

**EAST CAPE GIRARDEAU
WETLAND MITIGATION SITE**

ISGS #81

IL 146

FAP 312

Sequence #633A

Alexander County, near East Cape Girardeau, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: not assigned

SITE HISTORY

- Fall 2009: Wetland construction was started.
- March 2010: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2010-3).
- February 2011: ISGS installed a new monitoring network.
- August 2011: IDOT reported the site had been graded and drainage control structures were completed. ISGS was tasked by IDOT to monitor the site for performance criteria outlined in the wetland compensation plan, and post-construction water-level monitoring was initiated.

WETLAND HYDROLOGY CALCULATION FOR 2011

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2011 growing season is estimated to be 6.2 ha (15.2 ac) out of a total site area of approximately 6.2 ha (15.2 ac), and the area that satisfied wetland hydrology criteria for greater than 12.5% of the 2011 growing season is also estimated to be 6.2 ha (15.2 ac). Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, it is estimated that 6.2 ha (15.2 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- The median date that the growing season begins in nearby Cape Girardeau, Missouri, is March 26, and the season lasts 228 days (MRCC 2011). According to the 1987 Manual, 5% of the growing season is 11 days, and 12.5% of the growing season is 29 days. According to methods outlined in the 2010 Midwest Region Supplement, it is estimated that February 16 was the starting date of the 2011 growing season based on soil temperatures measured at the site.
- Total precipitation for the monitoring period, as recorded at the Cape Girardeau Regional Airport in Missouri, was 126% of normal, and was 220% of normal for the period March through May 2011, with 20.51 in. of precipitation recorded in April.
- In 2011, water levels measured in all monitoring wells satisfied wetland hydrology criteria for greater than 5% of the growing season and for greater than 12.5% of the growing season, according to the 1987 Manual. According to the 2010 Midwest Region Supplement, water levels measured in all monitoring wells satisfied the wetland hydrology criteria for 14 or more consecutive days of the growing season.

- Surface-water levels measured by the data loggers at Gauges A, B, and E indicated inundation at or above 102.63 m, 102.47 m, and 102.58 m (336.71 ft, 336.19 ft, and 336.55 ft), respectively, for greater than 5% of the growing season, and inundation at or above 102.58 m, 102.44 m, and 102.55 m (336.55 ft, 336.09 ft, and 336.45 ft), respectively, for greater than 12.5% of the growing season, according to the 1987 Manual. Per the 2010 Midwest Region Supplement, surface-water levels measured by the data loggers at Gauges A, B, and E indicated inundation at or above 102.63 m, 102.47 m, and 102.58 m (336.71 ft, 336.19 ft, and 336.55 ft), respectively, for 14 or more consecutive days of the growing season.

ADDITIONAL INFORMATION

- Beginning in April 2011, elevated water levels on the Mississippi River at Thebes, Illinois, resulted in water backing up in the East Cape Main Ditch (ECMD), thereby resulting in flooding at the site that was sustained through the end of the monitoring period.

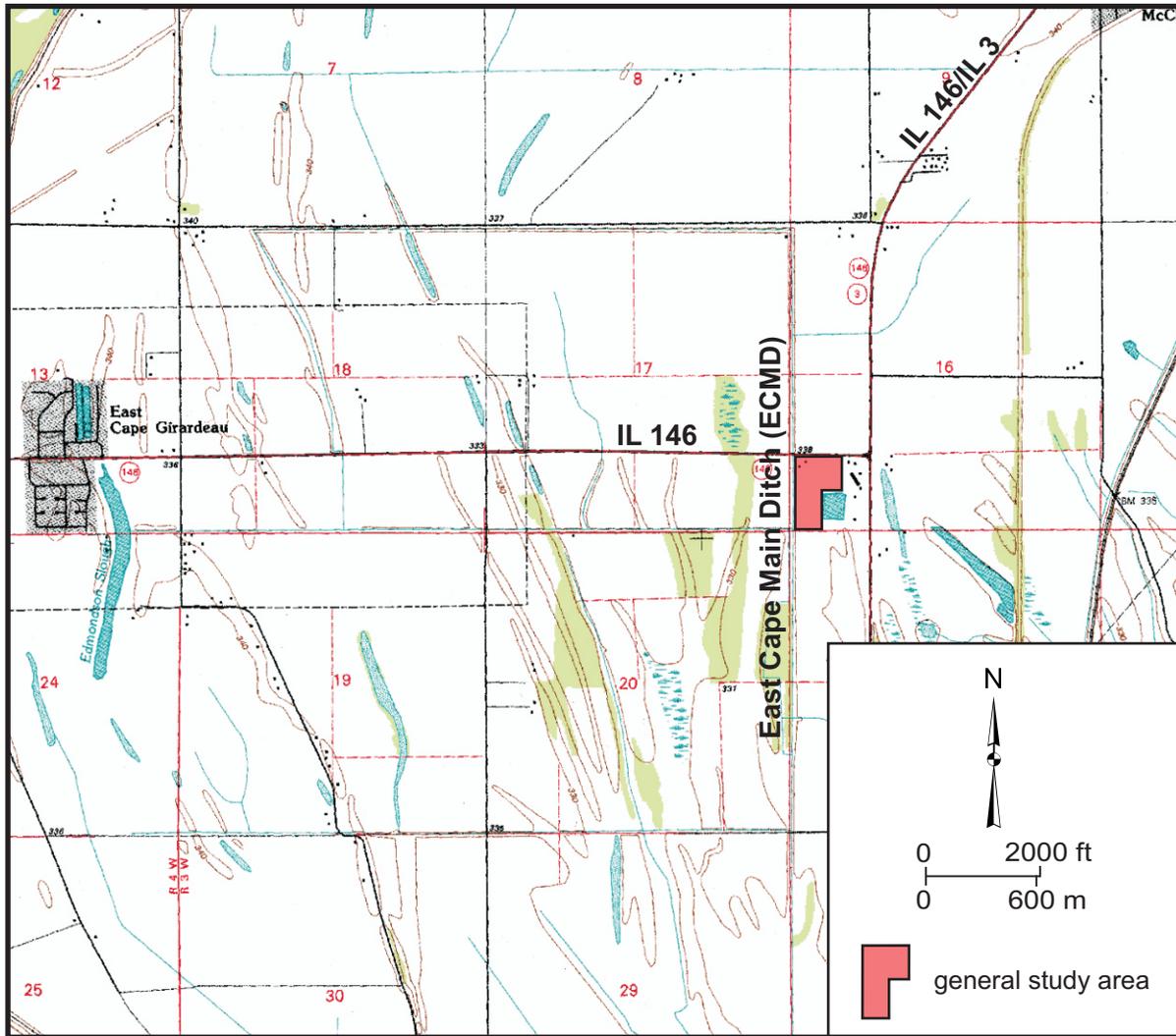
PLANNED FUTURE ACTIVITIES

- The ISGS plans to produce a post-construction topographic map of the site.
- Monitoring will continue at the site until no longer required by IDOT.

East Cape Girardeau Wetland Mitigation Site (IL 146, FAP 312)

General Study Area and Vicinity

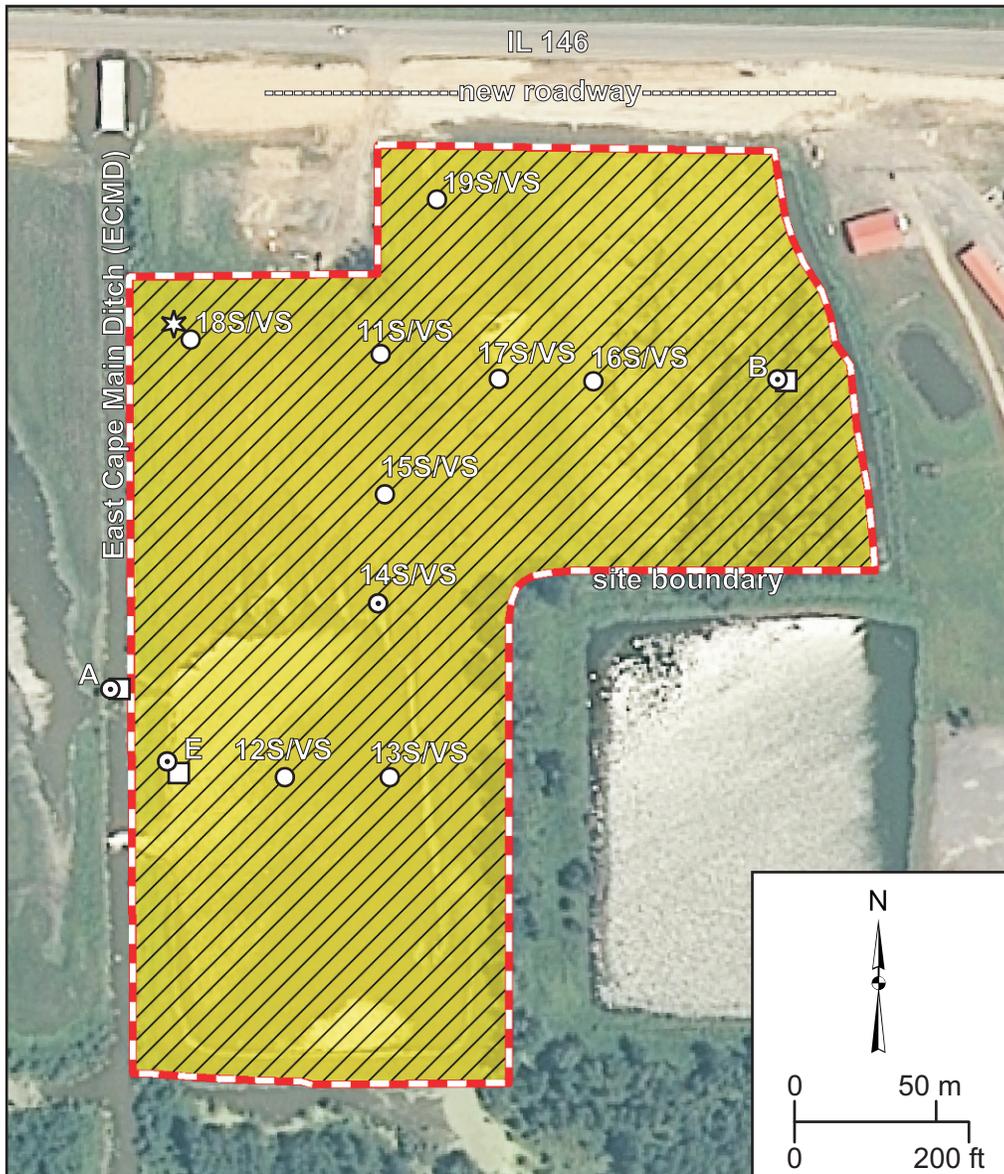
from the USGS Topographic Series, McClure, IL-MO, 7.5-minute Quadrangle (USGS 1993)
contour interval is 20 feet, with supplementary contour interval of 10 feet



East Cape Girardeau Wetland Mitigation Site (IL 146, FAP 312)

Estimated Areal Extent of 2011 Wetland Hydrology September 1, 2010 through August 31, 2011

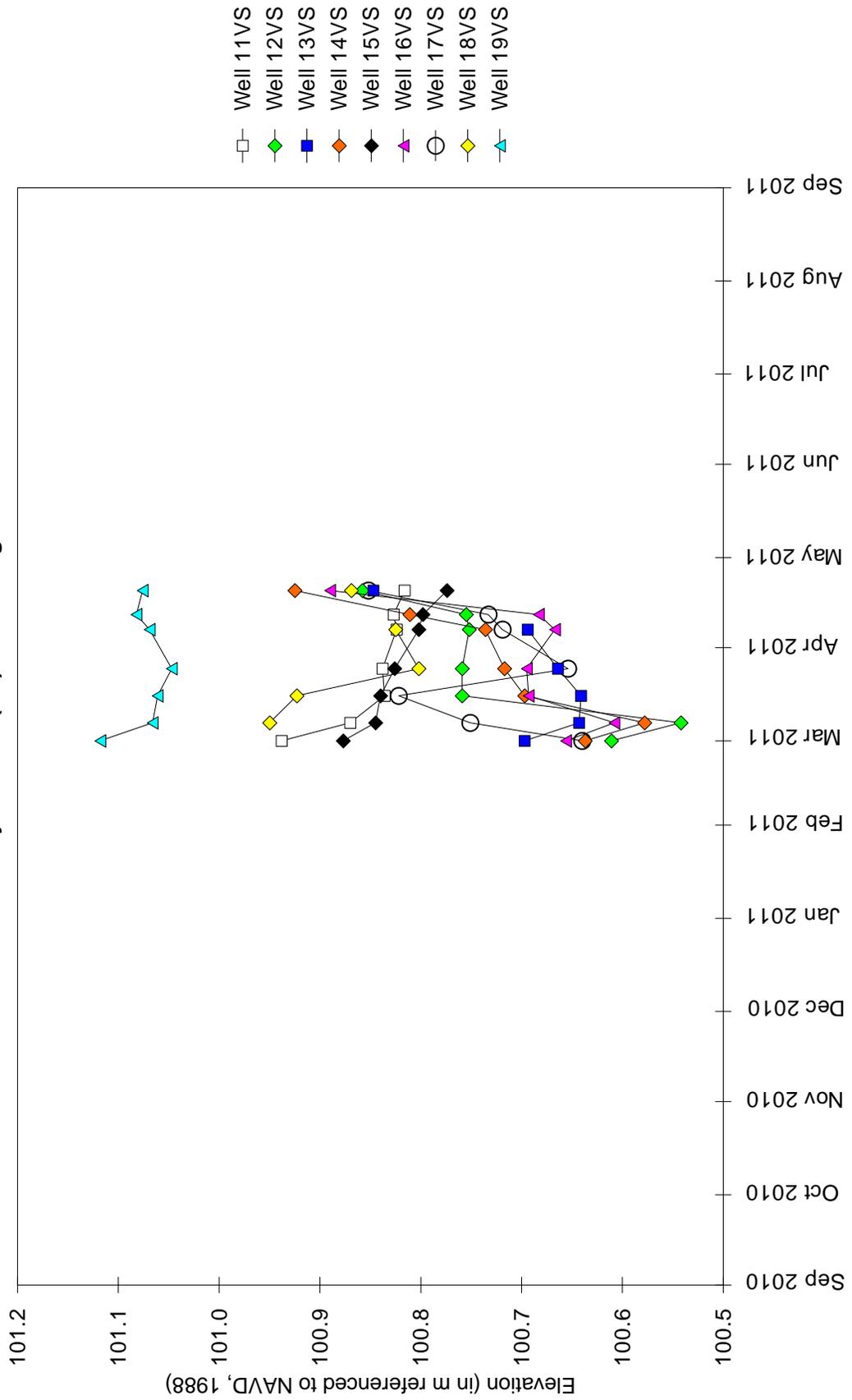
Map based on National Agricultural Imagery Program (NAIP) digital orthophotograph, Alexander County, Illinois, taken August 12, 2010 (USDA-FSA 2011)



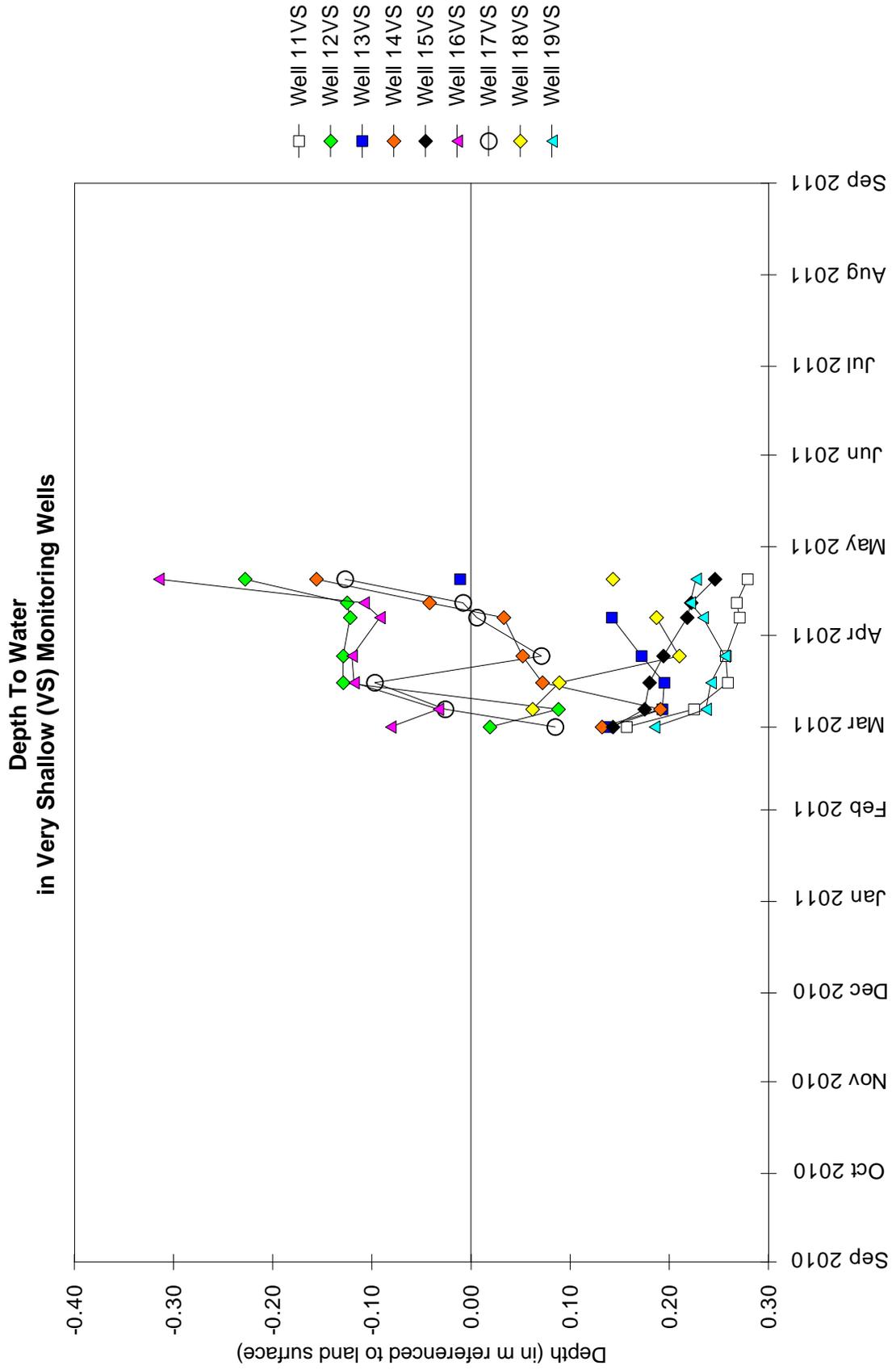
| 2011 Wetland Hydrology | |
|------------------------|--|
| ○ monitoring well | ■ > 5% of the growing season (1987 Manual) |
| □ staff gauge | ▨ > 12.5% of the growing season (1987 Manual) |
| ⊙ data logger | □ 14 days or more (2010 Midwest Region Supplement) |
| ☆ rain gauge | |

East Cape Girardeau Wetland Mitigation Site September 1, 2010 through August 31, 2011

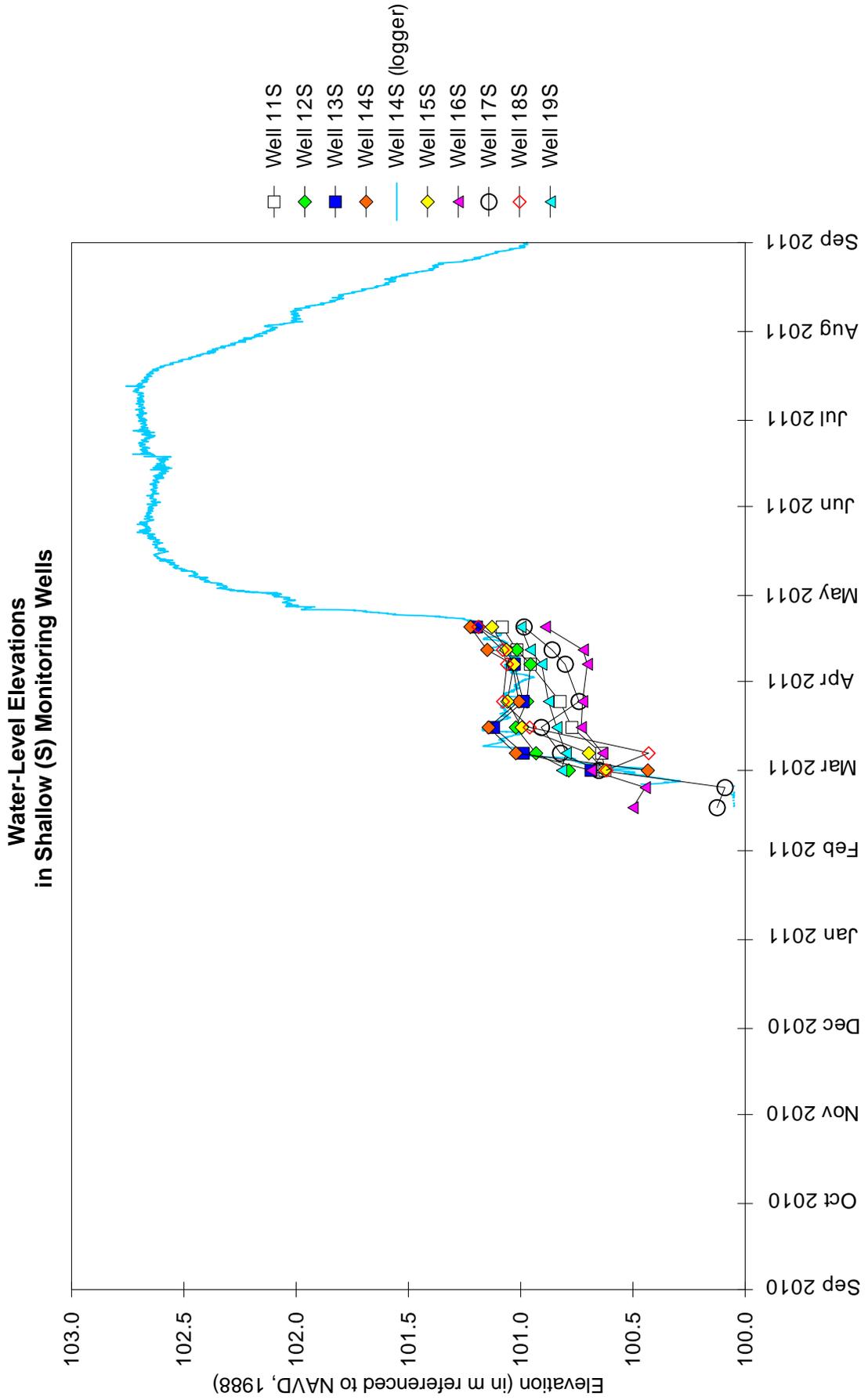
Water-Level Elevations
in Very Shallow (VS) Monitoring Wells



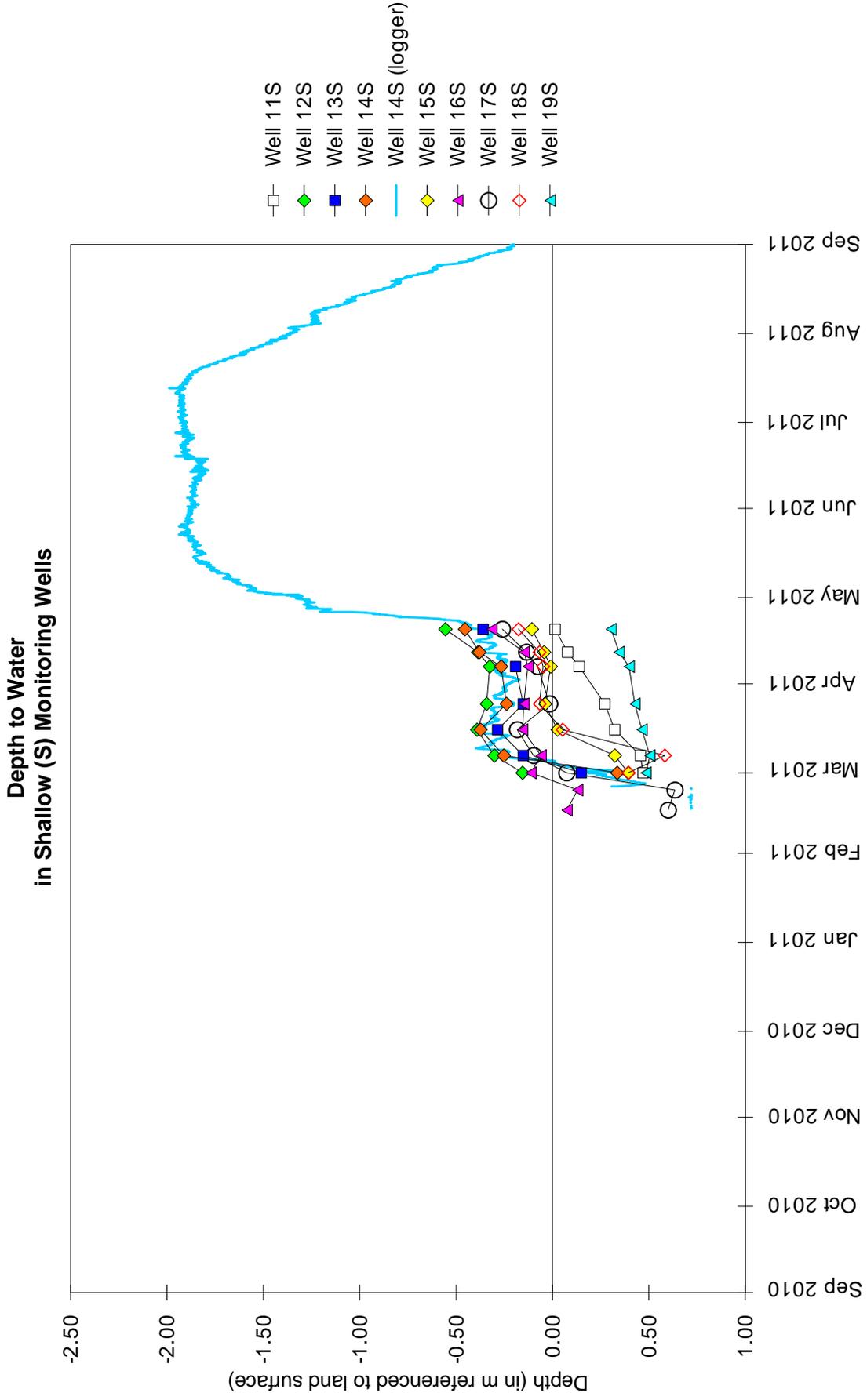
East Cape Girardeau Wetland Mitigation Site September 1, 2010 through August 31, 2011



East Cape Girardeau Wetland Mitigation Site September 1, 2010 through August 31, 2011

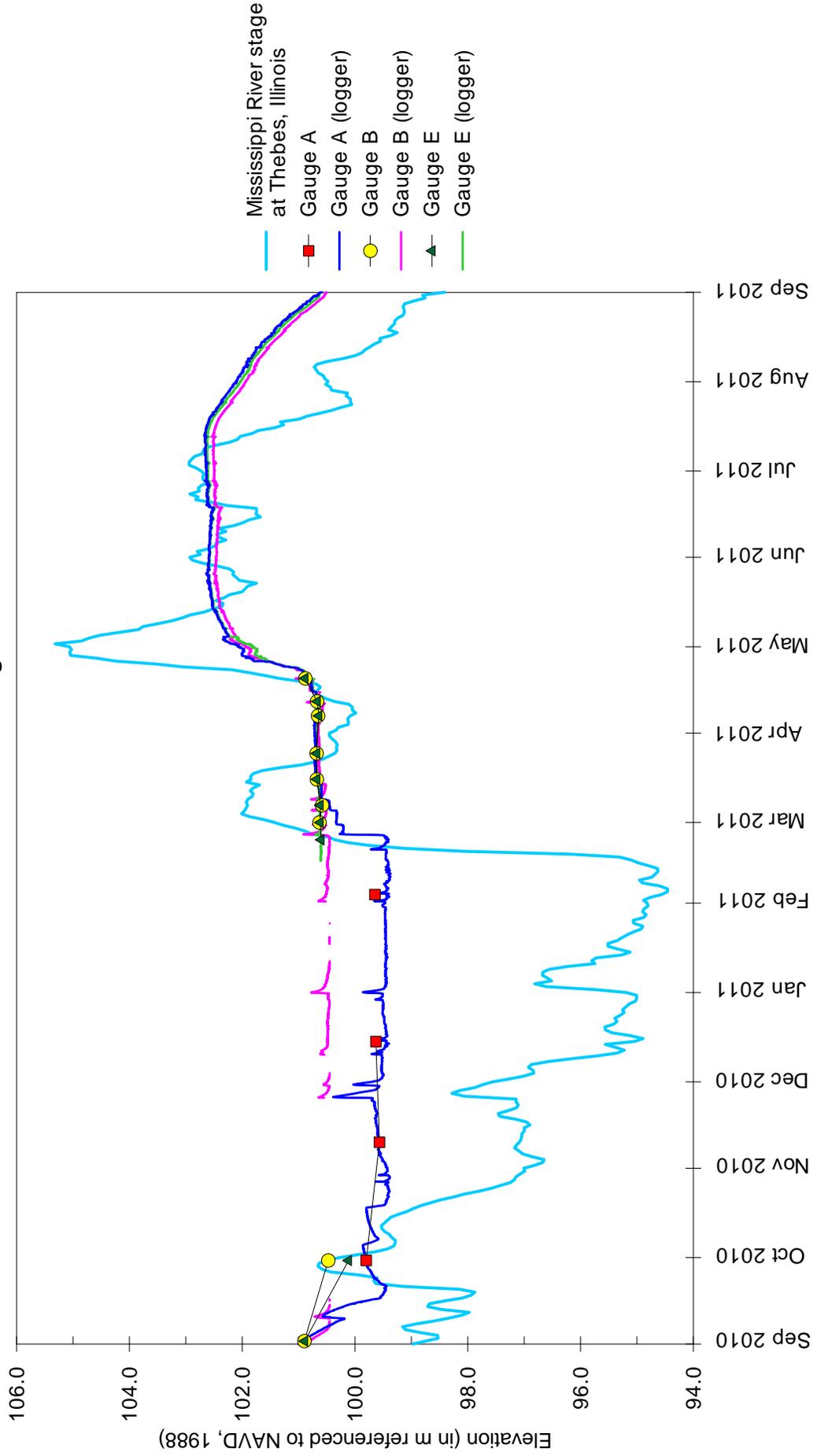


East Cape Girardeau Wetland Mitigation Site September 1, 2010 through August 31, 2011



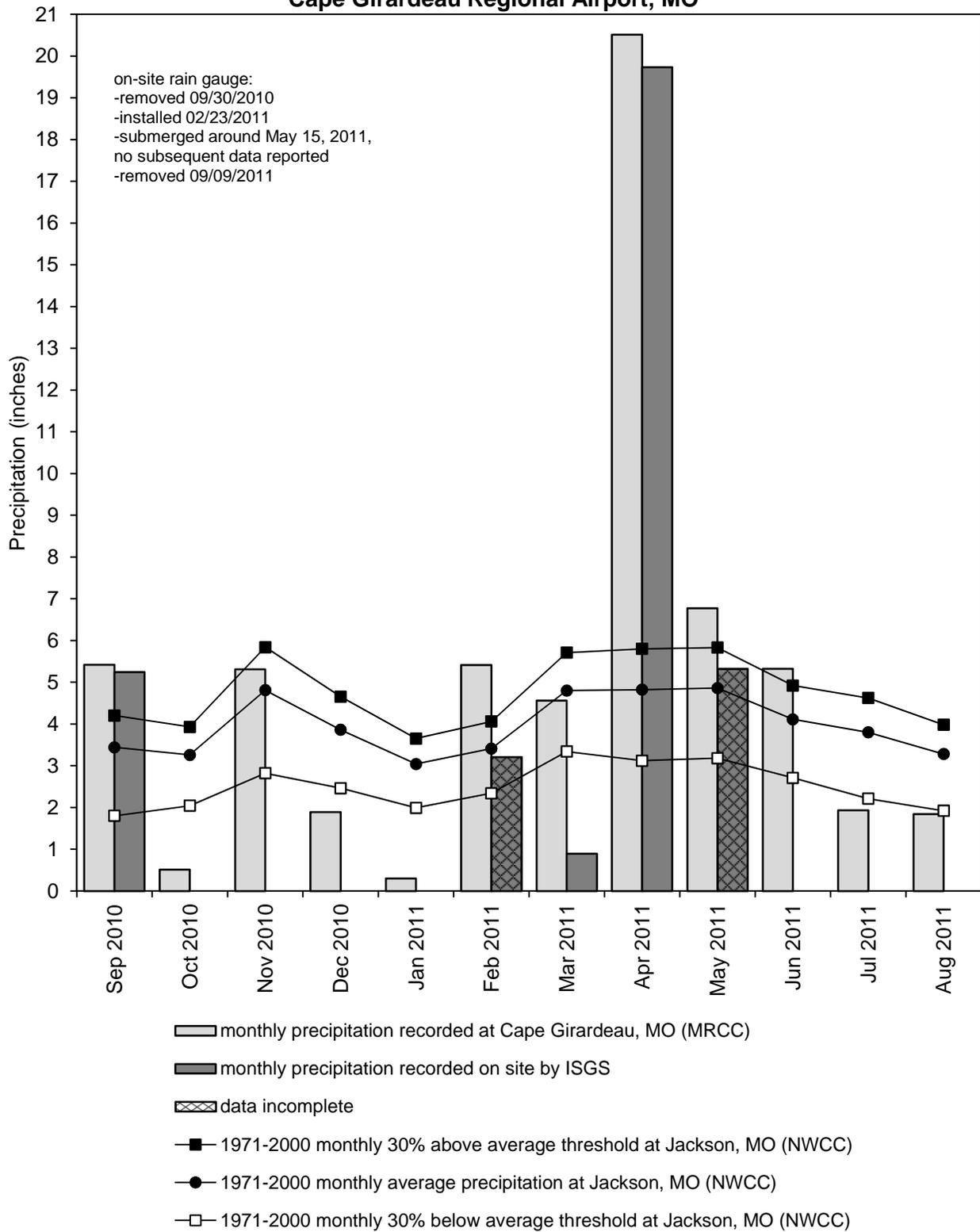
East Cape Girardeau Wetland Mitigation Site September 1, 2010 through August 31, 2011

Water-Level Elevations
at Surface-Water Gauges



East Cape Girardeau Wetland Mitigation Site September 2010 through August 2011

Total Monthly Precipitation Recorded on Site and at the Cape Girardeau Regional Airport, MO



Graph last updated 10/31/2011