

# G-3273 Relaxation and S-356 Field Test Quarterly Meeting Increment 0 Operations

Water Management Section  
Jacksonville District  
U.S. Army Corps of Engineers  
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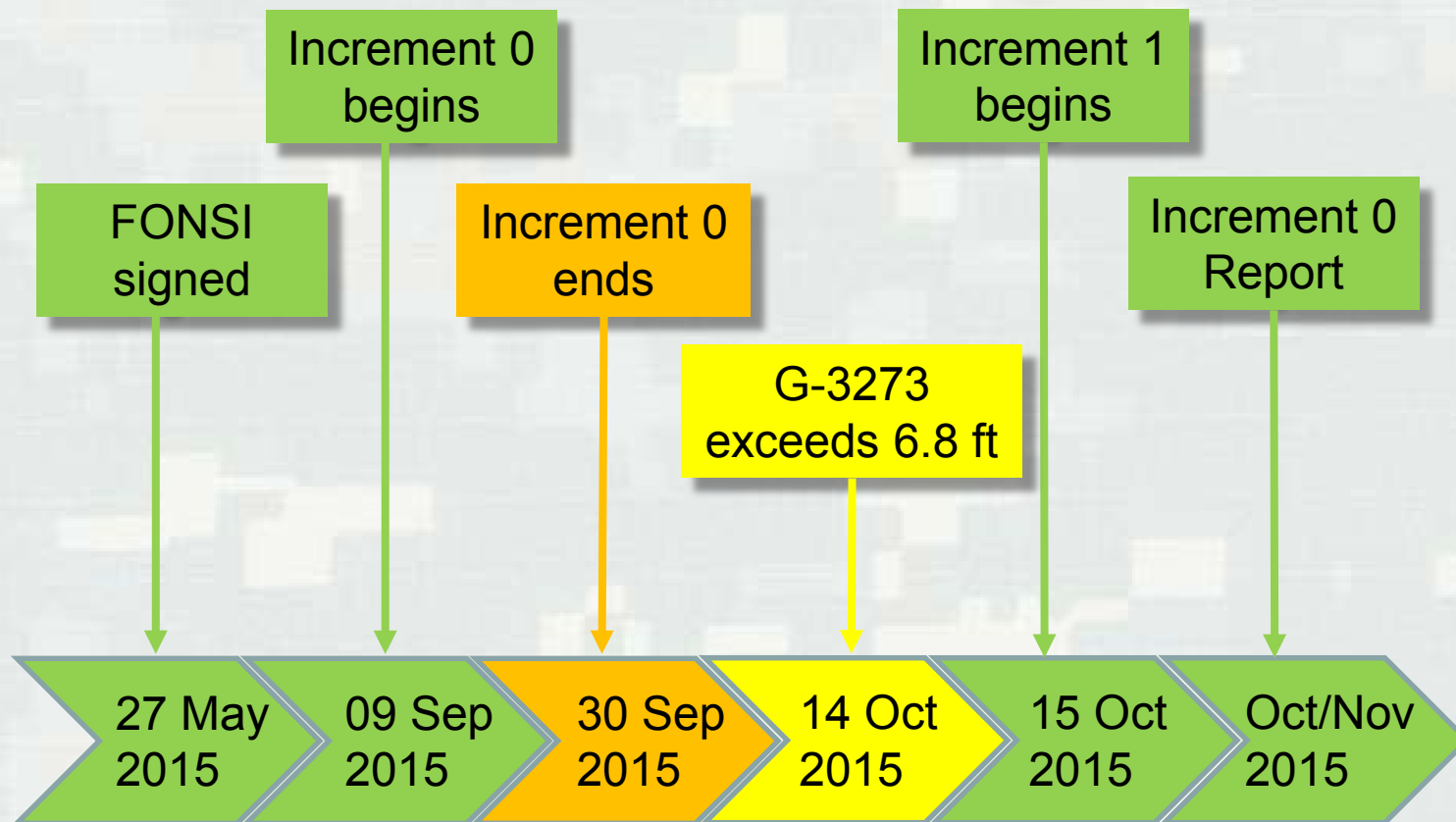




# Timeline



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# Purpose/Objectives



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## Purpose:

To mechanically test the S-356 pump station for a one-time, up to 3-week duration event. Information from Increment 0 would be used to assess the current status of mechanical components of the pump station and the monitoring network to be used in future planned field tests.

## Objectives:

1. **Confirm** acceptable repairs to S-356 (intake apron).
2. **Potentially identify** and address deficiencies in mechanical components or monitoring network performance.
3. **Confirm** acceptable pump station and monitoring network component performance.



# Operational Triggers



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- **Started 9 September 2015 and Ended 30 September 2015**
- **Increment 0 could only begin when the below conditions/triggers were met:**
  - ▶ No water supply demands to be delivered through S-334
  - ▶ L-29 Canal not anticipated to go above 7.5 ft, NGVD
  - ▶ G-3273 not anticipated to go above 6.8 ft, NGVD
  - ▶ Regulatory releases from WCA-3A can be met by normal operation of the WCA-3A regulatory outlets
  - ▶ Column 1 mode of operations can be maintained for the duration of the Pump Test
  - ▶ WCA-3A is not expected to exceed 11.0 ft or recede below 9.0 ft, NGVD
  - ▶ L-31N Canal between 5.5 ft, NGVD and 6.0 ft, NGVD
  - ▶ No threats from tropical activity



# Operations



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- **Increment 0 Test occurred in 2 Phases:**
  - ▶ Phase 1 – Exercising of Each Pump Unit for 24 to 48 hours.
  - ▶ Phase 2 – A Stepped Pump Test at 250, 375, and 500 cfs.
- The pump station was manned 24/7 for the full 21-day duration of this test.
- S-335 was partially opened to assist maintaining adequate water levels along L-31N to support this test.
- All four units (aka. Pumps) at S-356 were exercised, monitored, troubleshot and maintained in accordance with the required manufacturer's specifications.



# Issues & Fixes



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- Mechanical issues occurred at 2 of the 4 pumps.
  - ▶ The pumps were repaired accordingly.
- Supervisory Control And Data Acquisition (SCADA) Issues occurred:
  - ▶ The SCADA issues were repaired
  - ▶ SFWMD now has the ability to operate S-356 from the S-331 Command and Control as well the West Palm Beach control center.
- Repairs were also made at some of the Groundwater Monitoring Stations



# Summary



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- All Objectives of the Increment 0 Operational test were met and the Test was a success:
  - ▶ An inspection confirmed that the repair of the intake apron at S-356 was acceptable.
  - ▶ During the last five days of this pump test, all four units were operating satisfactorily.
  - ▶ The pump station and monitoring network components performance are acceptable.
  - ▶ SFWMD is now able to remotely operate S-356 from the S-331 Command and Control and the West Palm Beach control center.

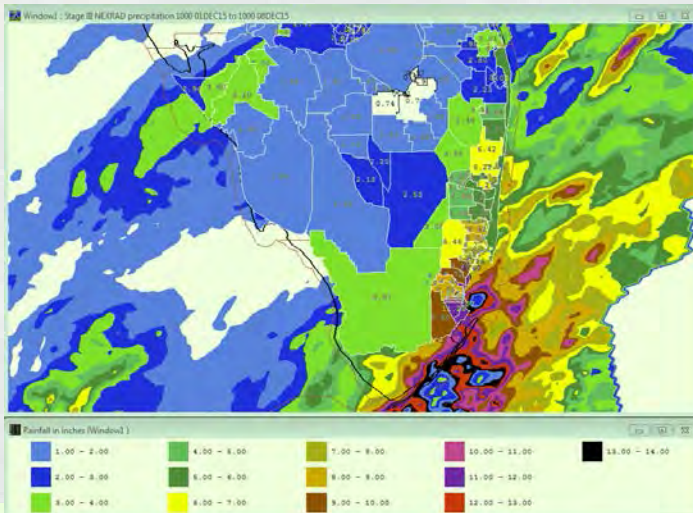


# December's Extreme Rainfall Event South Florida Flooding Overview



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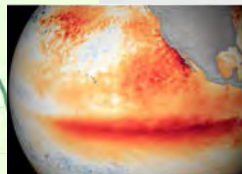
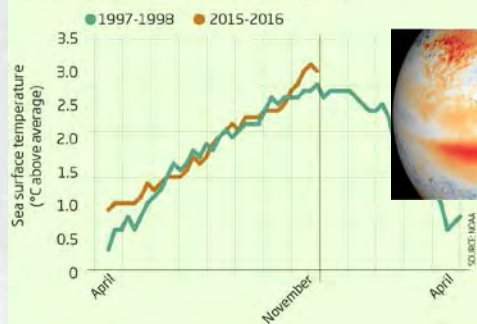
## 7 day rainfall:



## Situation as of 8 December 2015:

- ✓ Over the last 7 days, South FL received an average of over **10 inches of rain** with local maximums of 15 inches in some areas
- ✓ **Record rainfall** for the month of December (records go back to 1942)
- ✓ Groundwater levels in the **top 10%** for this time of the year
- ✓ **Strongest** El Niño since the 1997-1998 season.
- ✓ SAJ coordinated with SFWMD throughout the event (**ongoing**)
- ✓ SAJ provided the tools needed to SFWMD to proactively perform operations in anticipation of and during the event (**ongoing**)
- ✓ 7-day QPF forecast is for additional 1-2 inches of rain
- ✓ Due to wet conditions and saturated soils, any additional rain may worsen flooding conditions
- ✓ SAJ **continues** to coordinate with SFWMD and other stakeholders

Pacific, due to this year's El Niño, are the highest ever seen



Subject to Revision



Water levels at selected sites in the Biscayne limestone aquifer, South Florida, based on PROVISIONAL DATA, as of December 7, 2015.

### Record Rainfall in SW Miami-Dade County

Select 24 Hour Rainfall Totals in Inches Ending 8 AM Sunday 12/6:

- The Hammocks: 10.11
- The Crossings: 9.57
- Miami Executive Airport: 8.92 \*
- Homestead ARB: 6.28
- The Redland: 5.63 \*\*
- Princeton: 4.51
- Saga Bay/Cutler Bay: 3.22

\* highest 24-hour rainfall on record (records go back to 1998)  
\*\* total of 12.12 inches so far this month is the new record rainfall for entire month of December (records go back to 1942)

Photo: Debbie Fischer via Twitter/SW 12051 West of FL Turnpike



Data as of: 3 DEC 15	Source: NWS, USGS, NOAA CPC
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