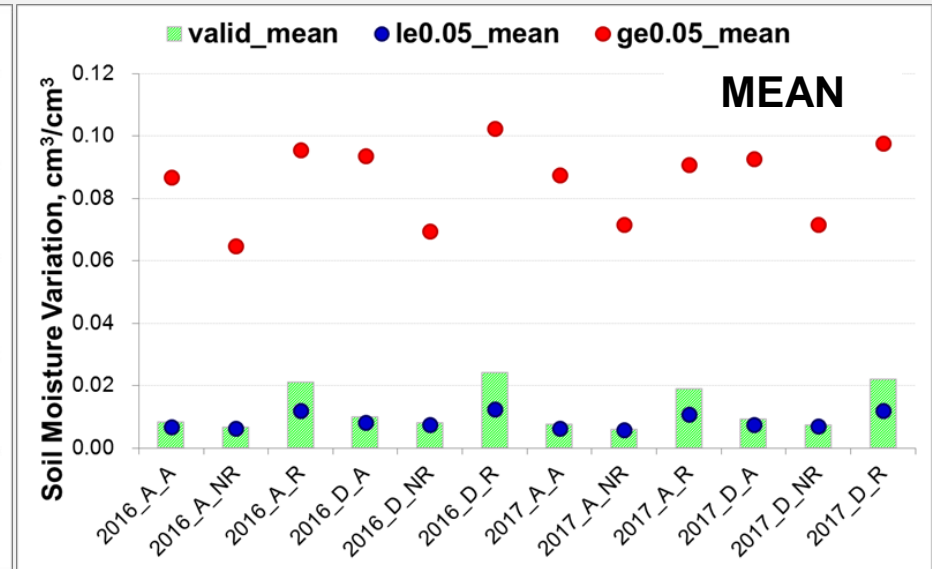
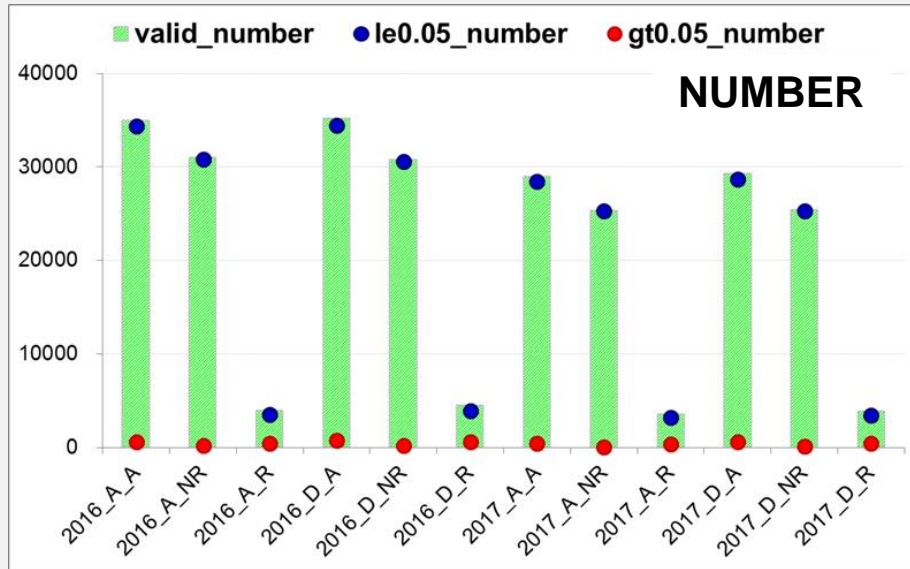
1. 5 cm soil moisture variation during SMOS & SMAP overlapping period (USCRN 5 cm soil moisture data, /5 minutes, 2016-2017)



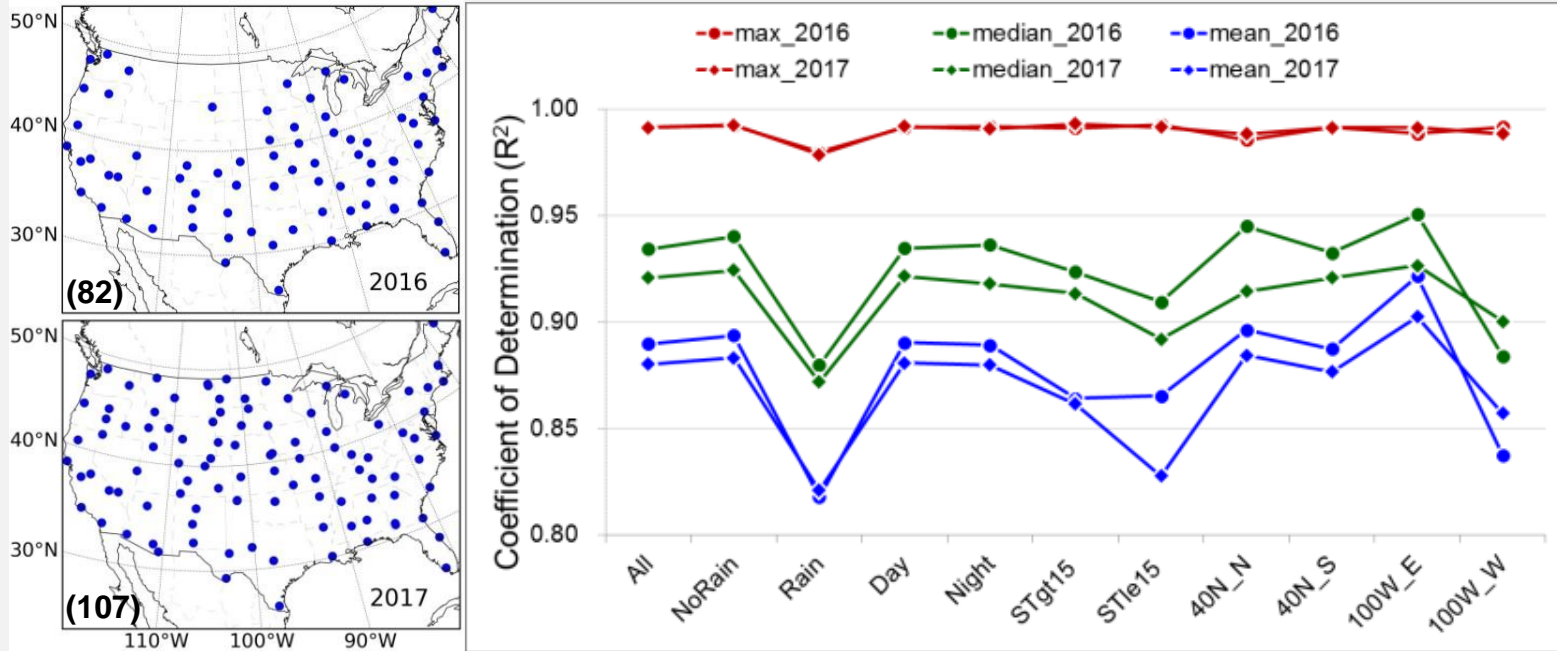
- 5 cm soil moisture variation in each site during the overlapping period



	NR & ≤ 0.05	NR & > 0.05	R & ≤ 0.05	R & > 0.05
Record number	99.51%	0.49%	88.49%	11.51%
Averaged variation (cm^3/cm^3)	0.007	0.069	0.012	0.097

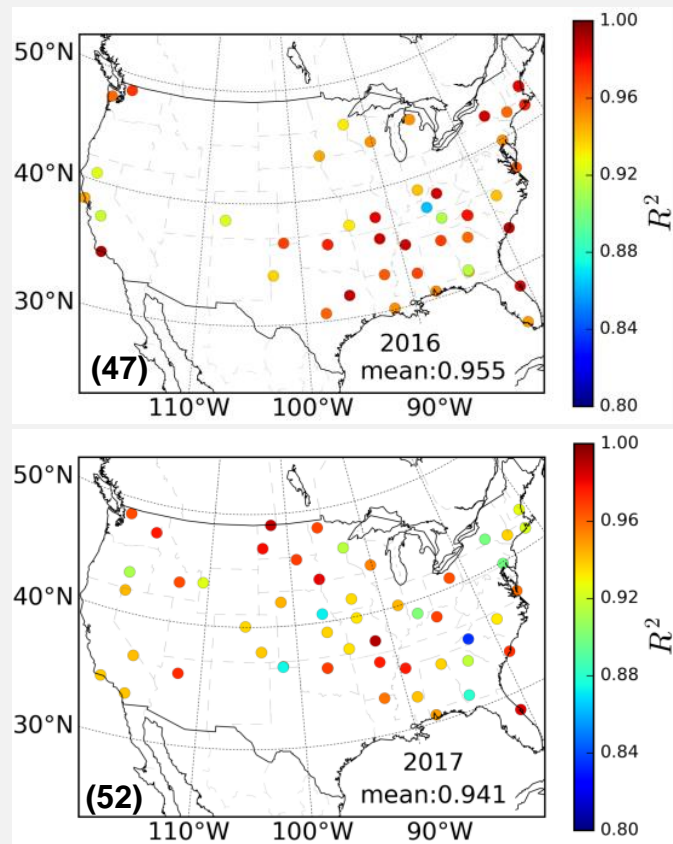
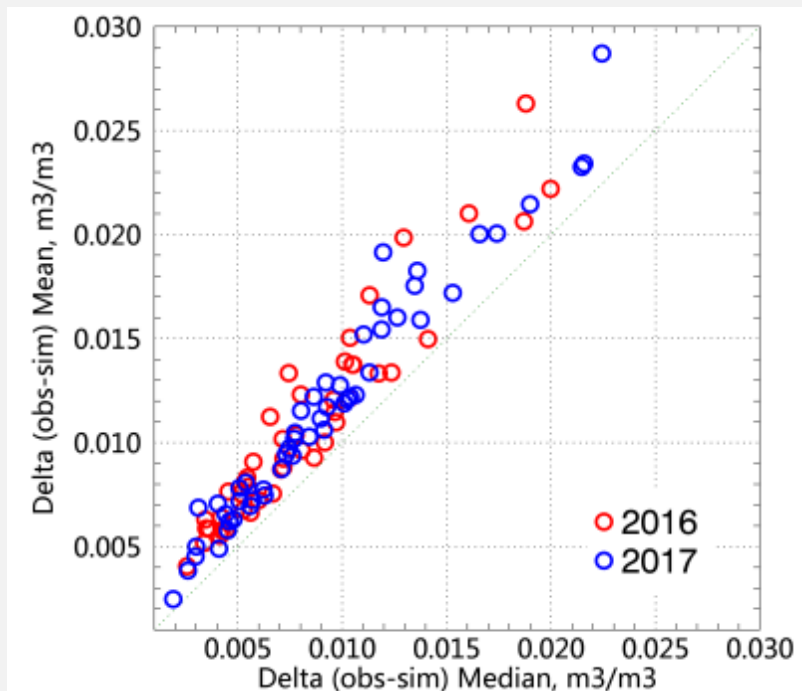


2. Correlation between soil moisture of 5 cm and 10 cm (USCRN 5 & 10 cm soil moisture data, /hour, 2016-2017)



$$\text{SM05_sim} = A + B * \text{SM10_obs}$$

$$\Delta = |\text{SM05_obs} - \text{SM05_sim}|$$



THANK YOU~

