



**FORMER LUEHMANN PROPERTY, NEW RIVER CROSSING
POTENTIAL WETLAND COMPENSATION SITE**

ISGS #51

FAP 999

Madison County, near Stallings, Illinois

Primary Project Manager: Bonnie J. Robinson

Secondary Project Manager: Keith W. Carr

SITE HISTORY

- February 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.
- March–June 2000: Nine well clusters, one staff gauge, one rain gauge and three water-level loggers were installed on site.
- April 2002: A Sonic water-level meter was added to the IL162 bridge over Cahokia Canal to record stage.
- August 2002: All wells located outside the new site boundaries were abandoned. A Starflow flow-velocity meter was installed in the east ditch NNE of well cluster nine.
- May 2003: A Level II hydrogeological characterization report was submitted to IDOT.
- June 2003: IDOT requested the suspension of ground-water monitoring. The collection of data from surface-water instruments is ongoing.

SUMMARY OF 2004 EVENTS

Because this site is a potential compensation site, and ground-water monitoring was suspended, an estimate of the areas satisfying the criteria for wetland hydrology is not required for this report.

- According to the Midwestern Climate Center, the median length of the growing season, as measured at the Belleville Weather Station, is 203 days (April 5 to October 25). Therefore, 12.5% of the growing season is 25 days and 5% of the growing season is 10 days.
- Precipitation at the nearby Edwardsville weather station during the monitoring period was 135% of normal. Precipitation values alternated between above and below normal for the entire monitoring period. Below normal precipitation in April 2004 (33% of normal) was followed by abnormally high precipitation in May 2004 (292% of normal).
- Although the largest flow recorded in the ditch at the south end of the site was not during the growing season, if the runoff could be maintained onsite into the spring, it could result in considerable flooding. During the growing season, there were five recorded events discharging between 3.1 and 12.9 ac-ft per event.
- Measurements in the Cahokia Canal indicate that the water level exceeded 127.0 m NGVD, 1929 (416 ft NAVD, 1988) on several occasions during the growing season, including May 1, 13–15, 19 and 25–31, 2004.

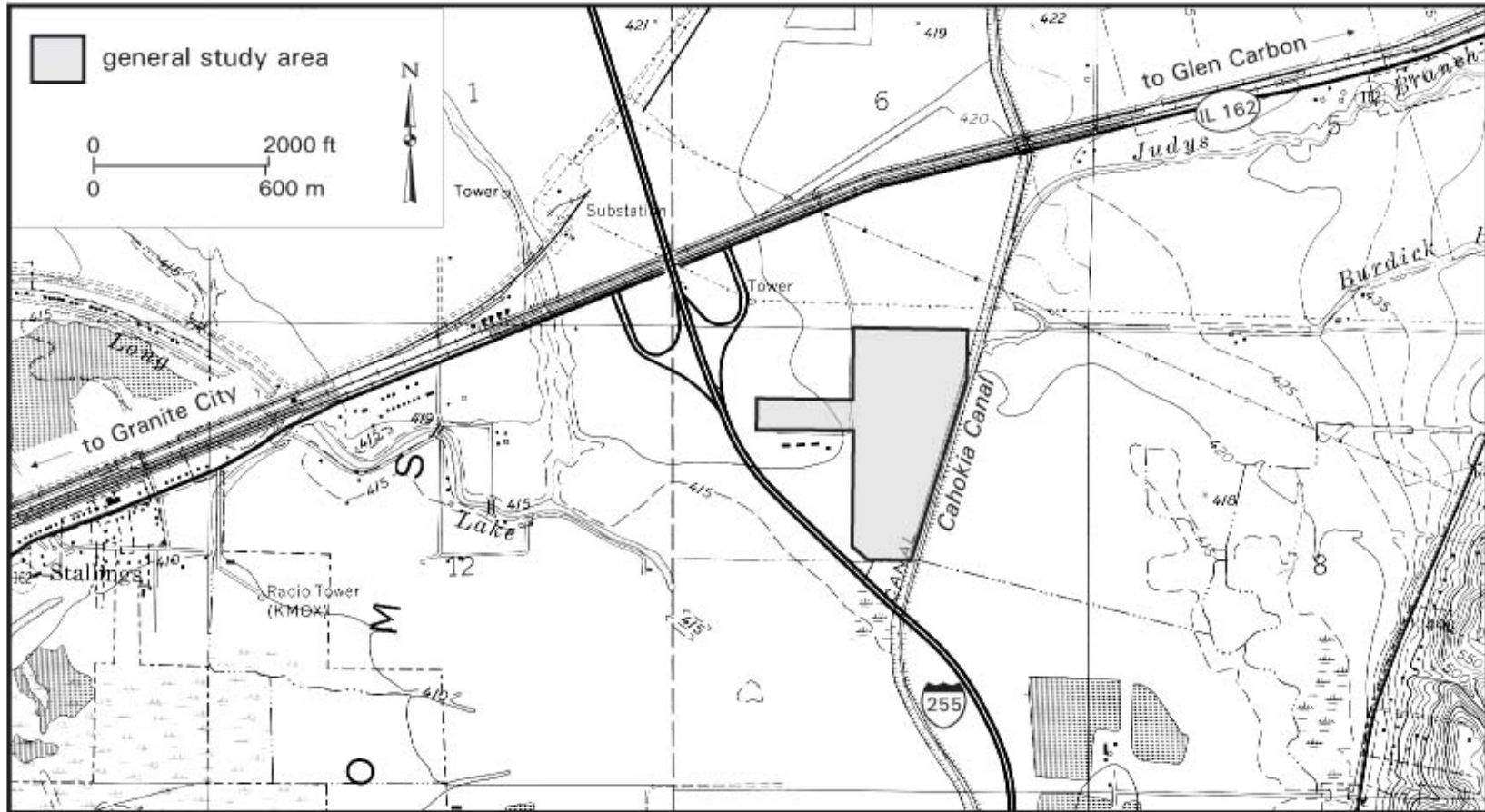
PLANNED FUTURE ACTIVITIES

- Soil permeability tests will be conducted on site in the fall of 2004.
- Collection of surface-water data will continue at this site until no longer required by IDOT.

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General Study Area and Vicinity

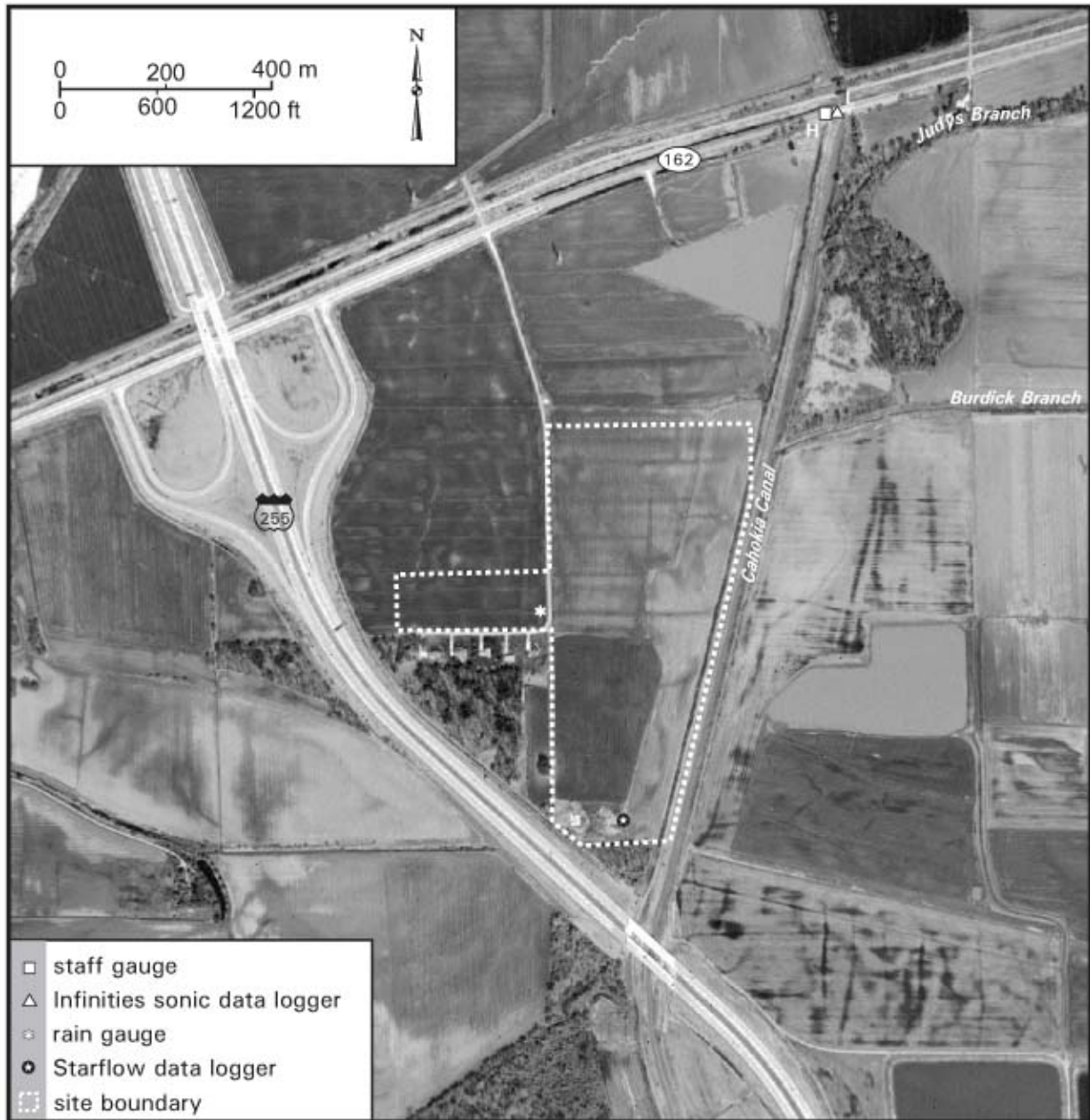
from the USGS Topographic Series, Monks Mound, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 10 feet



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Locations of ISGS Monitoring Instruments

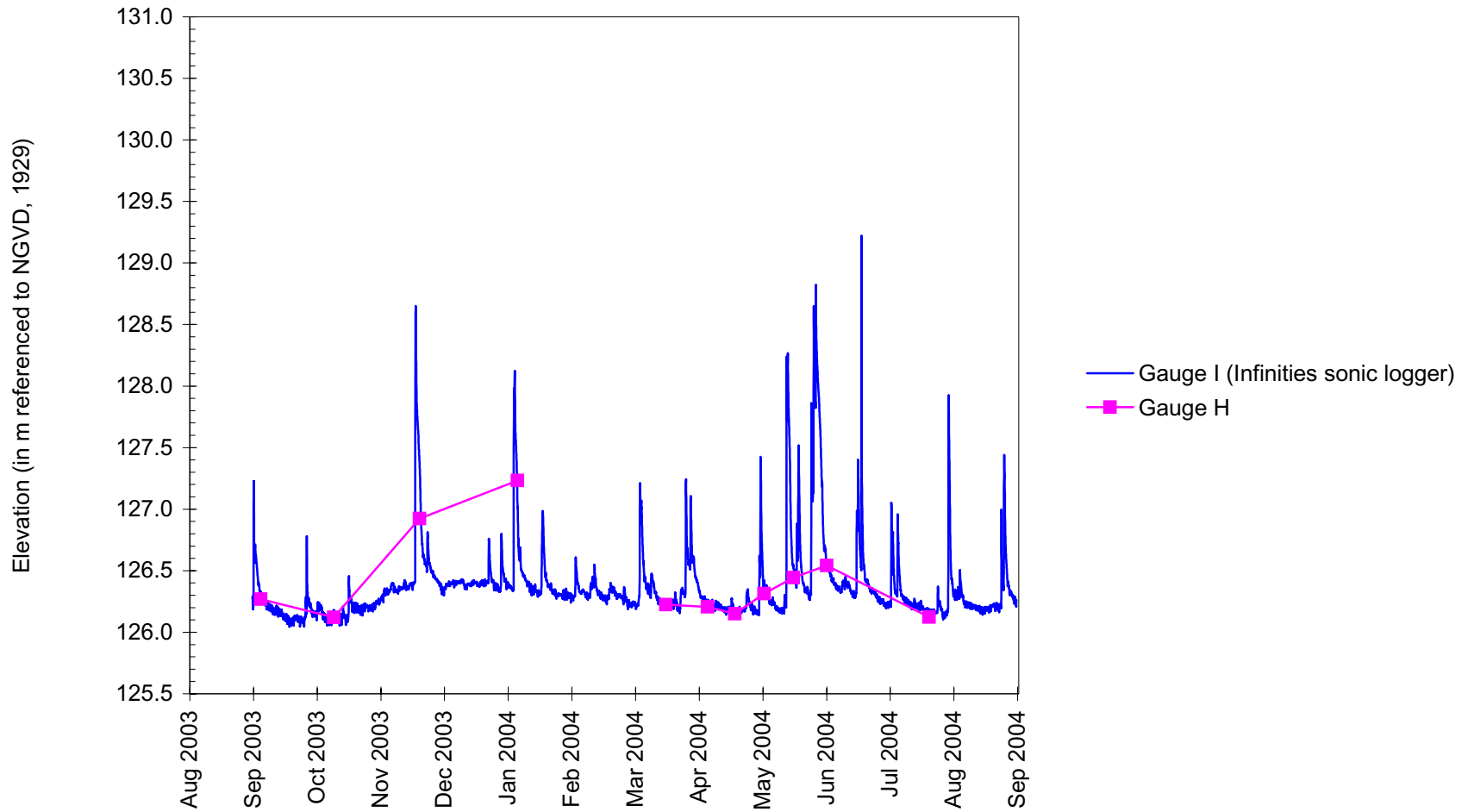
map based on USGS digital orthophotograph, Monk's Mound NE quarter quadrangle
produced from 4/2/98 aerial photography (ISGS 2001)



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September 1, 2003 to September 1, 2004

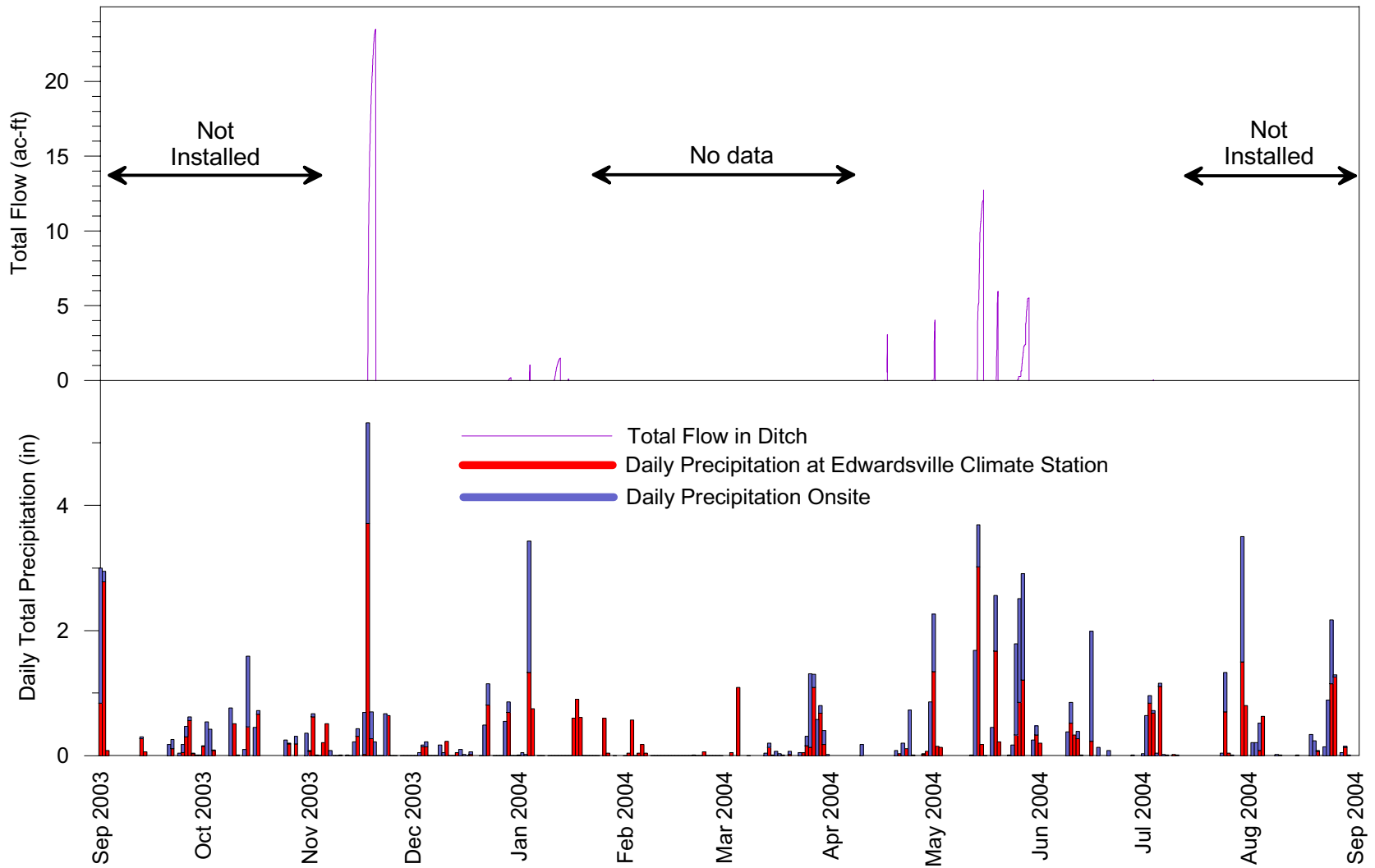
Water-Level Elevations



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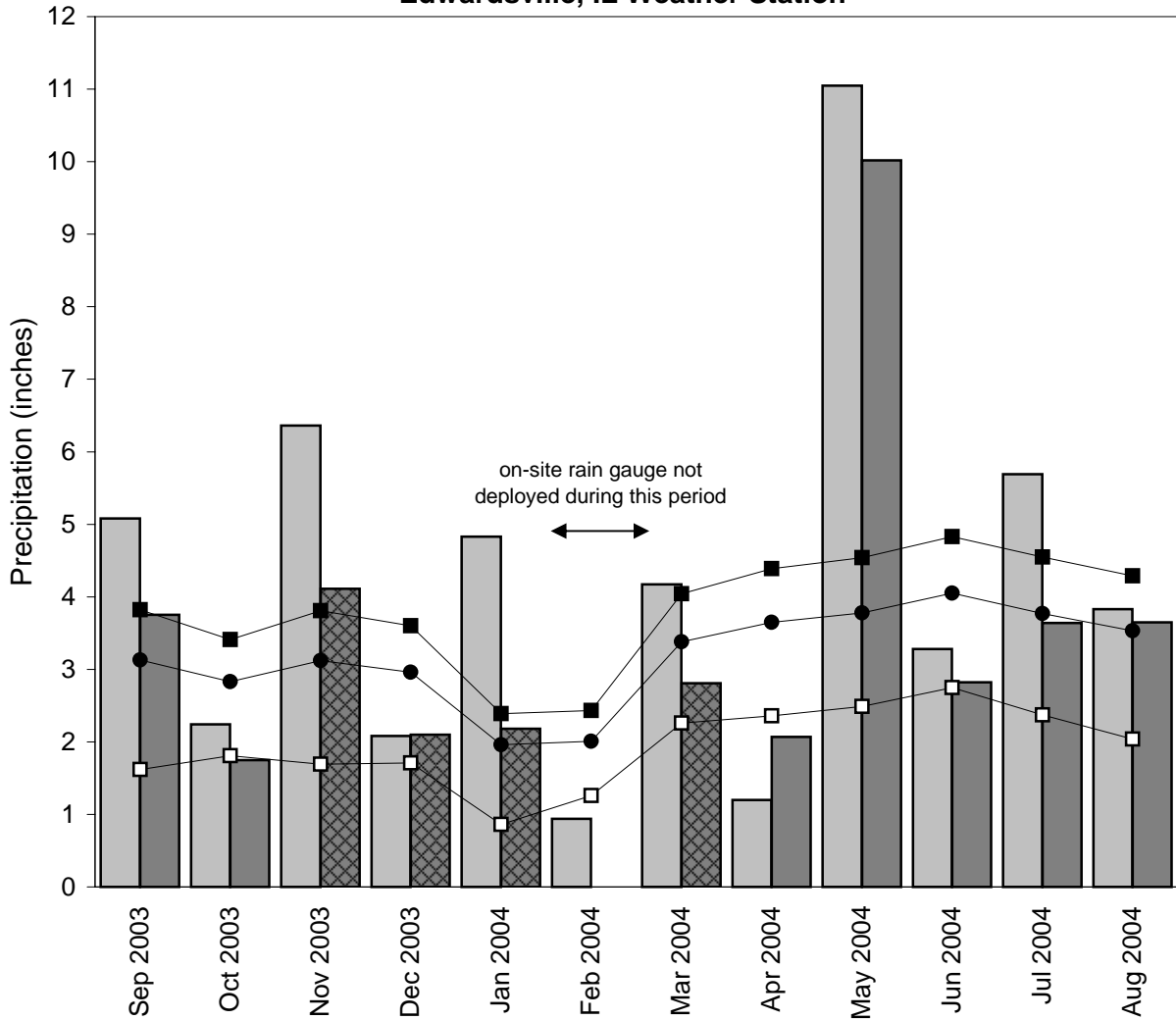
September 1, 2003 to September 1, 2004

Flow in the Ditch and Daily Precipitation



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Total Monthly Precipitation Recorded On Site and at the Edwardsville, IL Weather Station



- monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
- monthly precipitation recorded on site by ISGS
- 1961-1990 monthly average precipitation (National Water and Climate Center)
- 1961-1990 monthly 30% above average threshold (National Water and Climate Center)
- 1961-1990 monthly 30% below average threshold (National Water and Climate Center)
- ▣ data incomplete