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Memorandum - Note de service

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SECURITY/

SÉCURITÉ:

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DOSSIER:

DATE: October 2, 2002

**Subject/
Objet:**

GREAT LAKES WATER LEVELS INFORMATION

Except for Lake Superior, September water supplies were below average on each of the Great Lakes' basins. Lake Superior's basin received above average supplies, and, as a result its level rose by 2 cm, whereas, on average it declines by 1 cm in September. The levels of lakes Michigan-Huron, St. Clair and Ontario fell by more than usual in September. Lake Erie's level fell by 6 cm during September, less than its usual 9 cm September decline. The present Lake Ontario level is very close to that of a year ago, while levels on the other Great Lakes are higher than those of one year ago. Levels of all of the Great Lakes remain below average. Great Lakes levels were above chart datum during September, and are expected to remain above chart datum in October. The levels of all of the Great Lakes are expected to decline in October. The level at Montreal Harbour declined in September, falling further below its long-term average and below chart datum in the later half of the month.

The following table compares the levels of the lakes to their long-term averages and last year's levels.

GREAT LAKES WATER LEVELS

Lake	September Monthly Mean Level		Beginning of October Level	
	Compared to Monthly Average (1918-2001)	Compared to One Year Ago	Compared to Beginning-of- Month Average (1918-2001)	Compared to One Year Ago
Superior	14 cm below	5 cm above	13 cm below	11 cm above
Michigan-Huron	31 cm below	23 cm above	31 cm below	18 cm above
St. Clair	13 cm below	21 cm above	13 cm below	14 cm above
Erie	12 cm below	21 cm above	8 cm below	22 cm above
Ontario	9 cm below	2 cm above	10 cm below	2 cm above

According to preliminary reports, Great Lakes basin precipitation for September was about 85% of average. The Lakes Superior, Michigan-Huron, Erie and Ontario basins have received 119%, 59%, 103%, and 87% of September average precipitation, respectively. Figures 1 and 2 show the difference from average of the water supplies received in each of the Great Lakes for the past 3 and 6 months, respectively. As shown on Figure 1, Lake Superior's three month supply has been near average, while supplies to the other lakes have all been below average. The change from wet conditions in the spring to dry summer conditions on all but the Lake Superior basin, is evident by comparing figures 1 and 2.

The outflow from Lake Superior will be about 2220 m³/s in October, a decrease from the 2270 m³/s outflow in September. The October flow is about the same as the long-term average outflow for October.

The daily outflows from Lake Ontario last month averaged 6820 m³/s, about 4% less than the September (1918-2001) average. This flow was greater than the amount specified by Plan 1958-D. The October outflow is expected to be less than the September flow.

Montreal Harbour's levels in September averaged 5.56 m, 1 cm above chart datum, and 76 cm below the long-term average (1967-2001) for September. Last month's level was 22 cm above the September 2001 level. Daily levels ranged from a high of 5.82 m on the 5th to a low of 5.40 m on the 30th. The outflow from the Ottawa River was below average (1962-1999) during September. The most probable supplies forecast indicates that the harbour's monthly mean level will remain about the same in October as compared to September, remain below average (1967-2001) and near chart datum. Note that most probable supplies are wetter than those recently experienced, and if the dry conditions continue the level will remain below chart datum.

The recent observed and forecasted ranges of monthly levels on the Great Lakes are shown in the attached figures and tables.

This information has been prepared under the auspices of the International Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data by the Great Lakes - St. Lawrence Regulation Office, Environment Canada, and the Detroit District, U.S. Army Corps of Engineers.

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FIGURE 1: 3 MONTH AVERAGE NET BASIN SUPPLIES & NET TOTAL SUPPLIES
 JUL 2002 TO SEP 2002 - COMPARED TO JUL-SEP AVERAGE (1918-2001)

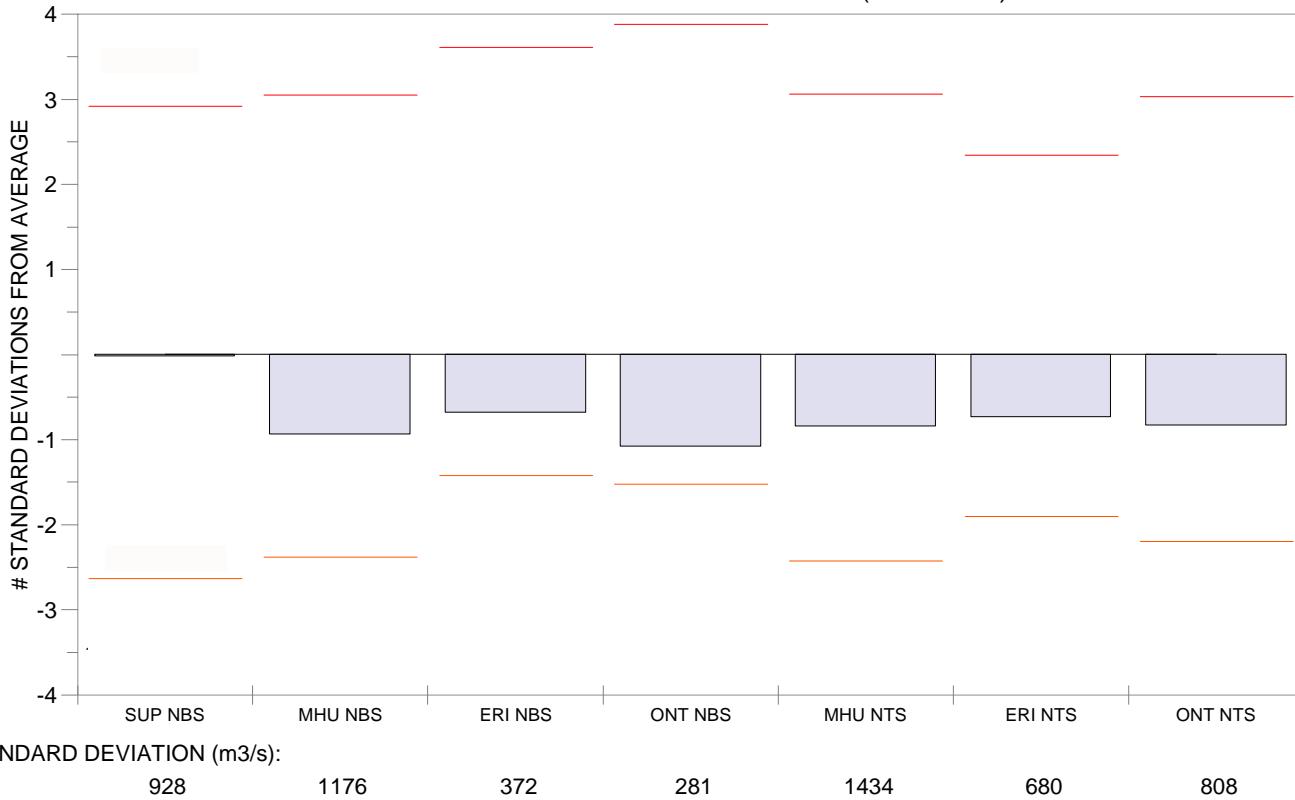
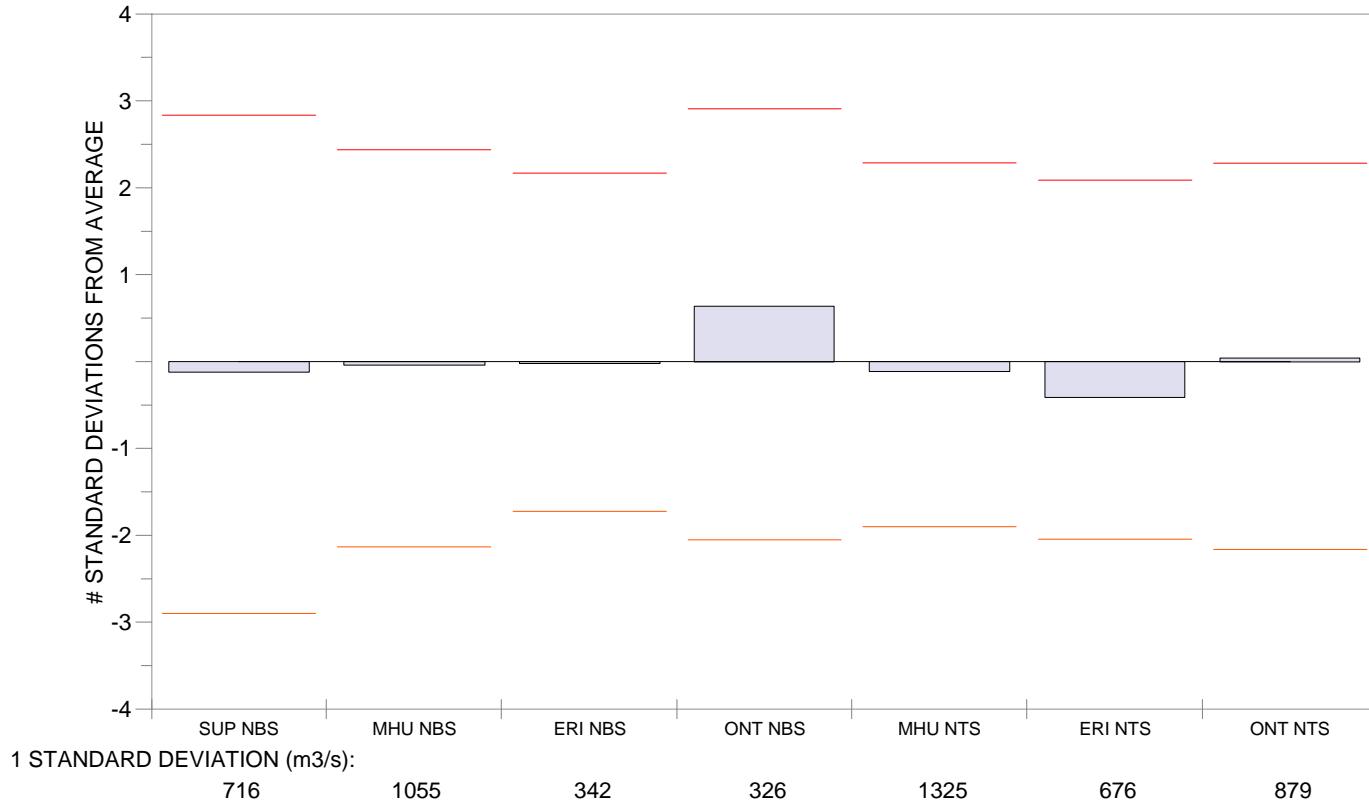


FIGURE 2: 6 MONTH AVERAGE NET BASIN SUPPLIES & NET TOTAL SUPPLIES
 APR 2002 TO SEP 2002 - COMPARED TO APR-SEP AVERAGE (1918-2001)



GREAT LAKES WATER LEVELS

COMPARISON OF PAST, PRESENT, AND PROBABLE FUTURE LEVELS
(Referred to metres, International Great Lakes Datum 1985)

Location	Monthly Water Level SEP 2001	Monthly Water Level AUG 2002	Monthly Water Level SEP 2002	Probable Levels OCT 2002
Lake Superior	183.37	183.40	183.42	183.40
Lake Huron	176.01	176.32	176.24	176.16
Lake St. Clair	174.75	175.05	174.96	174.84
Lake Erie	173.84	174.16	174.05	173.98
Lake Ontario	74.63	74.91	74.65	74.52
Montreal Harbour at Jetty No.1	5.34	6.05	5.56	5.55

GREAT LAKES WATER LEVELS FORECAST

Forecast Beginning 1 OCTOBER 2002
 Monthly Mean Water Level IGLD 1985 (m above Chart Datum IGLD 1985)
 For Exceedence Probability Shown

MONTH	5%	MOST PROBABLE	95%
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LAKE SUPERIOR

OCTOBER	183.42 (0.22)	183.40 (0.20)	183.36 (0.16)
NOVEMBER	183.44 (0.24)	183.36 (0.16)	183.28 (0.08)
DECEMBER	183.39 (0.19)	183.29 (0.09)	183.20 (0.00)
JANUARY	183.32 (0.12)	183.22 (0.02)	183.12 (-0.08)
FEBRUARY	183.28 (0.08)	183.16 (-0.04)	183.05 (-0.15)
MARCH	183.24 (0.04)	183.12 (-0.08)	183.00 (-0.20)

(CHART DATUM 183.20 IGLD 1985)

LAKE HURON

OCTOBER	176.20 (0.20)	176.16 (0.16)	176.14 (0.14)
NOVEMBER	176.20 (0.20)	176.10 (0.10)	176.04 (0.04)
DECEMBER	176.20 (0.20)	176.05 (0.05)	175.95 (-0.05)
JANUARY	176.20 (0.20)	176.02 (0.02)	175.89 (-0.11)
FEBRUARY	176.20 (0.20)	175.99 (-0.01)	175.85 (-0.15)
MARCH	176.24 (0.24)	176.02 (0.02)	175.85 (-0.15)

(CHART DATUM 176.00 IGLD 1985)

LAKE ST. CLAIR

OCTOBER	174.88 (0.48)	174.84 (0.44)	174.77 (0.37)
NOVEMBER	174.87 (0.47)	174.76 (0.36)	174.65 (0.25)
DECEMBER	174.90 (0.50)	174.76 (0.36)	174.57 (0.17)
JANUARY	174.94 (0.54)	174.75 (0.35)	174.52 (0.12)
FEBRUARY	174.95 (0.55)	174.74 (0.34)	174.50 (0.10)
MARCH	175.04 (0.64)	174.83 (0.43)	174.54 (0.14)

(CHART DATUM 174.40 IGLD 1985)

MONTH	5%	MOST PROBABLE	95%
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LAKE ERIE

OCTOBER	174.04 (0.54)	173.98 (0.48)	173.94 (0.44)
NOVEMBER	174.02 (0.52)	173.90 (0.40)	173.80 (0.30)
DECEMBER	174.05 (0.55)	173.88 (0.38)	173.70 (0.20)
JANUARY	174.10 (0.60)	173.88 (0.38)	173.64 (0.14)
FEBRUARY	174.14 (0.64)	173.88 (0.38)	173.62 (0.12)
MARCH	174.24 (0.74)	173.98 (0.48)	173.69 (0.19)

(CHART DATUM 173.50 IGLD 1985)

LAKE ONTARIO

OCTOBER	74.60 (0.40)	74.52 (0.32)	74.48 (0.28)
NOVEMBER	74.60 (0.40)	74.46 (0.26)	74.31 (0.11)
DECEMBER	74.60 (0.40)	74.43 (0.23)	74.20 (0.00)
JANUARY	74.70 (0.50)	74.43 (0.23)	74.12 (-0.08)
FEBRUARY	74.75 (0.55)	74.44 (0.24)	74.02 (-0.18)
MARCH	74.80 (0.60)	74.54 (0.34)	74.09 (-0.11)

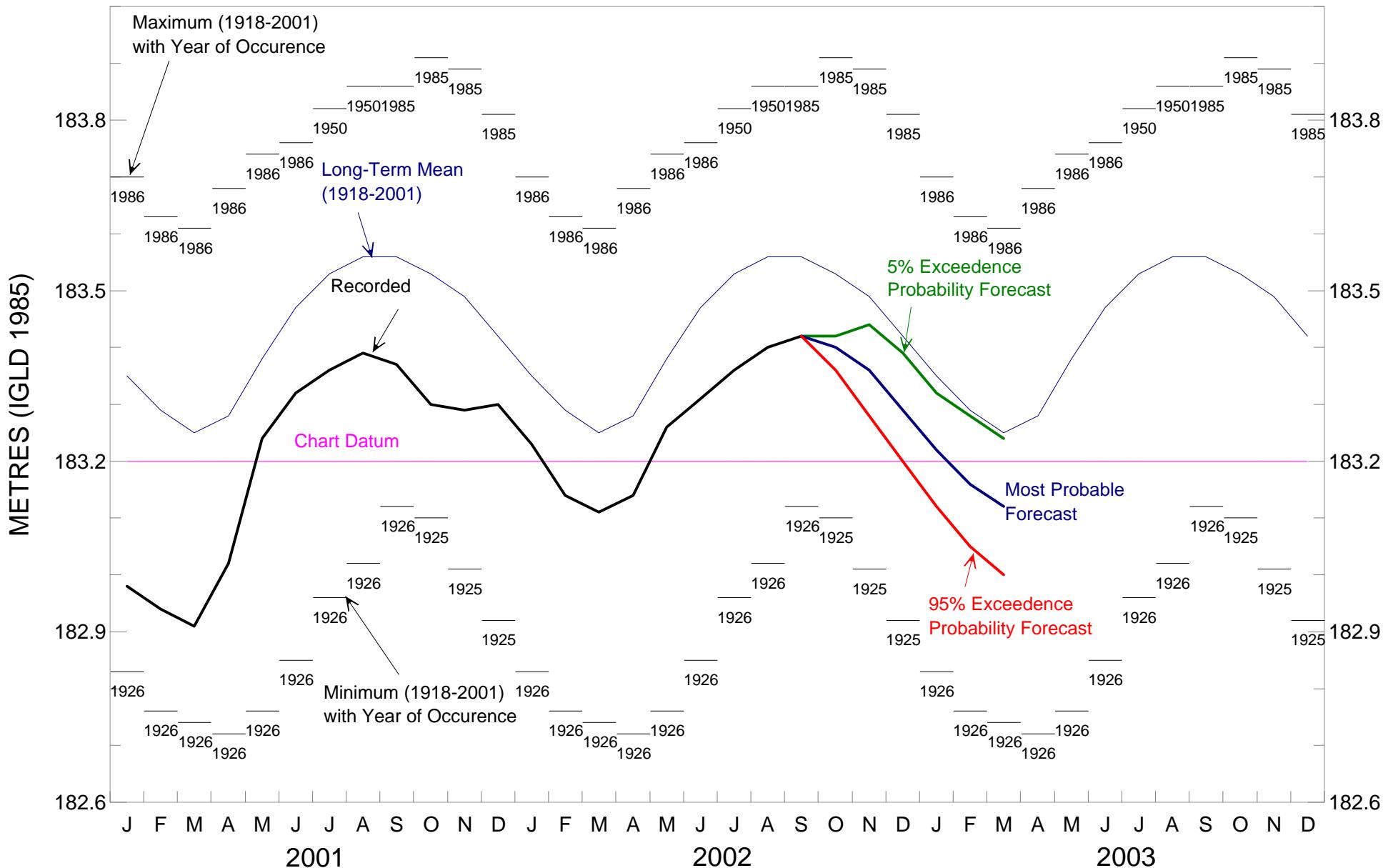
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MONTREAL HARBOUR

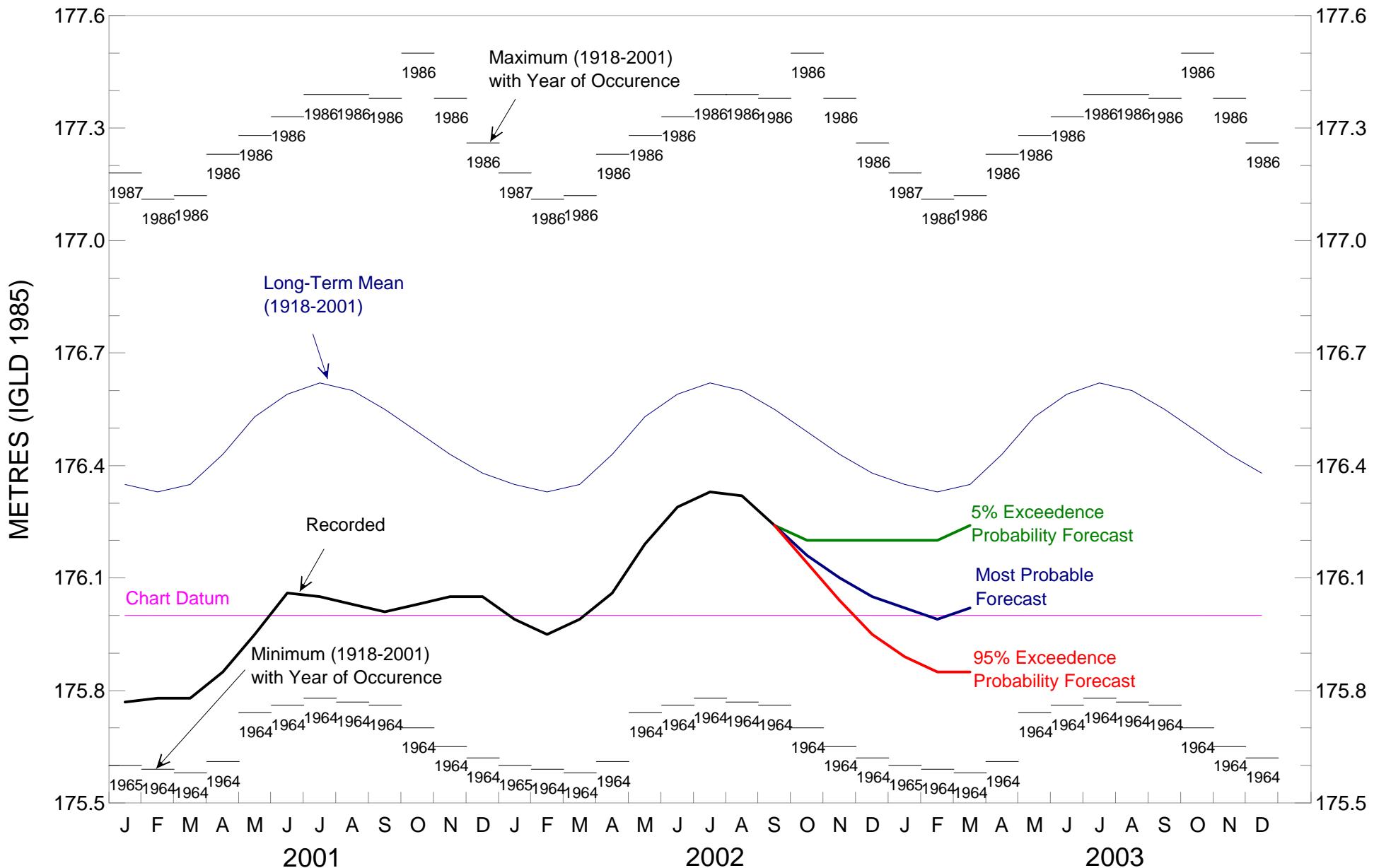
OCTOBER	5.92 (0.37)	5.55 (0.00)	5.35 (-0.20)
NOVEMBER	6.46 (0.91)	5.68 (0.13)	5.30 (-0.25)
DECEMBER	6.57 (1.02)	5.90 (0.35)	5.33 (-0.22)
JANUARY	6.84 (1.29)	6.22 (0.67)	5.65 (0.10)
FEBRUARY	6.95 (1.40)	6.28 (0.73)	5.60 (0.05)
MARCH	7.09 (1.54)	6.24 (0.69)	5.46 (-0.09)

(CHART DATUM 5.55 IGLD 1985)

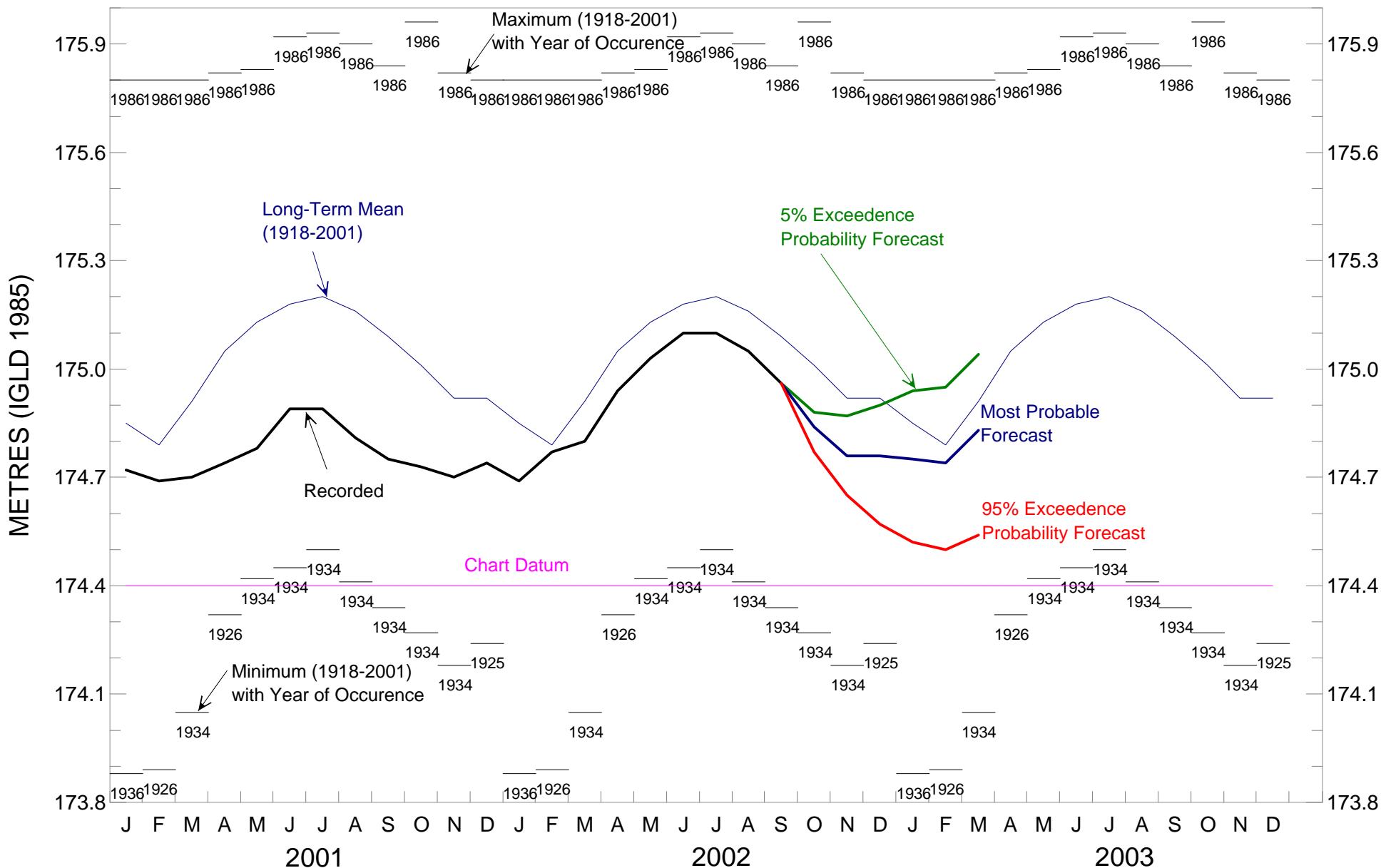
LAKE SUPERIOR MONTHLY MEAN LEVELS



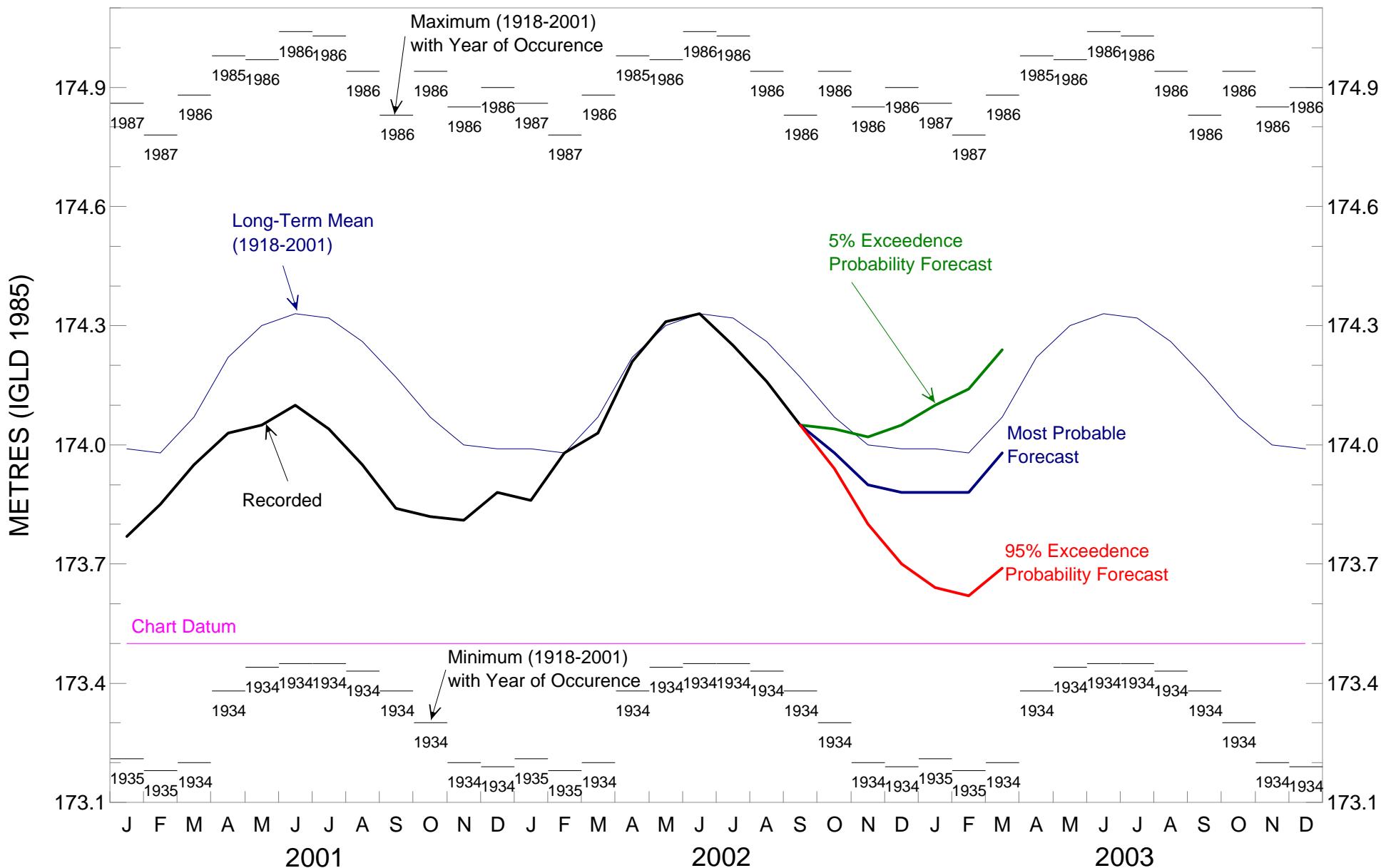
LAKES MICHIGAN-HURON MONTHLY MEAN LEVELS



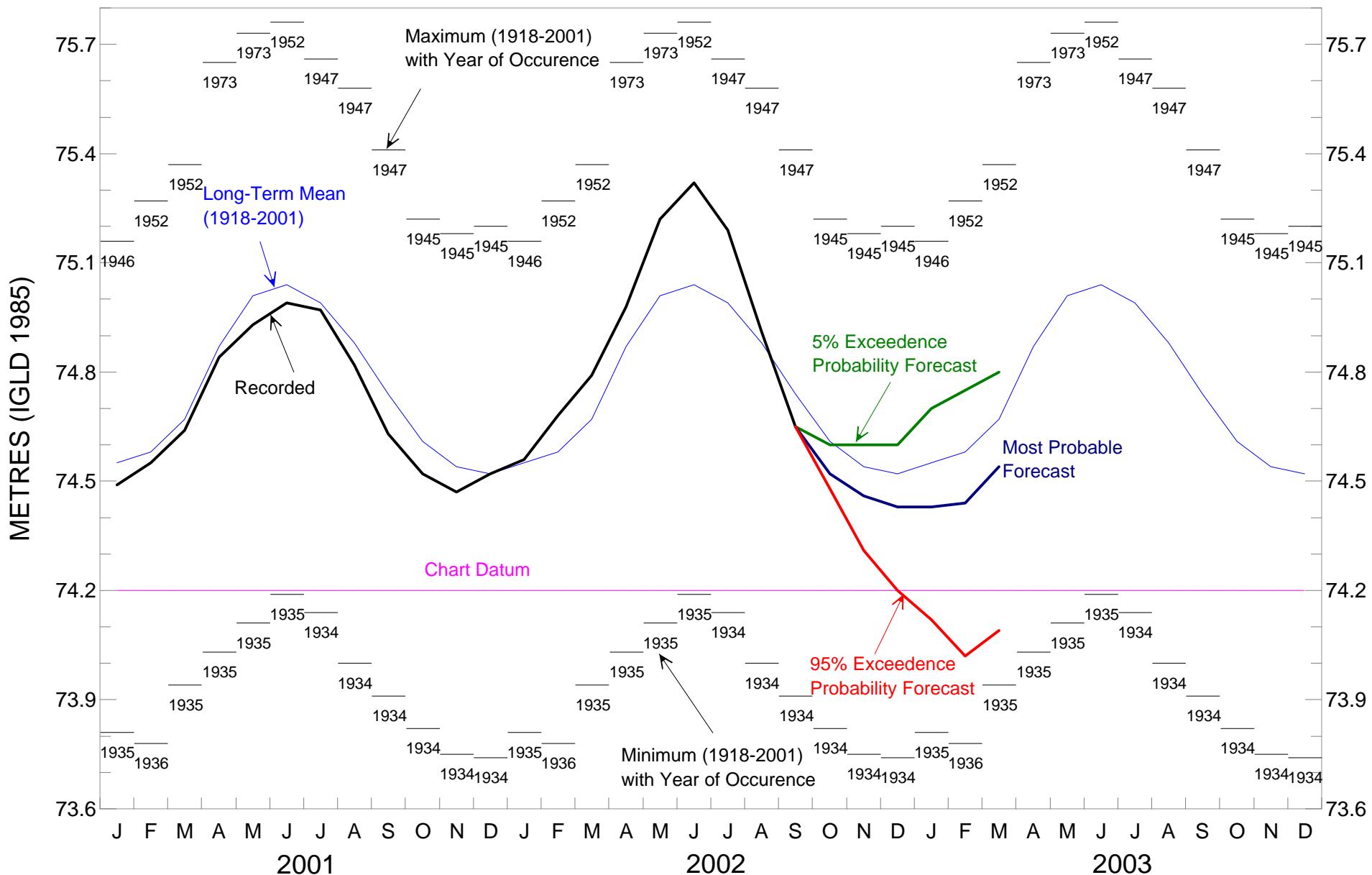
LAKE ST. CLAIR MONTHLY MEAN LEVELS



LAKE ERIE MONTHLY MEAN LEVELS



Lake Ontario Monthly Mean Levels



MONTREAL HARBOUR MONTHLY MEAN LEVELS

