

Rip Current Education & Outreach

WI Sea Grant Program Example



Gene Clark, PE
Coastal Engineering Specialist
U W Sea Grant Institute

MN Rip Current Workshop
June 4, 2009

Common Great Lakes Sea Grant Network Program Goals

- **Understand Up to Date Information**
- **Provide Regional Rip Current Awareness**
- **Source For Science-Based Information**



Information Understanding: National Workshops

Rip Current Science: Coordinating Coastal Engineering Research and Forecast Methodologies to Improve Public Safety

NOAA – Sea Grant – National Weather Service Technical Workshop
Jacksonville, FL April 6 – 7, 2004

- **Nationwide Attendance**
- **Rip Current Knowledge Base Reviewed**
- **Model Prediction Capabilities Discussed**
- **Forecasting Expectations & Methods**

Next Up: Miami, FL



RIP CURRENT SYMPOSIUM 2010

Information Understanding: National Workshops

Types of Information: Direct Observations

Swimmer



California Coast
Source: Dalrymple

Information Understanding: National Workshops

Types of Information: Direct Observations



NSB

RESCUE LOG

YEAR 2002

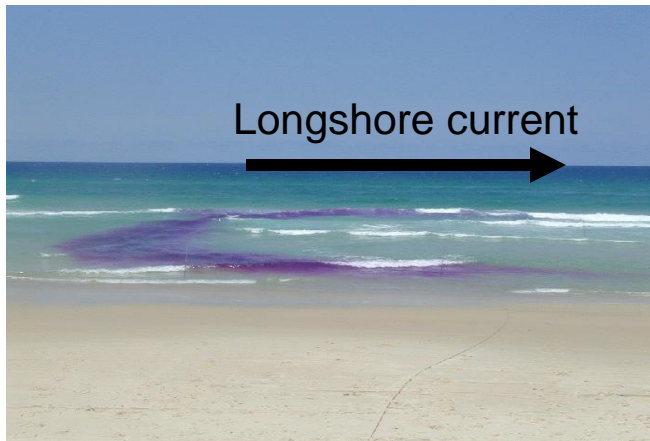
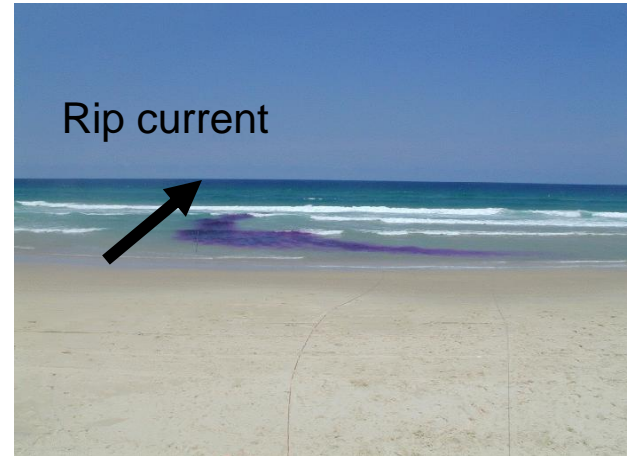
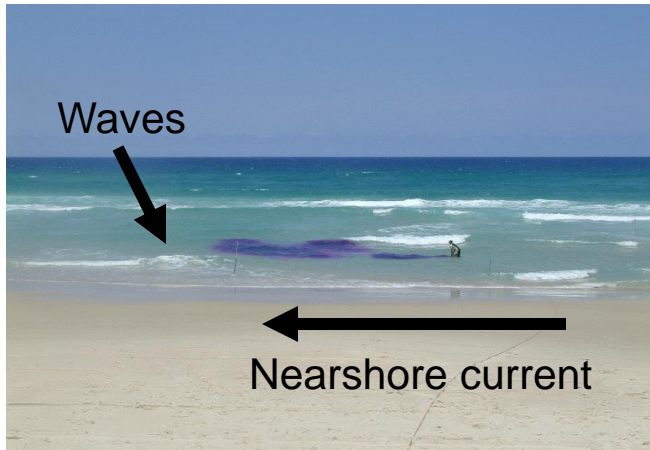
DATE	TIME 10-51	TIME 10-57	TIME 10-98	TOWER #	TOWER GUARD	UNIT #	IN UNIT	# OF VICTIMS	RESCUE DESCRIPTION	SVACT CODE#	RESCUE CODE#
5/15	10:35	10:35	10:37	602	J. Jones	6D	817, 872	1	rip	-	-
5/15	4:32	4:35	4:41	602	J. Jones	6C	846	1	rip	-	-
5/17	11:20	11:21	12:03	602	G. Mitchell	6D/0	817/831	1	found floats	3	3
5/17	4:59 pm	5:04 pm	5:04	602	G. Mitchell	6E	844	1	submerged floats	-	-
5-18	10:23	10:24	10:33	602	Brian Cass G. Mitchell	6D	817	1	Location to hand	-	-
5-18	1:15	1:16	1:20	610	Angley H. Sorell L.	ATV6	872	1	Boiler in distress false alarm	-	-
5-24	1:23	1:28	1:41	616	L.A. Atkinson	6E/6E	821, 831	1	Lily fell	1	1
5-25	10:25	10:28	10:35	-	O-Jill-Cass G. J. Cassen	-	6D	1	NOVA SURFACE	-	-
5-29	10:30	10:35	10:35	602	6-70/856	-	6D/070	1	SET SKIN FRAUDULE	-	-
5/25	11:23	11:24	11:32	602	Mitchell Cass	6D/0	CASH	1	swim in distress	-	-
5/25	11:24	11:25	11:26	606	Lammer	6A	B. Jones Williams PCS 872	2	in rip	-	-
5/25	11:58	11:58		617	Thomas	6A	872	1	in rip	-	-
5/25	12:24	12:26	12:28	623	NEOLES	6E	Loell Atkinson	2	in rip	-	-
5/25	12:56	12:57	12:58	619	Keith Mitchell	6E	Loell Atkinson	1	in rip	-	-
5/25	2:13	2:15	2:16	619	Anderson Mitchell Cass	6E	Loell Atkinson	1	in rip	-	-
5/25	1:48	2:15	2:16	602	Mitchell Cass	6D	CASH	1	found band	-	-
5/25	2:22	2:25	2:26	623	NEOLES	6E	Loell Atkinson	1	in rip	-	-
5/25	2:45	2:47		605	Werner Werner	6		2	in rip	-	-
5-25	4:09	4:29	4:1	605	Werner Werner	6D	846	3	floats-rip	-	3
5/26	10:24	10:24	10:28	610	David S. Lammie	6E		1	cut on lip	-	-
5/26	12:15	12:15	12:23	602	Mitchell	6A	835	1	surface in rip	-	-

Source: Lushine

Source: Thieke

Information Understanding: National Workshops

Types of Information: Field Experiments

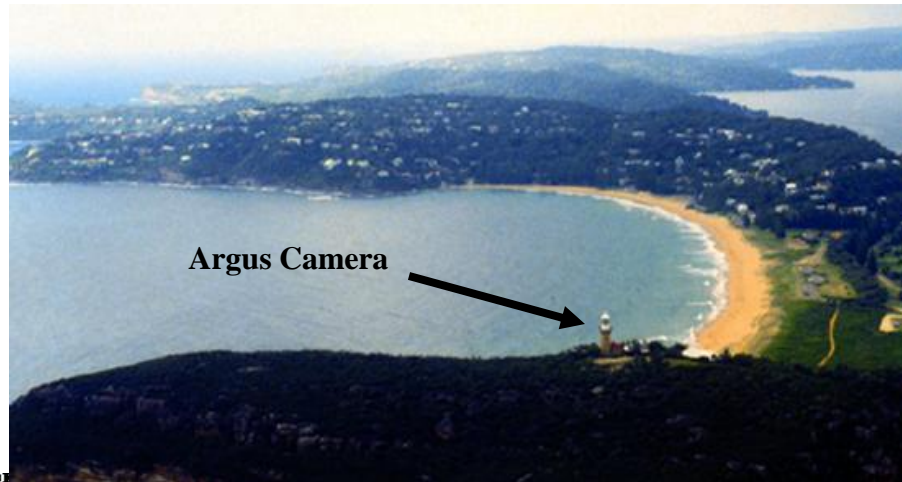


Dye Trajectory Tests: Haas

Information Understanding: National Workshops

Types of Information: Field Experiments

**Palm Beach,
Australia**



Source: Haller

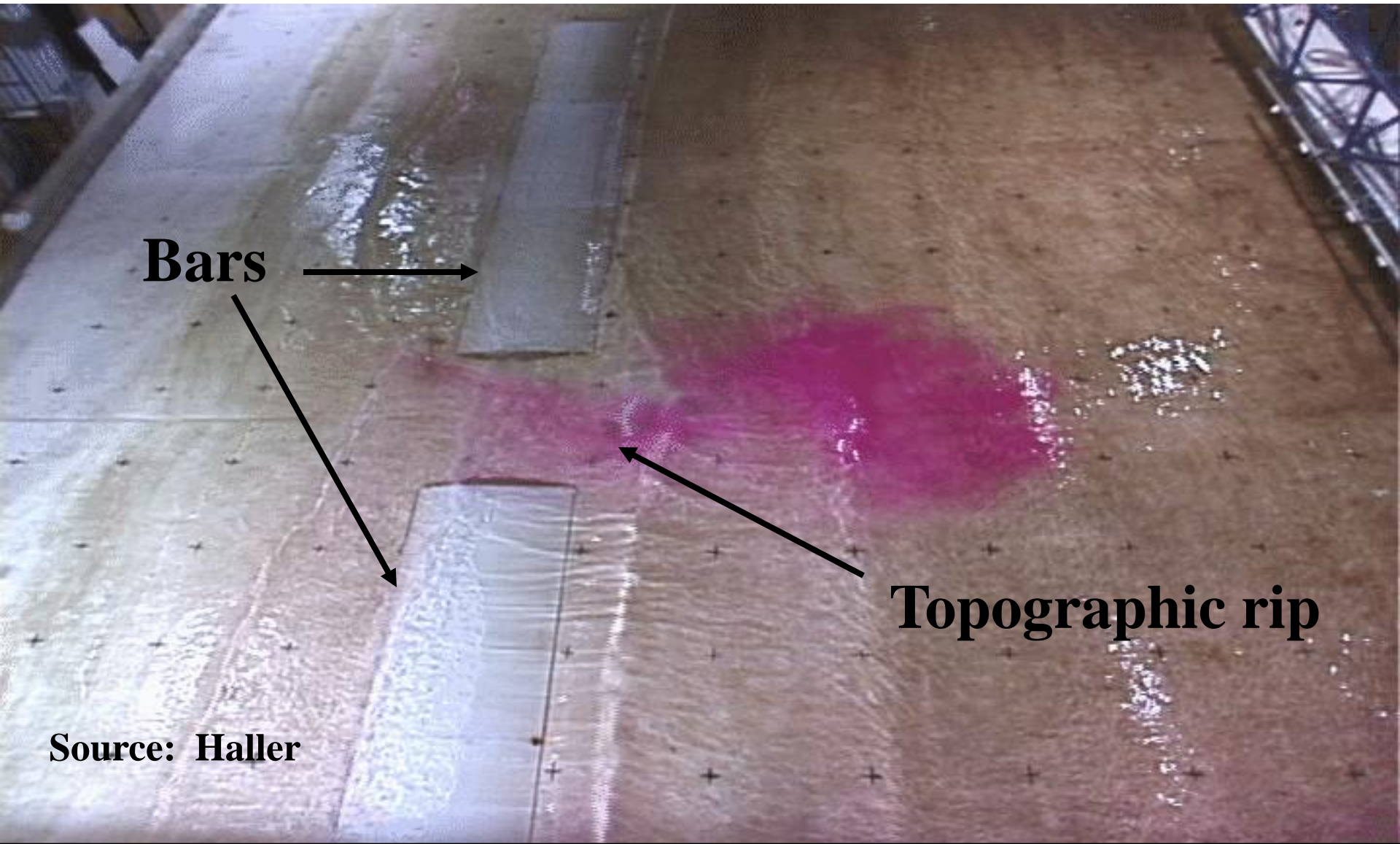
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:00:06 2001 EST-10 F: 996732006



Information Understanding: National Workshops

Types of Information: Lab Experiments



Source: Haller

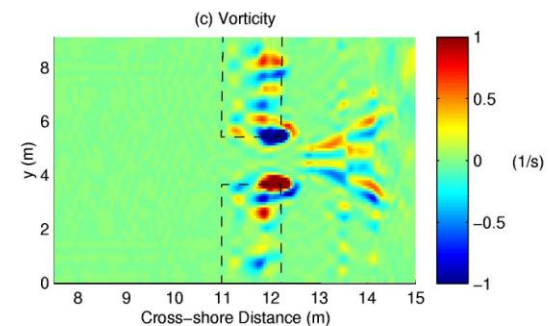
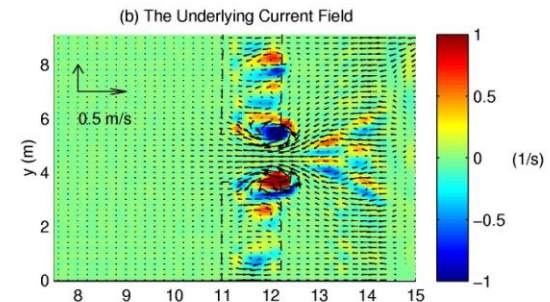
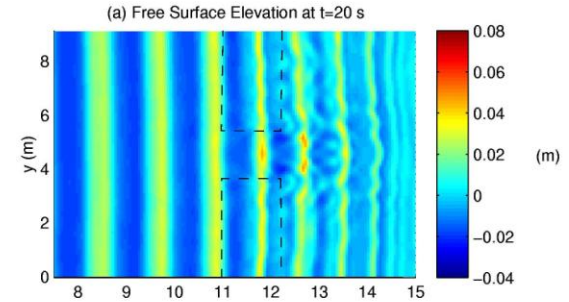
Information Understanding: National Workshops

Types of Information: Numerical Models

- Strengths
 - Most complete description of a relevant processes
- Weaknesses
 - Require very detailed bathymetry – often do not include unsteady forcing – migrating rips, etc.
- Very slow compared to other methods

Examples

Chen et al., (1999); Haas and Svendsen (2000); Reniers et al. (2002), etc.



Providing Rip Current Awareness Network Sponsored Regional Workshops

LODGING

For those wishing to stay overnight in Manitowoc, we have reserved a block of 30 rooms at the Inn on Maritime Bay (conference site) for the nights of June 5 and June 6. There is a special room rate of \$62 plus tax (unless you have a tax exempt card) and the block of rooms will be held until May 20.

Please call (920)682-7000 for reservations and **mention the Rip Current Conference** to get these special rates. There are also many other nearby hotels throughout the City of Manitowoc as well.

The Inn on Maritime Bay
101 Maritime Drive
Manitowoc, WI 54220

Area Map and Directions

For an area map and detailed directions, visit www.innonmaritimebay.com/body.html

From Chicago: 3 hrs. on I-94 to I-43
From Milwaukee: 1 1/2 hrs. on I-43
From Green Bay: 45 mins. on I-43
From Door County, WI: 1 hr. on Route 42

Car Ferry Information & Terminal Map

www.ssbadger.com/schedule/map.html

Airports

The Green Bay Airport is roughly forty five miles from Manitowoc, with several flights to and from Chicago and Minneapolis each day. You can also get to Manitowoc from Milwaukee's airport about 90 miles south.



GREAT LAKES RIP CURRENT CONFERENCE

JUNE 6, 2006

The Inn on Maritime Bay
101 Maritime Drive
Manitowoc, WI 54220



Gene Clark
University of Wisconsin Sea Grant Institute
Lake Superior Field Office
246 Hawkes Hall, UW-Superior
Superior, WI 54880-9985

Providing Rip Current Awareness Network Sponsored Regional Workshops

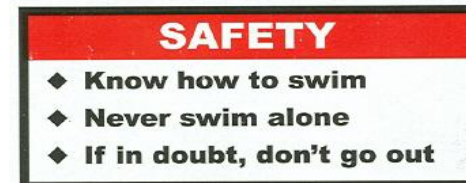
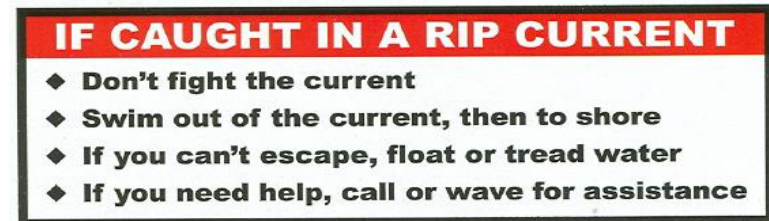
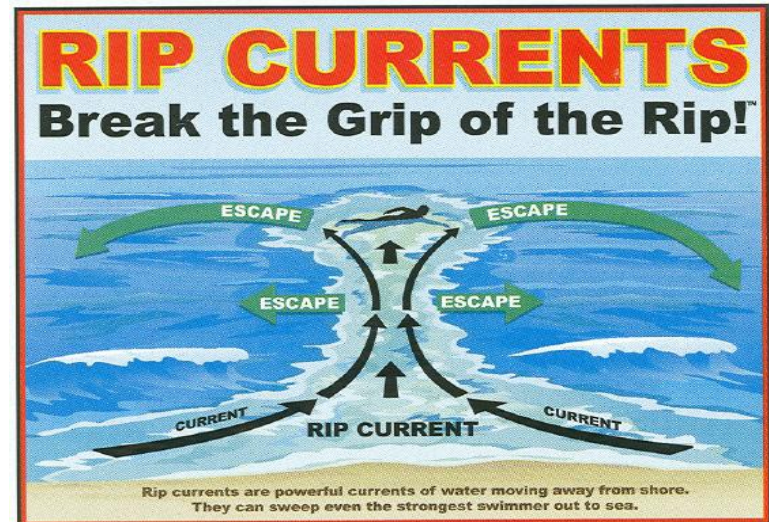
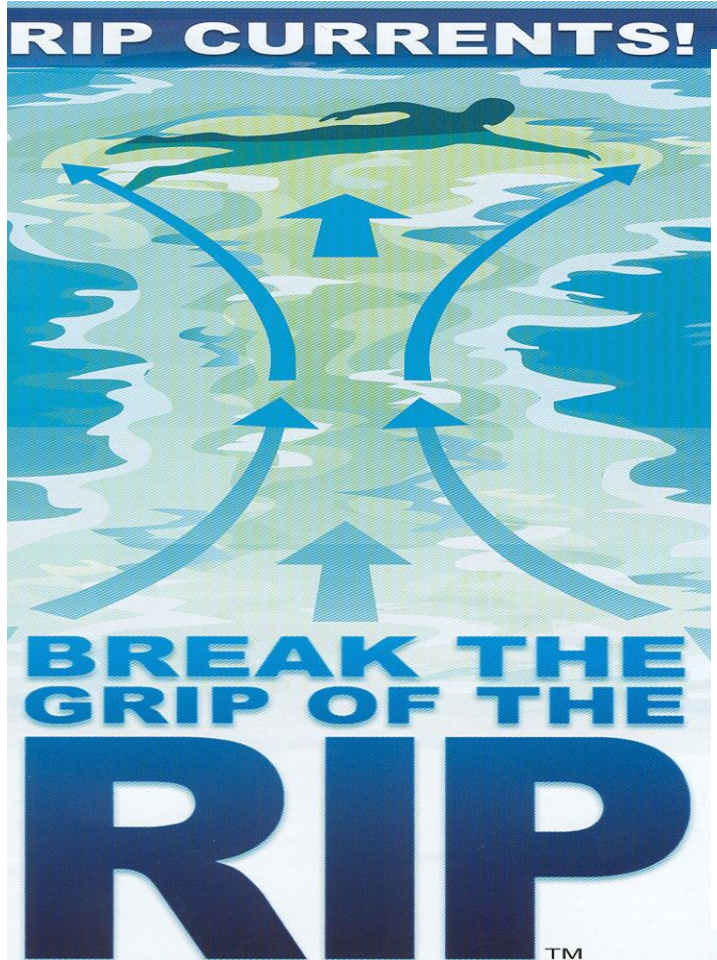
Typically Held +/- Every Two Years (MI, WI, MN)

Typical Attendees Include:

- **Beach Managers**
- **Safety/Rescue Personnel**
- **News Media**
- **Sea Grant Regional Partners**
 - **Other Sea Grant Network Programs**
 - **NOAA NWS**
 - **Coast Guard**

Providing Rip Current Awareness

Source For National Theme Signs & Brochures



More information about rip currents can be found at the following web sites:
www.ripcurrents.noaa.gov
www.usla.org



Providing Rip Current Awareness

Sea Grant Network

Education & Outreach Examples:

- **Provide Radio PSA's & Interviews**
- **News Releases, especially during National Rip Current Awareness Week!**
- **Brochure & Sign Distribution to Beaches**
- **Awareness Promotion at Regional Beach Related Events (Boat & Travel Shows, Workshops, etc)**

Source For Science-Based Information

Sea Grant Program Web Pages

Typical Information Included:

- General Rip Current Information
- Links to Other Programs
- Downloadable Forms

university of wisconsin sea grant

Coastal Natural Hazards

University of Wisconsin Sea Grant Institute

Themes/Priority Areas

Coastal Hazards Home

Coastal Processes

Coastal Hazards

Rip Currents

Coastal Solutions

Infiltration Intakes

Duluth-Superior Harbor Corrosion

Projects

Publications

Search

Coastal Natural Hazards

University of Wisconsin Sea Grant Institute

ANNOUNCEMENTS

2009 GREAT LAKES RIP CURRENT CONFERENCE JUNE 4TH IN DULUTH
 The day-long 2009 Great Lakes Rip Current Conference will begin at 9 a.m. June 4, 2009, at the Lafayette Community Center in Duluth, Minn. National experts on rip currents and hypothermia will discuss the mechanics of how, why, and where rip currents form in the Great Lakes; our ability to forecast rip current conditions; the effects of hypothermia and how cold water can affect rescues; and example programs from Michigan, Wisconsin, and Minnesota on educating beach users to recognize and escape from rip currents. This year's conference is sponsored by Minnesota Sea Grant and the National Weather Service office in Duluth. The conference is open to all, but pre-registration is required by June 1st. The registration form and more information are available at www.seagrant.umn.edu/rip, [click here...](#)

2006 GREAT LAKES RIP CURRENT CONFERENCE
 The 2006 Great Lakes Rip Current Conference was held in Manitowoc, Wisconsin on June 6, 2006. Hosted by the University of Wisconsin Sea Grant Program, the day long conference featured six presentations ranging from the science of Rip Currents to the education, outreach and awareness campaigns detailing the dangers of Great Lakes Rip Currents. For downloadable PDF's of the six presentations, [click here...](#)

RIP CURRENT INFORMATION SOURCES (2009)
 The following list includes a few of the many resources available for Rip Current Information:

1. National Weather Service/NOAA www.ripcurrents.noaa.gov/
2. Selected Sea Grant Program web sites:
 Michigan Sea Grant www.miseagrant.umich.edu/rip/,
 Minnesota Sea Grant www.seagrant.umn.edu/rip/,
 Wisconsin Sea Grant www.seagrant.wisc.edu/coastal hazards/,
 Delaware Sea Grant www.ocean.udel.edu/mas/wcaew/monthlyquestions/July.html
3. United States Lifesaving Association www.usla.org/
4. Great Lakes Beach & Pier Safety Task Force www.respectthepower.org/
5. Misc Signs & Brochures www.ripcurrents.noaa.gov/signs-brochures.shtml
6. Misc Rip Current Photos www.ripcurrents.noaa.gov/graphics.shtml
7. Misc Animations of Rip Currents www.ripcurrents.noaa.gov/multimedia/RIPANIME.mov and also see www.sciencemag.org/sciext/vis2005/show/rip.html.

GENERAL RIP CURRENT INFORMATION
 For more general Rip Current information [read more...](#)

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Source For Science-Based Information

NOAA/NWS Web Pages

Great Source For Information:

- News Releases
- Podcasts, Videos, PSA's
- Downloadable Forms
- Rip Animations & Actual Footage
- Interviews (recorded & text)
- Rip Current Photographs
- Education Resources (K-12+)

www.ripcurrents.noaa.gov

www.nws.noaa.gov

**Rip Currents:
Break The Grip of The Rip!®
Awareness Week: June 7-13, 2009**

Check this site for a rip current overview, safety tips, forecasts, photos, headlines, survivor stories, multimedia, links, and a glossary. Also available are printed copies of our full color brochure and sign in English and Spanish from your local forecast office or links to download the brochures on rip current safety. Feel free to download a template for a safety sign in English and Spanish.

Rip currents are powerful, channeled currents of water flowing away from shore. They typically extend from the shoreline, through the surf zone, and past the line of breaking waves. Rip currents can occur at any beach with breaking waves, including the Great Lakes.

Rip currents can be killers. The United States Lifesaving Association estimates that the annual number of deaths due to rip currents on our nation's beaches exceeds 100. Rip currents account for over 80% of rescues performed by surf beach lifeguards.

The greatest safety precaution that can be taken is to recognize the danger of rip currents and always remember to swim at beaches with lifeguards. The United States Lifesaving Association has calculated the chance that a person will drown while attending a beach protected by USLA affiliated lifeguards at 1 in 18 million. If caught in a rip current at an unguarded beach, how you respond could make the difference between life and death.

NOAA's National Weather Service and National Sea Grant Program, in partnership with the United States Lifesaving Association, are working together to raise awareness about the dangers of rip currents. Research is also being conducted in order to develop and improve the ability to predict the occurrence and strength of rip currents. The goal of the awareness campaign and research is to reduce the number of rip current related fatalities.

A daily rip current outlook is included in the Surf Zone Forecast, which is issued by many National Weather Service offices. A three-tiered structure of low, moderate, high is used to describe the rip current risk. This outlook is communicated to lifeguards, emergency management, media and the general public.

With increasing coastal populations, rip currents will continue to be a serious hazard at surf beaches. This web site is designed to provide educational material as well as real time information about the rip current risk. The time you take to understand rip currents can help you protect yourself and your loved ones when visiting the beaches.

RIP CURRENTS
Break the Grip of the Rip!

IF CAUGHT IN A RIP CURRENT

- Don't fight the current
- Swim out of the current, then to shore
- If you can't escape, float or tread water
- If you need help, call or wave for assistance

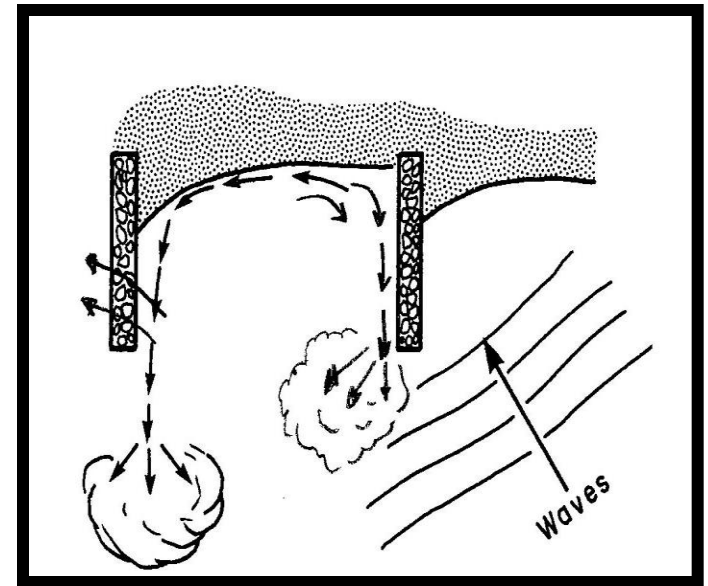
SAFETY

- Know how to swim
- Never swim alone
- If in doubt, don't go out

Source For Science-Based Information

Response To Specific Rip Current Related Rescues

McKinley Beach, Milwaukee Example



Great Lakes Rip Current Network Research & Information Needs:

- **Better GL Field Observations During Rips**
- **More Detailed GL Nearshore Measurements**
- **Better GL Models For Rip Current Predictions**
- **Continued GL Forecasting & Danger Alerts**



Questions??????

