NOAA

National Environmental Satellite, Data, and Information Service

Operational Wind Products at NOAA/NESDIS

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April 2021

Agenda

- Status of NOAA GOES and POES Satellites
- Operational AMV System and Products
- Operational ASCAT OSW Products
- Upcoming Change on Operation and Products
- NOAA Satellite Product Distribution and Access

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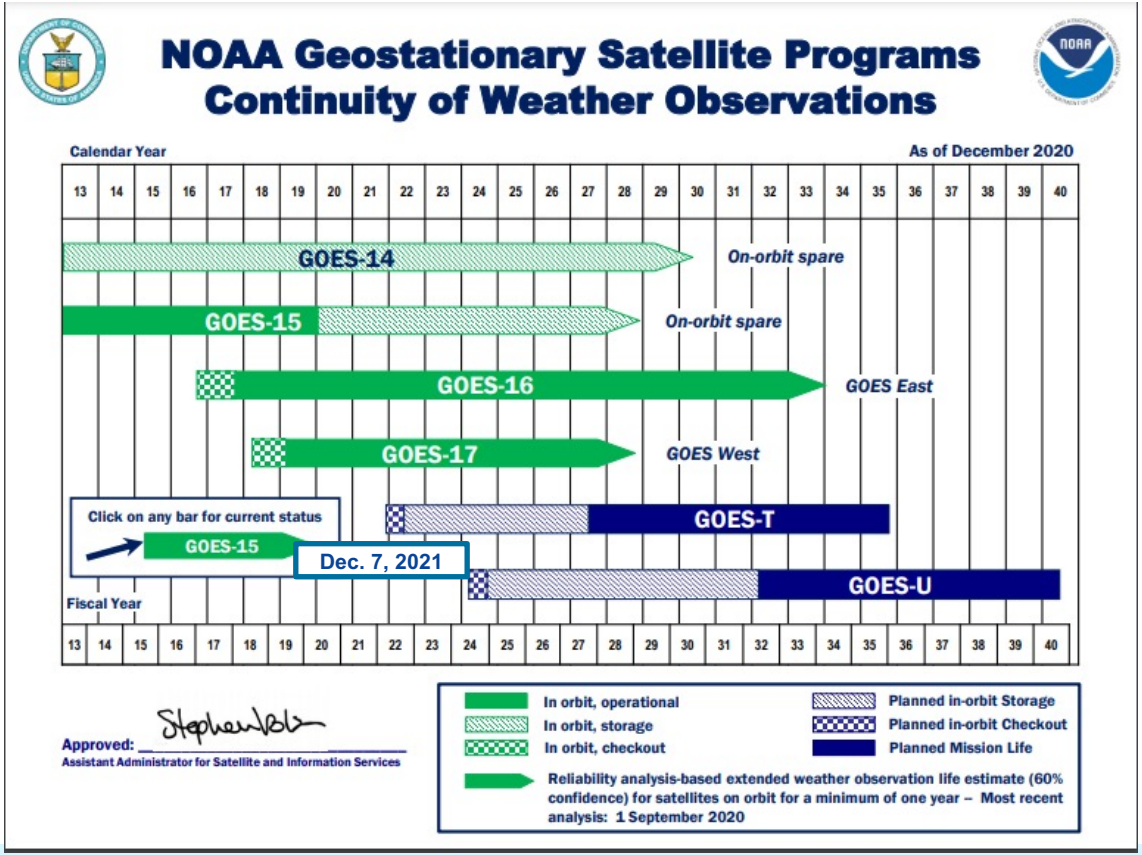
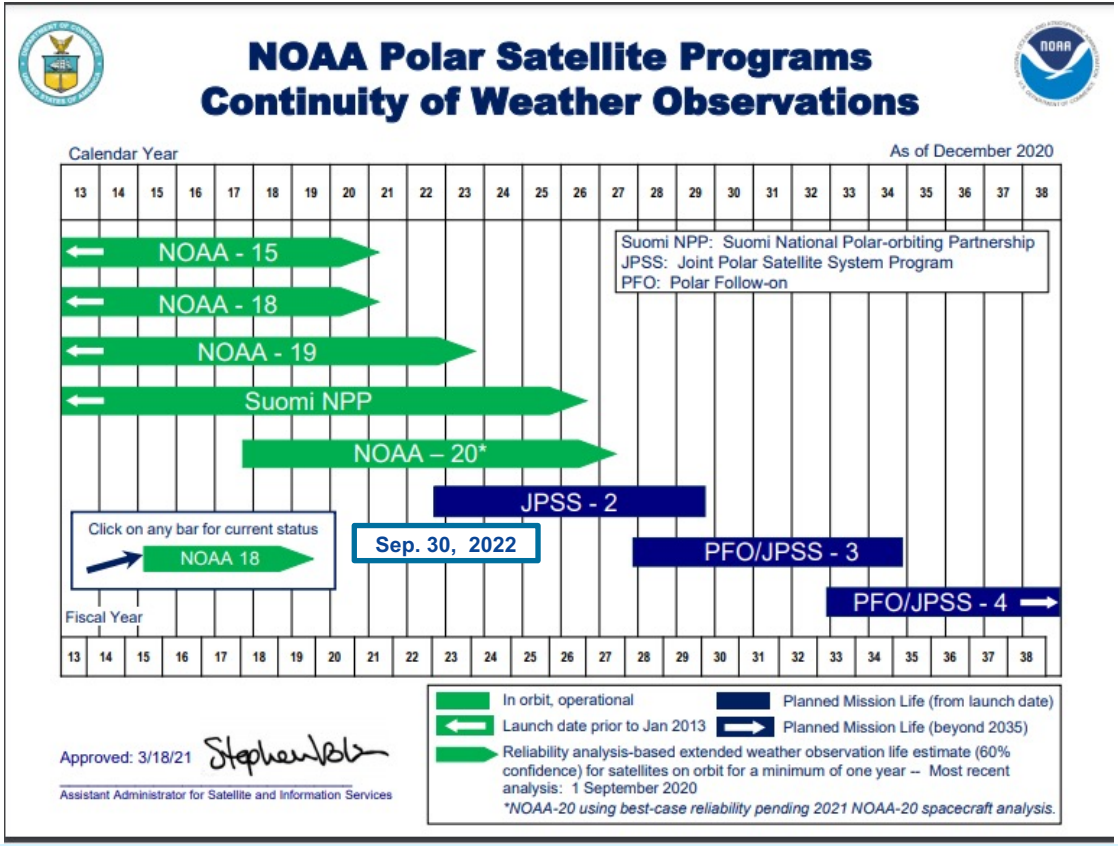
Currently Flying NOAA Satellites

GOES Flyout Schedule



POES Flyout Schedule



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Operational AMV System

- GOES-R Ground System
  - Generate GOES-16/17 AMV products in NetCDF4

- OSPO NDE System
  - Generate S-NPP/NOAA-20 VIIRS Polar Winds
  - Convert GOES-16/17 AMV into BUFR format

Operational AMV System

- Legacy POES AMV System
  - Continue to generate MODIS, NOAA-15, NOAA-18, NOAA-19, and MetOp-A/B AVHRR Polar Wind products with the heritage winds algorithm
  - Due to planned retirement of POES satellites listed above, the corresponding legacy Polar Winds will be retired in September 2022

Updates on Ops AMV Products

- GOES-17 AMV in operation since 2019
- Provided the parallel data streams in operation and transitioned GOES-16/17 AMV and S-NPP/NOAA-20 VPW products into new BUFR template (3-10-077)
- Added GOES-17 AMV and NOAA-20 VIIRS Polar Winds on GTS

Operational AMV Products (1/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
GOES-16 (GOES East)				
LWIR (11.2um) Cloud-drift	5	MESO	5	INGX71/INGX81
	15	CONUS	5	INGX61
	60	FULL DISK	10	INRX21
SWIR (3.9um) Cloud-drift	5	MESO	5	INGX72/INGX82
	15	CONUS	5	INGX62
	60	FULL DISK	10	INRX22
Visible (0.64um) Cloud-drift	5	MESO	5	INGX73/INGX83
	15	CONUS	5	INGX63
	60	FULL DISK	10	INRX23

Operational AMV Products (2/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
GOES-16 (GOES East)				
Water Vapor-Cloud Top (6.2um)	5	MESO	5	INGX74/INGX84
	15	CONUS	5	INGX64
	60	FULL DISK	10	INRX24
Water Vapor-Clear Sky (6.2um)	5	MESO	30	INGX75/INGX85
	15	CONUS	30	INGX65
	60	FULL DISK	30	INRX25
Water Vapor-Clear Sky (6.9um)	5	MESO	30	INGX76/INGX86
	15	CONUS	30	INGX66
	60	FULL DISK	30	INRX26
Water Vapor-Clear Sky (7.3um)	5	MESO	30	INGX77/INGX87
	15	CONUS	30	INGX67
	60	FULL DISK	30	INRX27

Operational AMV Products (3/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
GOES-17 (GOES West)				
LWIR (11.2um) Cloud-drift	5	MESO	5	INFX71/INFX81
	15	CONUS	5	INFX61
	60	FULL DISK	10	INLX21
SWIR (3.9um) Cloud-drift	5	MESO	5	INFX72/INFX82
	15	CONUS	5	INFX62
	60	FULL DISK	10	INLX22
Visible (0.64um) Cloud-drift	5	MESO	5	INFX73/INFX83
	15	CONUS	5	INFX63
	60	FULL DISK	10	INLX23

Operational AMV Products (4/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
GOES-17 (GOES West)				
Water Vapor-Cloud Top (6.2um)	5	MESO	5	INFX74/INFX84
	15	CONUS	5	INFX64
	60	FULL DISK	10	INLX24
Water Vapor-Clear Sky (6.2um)	5	MESO	30	INFX75/INFX85
	15	CONUS	30	INFX65
	60	FULL DISK	30	INLX25
Water Vapor-Clear Sky (6.9um)	5	MESO	30	INFX76/INFX86
	15	CONUS	30	INFX66
	60	FULL DISK	30	INLX26
Water Vapor-Clear Sky (7.3um)	5	MESO	30	INFX77/INFX87
	15	CONUS	30	INFX67
	60	FULL DISK	30	INLX27

Operational AMV Products (5/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
AQUA/TERRA MODIS				
LWIR (11um) Cloud-drift	100	NHEM/SHEM (poleward 65°)	100	JBCX11 (TERRA) JICX11 (AQUA)
Water Vapor (6.7um)	100	NHEM/SHEM (poleward 65°)	100	JLCX11 (AQUA)
AVHRR				
LWIR Cloud-drift	100	NHEM/SHEM (poleward 65°)	100	JCVX98 (Metop-B) JCVX97(Metop-A) JCVX95(N19) JCVX94(N18) JCVX91(N15)

Operational AMV Products (6/6)

AMV Products	Frequency (min)	Image Sectors	Image Interval (min)	WMO Header
S-NPP VIIRS				
LWIR (10.76um) Cloud-drift	100	NHEM/SHEM (poleward 65°)	100	INNX21
NOAA-20 VIIRS				
LWIR (10.76um) Cloud-drift	100	NHEM/SHEM (poleward 65°)	100	INOX21

Operational AMV Products Distribution

- All operational AMV products are distributed via the enterprise PDA (Product Distribution and Access) system at NOAA/NESDIS/OSPO
- All the AMV products are also available on GTS

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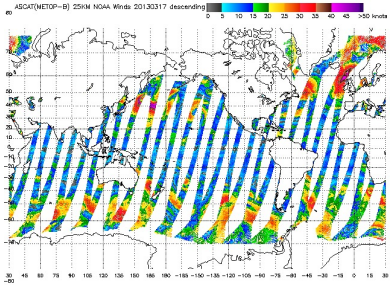
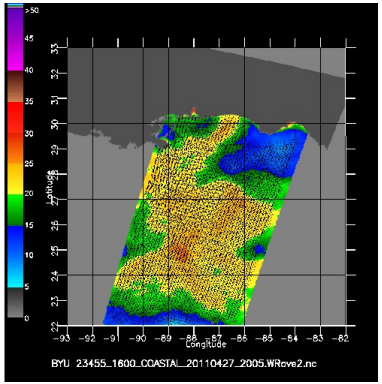
Operational ASCAT Winds (1/2)

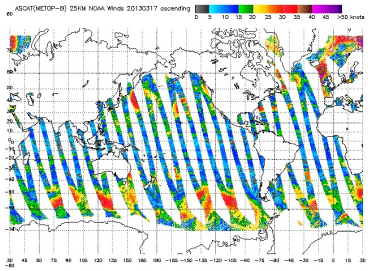
- Metop-B and Metop-A ASCAT
  - 50 km OSVW products
    - 3-min granule files in BUFR and binary
    - 3-min ASCAT-lite files for NAWIPS (binary)
  - 25 km OSVW products
    - 3-min granule files in BUFR and binary
    - 3-min ASCAT-lite files for NAWIPS (binary)
    - 3-min ASCAT-lite files for AWIPS (BUFR)

Operational ASCAT Winds (2/2)

- Enhanced resolution wind products
  - Tropical cyclone storm sector wind speed imagery







Operational ASCAT Winds Distribution

- ASCAT winds are distributed via PDA system
- Main NOAA users
  - National Hurricane Center (NHC)/Tropical Prediction Center (TPC)
  - Ocean Prediction Center
  - Alaska and Pacific Regions
  - Coastal Weather Forecast Offices
  - Great Lakes Weather Forecast Offices
  - Environmental Modeling Center (EMC)

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NOAA's Portfolio Vision

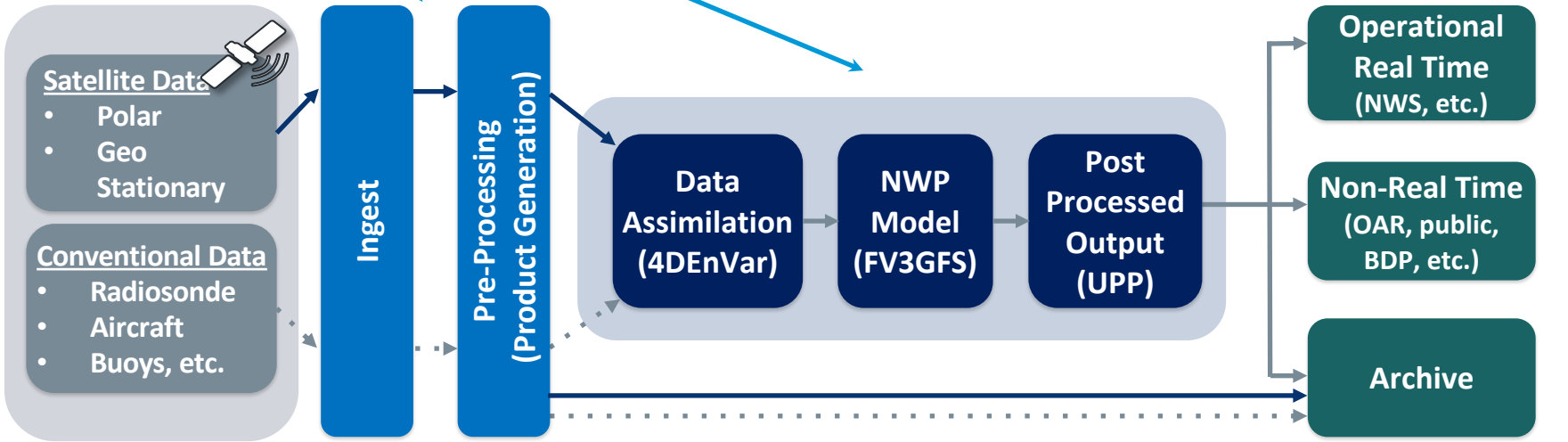
NOAA uses backend market opportunity as leverage to negotiate better deal on frontend cloud services

NOAA data grows business and research opportunities on the backend

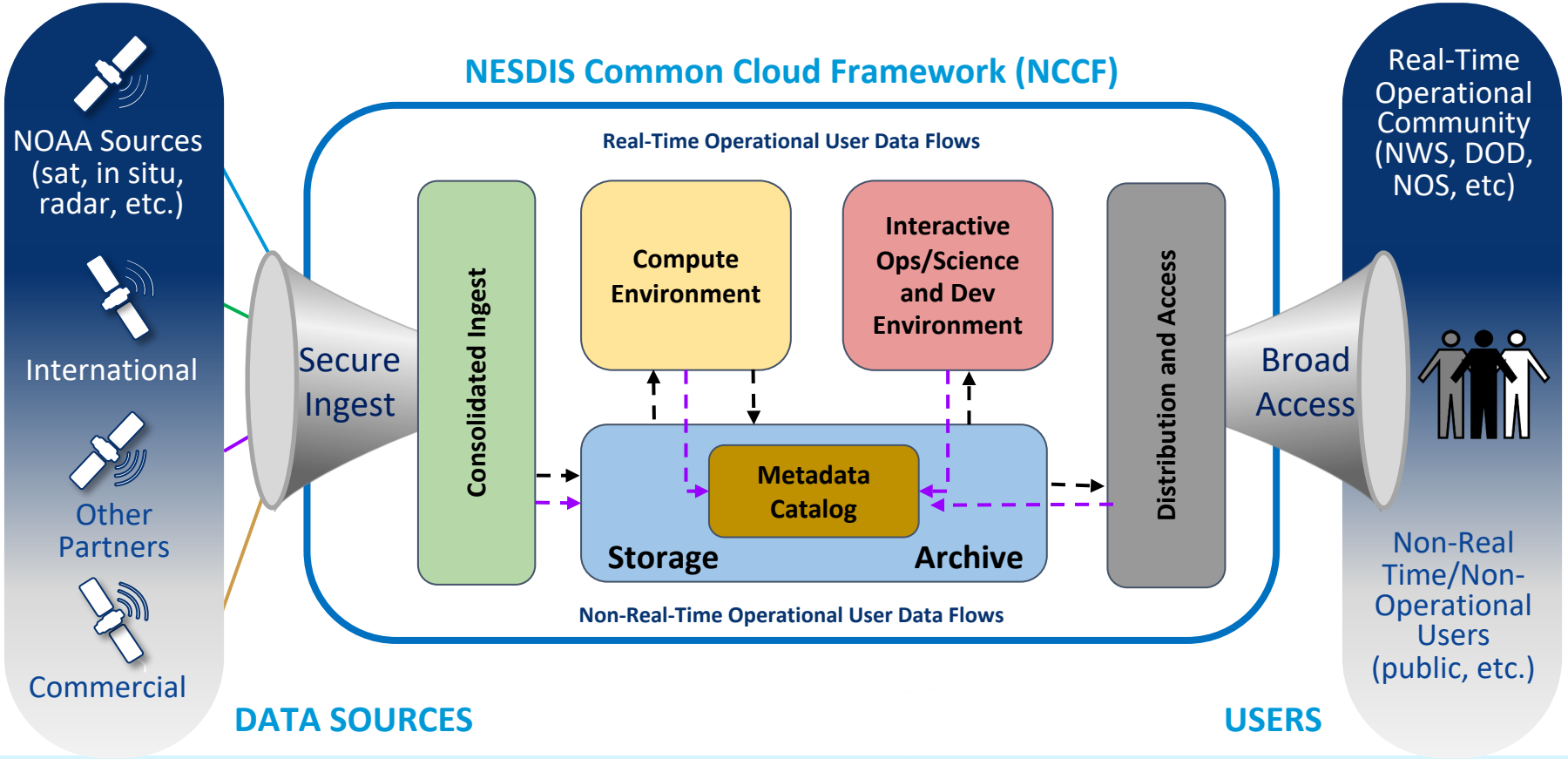
amazon web services

Microsoft

Google Cloud Platform



NESDIS' Cloud Portfolio Vision



Himawari-8 AMV

- Himawari-8 AMV products will be operational in NCCF by May 2021
- NOAA/NESDIS will provide users Himawari-8 AMV in NetCDF4
- Himawari-8 AMV will be distributed via PDA and BDP (Big Data Program)

MetOp-B/C Polar Winds

- MetOp-B/C AVHRR Polar Winds with GOES-R Algorithm will be operational in NCCF (the cloud) by August-September 2021
- NOAA/NESDIS will provide users MetOp-B/C Polar Winds in NetCDF4 and BUFR
- The products will be distributed via PDA

GOES-16/17 AMV

- Enterprise Cloud products including Cloud Phase, Cloud Mask, and Cloud Height for GOES-16/17 AMV will be in operation in June 2021
- The updated(“Enterprise”) winds algorithm is scheduled to go operational Jan 2022. The mitigations for the GOES-17 ABI Loop Heat Pipe (LHP) issue will be included

Legacy Polar Wind Products

- Per current plan, NOAA-15, NOAA-18, NOAA-19, MetOp-A, MODIS Polar Winds will continue to be generated from the legacy system until September 2022

Future Products

- AMV
  - GOES-T
  - JPSS-2
  - MetOp-SG
  - New VIIRS products: tandem (S-NPP/NOAA-20), shortwave infrared (SWIR), day/night band (DNB)
- OSVW
  - SCATSAT-1
  - OceanSAT3

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PDA at NESDIS/OSPO

- PDA – Product Distribution and Access System
- All near real time distribution is done via PDA
  - GOES-16/17 data and products
  - S-NPP and NOAA-20 products
  - Other products from currently supported missions

NOAA CLASS

- Comprehensive Large Array-Data Stewardship System (CLASS)
- NOAA's premiere on-line facility for the distribution of NOAA POES, GOES, and derived data
- Mainly for non-operational users to find and obtain the data
- GOES-16/17 AMV and S-NPP/NOAA-20 VPW are available on CLASS

ESPC Notifications, Status, and Contacts

24/7 Help Desk	ESPCOperations@noaa.gov
ESPC Messages	http://www.ssd.noaa.gov/PS/SATS/messages.html
User Services	SPSD.UserServices@noaa.gov
Data Access	NESDIS.Data.Access@noaa.gov
Facebook	www.facebook.com/NOAANESDIS
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Press releases	http://www.nesdis.noaa.gov/news_archives/
Data Access Policy	http://www.ospo.noaa.gov/Organization/About/access.html


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Questions?