



**DE SOTO  
WETLAND COMPENSATION SITE**

**ISGS #68**

FAP 322

Jackson County, near De Soto, Illinois

**Primary Project Manager: Geoffrey E. Pociask**

**Secondary Project Manager: Gregory A. Shofner**

**SITE HISTORY**

- August 2002: ISGS was tasked by IDOT to monitor wetland hydrology for the compensation site.
- November 2002: ISGS initiated monitoring activities at the compensation site.

**WETLAND HYDROLOGY CALCULATION FOR 2004**

We estimate that 2.9 ac (1.2 ha) out of an excavation of 6.0 ac (2.4 ha) satisfied wetland hydrology criteria for greater than 5% of the growing season in 2004. The same area also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors.

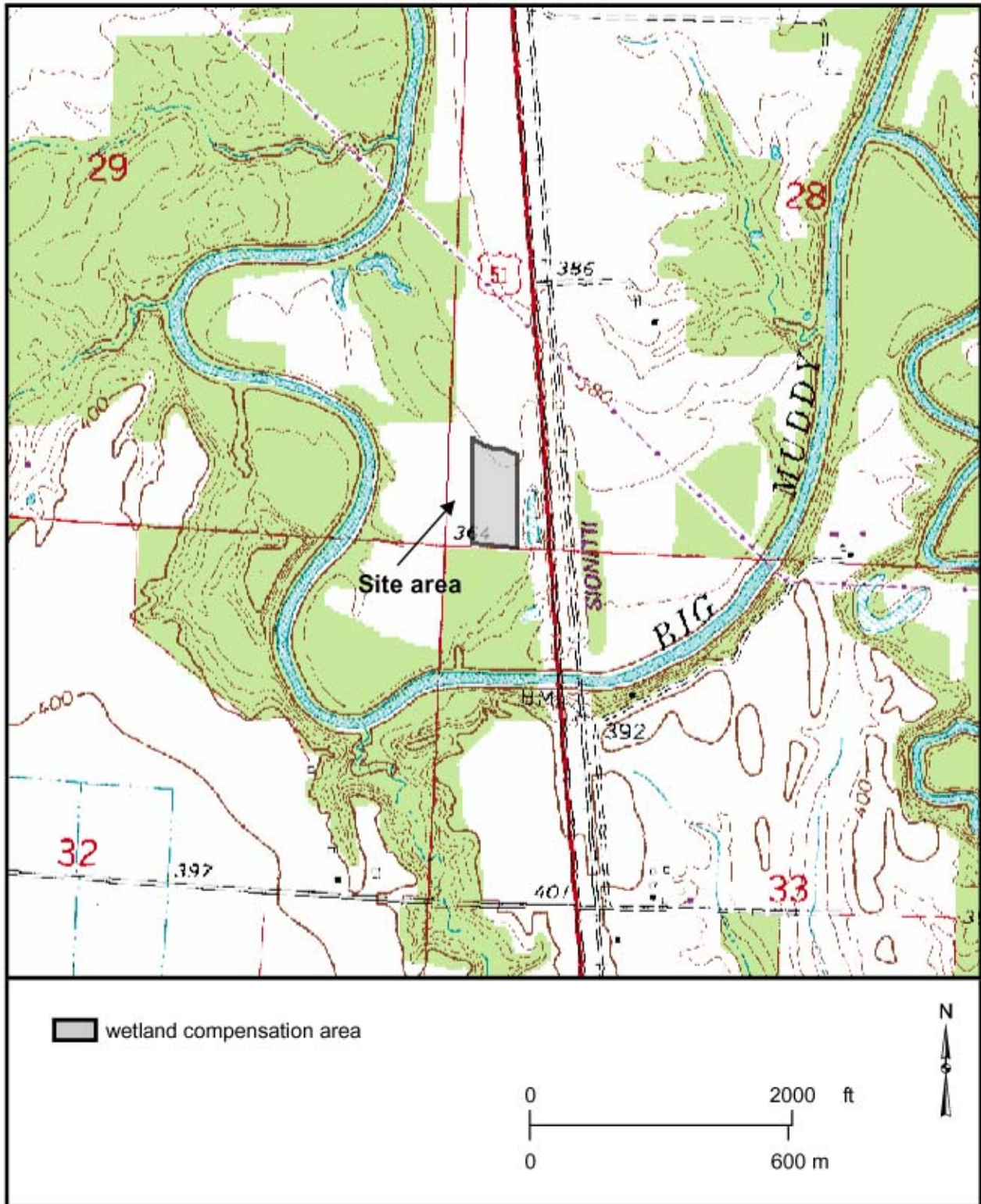
- According to the Midwestern Climate Center, the median date that the growing season begins in De Soto is April 4 and the season lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation for the reporting period from September 2003 through August 2004 was 87% of normal. Drier than normal conditions prevailed in September, October, and December 2003, and in February, April, June, and August 2004. Precipitation exceeded or was near the normal range in November 2003 and in January, March, May, and July 2004.
- In 2004, wells 2S, 3S, 5S, 8S, and 9S satisfied the wetland hydrology criteria of the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual for greater than 5% of the growing season. Wells 2S, 3S, 5S, 8S, and 9S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.
- The water levels recorded at Gauges A and B show that areas below approximately 110.5 m (362.5 ft) were inundated for greater than 5% of the growing season and therefore satisfy wetland hydrology criteria. Areas below 110.5 m (362.5 ft) were also inundated for greater than 12.5% of the growing season.
- Limitations of the wetland hydrology determination are as follows:
  - The area of wetland hydrology was calculated using GIS methods. The wetland-hydrology polygon was drawn from an ISGS topographic map (0.1-meter contour interval) rectified to GPS positions of water-level instruments and point features identifiable from a digital orthophotograph.
  - Instrument locations were determined using GPS in November 2002 and March 2003. The GPS positions of instruments were superimposed on digital orthophotography.

## PLANNED FUTURE ACTIVITIES

- Monitoring will continue until September 2007 or until no longer required by IDOT.

**De Soto Wetland Compensation Site  
(FAP 322)  
Site and Vicinity**

from the USGS Topographic Series, De Soto, IL 7.5-minute Quadrangle (USGS 1968; photorevised 1978)  
contour interval is 10 feet



# De Soto Wetland Compensation Site (FAP 322)

## Estimated Areal Extent of 2004 Wetland Hydrology

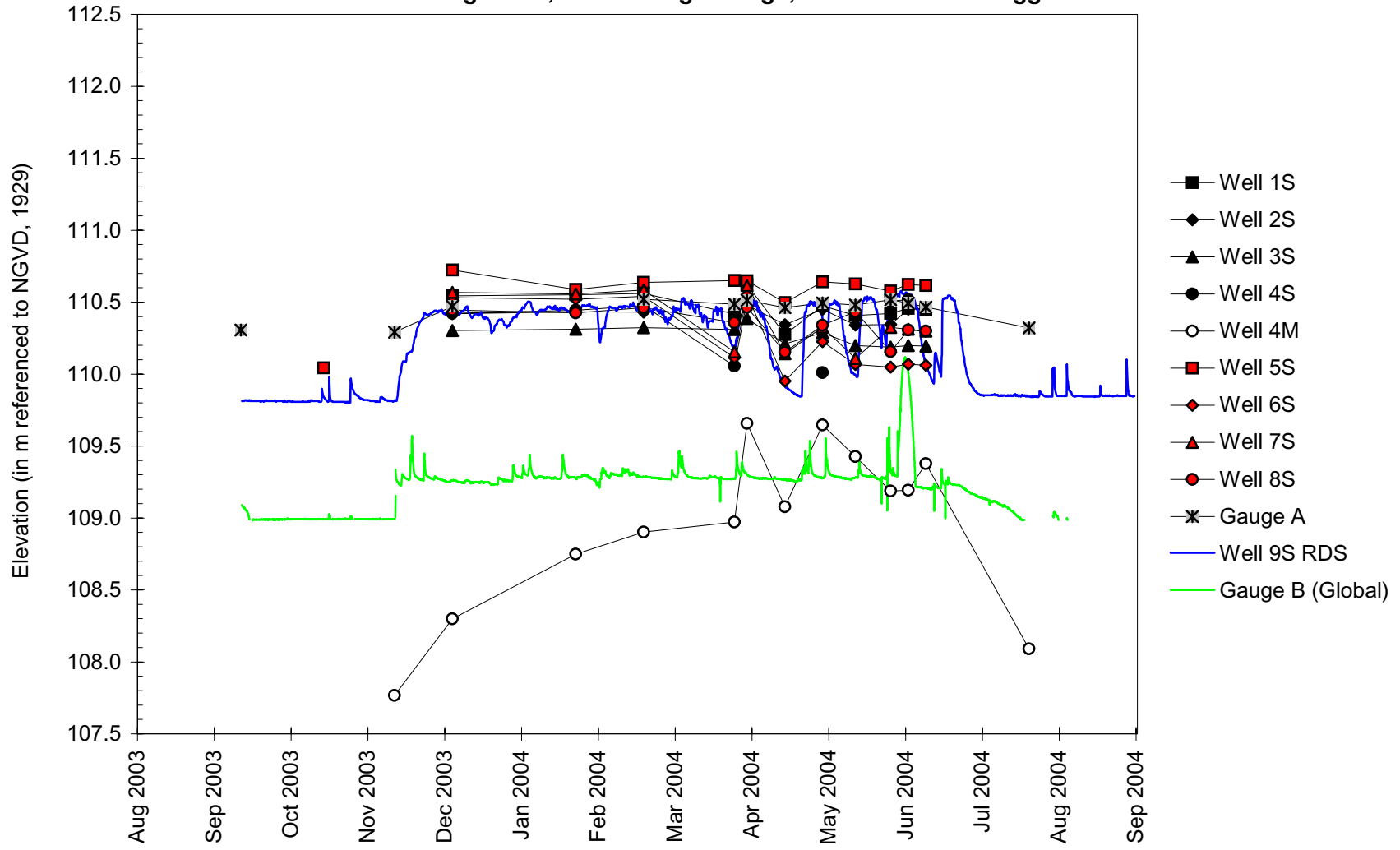
map produced by rectifying IDOT as-built plans and ISGS topography  
to USGS digital orthophotograph De Soto, NW quarter quadrangle (ISGS 2003)



# De Soto Wetland Compensation Site

September 1, 2003 to September 1, 2004

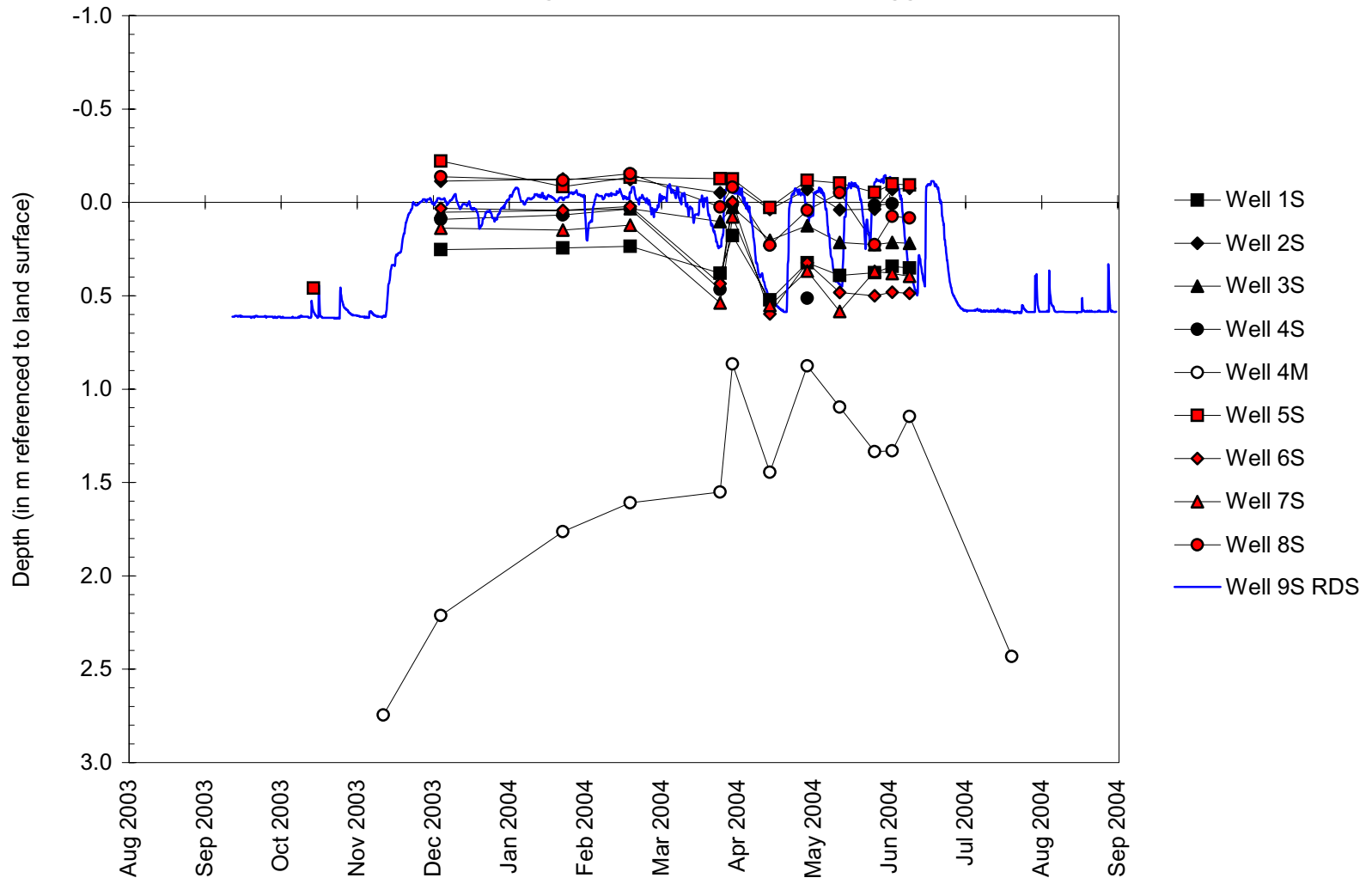
## Water-Level Elevations in Monitoring Wells, on the Stage Gauge, and at the Data Loggers



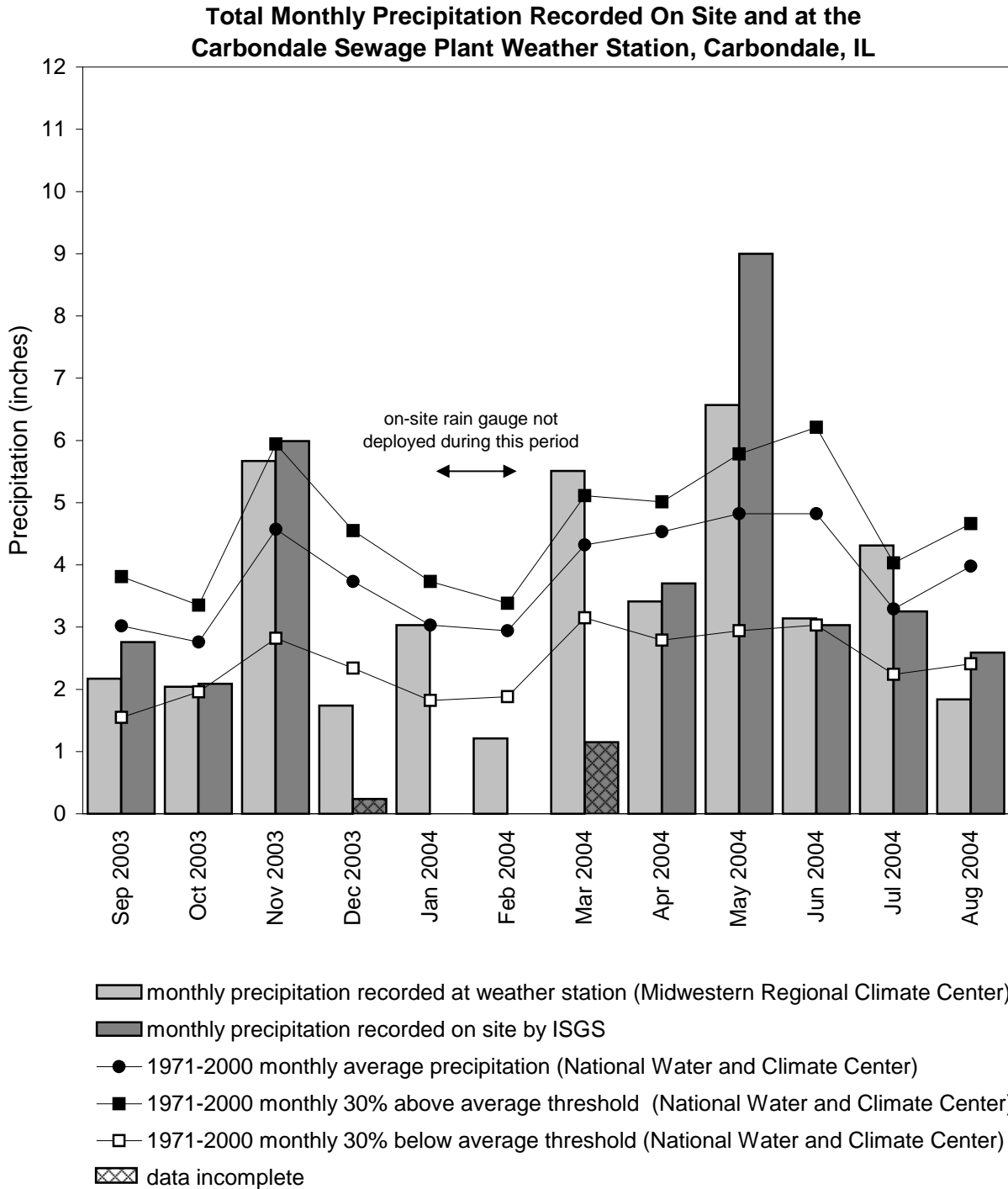
# De Soto Wetland Compensation Site

September 1, 2003 to September 1, 2004

## Depth to Water in Monitoring Wells and the RDS Data Logger



## De Soto Wetland Compensation Site September 2003 through August 2004



Graph last updated October 1, 2004