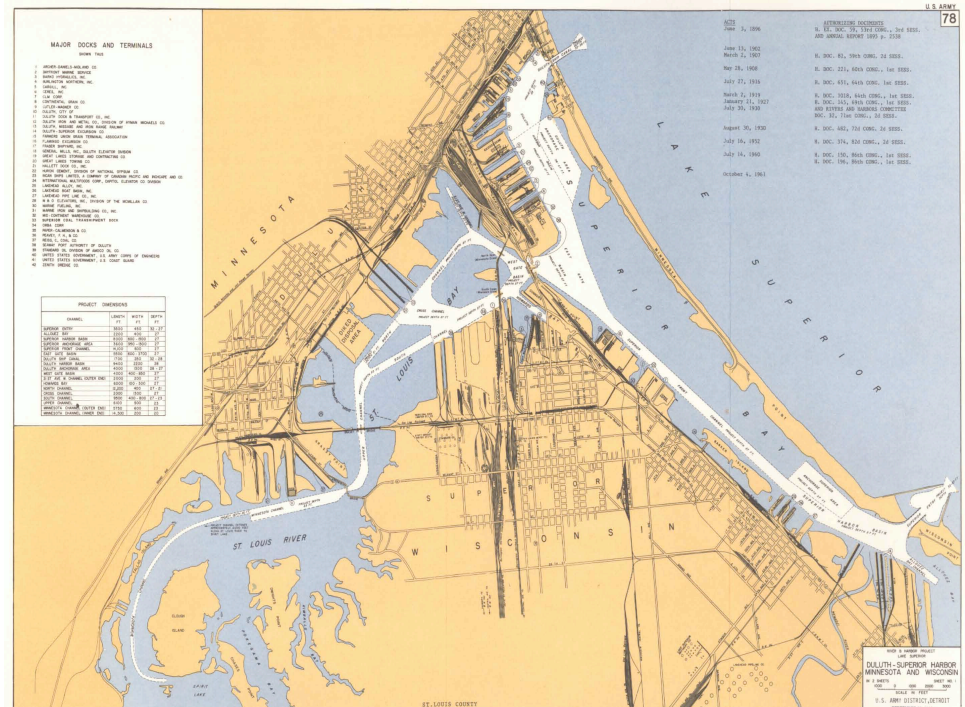


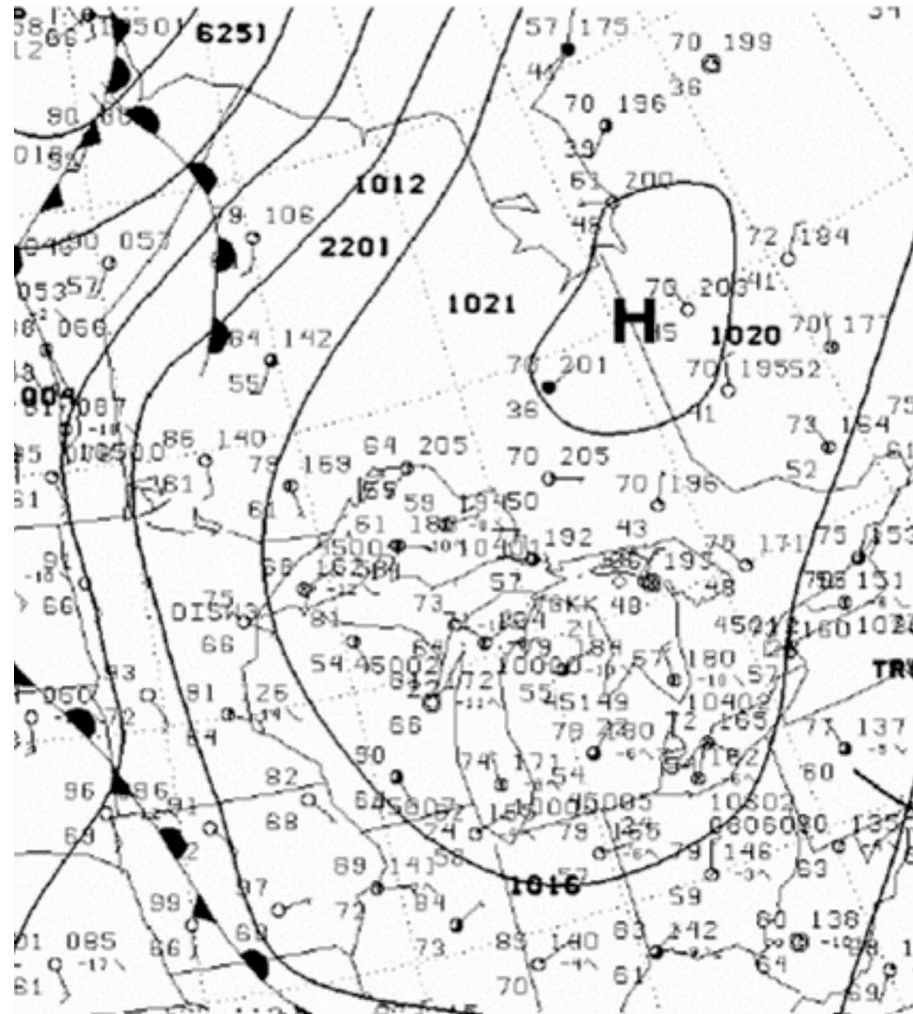
August 17, 2003 Case Study

- A 21 year old Duluth Man drowned off Minnesota Point near Park Point around 4 p.m. CDT (21z)
- A man on a boogie board rescued 6 others around 4 p.m. at the same place
- The Duluth Fire Dept rescued a teenage girl around 8 p.m. near LaFayette Square
- Reports of several others were rescued

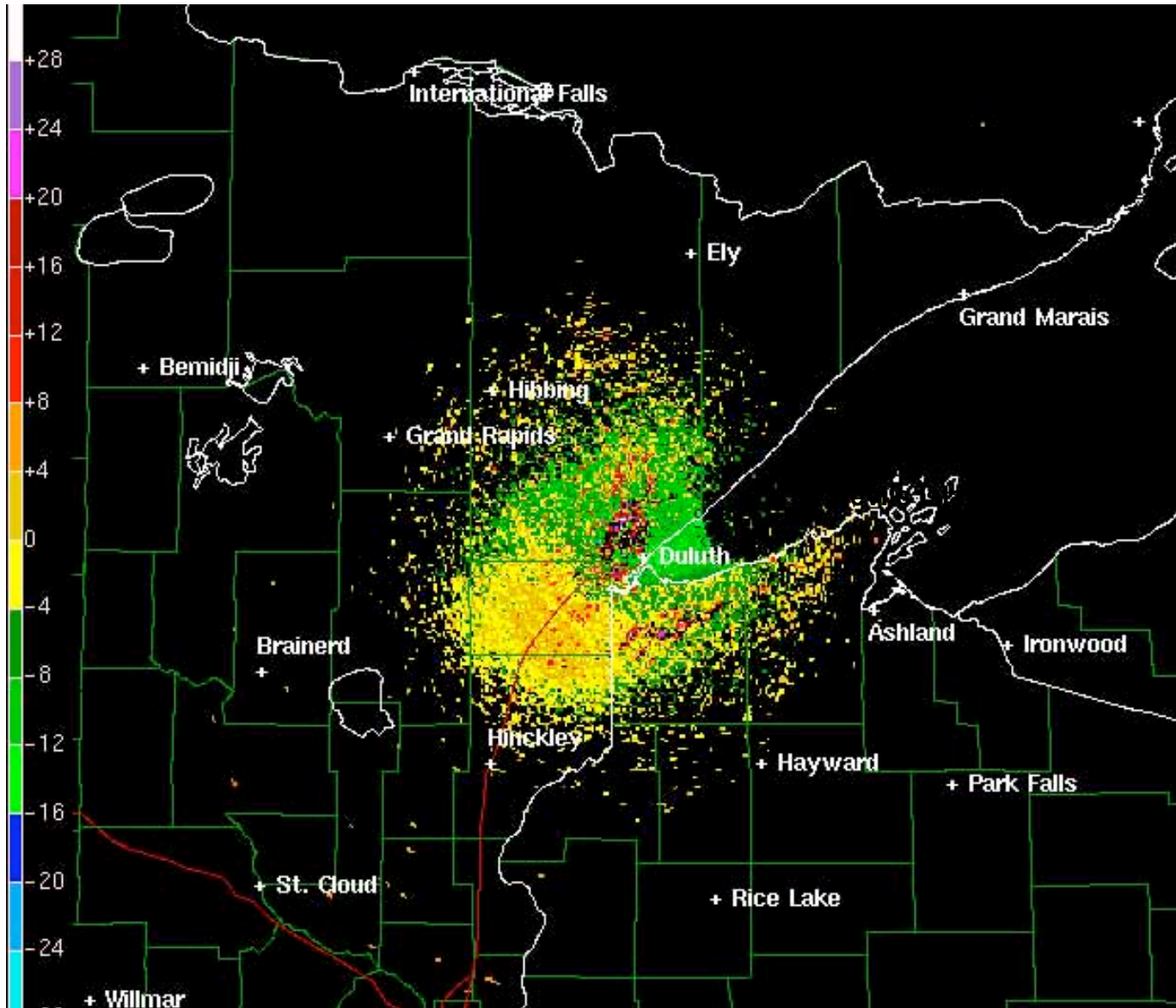


Surface Map Features

8/17/03 - 4 p.m. CDT (21z)



Weather Observing Sites



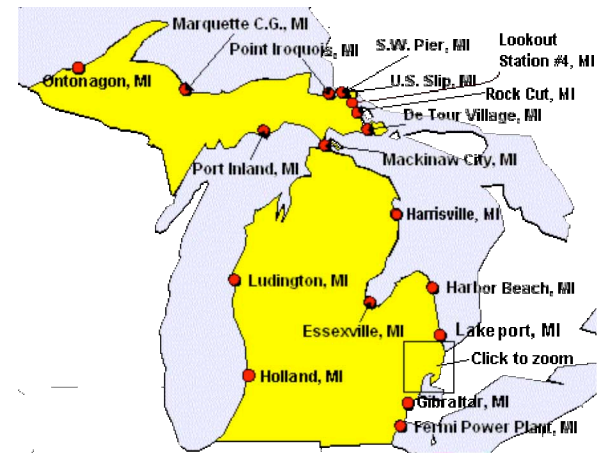
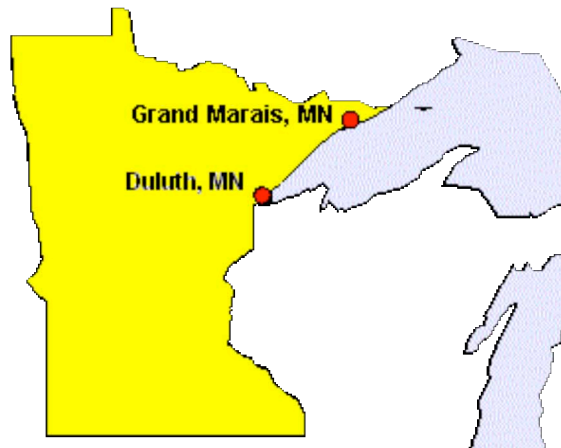
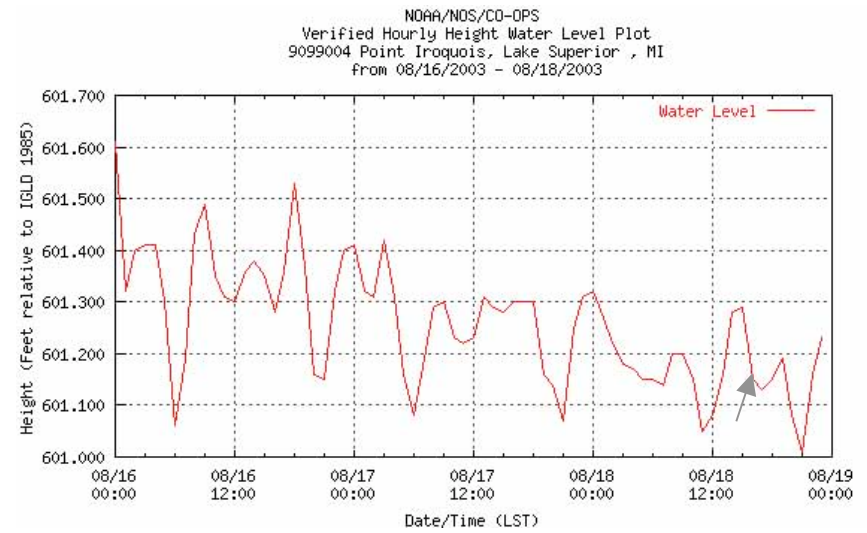
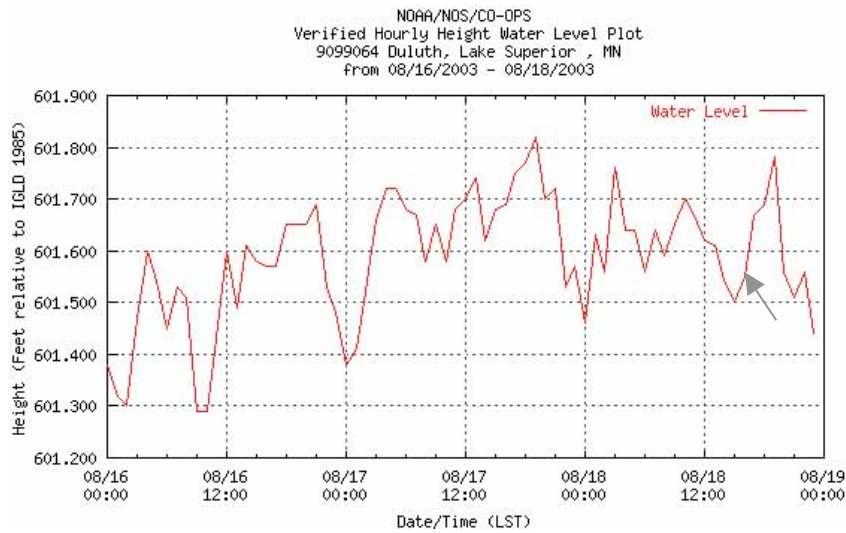
Weather Observations

CDT	BUOY WIND Dir/spd	45006 WAVE	AT/WT	Devils Island WIND dir/spd	Duluth - DYT WIND dir/spd	TEMP
1100	90/11	1.3	64/65	88/11	50/14	72
1200	82/12	1.4	64/65	85/13	50/14	72
1300	78/11	1.5	64/65	78/13	50/15	72
1400	72/12	1.5	65/66	69/12	50/17	72
1500	70/12	1.4	65/66	65/15	50/15	72
1600	65/13	1.4	65/66	74/15	60/15	72
1700	70/15	2.1	65/66	84/15	50/14	70

Winds in Knots, Wave Heights in feet, and Temperatures in degrees F

Possible Seiche?

7/18/03

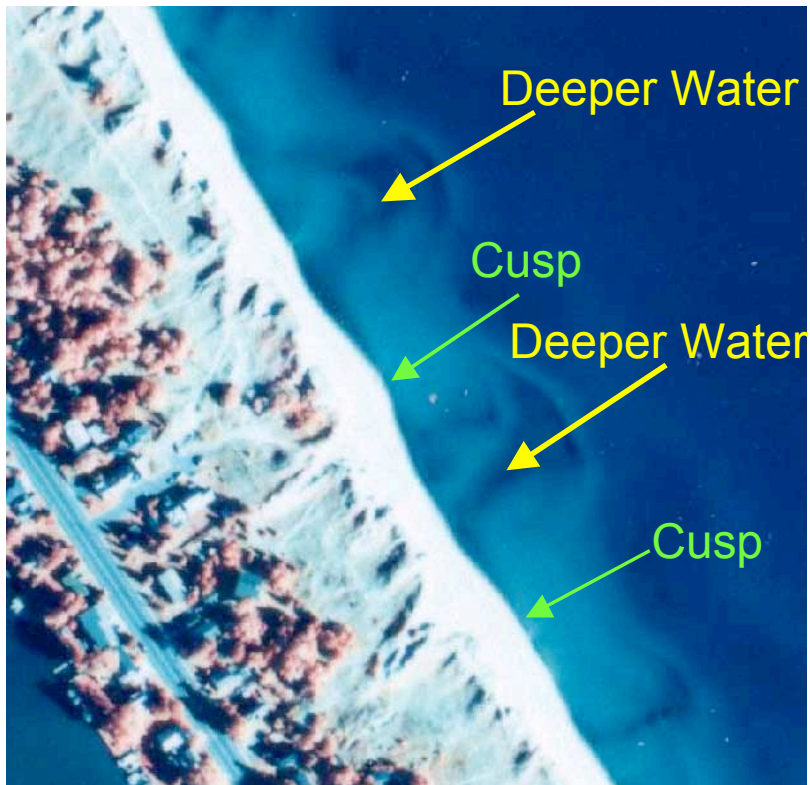


Park Point Beach

- Note number of Cusps (rounded projections or points: see green arrows) along the lake shore indicating possible rip zones between them



Looking away from the city. There is a regular trough/ridge pattern. Photo taken by Kurt Meyer on 8/19/03.



- Note the deeper water between the cusps on this aerial photo of Minnesota Point

Where Rip Currents occur

