

2018 USACE GOES DCS User Report

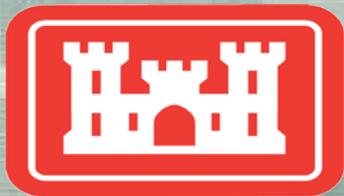
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22 Mar 2018

Annual TWG Meeting

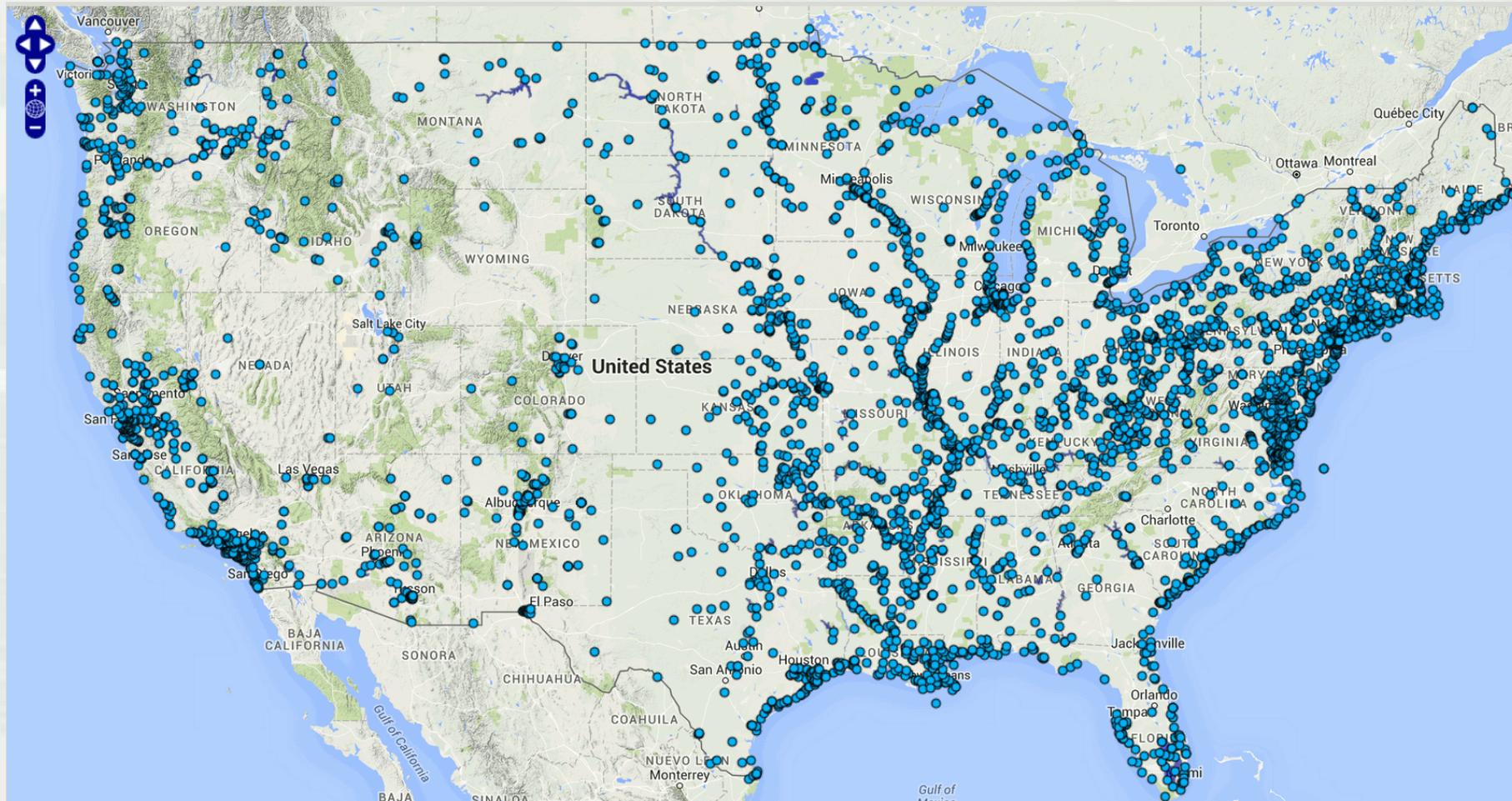


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Deployed CONUS GOES DCP's



2018 USACE Summary

- ~2936 owned GOES Id's
- ~2527 active GOES platforms (all 300 baud)
- Channels: 17, 25, 31, 49, 58, 73, 88, 161, 162, 177
 - ▶ Channel 41 vacated by Mobile District last year
- Western districts converting Line of Site platforms to GOES (SPL completely converted)
- Of 38 districts, over ~90% have at least one local L/HRIT receive system
- Still a desire for more frequent transmissions at critical locations
 - ▶ Some also transmit on random channel while exceeding observation threshold
- Supplementing GOES DCP's with r/t DAMS-NT over LAN at some locks and dams, etc.
- "300 series" channels?
- 2-Way DCP's?
- Adding sensors sending add'l observations as necessary for MMC Modeling efforts
- Continue updating Group Id's in DADDS



USACE GOES Usage by Division

- North Atlantic Division
 - ▶ New England, New York, Philadelphia, Baltimore and Norfolk Districts
- ~127 GOES Platforms (300 Baud)
 - ▶ 104 active
- Channels 161
- 1-hour intervals
- 5, 10 and 15 second windows



USACE GOES Usage by Division

- North Atlantic Division (cont'd.)
 - ▶ New England District
 - ▶ 98 Active GOES DCP's (300 Baud on Channel 161)
 - 35 reservoirs, 3 hurricane barriers, 2 tidal stations and remaining are stream gages
 - Primarily 5-sec time windows with a few 10-sec
 - Most transmit 15-minute data hourly
 - 3 hurricane barriers transmit every 15 minutes



USACE GOES Usage by Division

- North Atlantic Division (cont'd.)
 - ▶ Baltimore District - NAB
 - Transmits 15 minute data hourly
 - 17 of 83 are reservoir and remaining are stream gages
 - 20 collect precip, 12 collect air temp and 10 collect water quality data
 - No new gages in the foreseeable future



USACE GOES Usage by Division

- South Atlantic Division
 - ▶ Charleston, Jacksonville, Mobile, Savannah, and Wilmington Districts
- ~230 GOES Platforms (300 Baud)
 - ▶ 131 active
- Channels 31 and 161
 - ▶ SAM completed vacating channel 41
- 1-hour intervals
- 5, 10 and 15 second windows



USACE GOES Usage by Division

- South Atlantic Division (cont'd.)
 - ▶ Wilmington District – SAW
 - 39 active GOES DCP's (300 Baud)
 - Channel 161
 - 10-minute samples
 - Hourly transmissions
 - Decodes 74 USGS GOES DCP's throughout North Carolina and Virginia



USACE GOES Usage by Division

- South Atlantic Division (cont'd.)
- SAJ has 46 active DCP's (89 total)
 - ▶ Recently received a new block of NESDIS Id's
 - ▶ Plans to deploy 25-30 new platforms (some currently under construction)
 - Culverts along Herbert Hoover Dike surrounding Lake Okeechobee
 - ▶ Sensors: Shaft encoders, wind sensors, barometers, pressure transducers, gate position indicators, temperature sensors, battery voltage and flow meters
 - ▶ Typical sites: locks and dams, spillways, culverts, stilling wells, etc.



USACE GOES Usage by Division

- Lakes and Rivers Division
 - ▶ Huntington, Detroit, Nashville, Pittsburgh, Cincinnati, Buffalo and Louisville Districts
- ~739 GOES Platforms (300 Baud)
 - ▶ 675 active
- Channels 17, 25, 88, 177
- 1-hour intervals
- 10 second windows



USACE GOES Usage by Division

- Lakes and Rivers Division (cont'd.)
 - ▶ Pittsburg District
 - 313 Platforms (260 USGS)
 - ▶ Huntington District
 - 262 Platforms (176 USGS)
 - ▶ Cincinnati District
 - 24 Platforms (24 USGS)
 - ▶ Buffalo District
 - 20 Platforms (24 USGS)
 - ▶ Louisville District
 - 124 Platforms (124 USGS)
 - ▶ Nashville District
 - 90 Platforms (47 USGS)
 - Precip, stage, air/water temp, pool, tail, pH, dissolved oxygen, pool/tail elevation, gate opening, etc.
 - ▶ Detroit District
 - 74 Platforms



USACE GOES Usage by Division

- Mississippi Valley Division
 - ▶ St. Paul, Rock Island, St. Louis, Memphis, New Orleans and Vicksburg Districts
- 798 GOES Platforms (300 Baud)
 - ▶ 710 active
- Channels 31, 49, 58, 73, 177
- 30-minute and 1-hour transmit intervals
- 5 and 10 second windows



USACE GOES Usage by Division

- Mississippi Valley Division (cont'd.)
 - ▶ St. Louis District
 - 122 PDT's (118 active)
 - ▷ 64 distributed throughout central and eastern Missouri
 - ▷ 54 sites in central and southern Illinois
 - ▷ Elevation, stage, precip, air/water temp, wind speed/direction, water quality, etc.
 - 10 major water resource projects (5 reservoirs, 5 locks and dams)
 - 100+ levee systems
 - 10 CS2 transmitters deployed, 30 on the shelf
 - Use DRGS and LRIT to receive data
 - Continuing to upgrade to CS2 (25-50 DCP's/year)
 - Will need 4-5 new DCP assignments per year for the next 5 years



USACE GOES Usage by Division

- Mississippi Valley Division (cont'd.)
 - ▶ Rock Island District
 - 155 active DCP's (161 total)
 - ▷ 22 CS2 Platforms
 - ▷ Contract with USGS to maintain 103 active MVR stations
 - ▷ Receive and decode 165 additional USGS gages
 - ▷ Fund 85 USGS gages
 - 23 Projects (20 Navigation Locks and Dams and 3 Multi-purpose Reservoirs)
 - ▷ MET Stations: Air/water temp, wind speed/direction, gate opening, pool/tail stage, precip, pool/tail elevation
 - ▷ Half-hourly transmissions
 - ▷ Send minute interval data using network DCP's
 - ▷ Display real-time data on homegrown web GUI served from Sutron DCP
 - ▷ Acquire data locally: monitoring includes all Corps GOES DCS channels
 - East and West DRGS cages with LRIT as secondary GOES downlink
 - Distribute data Corps-wide as Data Acquisition Center
 - Host Cove DCP-Monitor: decode and collect districts' GOES data and display performance stats



USACE GOES Usage by Division

- Mississippi Valley Division (cont'd.)
 - ▶ New Orleans District
 - Maintains 95 Data Collection Platforms
 - Allows District's Water Management Team to daily maintain 30/70 split between Atchafalaya River and the Mississippi River at the Old River Control Complex using near real-time water level data
 - Allows the district to provide the public with real-time water levels throughout SE Louisiana



USACE GOES Usage by Division

- Northwestern Division
 - ▶ Kansas City, Omaha, Walla Walla, Seattle and Portland Districts
- ~391 GOES Platforms (300 Baud)
 - ▶ 341 active
- Channels 58, 88
- 1-hour intervals
- 5, 10 and 20 second windows



USACE GOES Usage by Division

- Northwestern Division (cont'd.)
 - ▶ NWW has 18 platforms
 - Mostly elevation, weather, water temp and stage
 - ▶ 15 platforms are maintained by the USGS but owned and monitored by NWW
 - ▶ Plan to add 7 platforms in the next year for temp monitoring and elevation
 - ▶ Plan to add another 7 in the next 2-3 for project data, weather and water temp
 - ▶ Plan to add 6 platforms for fish passage purposes



USACE GOES Usage by Division

- Northwestern Division (cont'd.)
 - ▶ NWK decodes and collects 180 (91 funded whole or in part)
 - Transmitting 15 minute data every hour
 - A few platforms log 5 minute data and transmit hourly
 - Typical configuration consists of a Sutron DCP with orifice lines and/or radar gages
 - Added new sensors for (MMC) modeling effort



USACE GOES Usage by Division

- Southwestern Division
 - ▶ Tulsa, Fort Worth and Galveston Districts
 - Galveston transferred all DCP's to USGS
 - ▷ Funds equipment, operation and maintenance
- ~388 GOES Platforms (300 Baud)
 - ▶ 345 active
- Channels 31, 49, 88 and 162
- 1-hour intervals
- 5 and 10 second windows



USACE GOES Usage by Division

- South Pacific Division
 - ▶ Sacramento, San Francisco, Los Angeles and Albuquerque Districts
- ~263 GOES Platforms (300 Baud)
 - ▶ 221 active
- Channels 17, 31
- 1-hour intervals
- 5 and 10 second windows



USACE GOES Usage by Division

- South Pacific Division (cont'd.)
 - ▶ Los Angeles District
 - 30 GOES Platforms
 - Converted all LOS sites to GOES
 - 2 L/HRIT systems (LA and El Monte, CA)



End.



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