

Three AVHRR “CDRs” from 2002-2015: Initial Comparisons with *i*Quam (Night)

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NOAA STAR and CSU CIRA

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3 long-term AVHRR SST Products

Pathfinder V5.2 (PFV5.2)

- ✓ Data available from 1981 – 2012
- ✓ Skin SST (a -0.17K bias is expected)
- ✓ Kilpatrick et al, JGR, 2001; Casey et al, 2010; Kilpatrick, CATBD, 2013;

CCI

- ✓ Data available from 1991 – 2010
- ✓ Skin SST (a -0.17K bias is expected)
- ✓ Merchant et al, Geosci Data J., 2014

AVHRR RAN1

- ✓ Data available from Jul'2002 – Dec'2015
- ✓ Sub-skin SST (no bias wrt in situ expected)
- ✓ Shown below are SSES bias corrected
(Petrenko et al , JTECH 2016; better proxy for “depth” SST)
- ✓ Ignatov et al, Remote Sens., 2016

Comparison only done for Night, QL=5, from Jul'2002 – Dec'2015

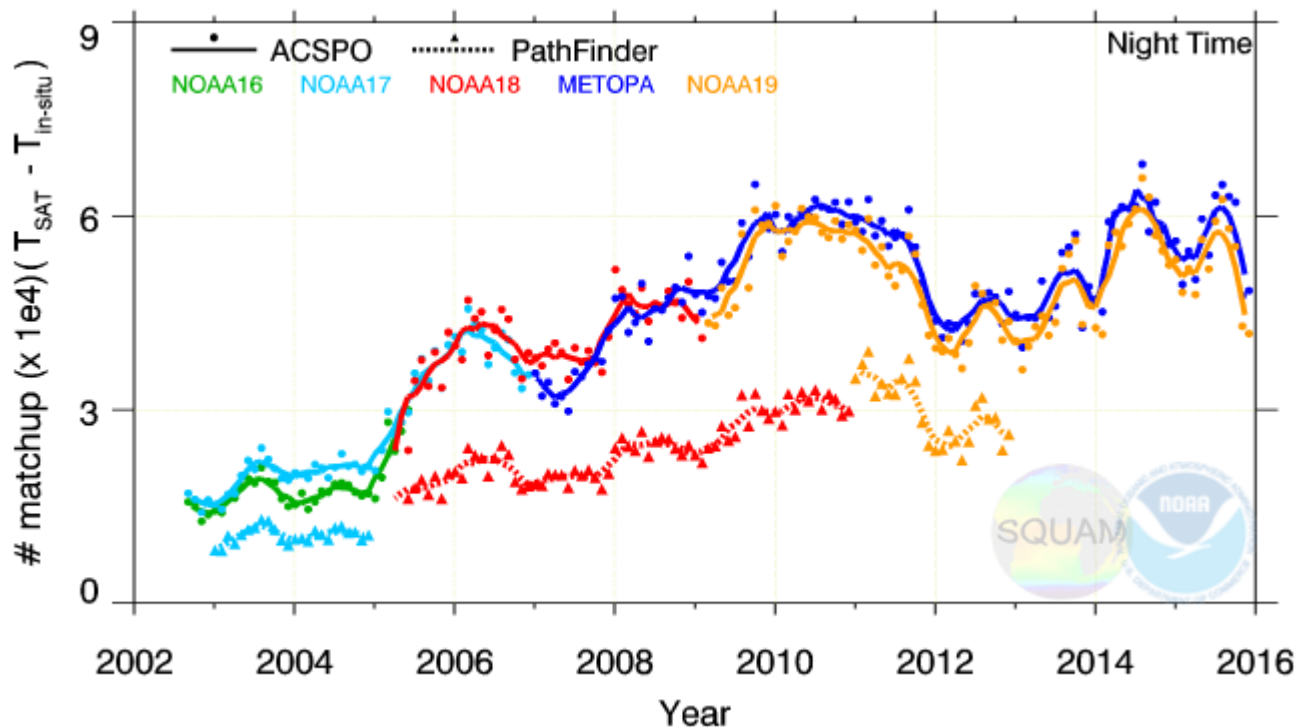


With respect to Drifters and Tropical Moorings

RAN1 SST_depth (SSES bias corrected)



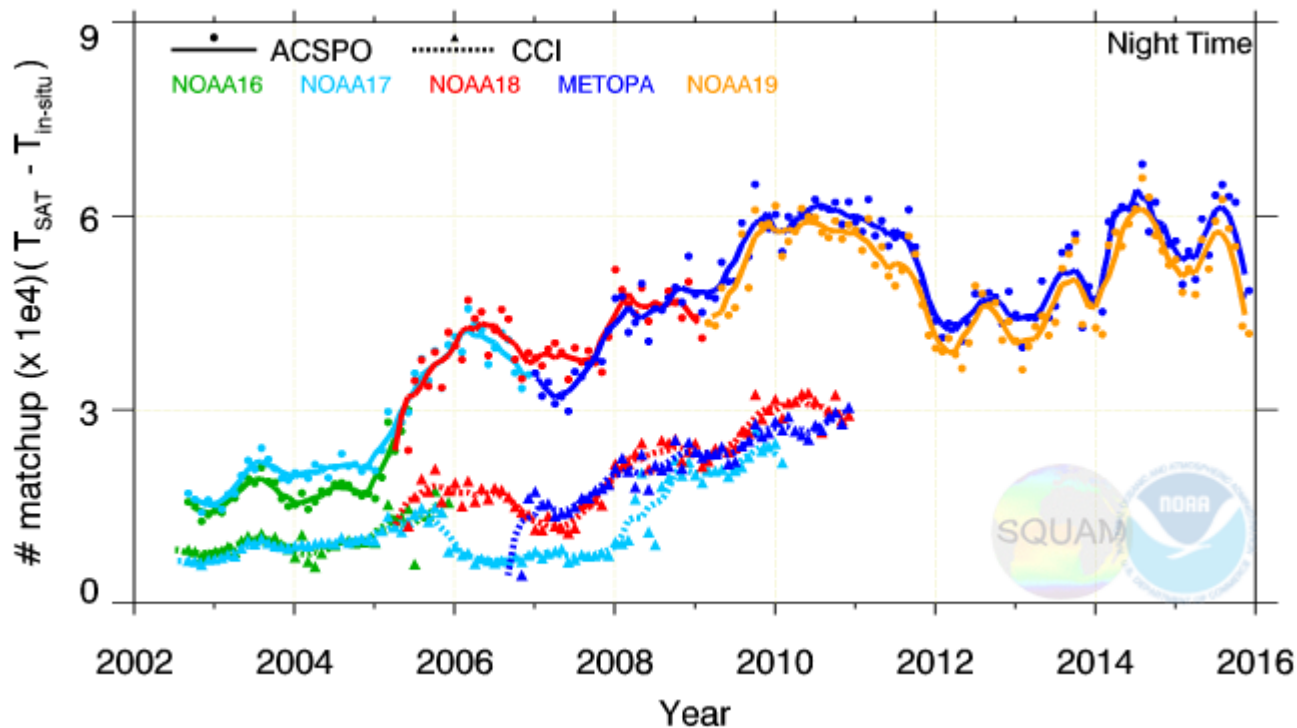
AVHRR RAN1 and PFV5.2: Number of Matchups against *i*Quam (Drifters + Tropical Moorings)



- RAN1 reported from 2 satellites (PM & mid-AM) vs. one in PFV5.2
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- Number of retrievals with QL=5 is factor of 2 larger in RAN1
- RAN1 is a L2 and PF is a L3 (0.04°) product
- RAN1: QL=5 retrievals made in full swath (PF: only within VZA<55°)



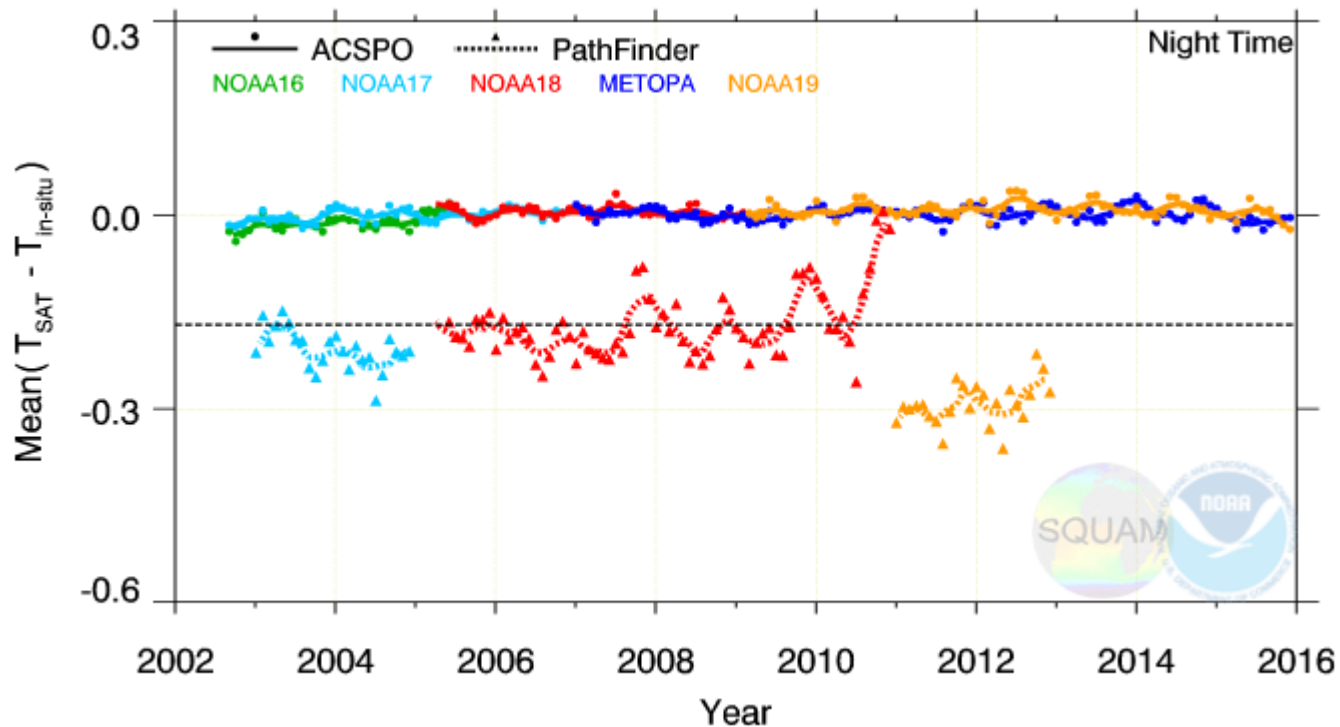
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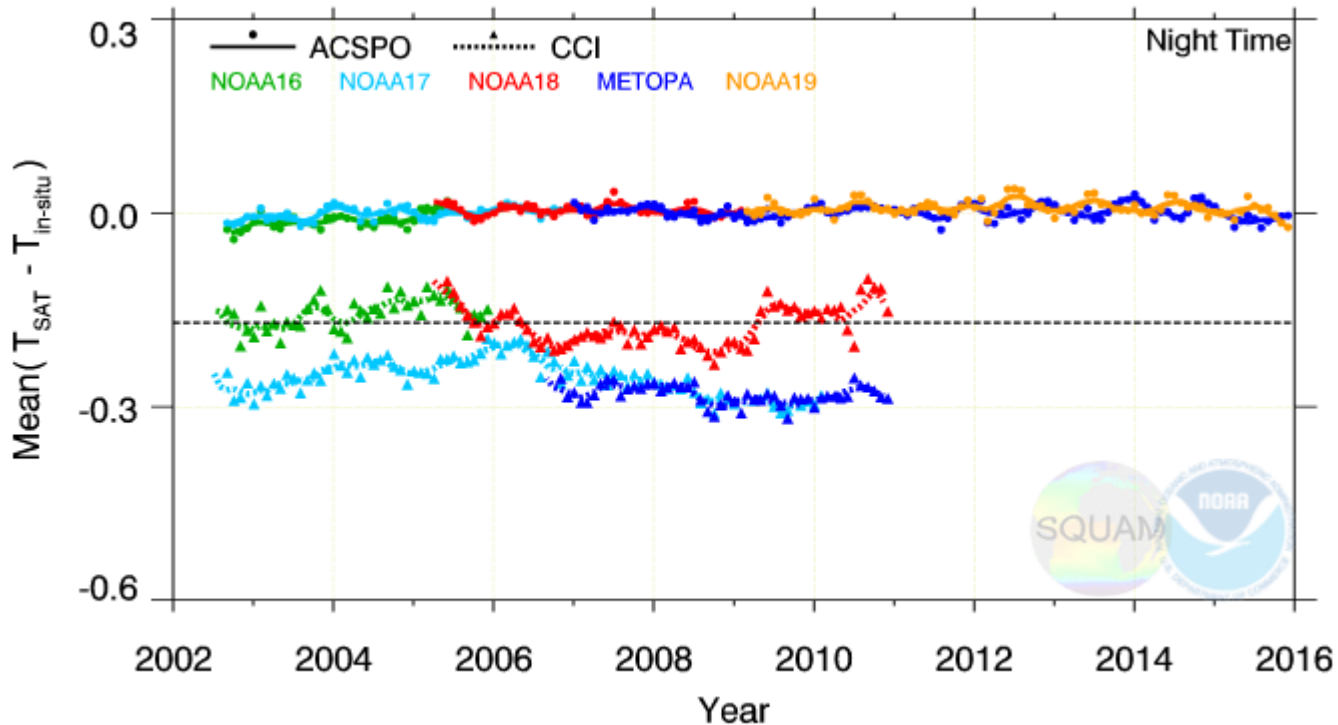
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- RAN1 SST is SSES-bias corrected (Petrenko et al, JTECH 2016)
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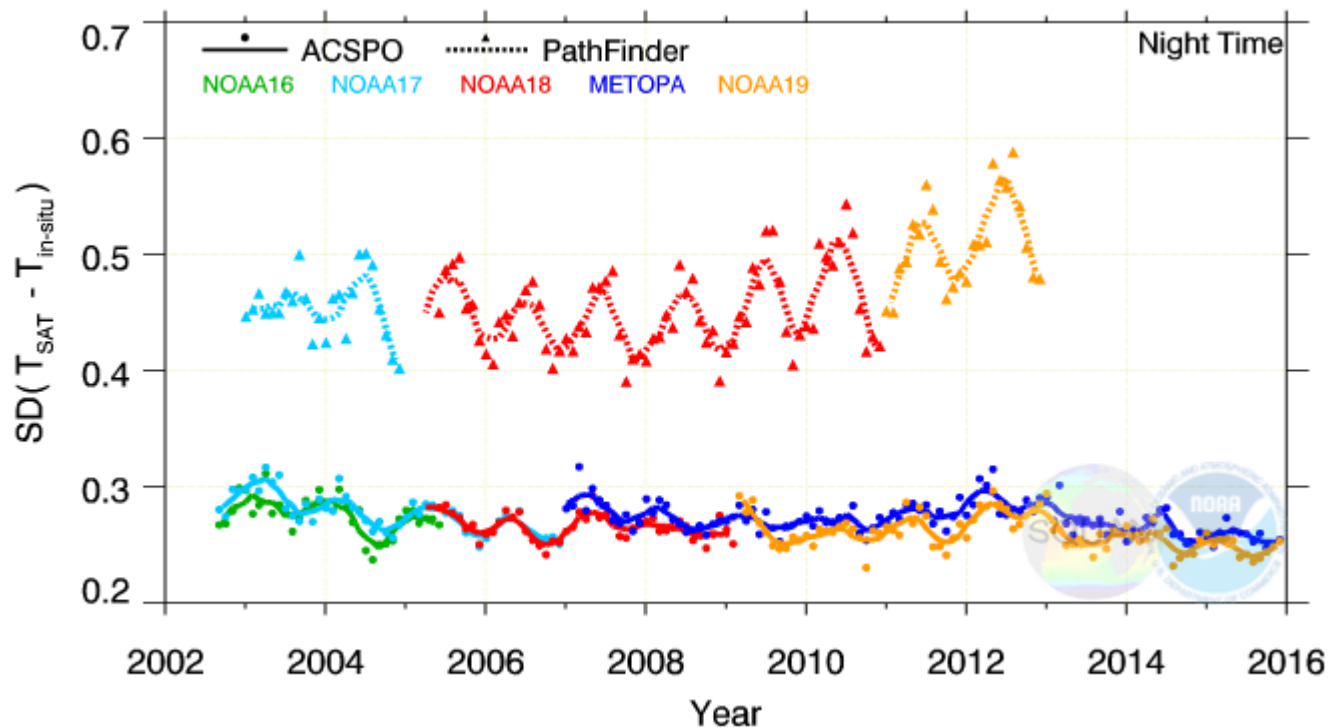
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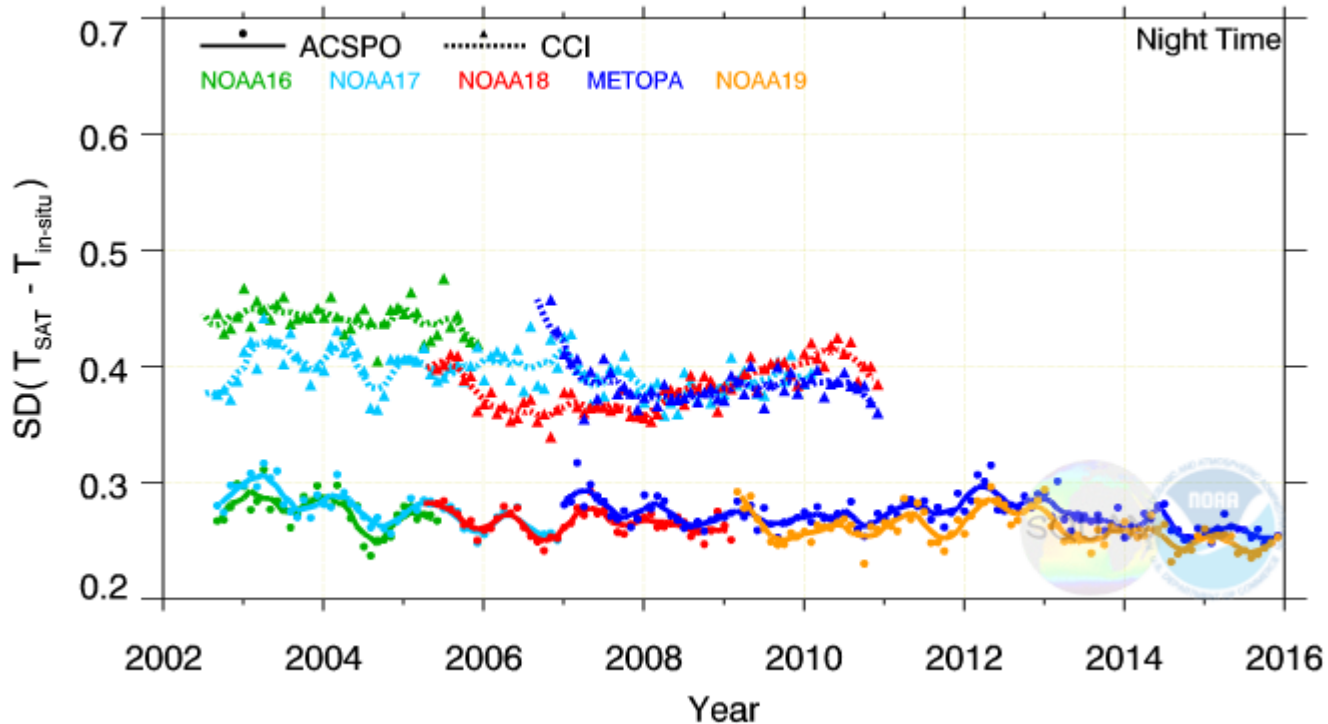
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Points to note

SQUAM can support CDAF

- ✓ NOAA match-up codes and SQUAM processing capability are in place
- ✓ Currently, we are understaffed & overwhelmed w/JPSS and H8 projects
- ✓ Work load will increase with launch of GOES-R (Oct'2016) & J1 (Jan'2017)
- ✓ Our GHRSSST/CDAF involvement is “best effort”, cannot commit to any deliverables and/or deadlines

Ongoing ACSPO RAN1 work

- ✓ Work is underway to generate RAN2 (using AVHRR/2 data from 1994-pr)
- ✓ RAN2 will be compared with PFV5.2 and CCI for this more complete period

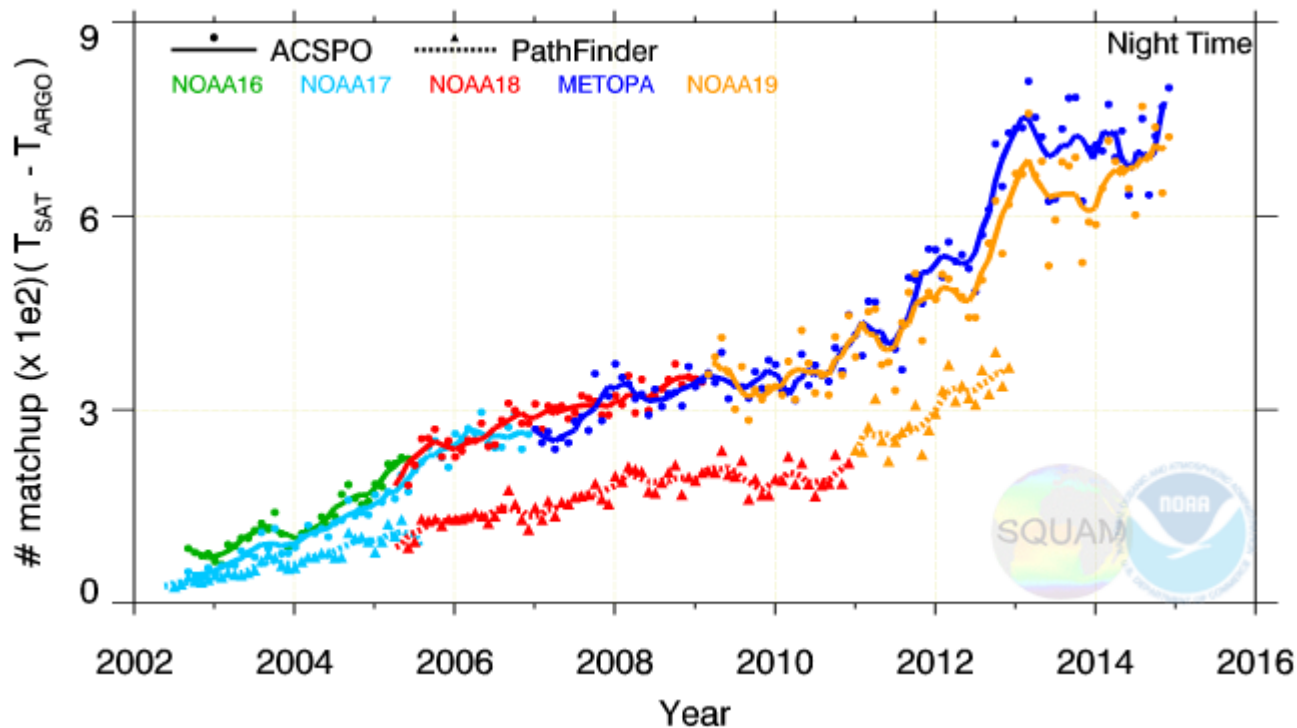


With respect to Argo Floats

RAN1 SST_depth (SSES bias corrected)



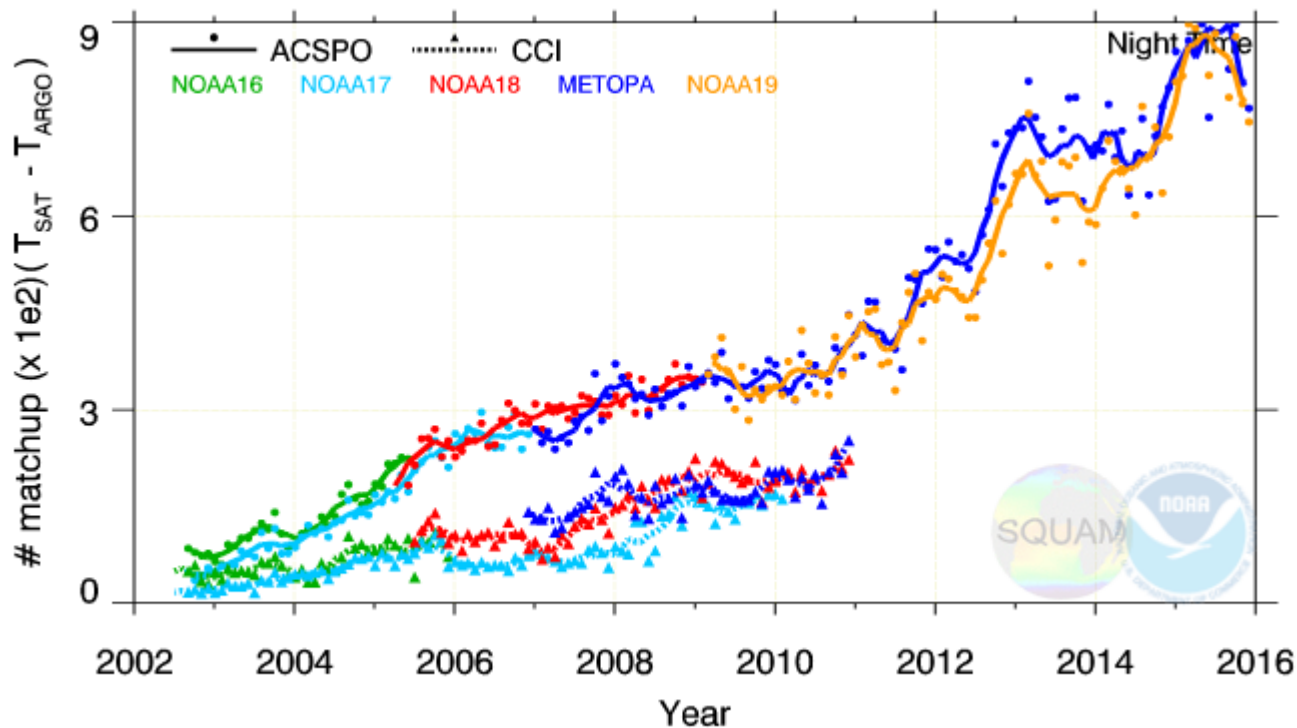
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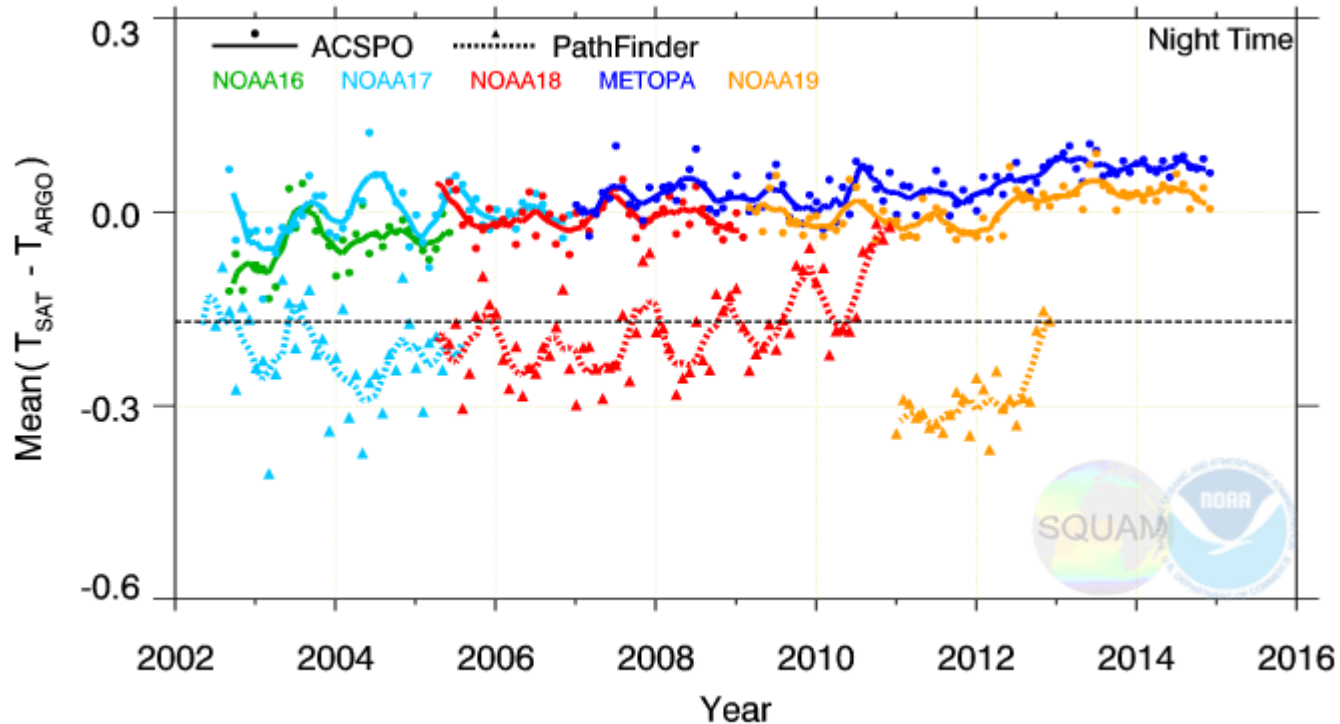
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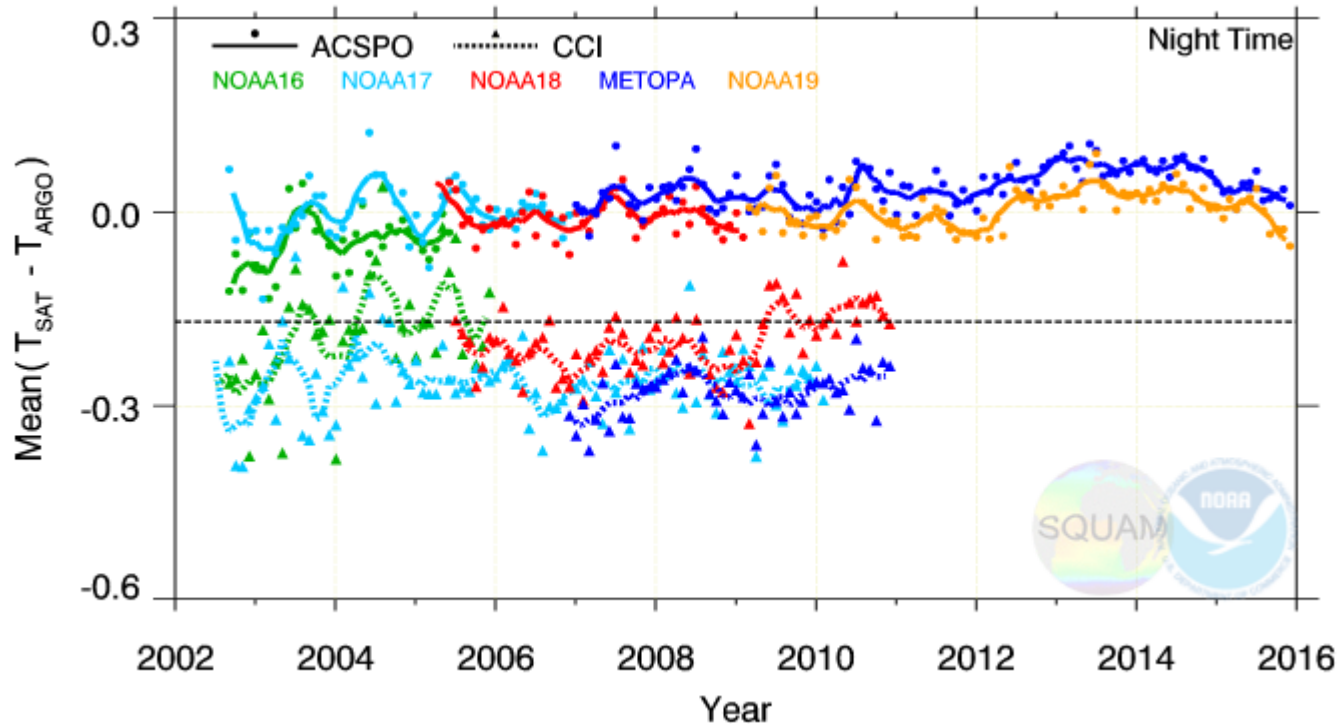
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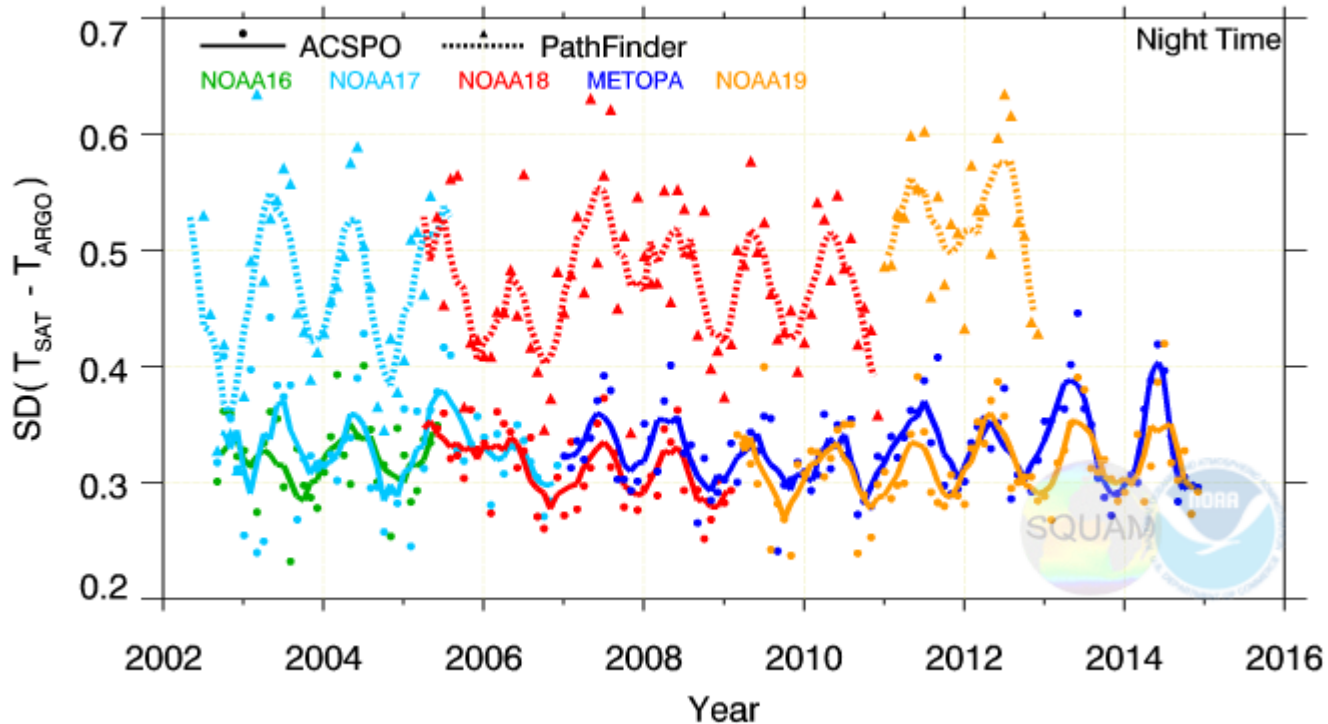
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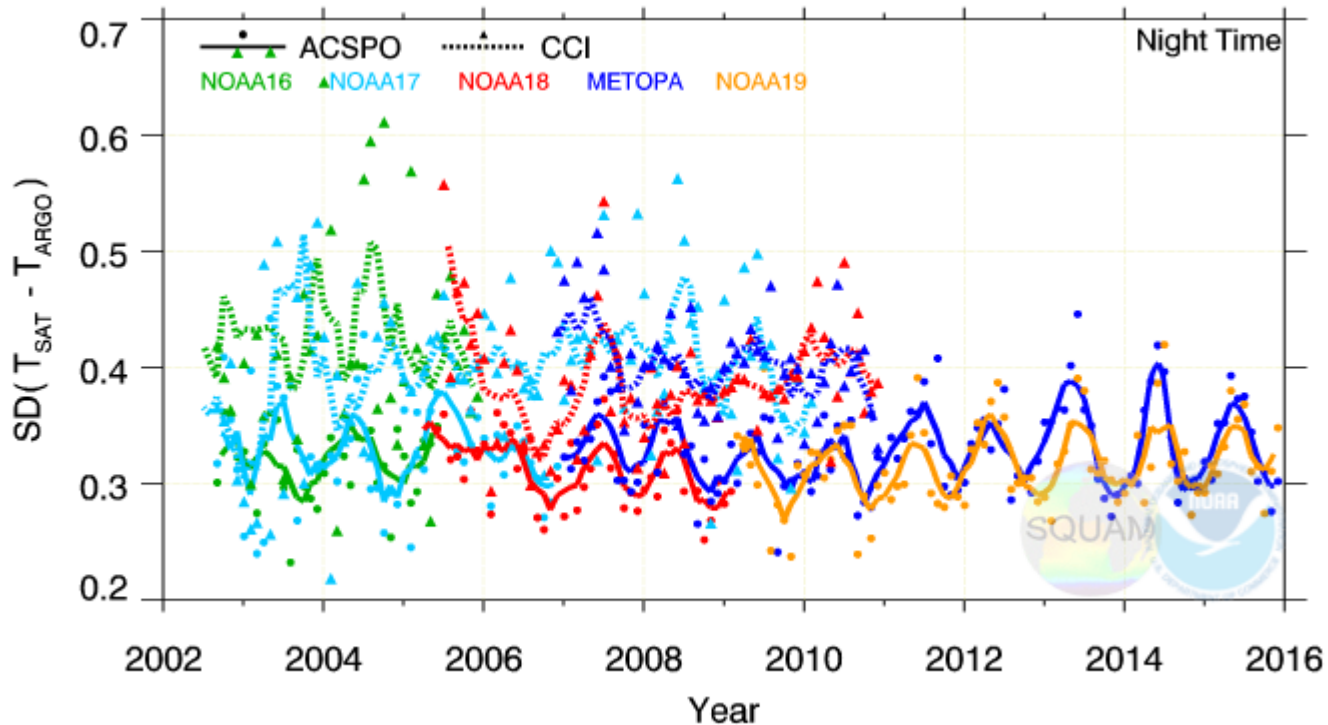
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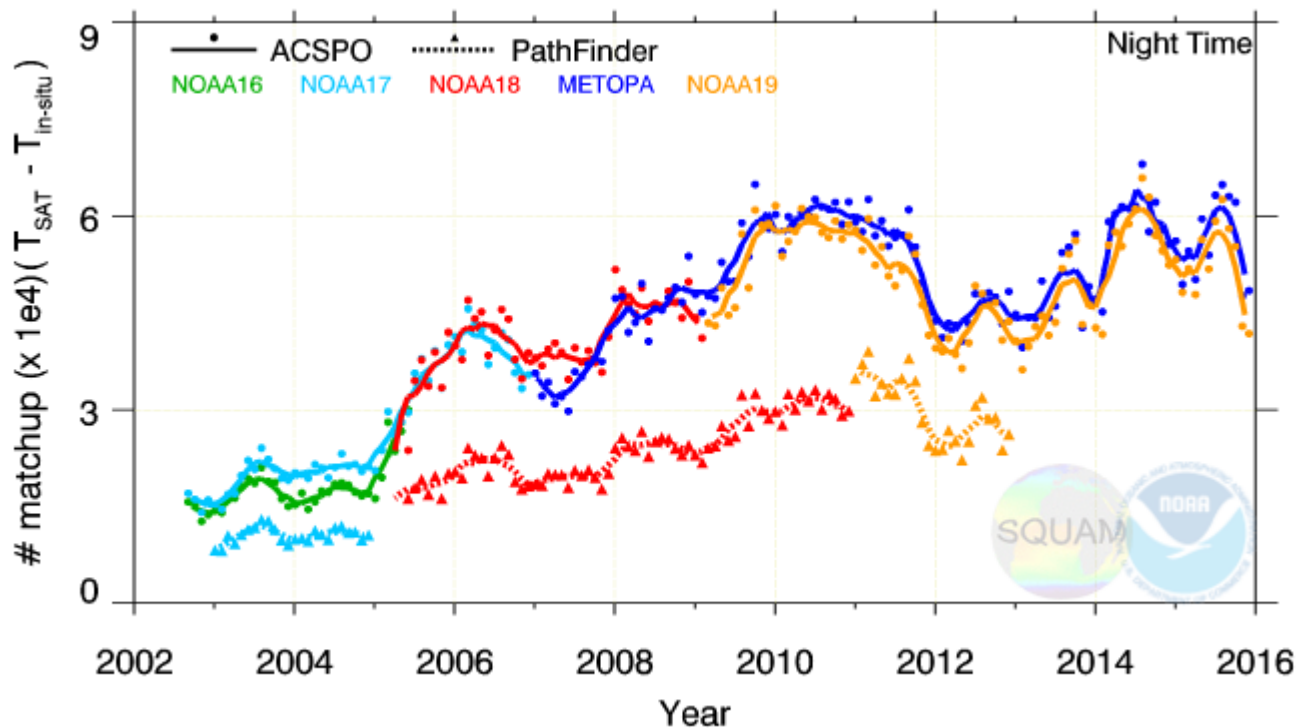


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RAN1 SST_subskin (Regression SST)



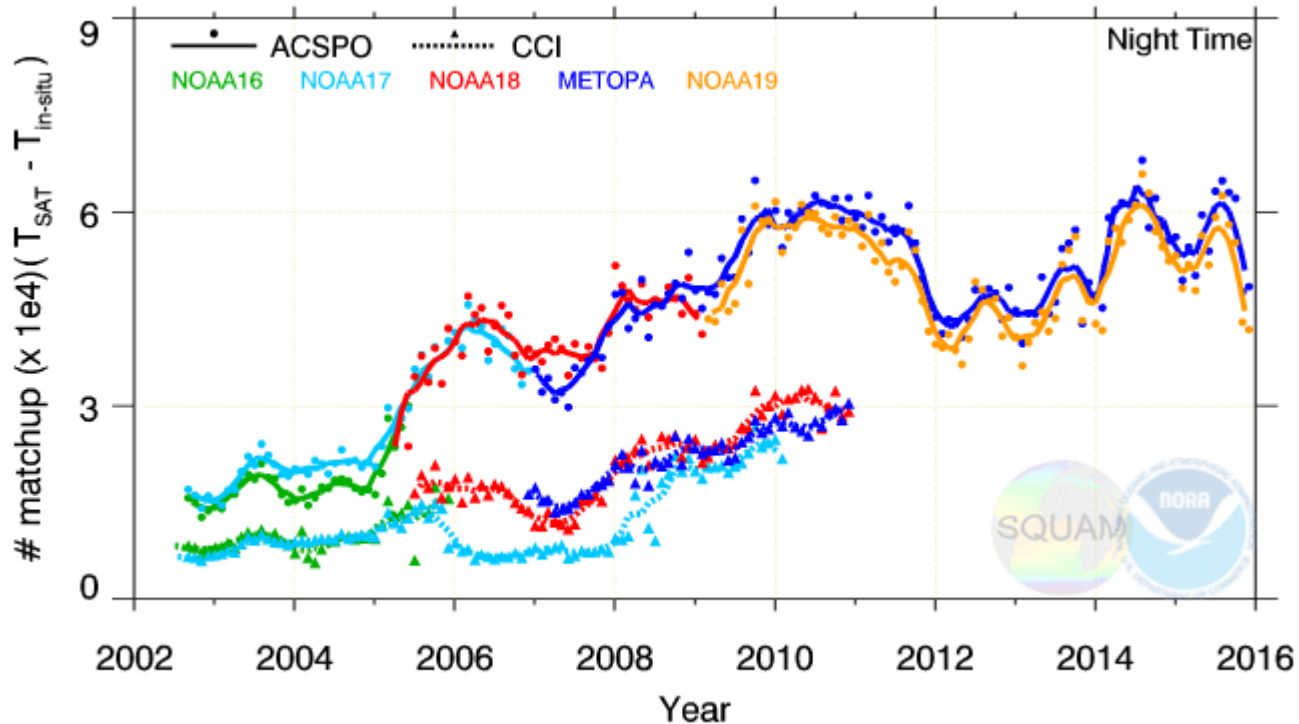
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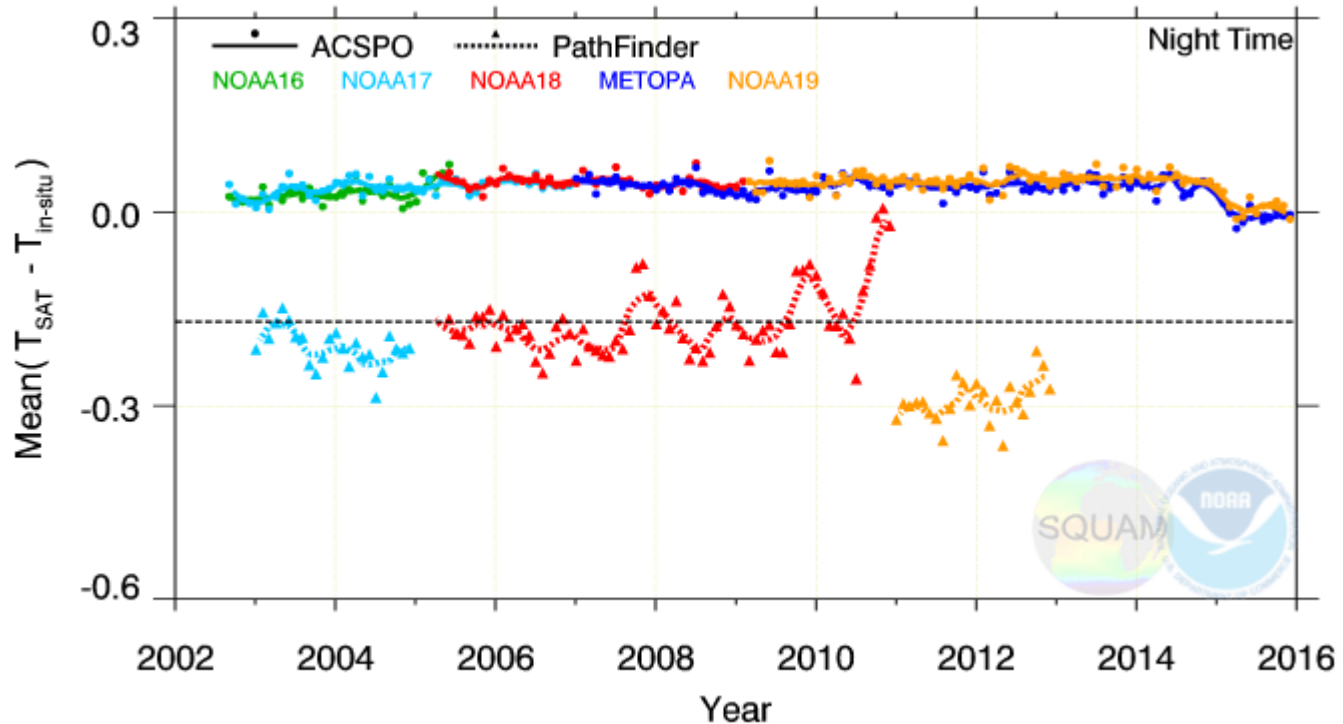
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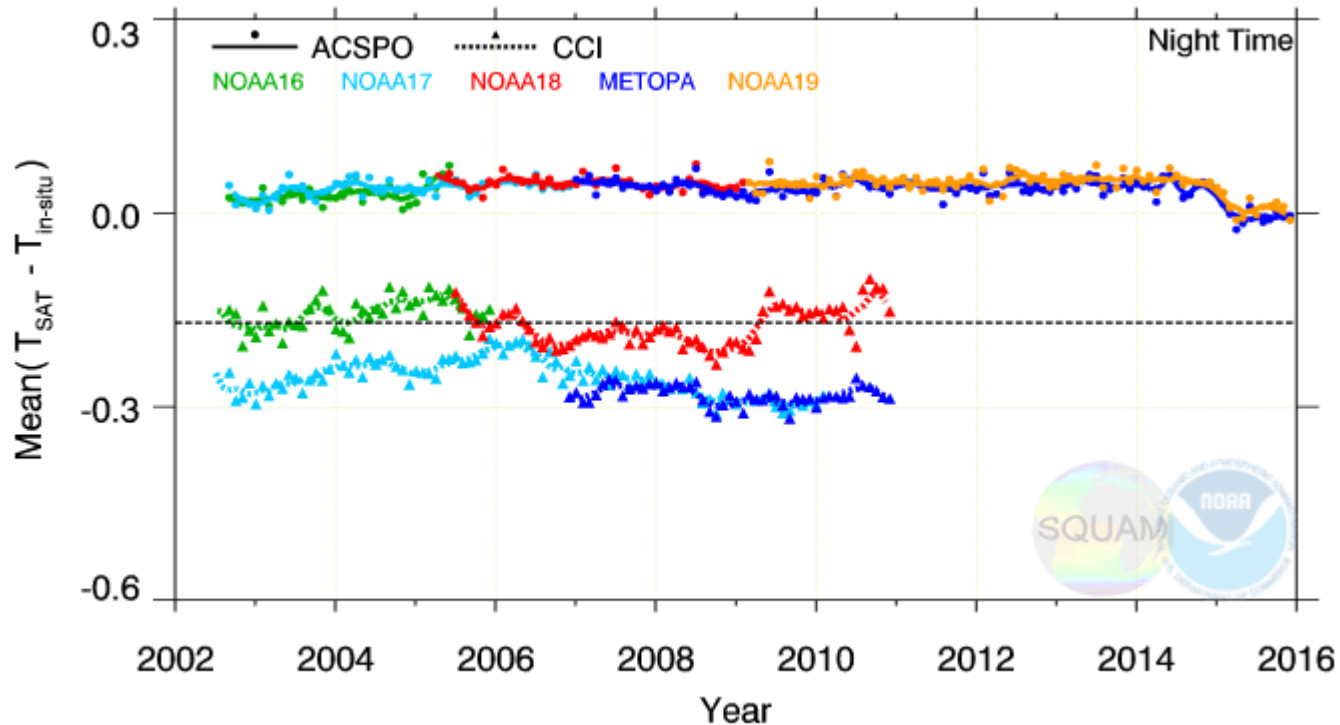
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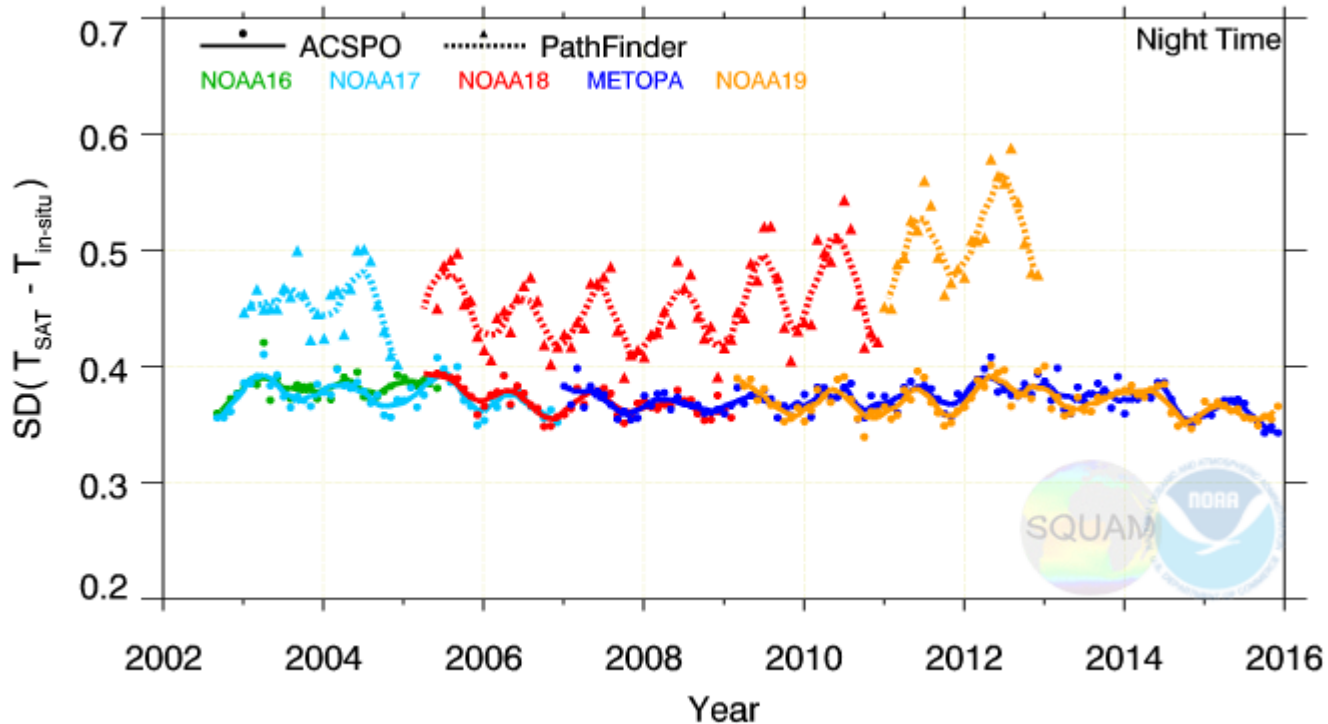
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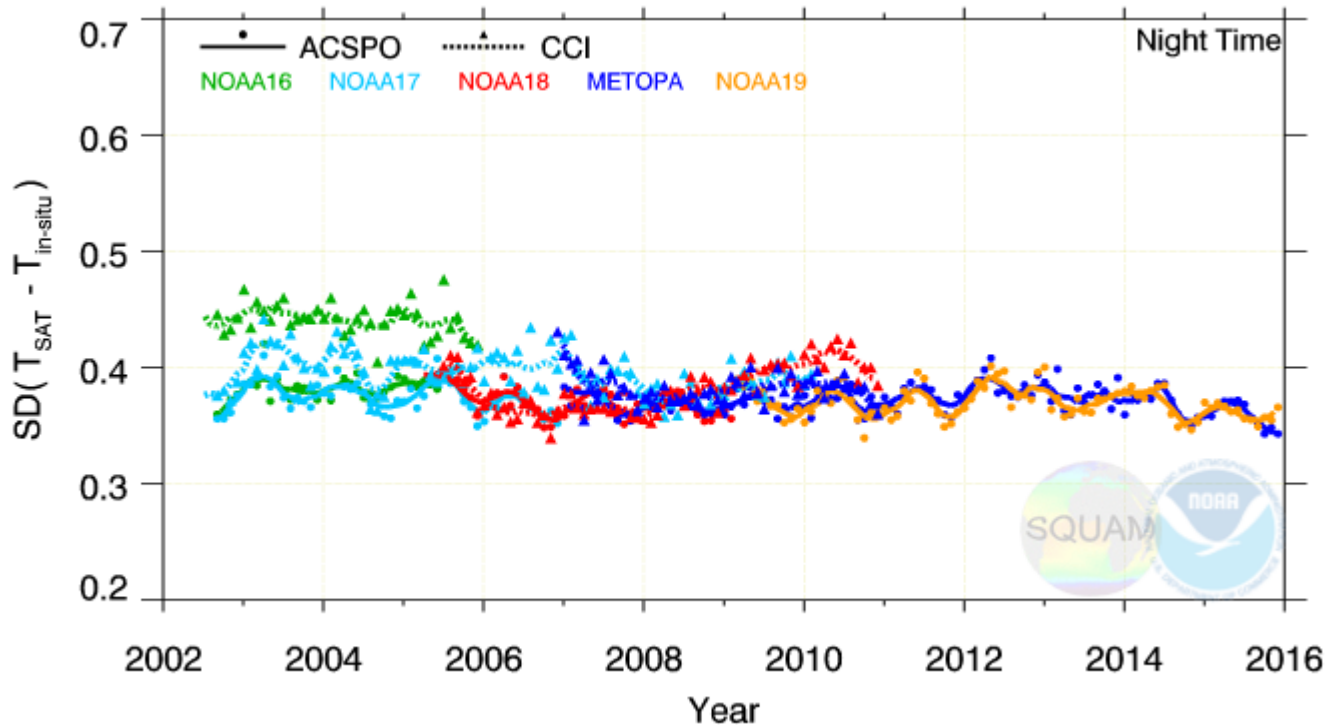
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