



# STAR AND COOPERATIVE INSTITUTE ROLE IN R20

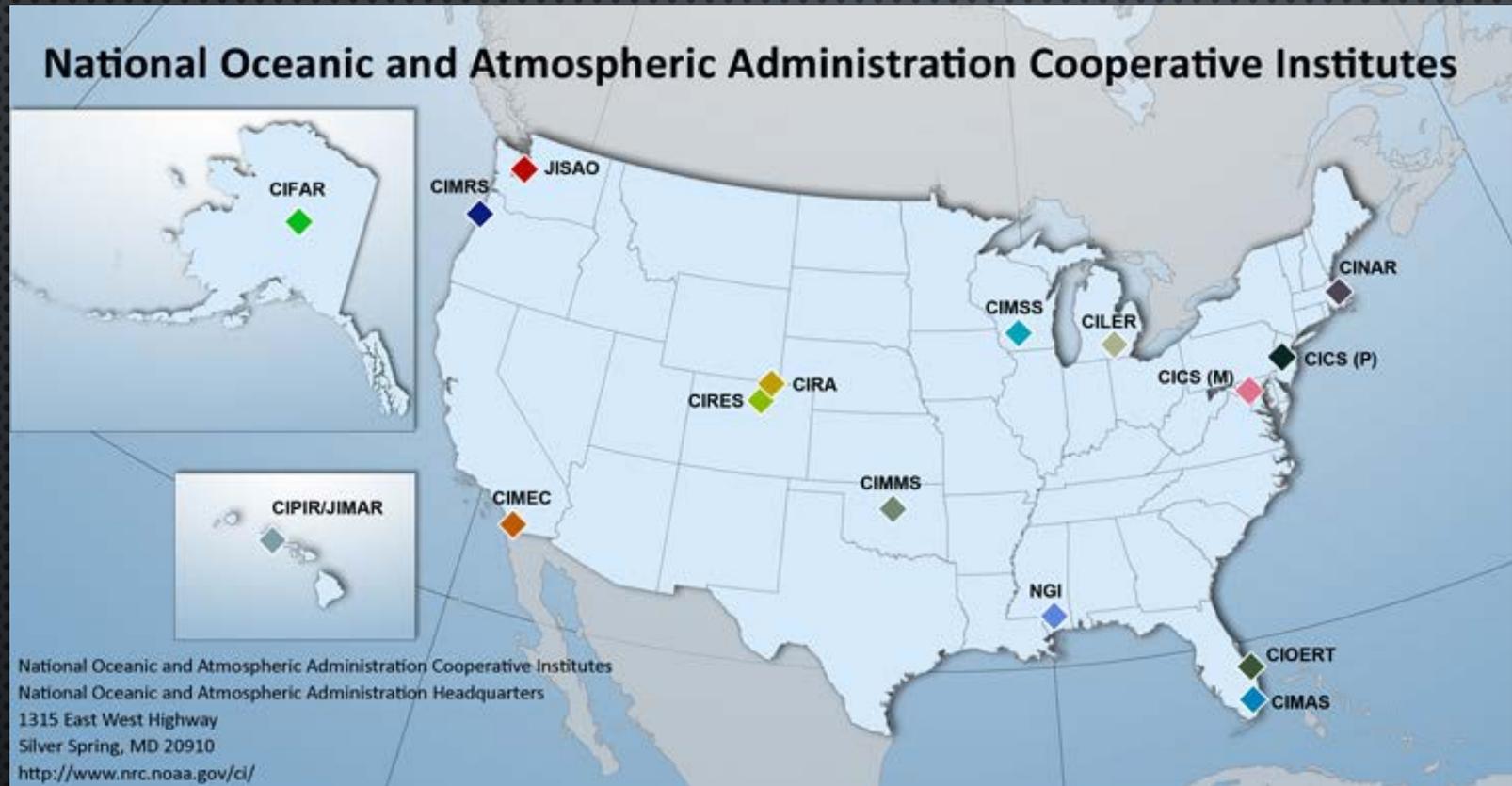
DIVISION CHIEF, COOPERATIVE RESEARCH PROGRAMS

NOAA/NESDIS/STAR

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# NOAA COOPERATIVE INSTITUTES ARE CENTERS OF EXCELLENCE



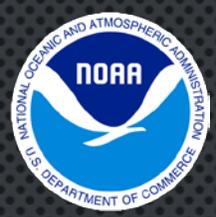
- 16 Cooperative Institutes consisting of 42 universities and research institutions across 23 states and the District of Columbia.
- 3 NESDIS CIs: CIMSS, CIRA, CICS
- 1 CSC: CREST
- ~200 FTE Researchers and Scientists
- Over 300 products and applications developed during 2006-2016



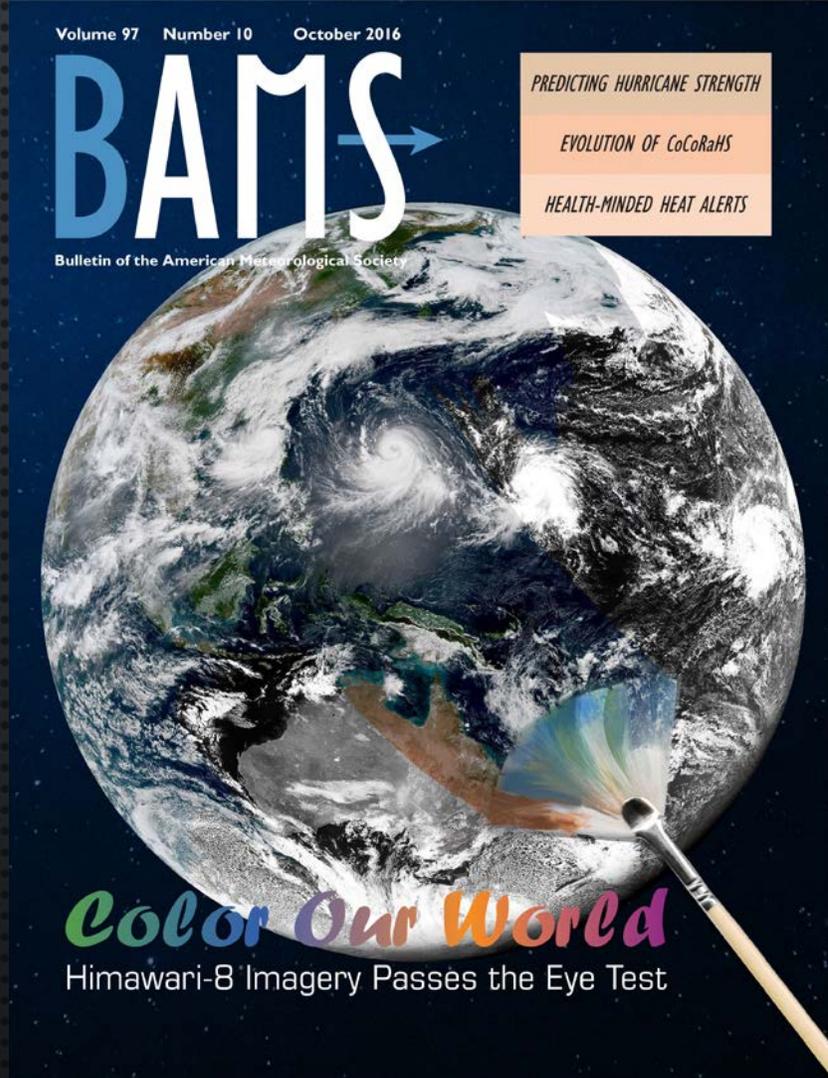
# NESDIS CI CONTRIBUTIONS TO R20



- THE THREE COOPERATIVE INSTITUTES MANAGED BY STAR ARE THE CENTERS OF EXCELLENCE IN THEIR FIELDS OF EXPERTISE
- PROVIDING CORE CAPABILITIES TO PROCESS SCIENCE DATA OUTSIDE JPSS AND GOES-R
- TEST BED FOR NEW PRODUCTS – (E.G. FOG AND LOW STRATUS VISIBILITY, PROBSEVERE, PROBTOR, VOLCAT PRODUCTS)
- BACKBONE OF TRAINING USERS (E.G. NWS)
- LARGE NUMBER OF SCIENTIFIC PUBLICATIONS (~30/YEAR)
- LEAD PROVING GROUND AND RISK REDUCTION ACTIVITIES FOR NEW MISSIONS



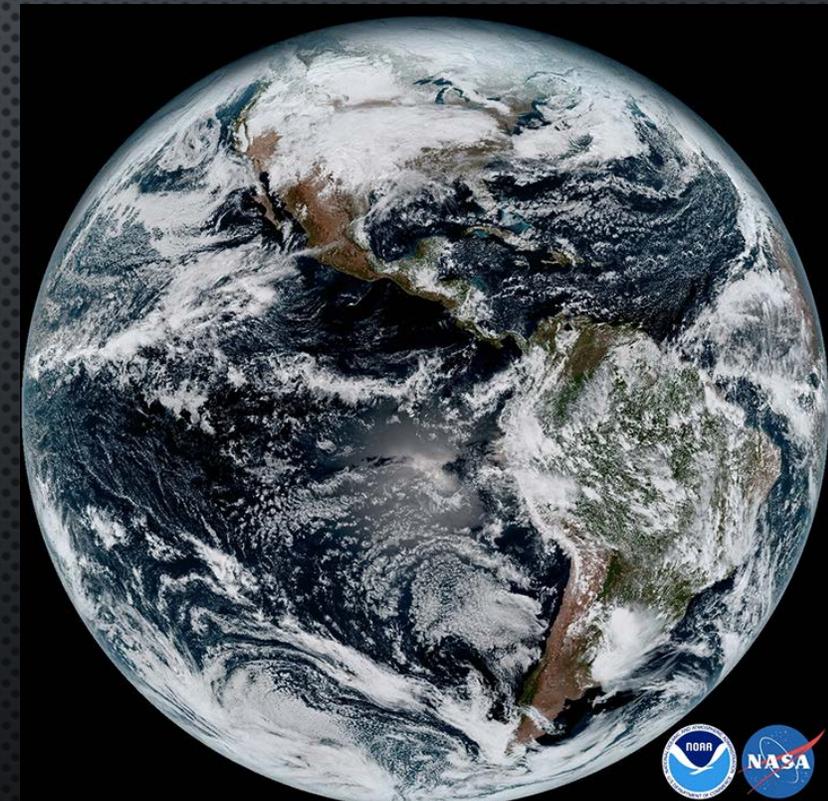
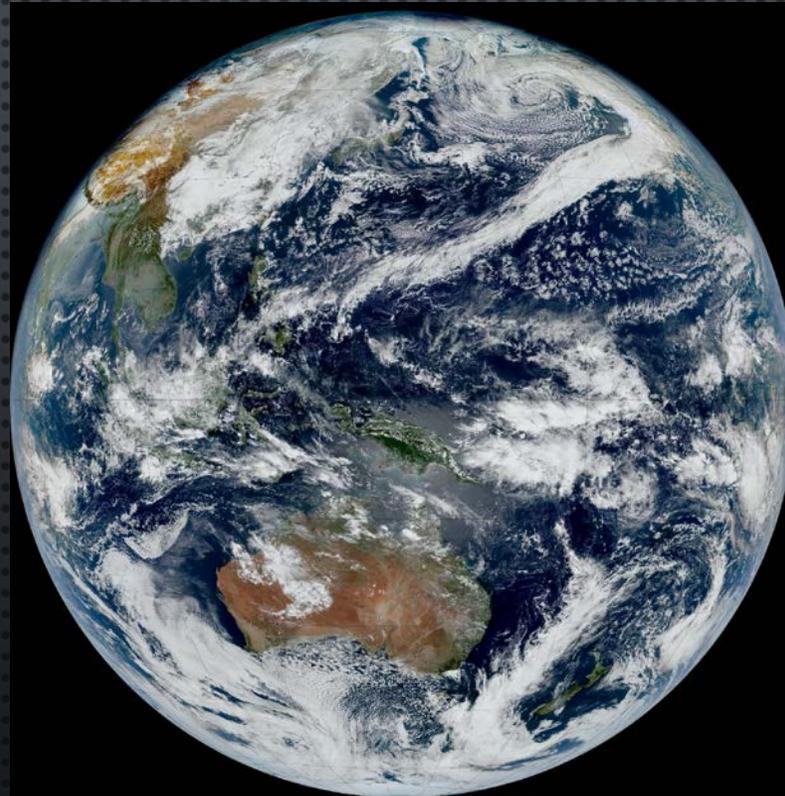
# R2O EXAMPLES FROM CIRA



AHI-True Color  
Rayleigh  
Hybrid



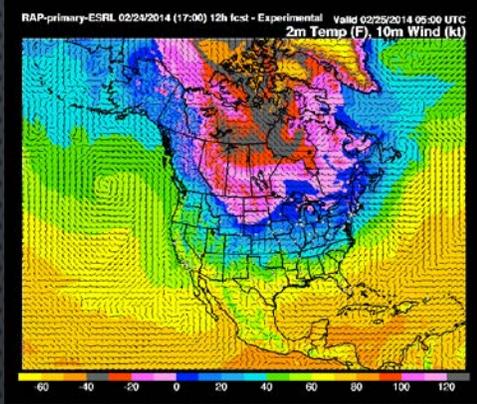
ABI First Light in COLOR



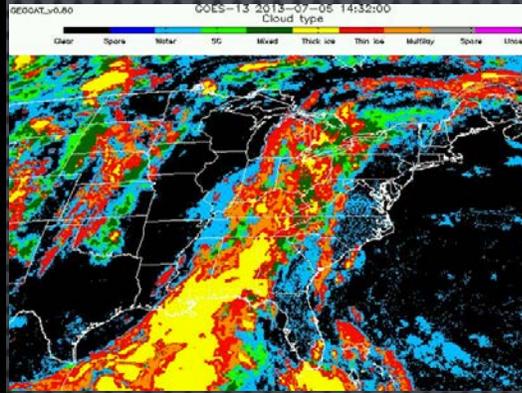
Steve Miller (CIRA), Dan Lindsey (STAR)



# R2O EXAMPLES FROM CIMSS – “BIG DATA ENVIRONMENTAL INTELLIGENCE”



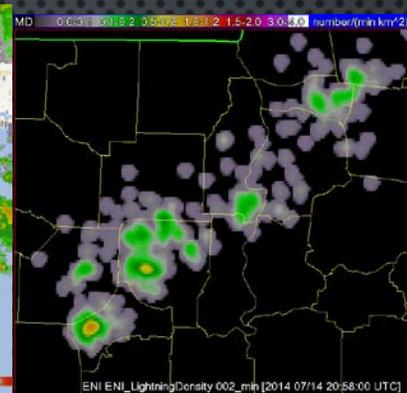
High-resolution NWP Data



Satellite Imagery and Derived Products



Radar Imagery and Derived Products



Total Lightning

Storm Environment

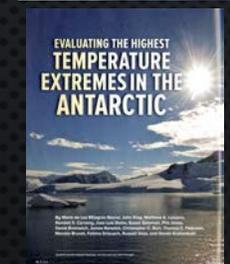
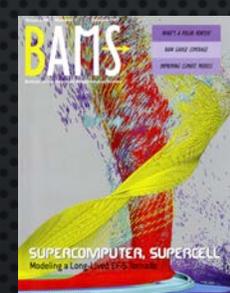
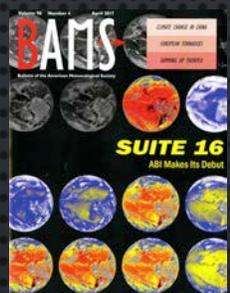
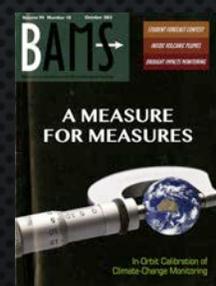
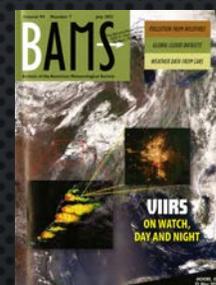
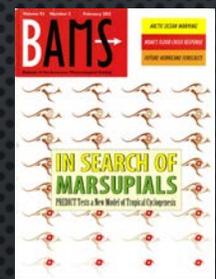
Evolution of Cumulus to Cumulonimbus

Storm Tracking and Hydrometeor Properties

Storm Electrification

*Probability a thunderstorm will produce severe weather in the future (up to 60 minutes)*

MICHAEL J. PAVOLONIS, DAN LINDSEY (STAR), JOHN CINTINEO, JUSTIN SIEGLAFF,, CHAD GRAVELLE (UW-CIMSS)

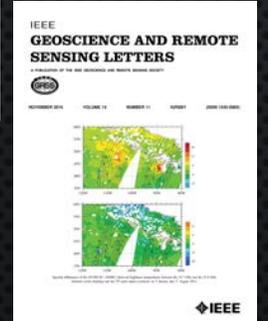
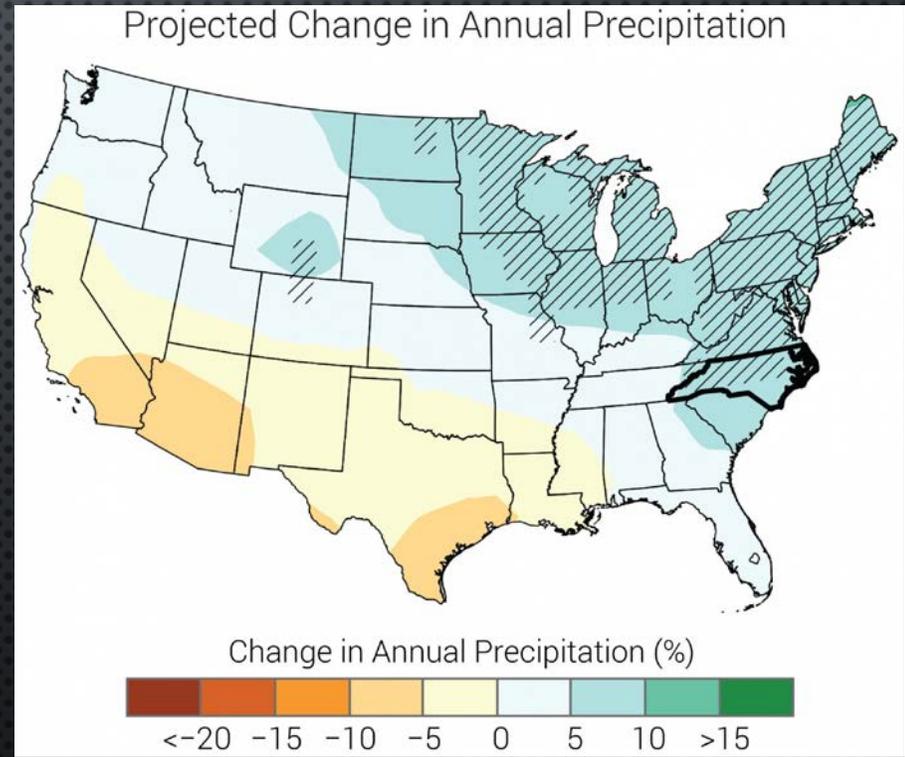
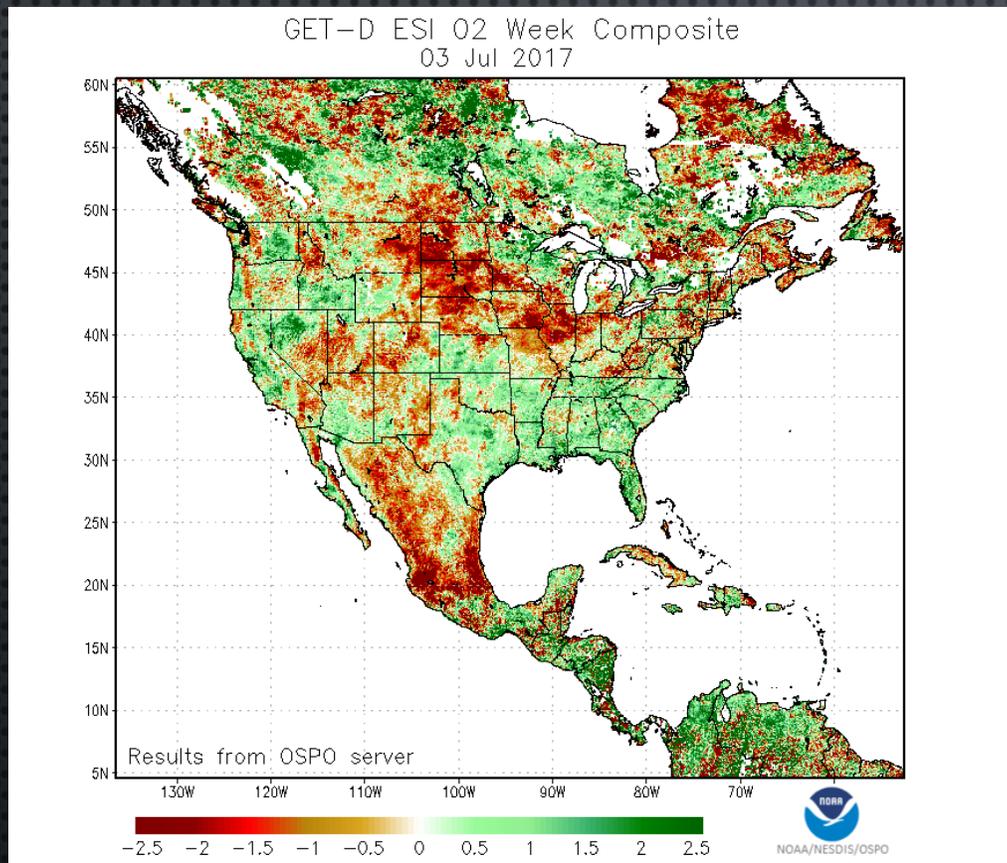




# R2O EXAMPLES FROM CICS:

## GOES Evapotranspiration and Drought (GET-D)

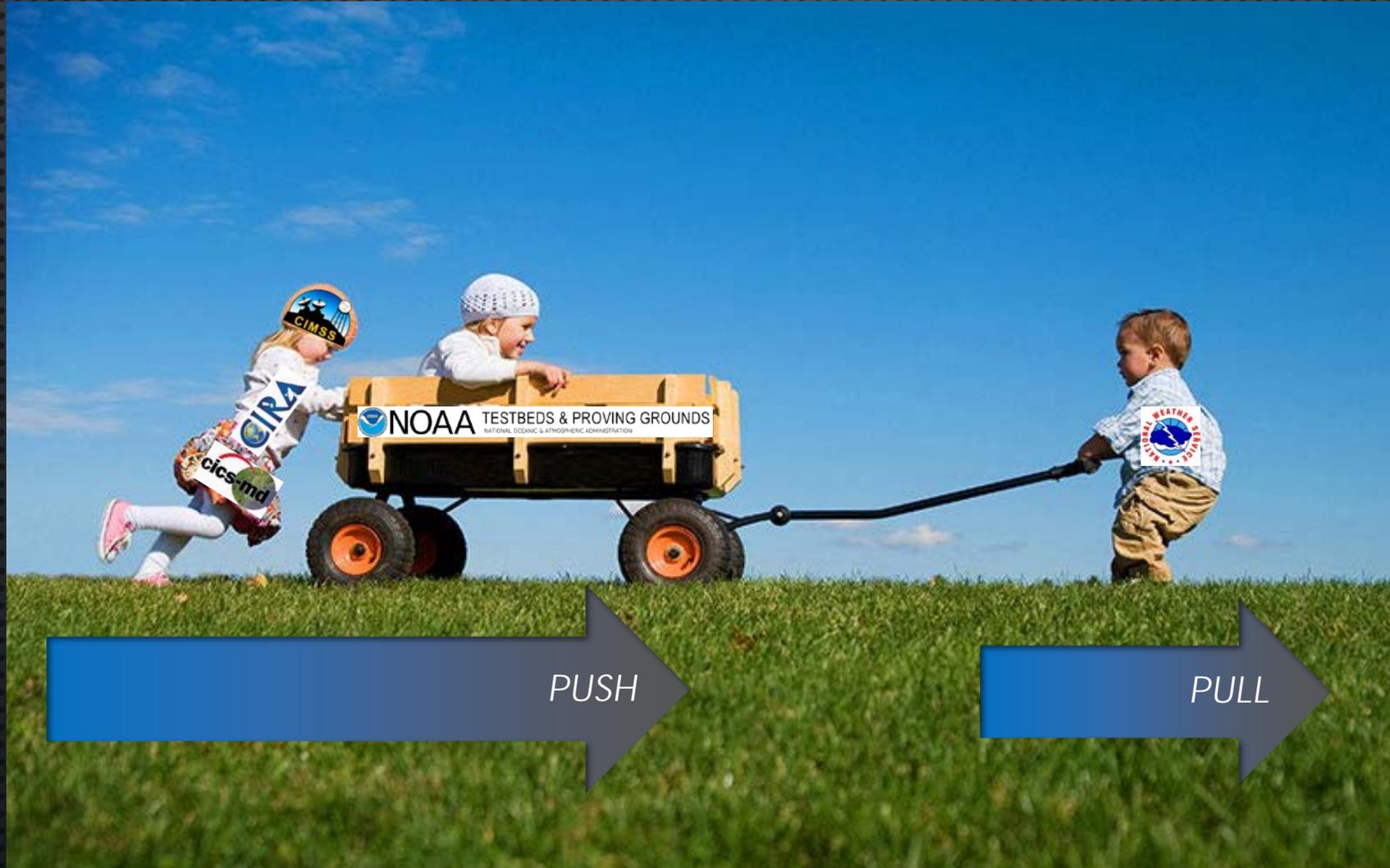
NOAA National Centers for Environmental Information | State Climate Summaries

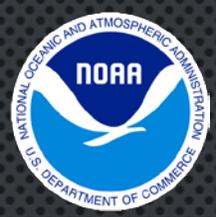


Christopher Hain (CICS-MD), Li Fang (CICS-MD), Xiwu Zhan (STAR)



# R2O OF PRODUCTS AND APPLICATIONS IS A PUSH AND A PULL





"A lot of times, people don't know what they want until you show it to them."

*Steve Jobs*



# THERE WILL BE GREAT IDEAS THAT SUCCEED.....!

**2017-07-05**  
**16:45:38 UTC**

Stop (space) < >

(L)oop  (R)ock  Re(v)

Speed

Zoom (+) Zoom Out (-) Max (Z)oom

(M)aps  Lat/Lo(n)  Slid(e)r

Mouse (D)raw  Clear Drawin(g)s

(S)atellite GOES-16

Se(c)tor Full Disk

(P)roduct GeoColor

Add (O)verlay Add (O)verlay

# of (I)mages 12

(T)ime Step 15 min

GeoColor

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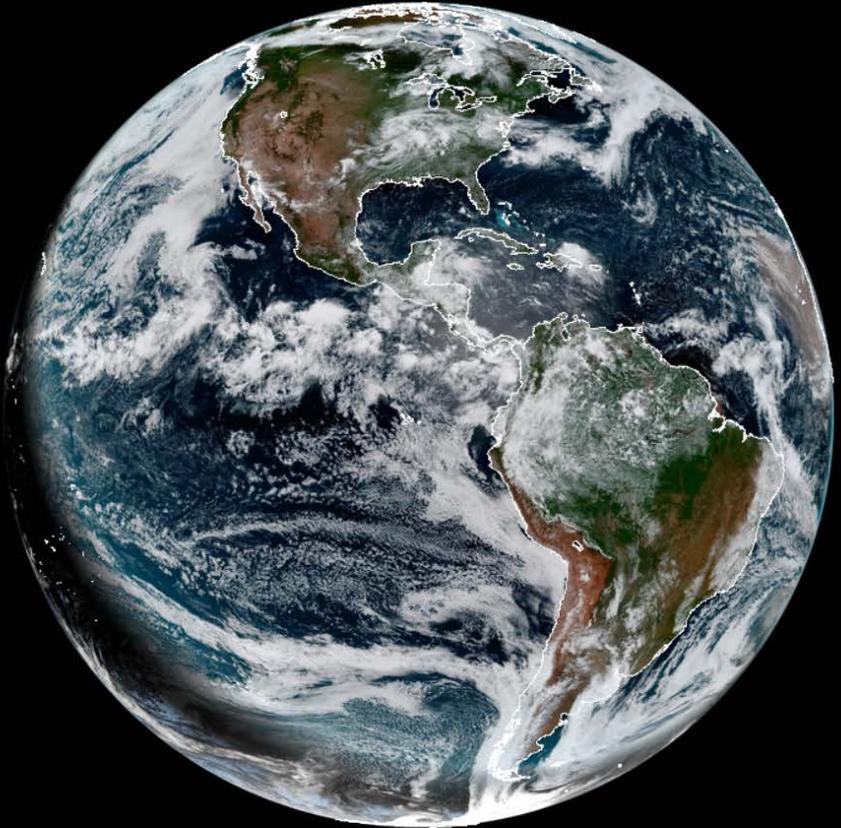
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Help/Keyboard Shortcuts (?)

[SLIDER by RAMMB / CIRA @ CSU](#)

[Experimental Products Disclaimer](#)



GOES-16 Preliminary Non-Operational Data




.....wanted to give kudos and some feedback on a wonderful product that was recently released by RAMMB/CIRA – Slider. Although it is an experimental product, it’s nothing we’ve seen before here in Dispatch...” (Eric Kruger, Chief Dispatchers, Network Operation Center in Chicago for United Airlines)



AND NOT SO GREAT IDEAS THAT PERISH.....





# R20 IS CROSSING THE VALLEY OF DEATH.....



.....its good to cross with someone who has successfully done it before!



Questions??