



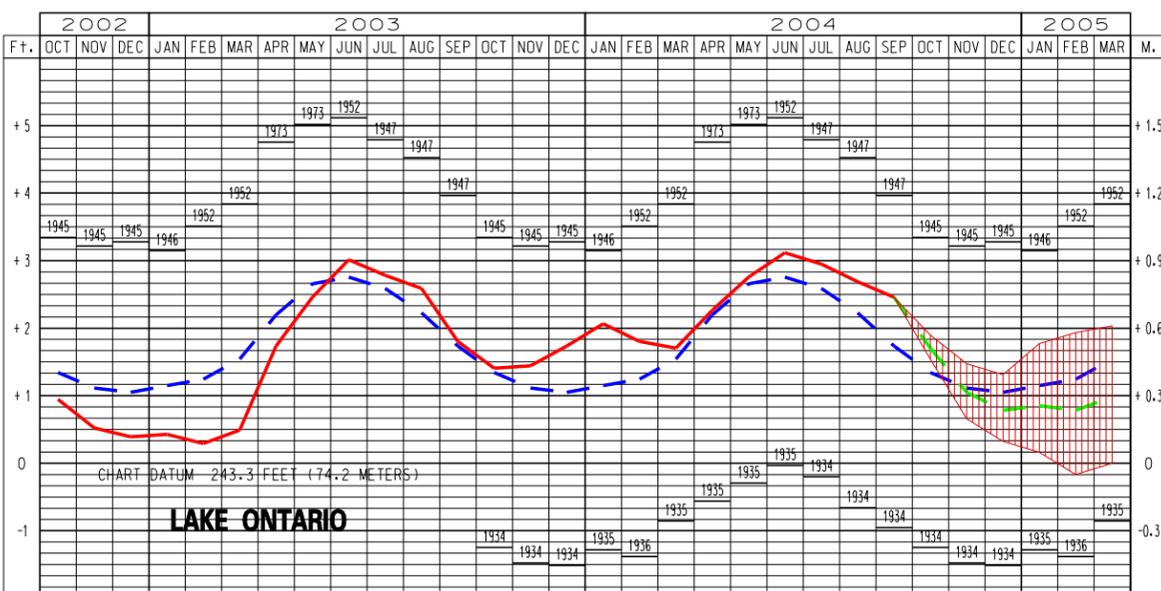
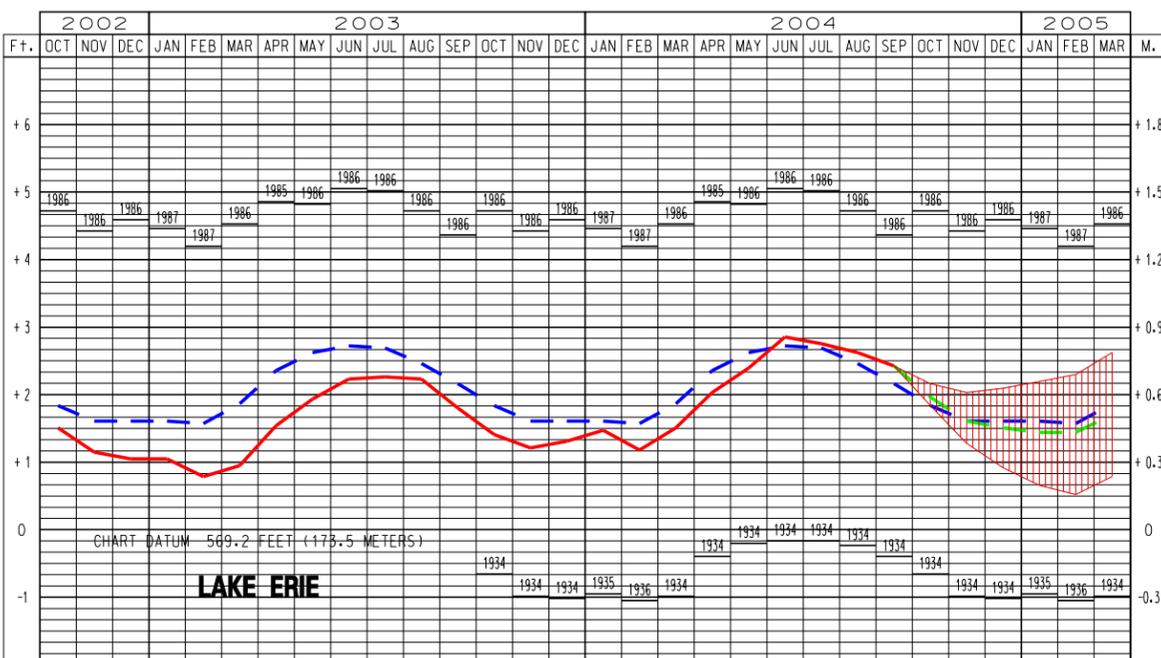
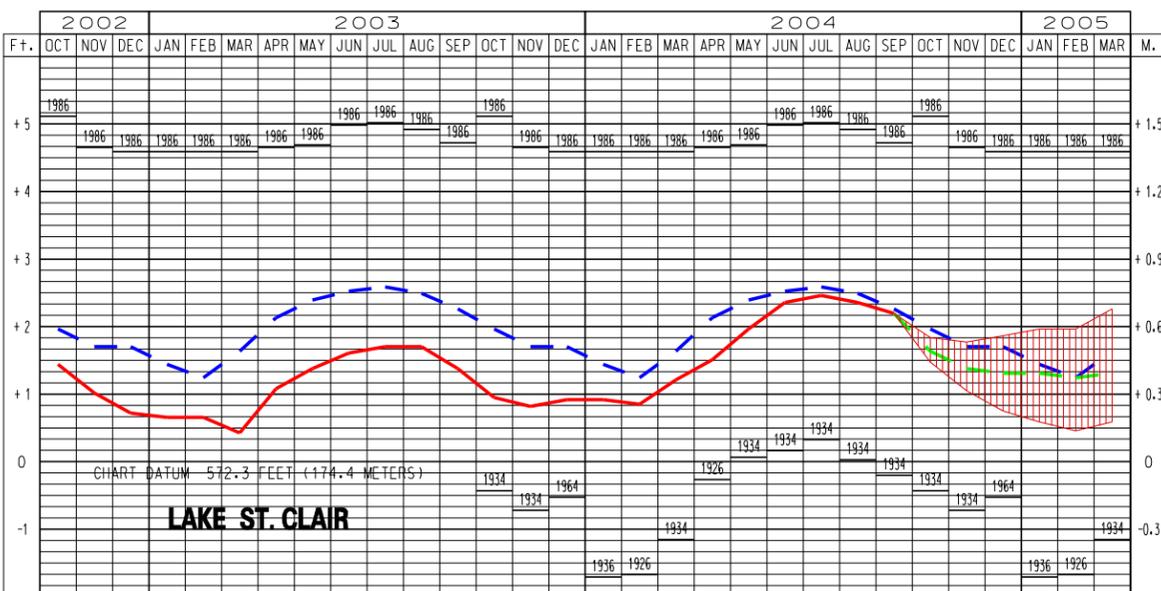
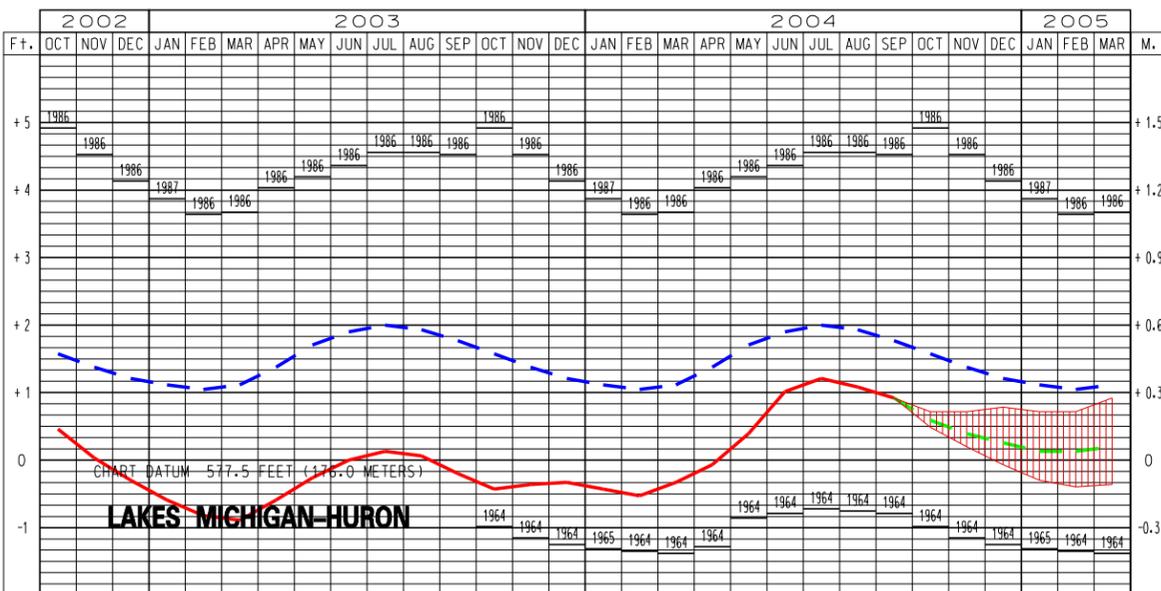
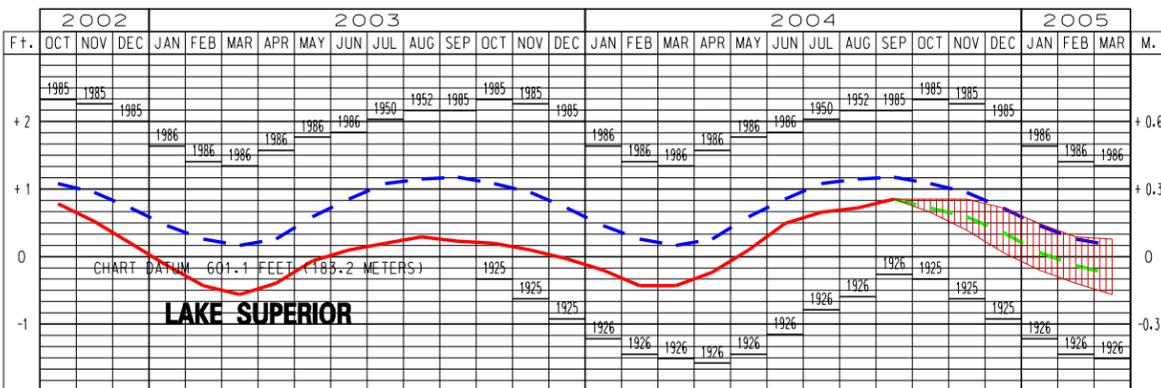
**US Army Corps  
of Engineers**  
Detroit District

**MONTHLY BULLETIN OF  
LAKE LEVELS FOR THE  
GREAT LAKES**

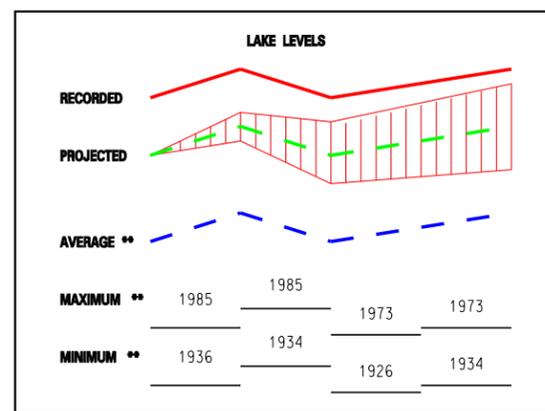
OCTOBER 2004

Water levels for the previous year and the current year to date are shown as a solid line on the hydrographs. A projection for the next six months is given as a dashed line. This projection is based on the present condition of the lake basin and anticipated future weather. The shaded area shows a range of possible levels over the next six months dependent upon weather variations. Current and projected levels (solid and dashed lines) can be compared with the 1918-2003 average levels (dotted line) and extreme levels (shown as bars with their year of occurrence). The legend below further identifies the information on the hydrographs.

ELEVATIONS REFERENCED TO THE CHART DATUM OF EACH RESPECTIVE LAKE



**LEGEND**



The levels on the hydrographs are shown in both feet and meters above (+) or below (-) Chart Datum. Chart Datum, also known as Low Water Datum, is a reference plane on each lake to which water depth and Federal navigation improvement depths on navigation charts are referred.

All elevations and plots shown in this bulletin are referenced to International Great Lakes Datum 1985 (IGLD 1985). IGLD 1985 has its zero base at Rimouski, Quebec near the mouth of the St. Lawrence River (approximate sea level).

SEPTEMBER MEAN LAKE LEVELS  
(IGLD 1985)

	Superior	Mich-Huron	St. Clair	Erie	Ontario
* 2004	Ft. 601.90	578.35	574.38	571.65	245.90
	M. 183.46	176.28	175.07	174.24	74.95
2003	Ft. 601.74	578.22	574.02	571.03	244.91
	M. 183.41	176.24	174.96	174.05	74.65
Ft. 603.22	581.96	576.90	573.59	247.41	
** MAX.	M. 183.86	177.38	175.84	174.83	75.41
Yr. 1985	1986	1986	1986	1986	1947
Ft. 600.79	576.64	571.98	568.83	242.49	
** MIN.	M. 183.12	175.76	174.34	173.38	73.91
Yr. 1926	1964	1934	1934	1934	1934
** AVG.	Ft. 602.23	579.20	574.44	571.39	245.18
	M. 183.56	176.54	175.09	174.16	74.73

\* provisional  
\*\* Average, Maximum and Minimum for period 1918-2003

Recorded water levels in this bulletin are derived from a representative network of water level gages on each lake (see cover map). Providers of these data are the U.S. Department of Commerce, NOAA, the National Ocean Service, and the Marine Environmental Data Service, Department of Fisheries and Oceans, Canada. The Detroit District, Corps of Engineers and Environment Canada derive historic and projected lake levels under the auspices of the Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data.

This bulletin is produced monthly as a public service. Tables of possible storm-induced rises at key locations on the Great Lakes are available on request. The Corps also publishes the "Great Lakes, Connecting Channels and St. Lawrence River Water Levels and Depths," twice monthly, which provides a forecast of depths in the connecting rivers between the Great Lakes and the International Section of the St. Lawrence River. These publications can be obtained free of charge by writing to the address shown on the front cover, or by calling (313) 226-2201. Notices of change of address should include the name of the publication(s). The Internet address <http://www.Ire.usace.army.mil/glhh> contains this information on the Internet.

## Great Lakes Basin Hydrology September 2004

Precipitation for September was below average on all of the Great Lakes basins except for Lake Ontario. For the last 12 months, precipitation has been near or above average on each of the Great Lakes basins except for Lake Superior. During September, the net supply of water was above average on all of the lakes except for Lake Michigan-Huron. The tables below list September precipitation and water supply information for the entire Great Lakes basins.

Comparison of September monthly mean water levels to long-term (1918-2003) average show Lakes Superior, Michigan-Huron and St. Clair were 3, 10 and 1 inches, respectively, below average, while lakes Erie and Ontario were 3 and 9 inches, respectively above average in September. Boaters should be aware of hazards to navigation due to current conditions.

PRECIPITATION (INCHES)								
BASIN	September 2004				12-Month Comparison			
	2004	Average (1900-1999)	Diff.	% of Average	Last 12 months	Average (1900-1999)	Diff.	% of Average
Superior	3.14	3.53	-0.39	89	29.67	30.52	-0.85	97
Michigan-Huron	1.31	3.46	-2.15	38	34.87	32.17	2.70	108
Erie	2.10	3.15	-1.05	67	36.73	35.04	1.69	105
Ontario	3.57	3.24	0.33	110	40.98	35.35	5.63	116
Great Lakes	2.17	3.41	-1.24	64	34.42	32.42	2.00	106

LAKE	September WATER SUPPLIES <sup>2</sup> (cfs)		September OUTFLOW <sup>3</sup> (cfs)	
	2004 <sup>1</sup>	Average <sup>6</sup> (1900-1999)	2004 <sup>1</sup>	Average <sup>5</sup> (1900-1999)
Superior	89,000	72,000	83,000	83,000
Michigan-Huron	-64,000	29,000	173,000	194,000
Erie	-14,000	-18,000	202,000	203,000
Ontario	52,000	5,000	282,000	249,000

Notes: Values (excluding averages) are based on preliminary computations; cfs denotes cubic feet per second.

<sup>1</sup> Estimated

<sup>2</sup> Negative water supply denotes evaporation from lake exceeded runoff from local basin.

<sup>3</sup> Does not include diversions

<sup>4</sup> Reflects effects of ice/weed retardation in connecting channel

<sup>5</sup> Niagara and St Lawrence rivers average outflows are based on period of record 1900-1989 and 1900-2003, respectively.

<sup>6</sup> Lakes Erie and Ontario average water supplies based on 1900-1989