

PSDiver Monthly 80

December 2010

Public Safety Diver

EPA Polluted Water Diving

(Part 1 of 3)

Hazus-MH;

Disaster Preparedness

for the 21st Century

NEWS

DIVING MEDICINE

EVENTS

CONTINUING EDUCATION

AND MORE!

Volume 6 * Issue 80

Greetings,

Here is a question for you: When was the last time you got your community or school district involved with your dive or water response team?

Parts of our normal job duties include public education programs. For fire departments that can include things like "Stop, Drop and Roll" programs or even presentations at job fairs. The same thing holds true for law enforcement and could even include a "Citizens on Patrol" course. For independent teams it might be a fund raising project or an informational booth at a local boat show.

Regardless of the affiliation, the purpose is to increase awareness and involve the community. For dive and water response teams, this involvement will help justify your team's existence and it will help you when petitioning for grants. It should benefit your team directly if you have to ask for more money for equipment or training from an administration or agency with tight purse strings.

I have offered some ideas on this in the past. Some of these included doing something I still hold as a valuable public relations tool and is one of the only jobs I can identify as a true "Public Safety Dive". This is the trash fest / collection dive. If your team promoted, sponsored or just did the job of cleaning up the areas in, around and underwater at your public beaches, your team will get to practice logistical planning, public relations, and their particular disciplines, dive, top water rescue, tender etc.

If you were to take that idea one step farther and involve a local school, it could turn into a science project. The kids could analyze the materials collected, do a ratio to location analysis, conduct a survey of materials collected and divide

them into categories and include surface and subsurface locations.

Interactive projects do not have to be simple nor do they have to be short. These projects can last a semester or extend over years with each group of students contributing to the work. You might be surprised at what can be achieved.

Since some of you are going to argue against this idea and even bash me for presenting the argument, I will offer you this. In this issue, students of the [Clark Magnet High School](#) are **once again**, presenting YOU with information and tools that could help your teams. I will ask you to respond to their request at the end of their article. It will help both their class and their teacher continue these types of educational programs.

Not only have the students presented a paper for publishing, they were invited and participated in this month's Continuing Education. If you back track a bit, you will discover that the same science class, not the same students have contributed to PSDiver Monthly. This particular group of students is also working on another project and their class has partnered with IIRMES lab at Cal State Long Beach, to test lobster samples for organic and inorganic toxins to see if the lobster is truly safe to eat. I am impressed! I wonder if they could use some divers?

Find ways to get involved with your community and share them with us. Email your ideas to psdivermonthly@aol.com.

Stay Safe,
Mark Phillips
Editor / Publisher
PSDiver Monthly
www.PSDiver.com

**If you would like to discuss this topic
or any other, join our discussion
group at:
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SPECIAL to PSDiver Monthly

Public Safety Diver – EPA Polluted Water Diving Modules 1 and 2 (Part 1 of 3)

By: Sean Sheldrake, Unit Diving Officer, EPA Region 10
Rob Pedersen, Deputy Unit Diving Officer, EPA Region 10
Alan Humphrey, Unit Diving Officer, ERT

The US Environmental Protection Agency (EPA) has a number of dive teams throughout the country that perform scientific diving services in support of the Agency's mission. The [Region 10 Dive Unit](#) has been around since EPA's inception more than 40 years ago. The team covers a wide area, from cold, marine Alaskan waters, to warmer inland lakes and rivers in Washington, Idaho and Oregon. The [Environmental Response Team \(ERT\)](#) has been in place since 1978, diving in all 50 states to support Superfund cleanups and emergency response. Both EPA dive units primarily conduct polluted water diving in microbial and chemically impacted water bodies. For more information on EPA Dive Units including those doing non-polluted water work, see [November 2009 PSD Monthly Issue 68](#)

Module 1; Dive Sites, Dive Planning, and Online Resources

In waters near metropolitan areas, bacteria in the water column can be a problem from a variety of sources, including pet waste and sewage overflows. [EPA's Beach](#)

Environmental Assessment and Coastal Health Program ([BEACH](#)) provides regular bacterial counts at popular marine (and Great Lakes) recreational sites, including a breakdown on what bacteria levels are unsafe. Information on sewer discharge location, overflow frequency, and publicly available bacterial count information can be a valuable dive planning tool. In addition, chemical and biological contaminant trends in the water column and sediment are available through [NOAA's Mussel Watch Program](#). Outfalls can also discharge a variety of harmful chemicals to the dive site. EPA's [Envirofacts](#) database presents outfall location and data that can be of use in planning for worst case water quality at a particular dive site. In Portland Harbor alone,

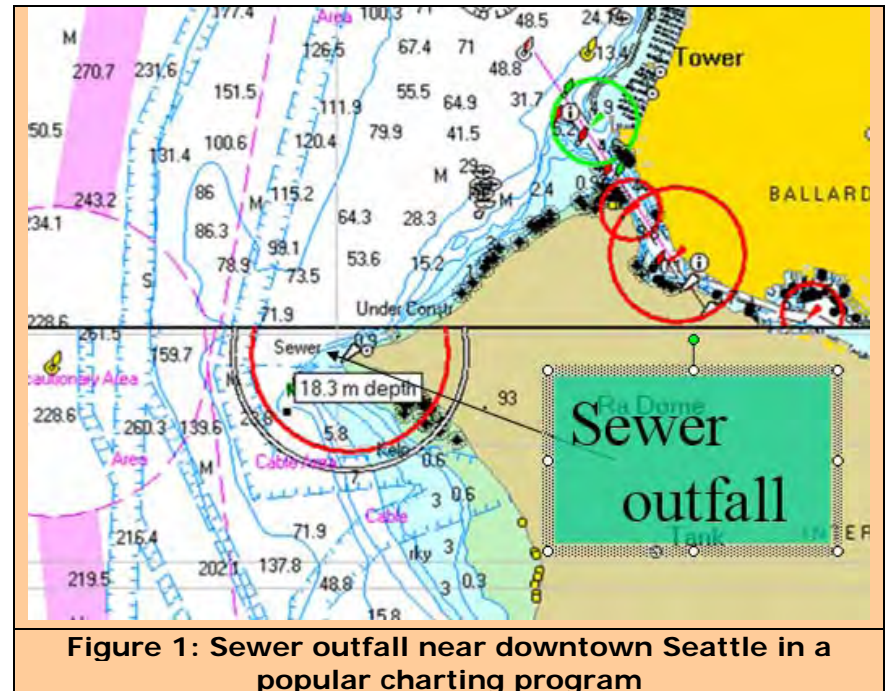


Figure 1: Sewer outfall near downtown Seattle in a popular charting program

there are over 300 outfalls (USEPA, 1998). In addition, a list of chemically impaired water bodies can be obtained from [EPA's 303d list](#). Even use of up to date navigation charts can inform a dive plan with some level of outfall information. Many [Superfund Sites](#) are near or include bodies of water, which typically must be treated as polluted water dives. Most Superfund sites have some online chemical data available on the water column and/or sediment. Internet searches on fish advisories are also typically indicative of a polluted water body.

If specific chemical contaminants are known or suspected on a site, a hazard analysis is included in the dive plan to address potential exposure pathways and identify specific equipment or procedures to minimize risk factors, such as upgrading to a helmet directly mated to the drysuit. Several online chemical data bases, such as www.epa.gov/iris, www.cameochemicals.noaa.gov, www.cdc.gov/niosh/npg/, or www.atsdr.cdc.gov, contain useful information on chemical properties and human health hazards posed by chemicals. In addition, drysuit manufacturers can be consulted to obtain permeation data for known or suspected contaminants (e.g., <http://www.vikingdiving.com/?id=1851>). If decontamination solutions (soaps, detergents, biocides) are necessary, the Material Data Safety Sheets (MSDS) at www.hazard.com/msds/ or the manufacturer's web site should be consulted to assess toxicity and biodegradability.

For EPA, scientific diving operations in support of Clean Water Act, Resource Conservation Act, and Superfund programs typically include conducting instrument recovery, outfall inspections, and a variety of environmental media sampling, all in polluted water. EPA

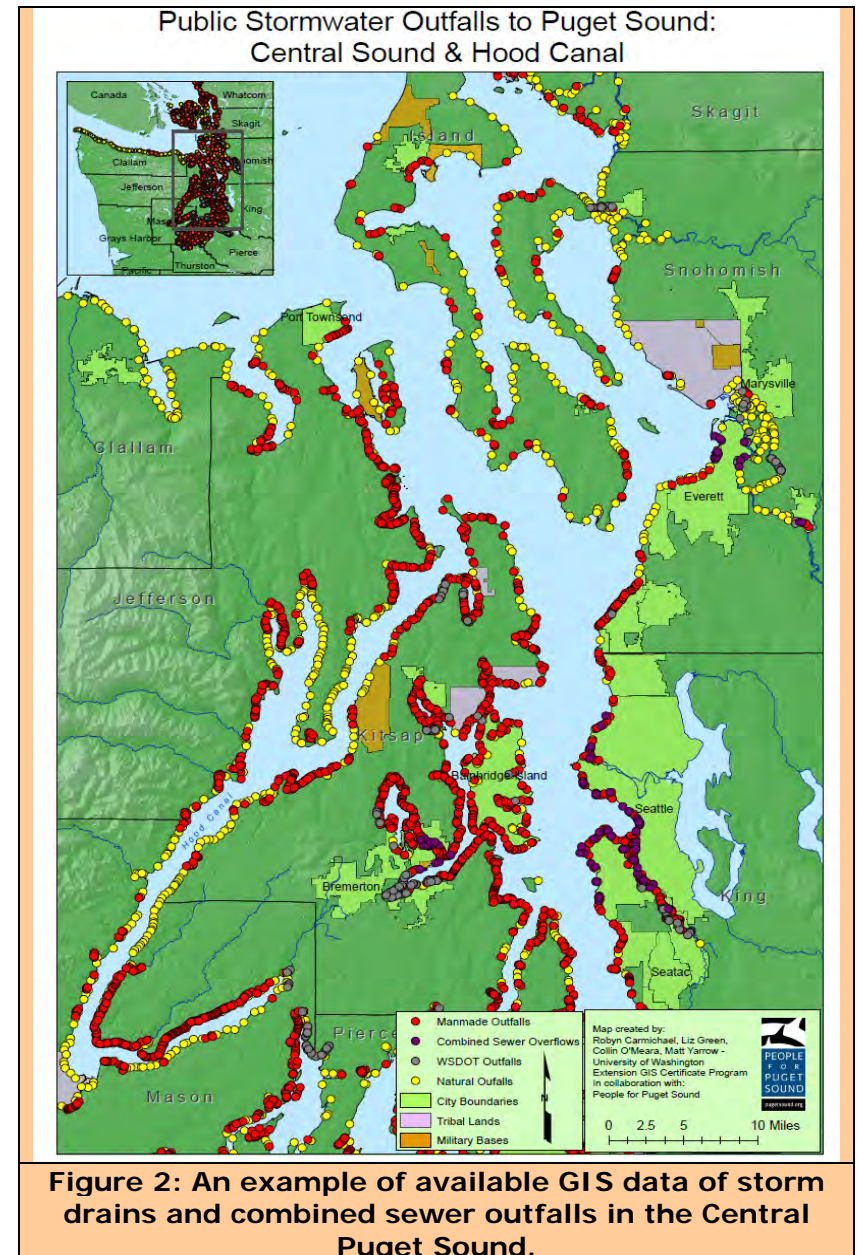


Figure 2: An example of available GIS data of storm drains and combined sewer outfalls in the Central Puget Sound.

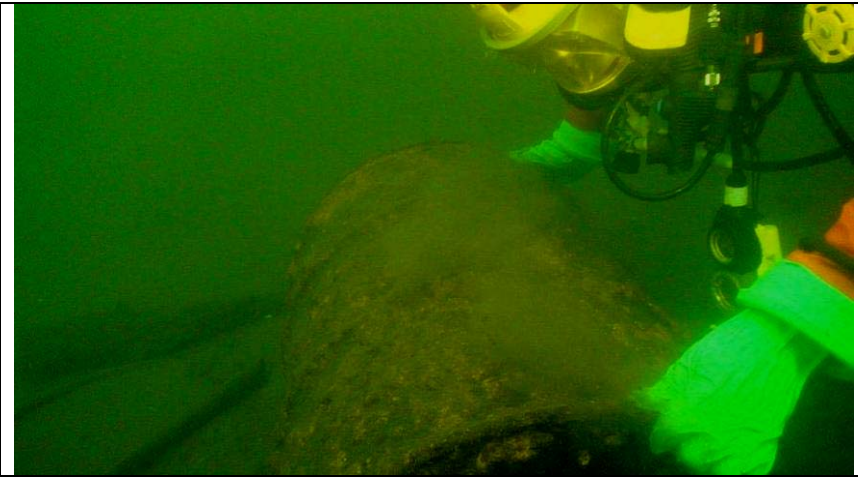


Figure 3: Diver Rob Rau inspecting a discarded 55 gallon drum encountered off a former manufactured gas plant in Seattle, Washington. Photo by Sean Sheldrake, EPA Region 10 Dive Team.

uses the online tools above for planning a polluted water dive or to ensure that a dive being planned is not a likely polluted water dive as described above. Concerns over pollution exposure lead the EPA to upgrade protective measures, such as keeping the diver completely dry (minimum slick drysuit with integrated hood, full face mask (FFM), drygloves), use of decontamination, and medical/monitoring/immunizations for divers. Absence of definitive information always results in personal protective equipment (PPE) upgrades to a positive pressure full face mask with drysuit, dryhood, and drygloves. Although the positive pressure FFM may be subject to leakage, this is deemed acceptable for EPA uses at low to moderately contaminated sites in conjunction with our medical monitoring program. Exhaust droplet inhalation, while a concern for the FFM, is also of equal concern for helmets that do not exhaust to the surface. No amount of good PPE will do the diver any

good outside of a systematic approach to polluted water: PPE, decontamination, training, and medical monitoring/immunizations.

All of this information provides some ability to forecast various types of exposure, based on the frequency of problems detected in the past, in the case of the BEACH program data. In addition, for sediment, exposures in a Superfund site can be predicted with some certainty, such as within the Portland Harbor area (USEPA, 2009a).

In summary, online tools will help divers assess what contaminants may be present at the dive site, what effect these contaminants may have on the diver or the diver's equipment, and what equipment and/or decontamination procedures may be necessary to protect the diver. However, few dive sites have or will have definitive information before you dive. Those that do have definitive information only give a general idea of conditions—as conditions can change rapidly. Upgrading diver PPE and decontamination procedures is the rule for EPA, absent definitive information.

Module 2; Training for Polluted Water Diving

Though there are methods to limit diver exposure to these contaminants which have been widely published and available since 1985, these methods are not always employed by divers in general, which may be due to a lack of formal training. OSHA explicitly requires that specific training be undertaken on an initial and reoccurring basis for hazardous waste site operations ([OSHA 29 CFR 1910.120](#)). EPA divers doing polluted

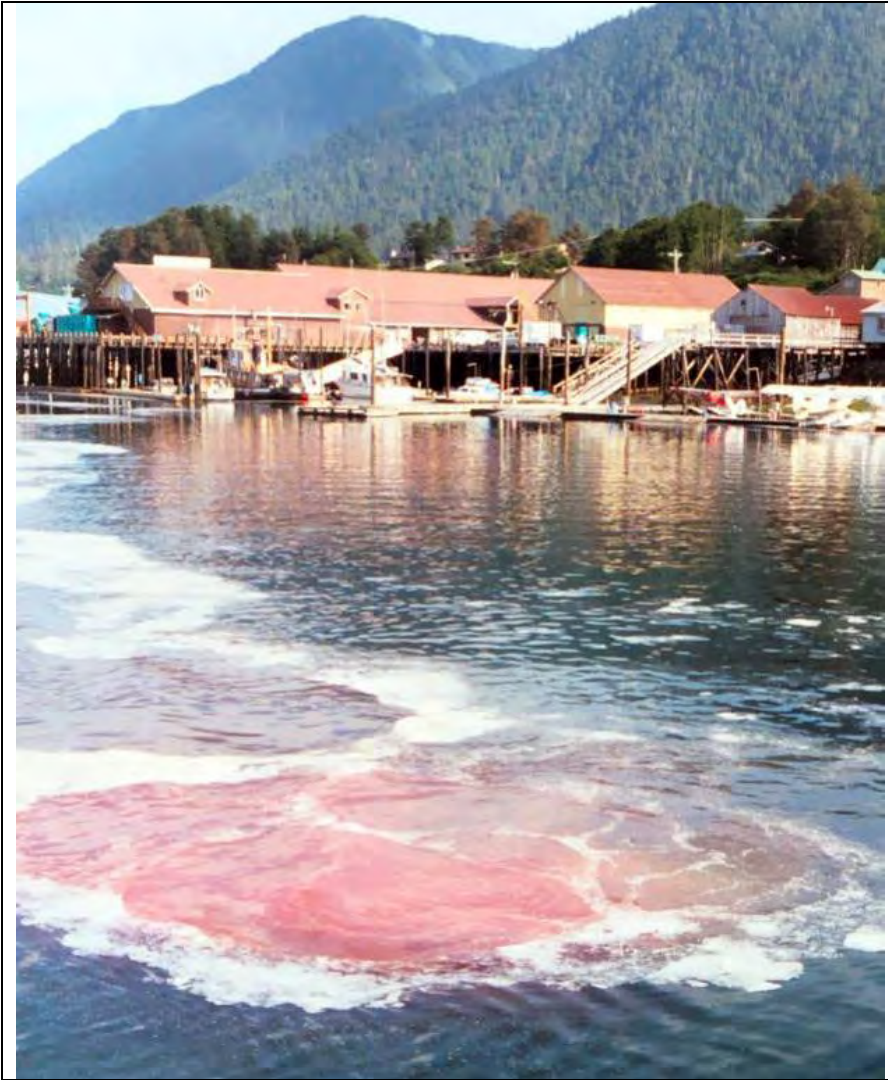


Figure 4: Photo of a plume of blood at an EPA dive site in Alaska during an enforcement inspection. Photo by Sean Sheldrake, EPA Region 10 Dive Team

water work undergo this initial 40 hour training along with required annual 8 hour refreshers.

In addition, Region 10 and ERT practice decontamination techniques on training dives, including heat stress management. Classroom and dive training should emphasize means and methods to plan a dive, how to wear and maintain appropriate PPE, techniques/types of decontamination and division of the dive platform into hot, contamination reduction, and cold zones, and techniques to manage heat stress endemic to more protective PPE.

Disclaimer: *This paper is an illustration of steps to be taken to minimize exposure to the diver in hazardous environments and does not necessarily represent the official view of the USEPA. Mention of any specific brand or model instrument or material does not constitute endorsement by the USEPA.*

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SPECIAL to PSDiver Monthly

Hazus-MH; Disaster Preparedness for the 21st Century

By Clark Magnet High School students: Yeprem Chavdarian, Edward Kazarian, Tania Khanlari, Steve Kechechian and Brian Higgins

In the August 2010 issue of the *PSDiver Monthly* magazine, Mark Phillips posed the question to all first responders, "Are you prepared?" Does your team have the proper equipment and training to deal with a hurricane or flood scenario? Phillips identified lack of funding as a major obstacle for most teams to reach an adequate level of readiness. There are grant programs available to fund dive teams, but awards may be difficult to obtain. Before applying for any grant, a team or agency must be able to justify their request.

The Federal Emergency Management Agency has developed software called Hazus-MH to identify risks and mitigate losses from



[Download HAZUS-MH MR-5 Flyer...](#)

hurricanes, floods, and earthquakes. This software can be used by teams to model disaster scenarios and justify budget requirements. Hazus-MH is [available at no charge](#).

Hazus-MH is an extension of the ESRI ArcGIS technology that produces estimates of hazard-related damage before or after a disaster occurs. Potential loss estimates analyzed in Hazus-MH include how floods, hurricane winds or earthquakes will:

- Physically affect buildings such as homes, schools, businesses, and others.
- Economically affect communities, including the amount of lost jobs, business interruptions, repairs and reconstruction costs.
- Socially impact communities including estimates of shelter requirements, displaced families, and population exposed to floods, earthquakes and hurricanes.

For more information visit:

<http://www.fema.gov/plan/prevent/hazus/>

To justify a budget for equipment and training, Hazus-MH can be used for pre-planning disaster scenarios in your community. Identifying mitigation solutions is also a capability of the program. Details about buildings are pulled from census data and other data sources that are included in the program. This information can be updated by the user for a more detailed and accurate report.

Mapping essential facilities such as hospitals, police stations, fire stations, emergency operation centers, and schools, is a good place to start in a basic risk assessment for various disaster scenarios. It can also be

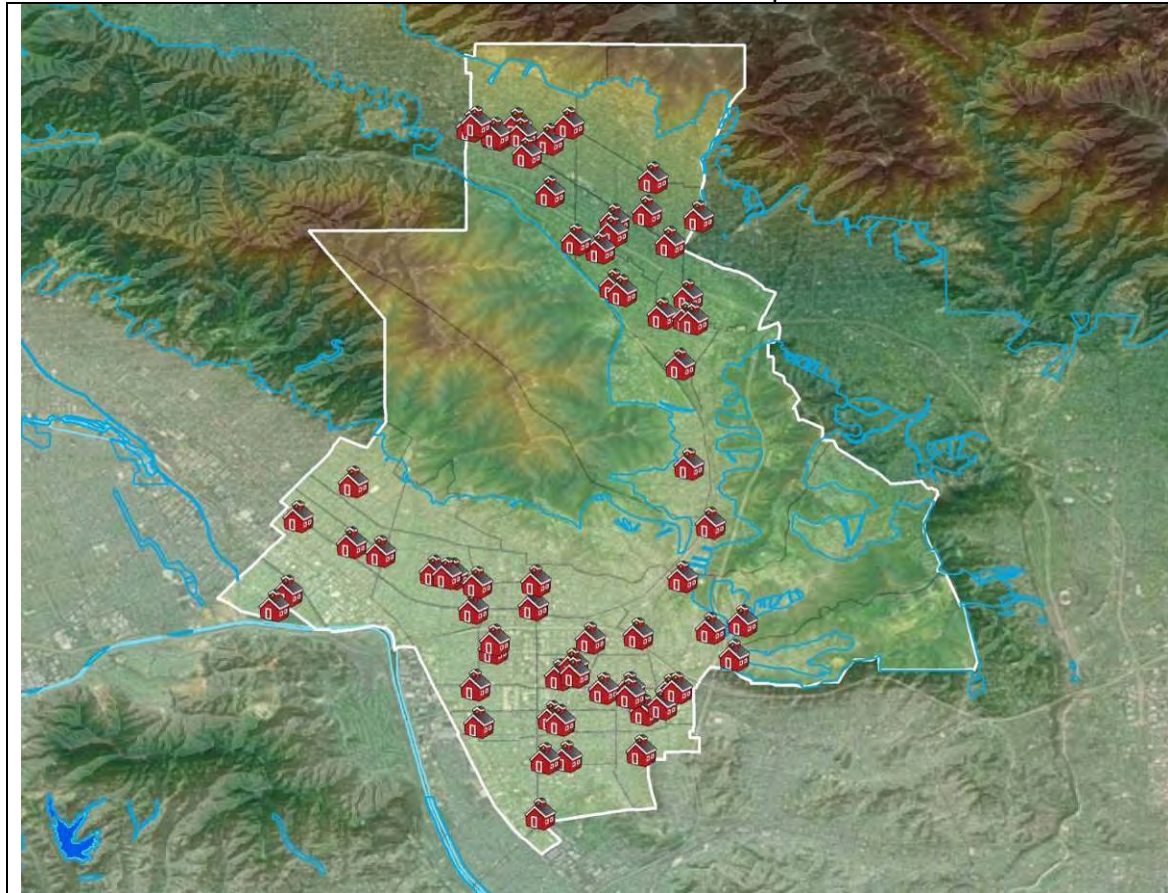
important to map out hazmat locations (areas that could contain chemicals and other hazardous materials and waste) to ensure the safety of rescue personnel. Using Hazus-MH can assist in planning appropriate evacuation locations.

Running a flood scenario could help determine which facilities should be stocked with water rescue equipment. For example, would it be wise to store all the flood rescue equipment only at a facility in a high risk flood area?

The Disaster Mitigation act of 2000 (DMA 2K) is legislation that reinforces the importance of pre-planning. It requires an approved hazard mitigation plan in order to be eligible for

receiving certain types of non-emergency disaster assistance. Using Hazus in developing or updating a disaster plan is considered favorable by FEMA when

allocating competitive funding. Last year, FEMA awarded [\\$106,085,702](#) in funding through the Emergency Management Performance Grants Program alone. To find current funding sources, search the [Department of Homeland Security link](#) on [Grants.gov](#). For example, recently closed opportunities from this source include, *Flood Mitigation Assistance Program, Pre-Disaster Mitigation Program, Repetitive Flood Claims Program* and *Severe Repetitive Loss Program*. Some of the descriptions clearly



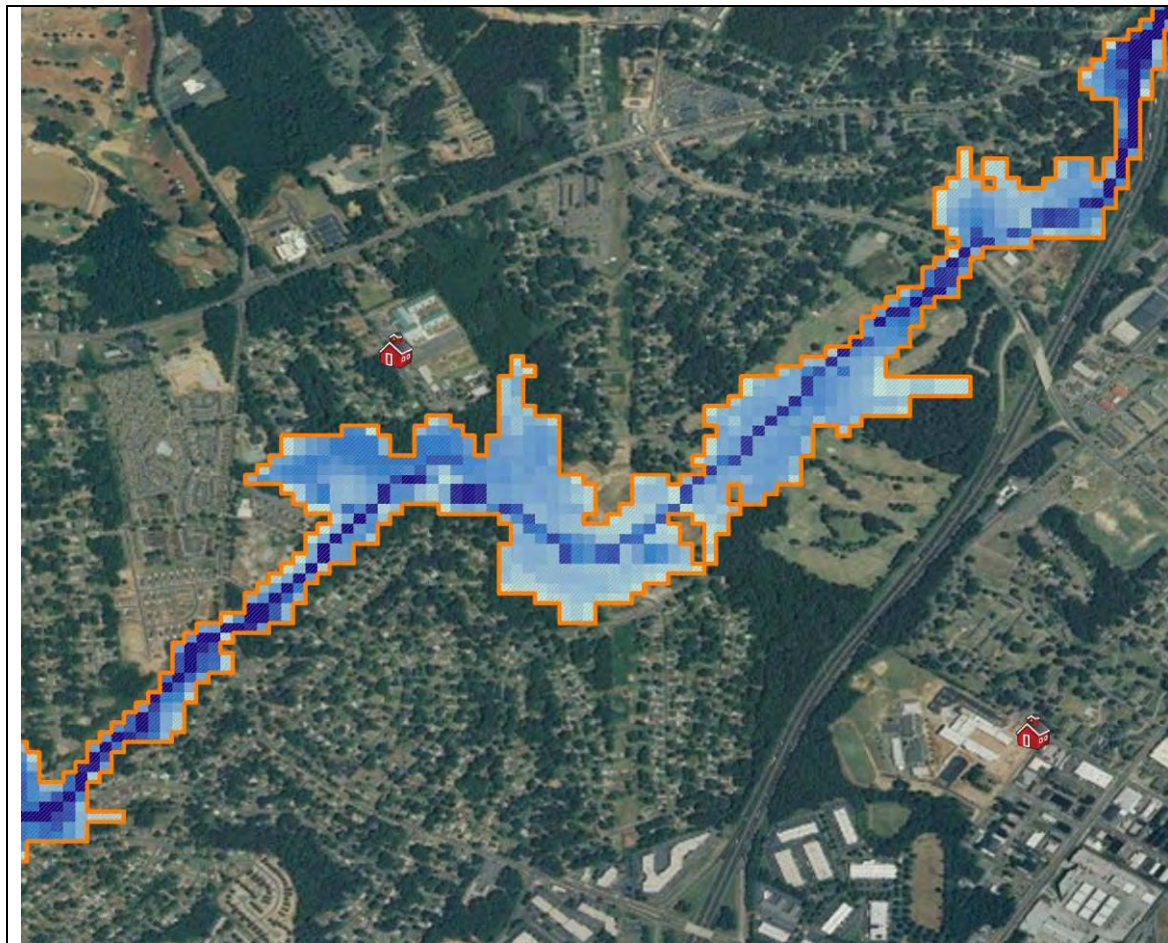
Importing elevation data allows a network of streams to be generated. From this point, 10-year to 500-year flood events can be run to analyze the impact on a community. In this map, students have updated the state database for schools in the Glendale Unified School District and are ready to run a flood scenario.

state: "Projects or initiatives that are eligible for funding under this announcement may involve geospatial (GIS)

issues." Hazus-MH could be used to help meet funding criteria for all the above listed programs. Notifications of new grant opportunity postings and updates on Grants.gov are sent out as [email alerts to subscribers \(click for link.\)](#)

If Mark Phillip's question of, "Are you prepared?" was a wake-up call to your team, try incorporating new technology to create or update existing disaster plans for your community. You may find funding comes easier to teams that are incorporating current technology to support mitigation efforts.

To learn more on how to use the program, training classes are available through five different channels:

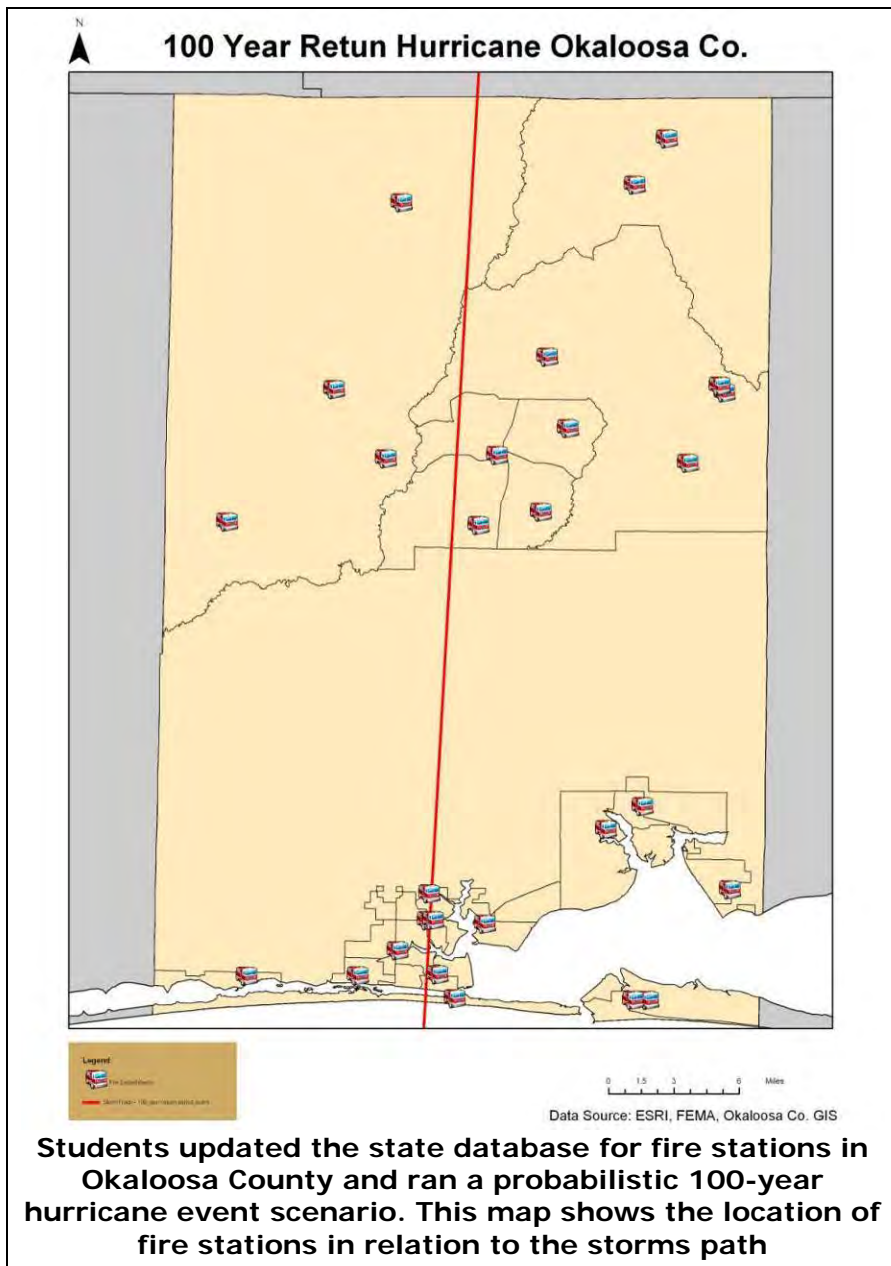


The Basic Hazus-MH course guides the user through a flood event. In this map, after running through the exercise, students have added the ArcGIS world imagery layer and mapped schools in relation to flood areas.

1) FEMA provides Hazus-MH training classes at the Emergency Management Institute (EMI) located on the National Emergency Training Center campus in Emmitsburg, Maryland. Lodging and travel may be reimbursed to those who qualify. To attend a course, fill out an [application](#) and turn it in to your state training officer.

2) [Online courses](#) are also available to help both public and private organizations prepare for and mitigate losses from natural disasters. The

installation guide and overview of Hazus-MH is available at no charge. There are additional courses available for a small fee that train users to calculate losses from flood, hurricane winds and earthquake events. Through the set



of courses, participants are offered the opportunity to download hands-on exercises that provide detailed instructions for the software. When the course is completed, participants are ready to do models for their own communities and take action to reduce losses occurring from earthquakes, floods, and hurricane winds.

3) The Polis Center of Indiana University Purdue University Indianapolis offers numerous introductory through advanced Hazus workshops. Polis is a recognized national resource for preparedness training which uses geospatial tools, and has a lot of project experience using these technologies. Hazus courses provide instruction on the entire process of using Hazus and other geospatial technologies to reduce the impacts of natural hazards on communities. One of their most popular courses, Comprehensive Data Management for Hazus-MH, helps participants prepare for their own data updating project by identifying the inventory elements that have the most impact on the estimation of losses for flood, earthquake, and hurricane events. This course is recommended to those who are

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GIS analysts, database administrators, and others who will be responsible for migrating local data into the Hazus-MH database structure. Polis courses can be offered at their facility in Indianapolis or onsite at a client location. Participants will receive a FEMA EMI Certificate after successful completion of FEMA authorized workshops. Polis can also customize Hazus training to meet the specific needs of participants.

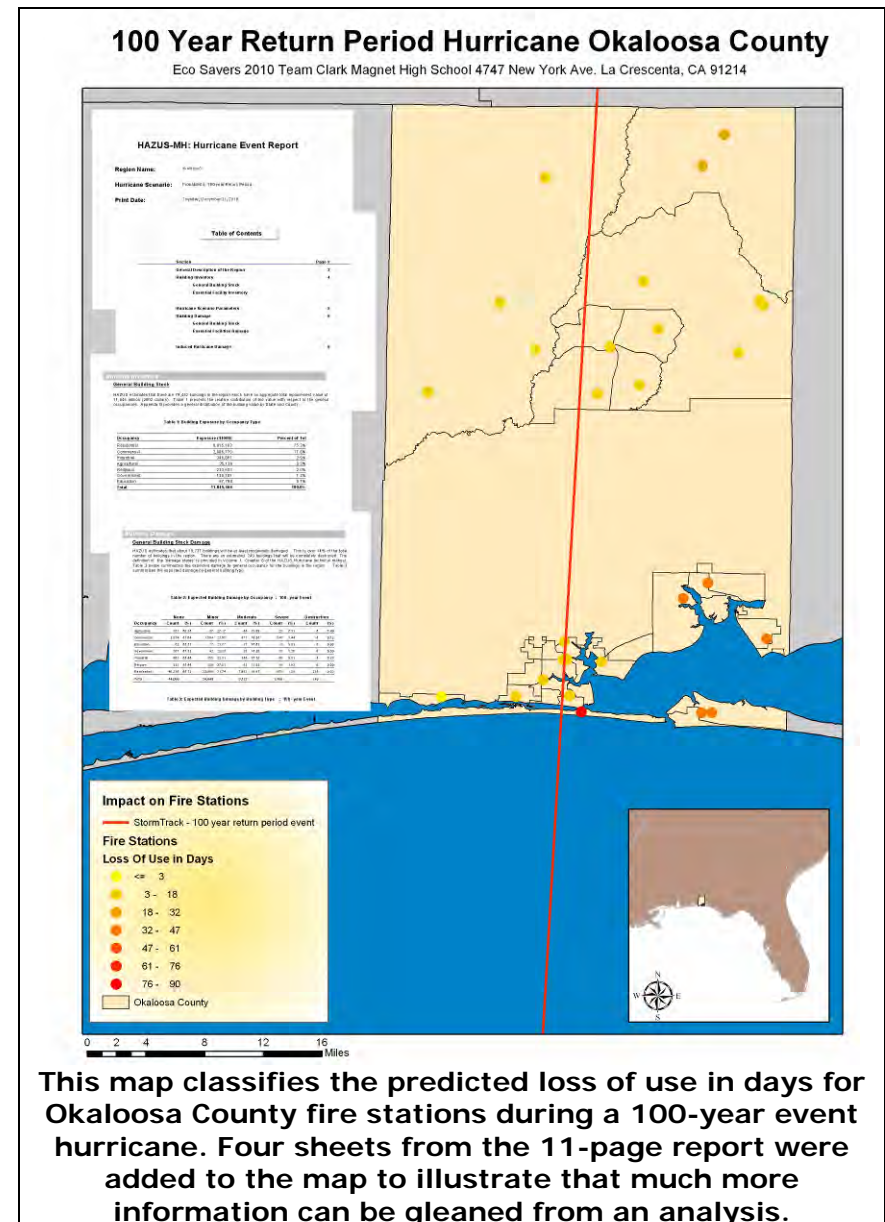
Questions about Polis training or other consulting services can be directed to Kevin Mickey at kmickey@iupui.edu.

4) Loma Linda University (School of Public-health,) in Loma Linda, California offers a similar program..

5) Field courses are available by having a Hazus instructor come to your facility. The advantage of contracting a Hazus instructor includes personal training at your facility arranged around your schedule. Assistance with installation and troubleshooting is provided. If training isn't your objective, a contractor can perform a detailed risk analysis, loss mitigation plan for your department or community. One such qualified contractor is Vanessa Glynn-Linaris from GeoRevs. Glynn-Linaris is an experienced grant writer and can be a valuable resource in endeavors to secure funding.

Visit <http://www.georevs.com/> to schedule an appointment or email info@georevs.com with any questions about the company or service.

After the initial training, there are Hazus user groups set up online and around the country for support and

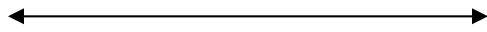


assistance using the program. Visit Hazus.org for more information.

If the information in this article was useful, please [email your comments to our teacher](#). In our GIS class we work on projects that benefit the community and environment.

We need to quantify our impact to help support our program. Your input would be greatly appreciated.

Please contact our teacher with a short review of our work and how it might benefit your community: Devans-bye@gusd.net



NIOSH Publication No. 2004-152: Divers Beware: Training Dives Present Serious Hazards to Fire Fighters

June 2004

<http://www.cdc.gov/niosh/docs/wp-solutions/2004-152/>

Summary

Fire fighters who participate in dive training risk lung damage, illness, or drowning. NIOSH investigated fatalities that have occurred during these training exercises and developed recommendations to decrease these risks.

Description of Exposure

Fire fighters may be called on to perform public safety diving actions, including search and rescue and recovery missions. Fire departments and fire fighters preparing for underwater operations must be aware that dive training can be hazardous. Diving hazards include entanglement, running out of air, lung overexpansion injury, panic attacks, and decompression sickness.

Entanglement in rope or aquatic plants is an extremely serious hazard that can prevent divers from returning to the surface [Hendrick et al. 2000].

Lung overexpansion most commonly occurs when divers panic and make rapid ascent holding their breath. No sensation of discomfort provides a warning when overexpansion is about to occur [NAUI 2000]. New divers may hold their breath when first learning to use SCUBA equipment [PADI 1990]. Lung overexpansion can result in pulmonary barotraumas causing serious damage to the lungs, including collapse [Bookspan 1995], even when ascending from relatively shallow depths and on relatively short dives.

Panic attacks while diving may be provoked by situations such as entanglement, running out of air, or reasons unknown. Panic attacks occur among both

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veteran and novice divers. Adequate attention to panic and anxiety attacks should be given during diver training. More than half of experienced divers surveyed report having panic episodes while SCUBA diving [Morgan 1995].

Decompression sickness ("the bends") occurs after extended periods of time at depth followed by ascending too quickly, thus preventing nitrogen gas accumulated in the diver's tissues from dissipating properly. Symptoms of decompression sickness can range from skin rash, extreme fatigue, coughing, and painful joints to paralysis and unconsciousness [NAUI 2000].

Case Studies

Case 1

On July 15, 1999, a 25-year-old male career fire fighter/paramedic/rescue diver drowned during a circular search training exercise at a lake [NIOSH 1999]. Acting as the pivot diver, the victim descended and maintained a fixed location while extending a length of rope to the pattern diver. The pattern diver swam increasingly larger circles around him while holding onto the rope.

About 2 minutes after the victim entered the water, his rope bag surfaced. The pattern diver surfaced and was instructed by the lead diver to retrieve the victim, but was unsuccessful. The boat driver radioed for emergency assistance. A rescue search was initiated, and the victim was found and brought to the surface. The victim's air regulator was not in his mouth and he was cyanotic and unresponsive. The victim was transported by helicopter to



a regional trauma center, where he was pronounced dead. The cause of death was listed as drowning.

Case 2

On August 13, 2000, a 28-year-old male career fire fighter/SCUBA diver died during a search and rescue training exercise at a lake [NIOSH 2000]. During the exercise, a circular search pattern was used from a buoy line. The

victim's partner lost the search line and became separated from the victim. The partner was equipped with a conventional regulator and had no electronic communications with the other divers.

Another diver saw the victim, who was distressed and frantically screaming and moving around, and knocked off the other diver's face piece. The victim, who was entangled in the buoy line, was pulled to the surface by the buoy line. The victim received medical assistance and was then transported by helicopter to a nearby trauma center where he was pronounced dead. The cause of death was stated as pulmonary barotrauma.

Controls

To minimize the risk when participating in dive training, NIOSH recommends that fire departments and fire fighters take the following precautions:

Fire departments should do the following:

- Establish, implement, and enforce standard operating procedures (SOPs) regarding diver training.

- Ensure that divers maintain positive communication with each other and with personnel who remain on the surface.
- Develop a pre-dive checklist for all diving situations, including diver training, equipment function, and diver experience, which should match the difficulty of the intended dive.
- Ensure that backup divers are trained to perform rescue operations for other divers who may be in distress.
- Ensure that an experienced backup diver and a ninety-percent-ready diver are in position to help.
- Provide divers with refresher training on the hazards and prevention measures of lung overexpansion injuries, entanglement, decompression, and panic attacks.
- Practice the training exercise in a closed environment such as a swimming pool before attempting it in open water.
- Obtain and update appropriate medical fitness evaluations for SCUBA divers annually.
- Ensure that equipment checks are performed on a scheduled basis and defective equipment is repaired or replaced before a dive takes place.
- Supply divers with an alternative backup air source such as pony bottles.
- Ensure that instructors and divers are certified for SCUBA diving, dive training, and dive rescue operations by a nationally recognized organization.
- Ensure that a medical unit is on site with oxygen in case of an emergency.



- Ensure that dive coordinators stay informed about each diver's rate of air consumption.

Fire fighters/divers should do the following:

- Follow all SOPs.
- Maintain continuous visual, verbal, or physical contact with their dive partner.
- Perform equipment checks before each dive. Equipment checks should be verified by the dive coordinator.
- Ensure that underwater search teams operate individually to avoid rope entanglement.
- Regularly monitor their air consumption.
- Consider performing at least 12 dives per year to maintain skills.

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NIOSH [2000]. Fire fighter/SCUBA diver dies during training evolution—Indiana. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. F2000-38.

Additional resources regarding scuba diving include the following:

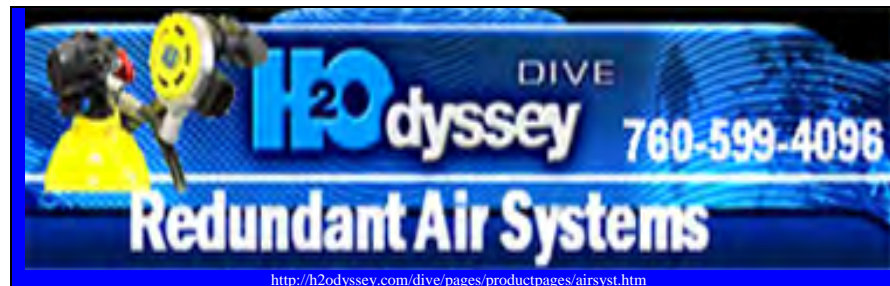
- NFPA 1670—Standard on operations and training for technical rescue incidents.
- NFPA 1006—Standard for rescue technician professional qualifications.

Acknowledgments

The principal contributors to this publication were Jay L. Tarley, Edward L. Husting, and Steven L. Proudfoot, Division of Safety Research, NIOSH.

For More Information

The information in this document is based on fatality investigations, literature and expert review. More information about the Fire



Fighter Fatality Investigation and Prevention Program is available at www.cdc.gov/niosh/firehome.html

Contact the Divers Alert Network (DAN) 24 hour hotline at (919) 684-8111 in the event of a diving emergency or for questions about a diving injury.



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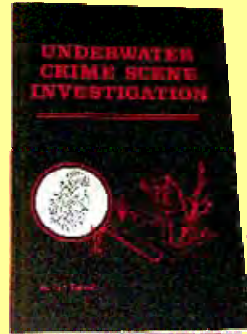
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NEWS

Rescue Dive Team Spotlight 3 Report

<http://www.ktbs.com/news/25846184/detail.html>

November 18, 2010 **VIDEO ON SITE**

SHREVEPORT, La. -- Drowning remains the second leading cause of unintentional death for children, as we saw in August when six teens drowned in the Red River.

They were horrifying images, but the children may have never been recovered if it weren't for the Shreveport Fire Department's Rescue Dive team.

KTBS 3's Jennifer Gray decided the best way to see what it is the dive team does... is to dive right in.

News For Issue 80

Woman's body found in submerged car

<http://www.dailymercury.com.au/story/2010/12/02/submerged-4wd-divers-locate-drivers-body-divers-sw/>

2nd December 2010 Tom Williams



POLICE divers and a specialised swift-water rescue team yesterday located the body of a woman, missing in floodwater since Tuesday morning.

The 55-year-old woman's body was found inside the car from which she called for help yesterday morning, minutes before the vehicle was inundated by water.

It wasn't until yesterday afternoon that dangerous conditions eased enough to allow emergency service crews to reach the flooded car.

A Queensland police spokesperson said the body was retrieved around 1pm.

"Police and emergency service personnel this afternoon retrieved the body of a woman missing in floodwater near Dysart since yesterday morning," the spokesperson said.

"The body of the 55-year-old Sydney woman was located inside a submerged vehicle around 1pm.

"The vehicle had been pushed off a causeway and into a flooded creek next to Golden Mile Road, approximately 15km from Dysart.

"The dissipation of torrential rain and the easing of floodwater enabled search crews to recover the vehicle and a report will be prepared for the Coroner."

Whitsunday Water police on the scene requested the assistance of the RACQ-CQ Rescue helicopter to search

the area surrounding the swollen creek for the missing woman, however, while the crew was en route to the scene, the woman's body was located and the helicopter was stood down.

Queensland Fire and Rescue Service (QFRS) central region zone commander Steve De Pinto said once the water level fell the swift-water team and police divers were able to gain access to the vehicle.

"A police diver, along with the swift-water rescue team, was able to attach chains to the vehicle as the fast running water subsided," Mr De Pinto said.

"The water rose during the night and emergency crews had to relocate to the Dysart side of the river. "The swift-water team had to swim to the vehicle to

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conduct the search."

"Unfortunately, we were unable to find someone alive, but the team did a great job in very difficult circumstances," he said.

Driver in Critical Condition After Car Plunges Into Canal

<http://www.nbcmiami.com/news/local-beat/Bystanders-Unable-To-Rescue-Woman-From-Car-in-Canal-111321314.html>

Young people out riding their bicycles witnessed the accident, called police, and attempted rescue 12/04/2010 By [JANIE CAMPBELL](#)

A woman whose car plunged into a canal in Northwest [Miami-Dade](#) Saturday night was submerged in the darkened waters for at least 15 minutes and is now in critical condition.



Three young people out riding their bikes witnessed the crash, called police, and bravely leapt into the water to help, but could not get the driver free before her car sank beneath the surface.

Police divers were able to locate the car underwater and remove the driver. Unconscious, she was airlifted to [Kendall Regional Medical Center](#).

Investigators are trying to determine how the woman lost control of her [Toyota Camry](#) and ended up in the water at 144th Avenue near SW 11th Street about 9:30 p.m. The young would-be rescuers told police she made a series of U-turns before her vehicle left the road.

"Several of the witnesses jumped in the canal to try to help the driver out of the car," said Miami-Dade Fire and Rescue Division Chief Vincent Lombardi. "[But] the car went underwater and they were not able to assist the driver out of the vehicle."

Man's body found in floodwaters

<http://www.abc.net.au/news/stories/2010/12/04/3084891.htm?section=justin>

Dec 5, 2010

Police divers have recovered the body of an 81-year-old man whose utility was swept off a flooded causeway in Queensland on Friday night.

Alan Kane was trying to cross a creek at Bajool, southwest of Rockhampton, when his utility was washed away by floodwaters. Police divers and an SES crew found Mr Kane inside his utility about 150 metres downstream.



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Video: Floods ravage central NSW and QLD (ABC News)
Audio: Disaster zones declared in flood-hit NSW and Queensland (AM)
Audio: Central Qld farmers hit by flooding (AM)
Map: Rockhampton 4700
Photo Gallery: Floods wash through SE Australia
Related Story: Storms, flash flooding continue to hit Victoria
Related Story: Residents evacuated, disaster zones declared

It is the second such death in the region this week. A 55-year-old woman died when her car was swept off a flooded crossing near Dysart.

The SES said more than 100 homes had been damaged in Rockhampton.

Meanwhile, the weather bureau says it is not expecting further rainfall to cause flooding in south-east Queensland. A weak surface trough that has been sitting off the Capricornia-Wide Bay coast is expected to move towards the south-east. Forecaster Gavin Holcombe says it will bring more rain to the south-east corner. "The rain will gradually weaken and move southwards. Obviously

we're going to see showers and storms over the south-east part, and in fact over most parts of the state by Tuesday," he said.

In central Queensland, Emergency Management Queensland says floodwaters are continuing to drop. Regional director Robbie Medlin says crews have continued the clean up, but are keeping a close eye on river levels. "The rain has certainly eased and drifted away," he said. "They have had some flood damage obviously around the township of Emerald, and Moreso in the Gemfields area, but those waters are continuing to recede today," he said.

OPP divers searching for body... find a carpet instead

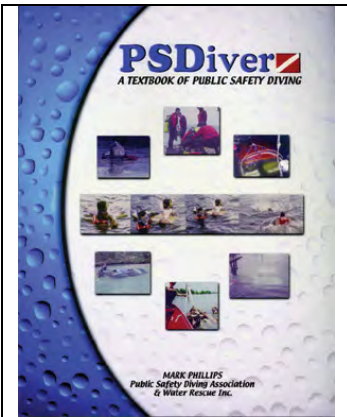
<http://recorder.ca/ArticleDisplay.aspx?e=2877883>
12/06/2010 By NICK GARDINER, Staff Writer

CARDINAL – A frigid search for human remains in the St. Lawrence River near the Cardinal Legion today uncovered nothing more than a soggy carpet.

The search, which involved chilled police



Police divers and an SES crew found Mr Kane inside his utility about 150 metres downstream. (7pm TV News QLD)



PSDiver – A Textbook for Public Safety Diving
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found only a carpet – with no body wrapped inside." It was just a carpet right by the ship," said Prophet, who wouldn't speculate how the material got to that location. "It turned out all right, and that's the important thing," he said.

Farmer, 81, swept away

<http://www.gladstoneobserver.com.au/story/2010/12/06/farmer-81-swept-away/>

Kerri-Anne Mesner | 6th December 2010

divers from the OPP underwater identification unit and Snowmobile, All-Terrain Vehicle and Vessel Enforcement (SAVE) unit, was prompted by a report from a diver who was in the area Sunday, Grenville OPP Const. Rob Prophet told The Recorder and Times.

Prophet said recreational divers were visiting the Conestoga shipwreck near the Galop Canal when one diver believed he saw a body floating near the wreck. The diver who contacted the OPP said the body appeared to be wrapped in material and was secure in its location and not drifting with the current, said Prophet.

He said police arrived early Monday to examine the site and

BAJOOL farmer Alan Kane, 81, died at the weekend after the ute he was driving was swept into Station Creek by floodwaters. His body was retrieved around 5pm by police divers.

It is believed just after 7 o'clock on Friday night, Mr Kane attempted to cross a flooded causeway on Upper Ulam Road, Mount Hopeful, in his utility when rising waters swept the vehicle into Station Creek. The vehicle was found around 150 metres downstream from the crossing on Saturday.

Long-time Bajool resident Bruce McCamley said the location of the incident was a bad spot. He said motorists had to drive down a curve into it and then up around another curve getting out. Mr McCamley said the stretch of road had been like that for decades. "When it rains, it's bad," he said. "There's been accidents there even when it's dry. "People up that way have been complaining and complaining about it for years."

Mr McCamley said the stretch of road was in the Rockhampton Regional Council area. He said Mr Kane had lived there for a number of years.

Parts of Banana Shire were subjected to flooding and storm activity at the weekend with

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Local Disaster Management Committee put on stand-by on Friday night by Gladstone police.

Banana Shire Mayor John Hooper said flooded areas were mostly in the southern part of the shire as the Dawson River had risen, particularly at Baralaba.

The Leichhardt Highway was cut off at Taroom, both north and south of the bridge; while the Baralaba-Woorabinda Road, the Duraringa-Biloela Road in the north and the Dawson Highway between Banana and Biloela were closed.

Cr Vaughn Becker said while there had been no evacuations, there were some people who had relocated to stay in town as people had become more flood-prepared following the February/March event. He said the river rose to 7.26 metres in March and it was at 7.11m at noon yesterday. "This is now officially the wettest year since records have been kept at Taroom Post Office from the 1870s," Cr Becker said.



Amelia Earhart's Finger Bone Recovered?

<http://news.discovery.com/history/zoooms/amelia-earhart-castaway-finger-bone-101210.html>

Dec 10, 2010 By [Rossella Lorenzi](#)

A tiny bone fragment collected on a remote tropical island could be turtle -- or it could belong to the legendary pilot, researchers say.

A T bone fragment found on a remote island in the Pacific is being investigated as possible remains of Amelia Earhart.

Initially researchers believed it was turtle bone.

Only DNA testing can confirm whether the fragment is, in fact, human.



Turtle or human bone?
Researchers recovered the fragment from a remote island in the Pacific Ocean where, they believe, Amelia Earhart may have perished as a castaway. [Click to enlarge this image.](#)

High Water Delays Divers

December 14

Divers tried to get to the body over the weekend, but debris and fast-moving water prevented a recovery, he said.


He estimates the body is about 35 feet from shore.

"We're dealing with high, swift water so we can't get a boat in there at all," Clark said. "The body is trapped in an eddy, so a boat above it would just turn in circles. That's why we will work from the bank."

Members of the county's search and rescue team will carry the divers' gear down a 160-foot embankment to the dive site when conditions are right. It will take four certified divers to perform the recovery.

The diver in the water will be attached to a safety rope containing a communication line. Visibility is about a foot, so a diver on the bank will guide the diver in the water to the area where the body is using the line, Clark said.

Another diver

Photos
<u>December rain in Central Queensland</u>

<u>View Photo Gallery >></u>



SES on scene of search for a submerged vehicle and 81-year-old man missing from Upper Ullam.
Sharyn O'Neill

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[Divers to join search for vehicle](#)

will watch the operation from the bank, and a fourth will be downstream ready to rescue the diver in the water should he become detached from his safety line.

A grappling hook or other device will not be used to retrieve the body. The case is a homicide "so we don't want to tear anything or cause injury to the body," he said.

[To read ALL of the article, Click HERE](#)

Asylum seekers perish as boat sinks off Australia

<http://www.theglobeandmail.com/news/world/asia-pacific/asylum-seekers-perish-as-boat-sinks-off-australia/article1838209/>

Dec. 14, 2010 KRISTEN GELINEAU and TANALEE SMITH The Associated Press

SYDNEY— A wooden boat packed with asylum seekers smashed against jagged rocks in a storm off an Australian island Wednesday, flinging terrified occupants into churning waters and killing at least 28 people.



Video

[Asylum seekers die as boat hits rocks](#)

Christmas Island residents on a cliff above watched in horror as the boat — carrying about 70 people — broke apart with a crack, dumping screaming men, women and children into monstrous waves that pounded them against the rocks.

"It was just horrible. People getting crushed. Bodies, dead children, the whole thing was pretty awful," island resident Simon Prince told The Associated Press.

In Canberra, Immigration Minister Chris Bowen told Sky News that 28 people died and 44 have been rescued. Of those saved, 11 were under age 18.

Officials gave no immediate word on the nationality of the victims.

"The rescue is being conducted in extremely difficult and dangerous conditions," the customs department said. "The search and rescue situation is ongoing."

Women and children were among the dead, Western Australia state Premier Colin Barnett said in a statement.

The Royal Flying Doctor Service sent doctors to the island to treat 30 injured victims, said Joeley Pettit-Scott, the group's spokeswoman. Three patients were critically injured, two men with head injuries and one woman with blunt abdominal trauma, she said.

Acting Prime Minister Wayne Swan said the vessel was a people smuggler's boat, but it was not clear where the passengers were from.

Christmas Island is a remote Australian territory closer to Indonesia than the Australian mainland and a frequent



target of refugee hopefuls, who are housed in a detention center there. Australia is a prime destination for people from poor, often war-ravaged countries such as Afghanistan who want to start a new life.

"This incident is a tragic reminder of the danger faced by people fleeing persecution and human rights violations in their home countries, and the desperate measures they will resort to in search of safety," said Richard Towle, the United Nations Refugee Agency's regional representative.

Photos and videos taken by witnesses at the scene show the wooden boat crashing into the rocks and breaking apart. The images also show people floating in the water amid the wreckage. It is unclear if they are alive or dead. The boat was about 20 to 30 feet long, with a cabin covered by a sheet of fabric or plastic.

Mr. Prince, who lives next to the cliff where the boat crashed, said he was woken early Wednesday by what he thought were



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cheers. He walked to the cliff and instead heard cries for help from a boat just offshore.

"The engine had failed," Mr. Prince told the AP. "They were washing backward and forward very close to the cliffs here, which are jagged limestone cliffs, very nasty."

Mr. Prince called the police and soon there were dozens of locals standing on the cliff, wondering how they could help despite the storm and crashing waves. He said the boat tossed for an hour before it finally hit the rocks at the base of the cliff.

"When the boat hit the cliff there was a sickening crack. All the people on board rushed to the land side, which is the worst thing they could do, but I don't think anybody could swim," he said.

Resident Michael Foster watched in horror as women and children screamed out for help in the churning seas below. "They had lifejackets on them, but the water was just pushing them up ... and throwing them towards the rocks," Mr. Foster said. "It was a pretty horrible situation."

In recent years, many asylum seekers have come from Afghanistan, Iran, Iraq and Myanmar. Generally, they first fly to Indonesia and then continue on to Australia in cramped, barely seaworthy boats. According to the UN refugee agency, an estimated 848 people died or went missing in 2009 in Italy, Yemen,



Spain, and Greece — the main areas worldwide of large-scale migration.

"Climbing over razor wire fences, taking to sea in leaking boats or stowing away in airless containers, refugees and migrants around the world risk their lives every day in desperate attempts to find safety or a

better life," the UNHCR says on its website.

International Organization for Migration spokesman Jean-Philippe Chauzy said asylum seekers pay \$6,000-\$7,000 to people smugglers, only to be told to pay another \$1,000-\$1,500 for the last stretch from Indonesia to Australia.

"Indonesia has been a stepping stone for economic migrants ... Many become stranded in Indonesia when they run out of money, are cheated by people smugglers, or are intercepted by the Indonesian authorities," said Mr. Chauzy.

Boat victims may not be identified

<http://www.perthnow.com.au/news/western-australia/christmas-island-tragedy-forces-review-of-alps-asylum-stance/story-e6frq14u-1225972531804>

December 17, 2010 **VIDEO ON SITE**

WA POLICE have conceded that it may be impossible to name every victim of the Christmas Island tragedy, as officers start the painstaking task of positively identifying the dead.

Superintendent Jon Tuttle, head of WA Police forensic services, said disaster victim identification officers were conducting the initial identification of recovered bodies but the protracted operation could run into weeks.

"It's extremely painstaking, it's a human tragedy," Supt Tuttle said.

"You've got a lot of people that have died. A lot of detail needs to be assembled, it's a very detailed operation and it will take time.


"We have to identify the people to the satisfaction of the coroner and that will be from a range of opportunities - visual identification, in a typical sense ... fingerprints, DNA, dental records.

"The fact of the matter is that we have no passenger manifest. We don't know who these people are and normally, in a DVI event, you have some sense of who the people are so you have a starting point.

Related Coverage

- [Riot: Island detainees lash out in protest](#)

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- [Wreck: Overpowering distress as ocean beat man](#)
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- [Latest pictures: Christmas Island tragedy](#)

"This just makes it a little more complex."

Asked if it was possible some of the victims may never be identified, Supt Tuttle said: "Anything is possible, but ... we will work professionally and painstakingly to identify all of these people so that their families can have closure."

It is not yet known when the bodies will begin arriving in Perth, where post mortems will be conducted.



SEARCH: An Australian Navy rescue vessel and Navy divers search for bodies where the asylum vessel sank.

Picture: Toby Zerna Source: PerthNow

"There is a detailed process we have to undertake. We have to undertake that with dignity and respect for the deceased people. We have to be culturally sensitive and we will be working to our processes so we can resolve this at the earliest opportunity," he said.

Today, three police divers joined the contingent of 13 WA police officers on the island. They include Major Crime detectives, disaster victim identification experts, search and rescue police and coronial investigators.

Specialist skills of WA police have been used in other large scale recovery efforts, including the Bali bombings, the 2004 Boxing Day tsunami and the Black Saturday bushfires in Victoria.

Officers have been told to expect to be on the island for a month, if not longer.

Supt Tuttle could not say how many bodies had already been identified.



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Death toll from asylum seeker boat crash rises to 48

<http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/australia/8213450/Death-toll-from-asylum-seeker-boat-crash-rises-to-48.html>

20 Dec 2010

The number of asylum seekers believed killed when their boat smashed into rocky cliffs on a remote Australian island has risen to 48.



Dozens of asylum seekers including women and children, died after their boat smashed into cliffs

Photo: REUTERS

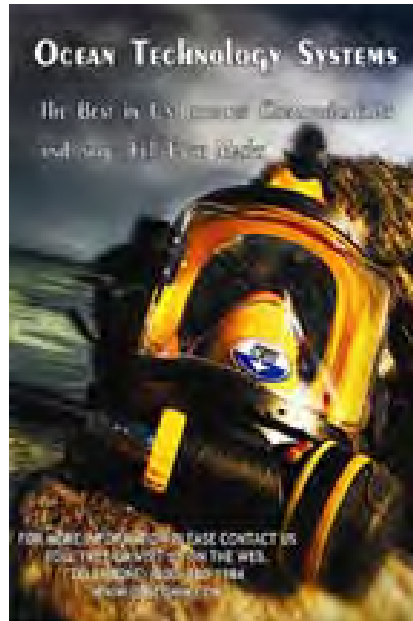
Thirty bodies have been recovered since the wooden boat packed with Iraqi, Iranian and Kurdish asylum seekers crashed into the rocks on Christmas Island last week.

Forty-two people were pulled alive from the churning surf by Navy rescue teams and 30 people were known to have died but there was uncertainty over the exact number of

missing people because it was unclear how many asylum seekers were on the boat to begin with.

Officials have been interviewing survivors in attempts to determine how many people were on board.

Julia Gillard, the prime minister, announced that about 90 asylum seekers were on the boat, which meant 18 people remained unaccounted for.



She said it was likely that the bodies of some of those people will never be recovered.

Dangers of Ice Revisited After Water Rescue Search

<http://www.wibc.com/news/Story.aspx?id=1330831>
12/19/2010 By Alex Brown and Jill Sheridan

A phone call, foot prints and a sled floating on a retention pond was reason enough to activate a drown rescue response from the Indianapolis Fire Department Saturday Morning.

No victims were located in the water but not before IFD firefighters, IMPD officers and the Department of Natural

Resources instituted a full scale search of the area for over an hour.

Firefighters were dispatched to the 8000 block of Combs Road and five divers searched the water.

IFD Capt. Rita Burris says in the state of Indiana, no ice is safe ice. IFD is asking for parents to talk with their children about the dangers of retention ponds and warn them to stay off the water.

Divers to resume searching Red River for body of six-year-old boy

http://winnipeg.ctv.ca/servlet/an/local/CTVNews/20101221/wpg_search_101221/20101221/?hub=WinnipegHome

Dec. 21 2010 1ctvwinnipeg.ca



The underwater search and recovery unit spent two days searching for Nathaniel Thorassie in the Red River

Winnipeg police said they plan to resume their search for the Red River for six-year-old Nathaniel Thorassie.

The boy fell into the river on Dec. 4 while playing with his 10-year-old brother by the water near the Disraeli Bridge. A passerby was able to rescue the 10-year-old boy, but Nathaniel is presumed to have drowned.

Police divers spent two days searching for the boy in the water before calling it off due to "extremely dangerous" conditions because of thin ice.

A volunteer team of divers from the Canadian Amphibious Search Team (CAST) and Manitoba Search and Rescue carried out later searches, which also were unable to locate Nathaniel's body.



Six-year-old Nathaniel Thorassie fell into the Red River on Dec. 4, 2010.



Tuesday morning, officers said conditions on the river are improving and police divers hope to be back searching the river soon, possibly as early as Jan.

CAST will also be conducting searches.

"The dive operation will continue for as long as conditions permit. We are committed to this action to help Nathaniel's family find closure in this tragedy," said police in a press release.

Crossbow Cannibal CCTV: Shocking video of killer Stephen Griffiths moments after murder

<http://www.mirror.co.uk/news/top-stories/2010/12/27/crossbow-cannibal-cctv-shocking-video-of-killer-stephen-griffiths-moments-after-murder-115875-22809053/>

27/12/2010 by Lucy Thornton, Daily Mirror



Serial killer Stephen Griffiths flashes a sick gesture and brandishes his crossbow seconds after murdering Suzanne Blamires.

<http://bcove.me/22a0w33g> **WATCH THE VIDEO**

The sign was made to a CCTV camera which filmed the horror outside his Bradford flat. IT was the display of brutal arrogance that proved just how deranged killer Stephen Griffiths was.

Minutes after murdering terrified Suzanne Blamires with a crossbow, the maniac marches up to the CCTV camera that captured his act of horror and defiantly waves his weapon at the lens.

He then gives a one-fingered gesture and even toasts the brutal attack with a bottle of Sprite – before returning to his flat to butcher and eat 36-year-old Suzanne.

But despite his sick bravado, the self-styled Crossbow Cannibal knew being caught on camera meant the game was up.

And it brought to an end a killing spree that also claimed the lives of prostitutes Susan Rushworth, 43, and 31-year-old Shelley Armitage.

The sickening 31-minutes of footage, which has been obtained exclusively by the Mirror, would have been crucial evidence at his trial.

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But it was not needed because Griffiths admitted the three murders last week and was jailed for the rest of his life at Leeds crown court.

The film was taken on May 22 by camera 14 at the end of a communal corridor in Holmfield Court, Bradford, West Yorks, where Griffiths lived.

The psycho had shot Suzanne in the head with the crossbow before plunging a knife into her skull as she tried to flee his murderous clutches.

Another camera shows the moment he returns with the unsuspecting prostitute to his one-bedroom flat in the city's red light district.


At 2.30am Suzanne is filmed tottering along, clutching her pink handbag and following him inside.

She appears relaxed, taking deep drags on a cigarette.

Her jet black hair is tied back in a tight ponytail with a pink bobble and she seems unsteady on her feet.

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The pair chat away as Suzanne continues puffing on a cigarette while they pass the no smoking signs in the building.

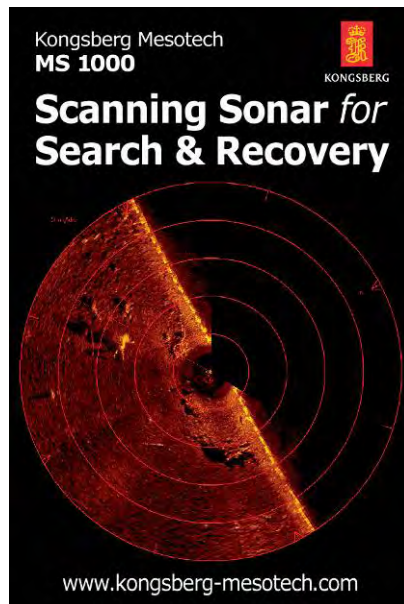
As they enter the lifts on their way to flat 33, she accidentally blows smoke in the former public schoolboy's face. Griffiths appears stone-cold sober, watchful and stern, while carrying the bottle of Sprite and cigarettes. Dressed in black from head to foot, he is seen gesturing with his hands as if telling a story in the lift.

But minutes after entering the flat, Suzanne's night takes a terrifying and fatal twist. She suddenly re-appears screaming, running petrified down the corridor, looking over her shoulder as Griffiths, now wearing black gloves, chases her in a snarling rage.

He is carrying the crossbow that he will use to hunt her down so cruelly.

Suzanne tries to fend off the criminology student with her right arm as she - desperately runs for her life.

But he bares his teeth like an animal – and goes in for the kill. Just off camera a struggle on the floor can be made out but suddenly her body goes limp. In part of the video the Mirror has decided not to publish, Griffiths walks backwards,



dragging Suzanne's - seemingly lifeless body back down the corridor by the - shoulders to his flat.

He only makes it to the doorway and her legs are still visible. Griffiths, 41, then calmly steps over her body and retrieves his crossbow from the scene of the attack before returning and shooting her in the head.

He then drags her by the leg into the flat. Seconds later he appears again, defiantly holding his crossbow in the air just inches away from the camera.

He puts his middle finger up and then gives the camera a close-up of his soft drink, as if making a toast. Over the weekend, Griffiths is seen leaving the flat clutching bin liners and holdalls.

On one occasion he balances a heavy black plastic bin bag on his right shoulder.

The killer leaves the flat complex and with his sleeves rolled up, casually dodges traffic as he crosses the road.

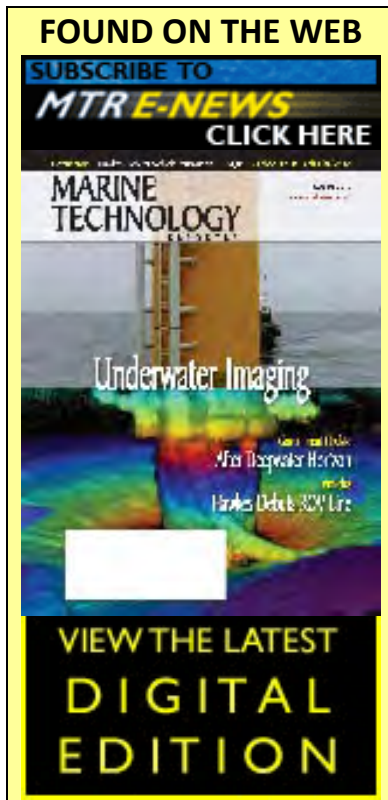
Griffiths was on his way to the railway station to take a train to nearby Shipley and dump the remains of Suzanne in the River Aire.

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The footage of his act of brutality was first spotted on the following Monday morning by a caretaker reviewing the cameras.

When armed police raided his flat Griffiths yelled from the bedroom: "I'm in here. I'm Osama bin Laden."

Police divers later found 81 pieces of Suzanne's body in the water, including her hands and head. It still had the crossbow bolt and knife embedded in it.

Parts of victim Shelley's spine and flesh were also recovered in the same area.

Griffiths held up six fingers when police asked how many women he had killed, although what he said was "five".

But he has refused to discuss with police any cases other than those of Susan, Shelley and Suzanne.

The killer has told how after murdering the three women, he mutilated, dismembered and skinned them using power tools, knives and even a samurai sword – turning his flat into "a slaughterhouse".

He admitted to boiling or cooking the first two and eating the third raw.

After his arrest, Griffiths told stunned officers: "This is the end of the line for me ... I've killed loads."

[Crossbow cannibal CCTV: The woman who escaped Stephen Griffiths - video](#)

Read more: <http://www.mirror.co.uk/news/top-stories/2010/12/27/crossbow-cannibal-cctv-shocking-video-of-killer-stephen-griffiths-moments-after-murder-115875-22809053/#ixzz19jNkHBy5>

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Dec 23 2010

Mother calls son who died in freezing lake a hero

<http://www.whas11.com/home/Mother-calls-son-a-hero-who-died-in-freezing-lake-112469024.html>

December 26, 2010 by WHAS11.com

Columbus, Ind. (WHAS11)- The surviving two southern Indiana teenagers pulled from a freezing lake were out of the hospital in time for the holidays, but the family of a third teen was forced to plan a funeral.

This weekend, that teen's family is calling him a hero, but they are also wondering why first responders could not get to him sooner.

Dylan Godsey, 15, Joshua Corrie, 16, and Derek Lodestein, 16, were trapped.

A witness, Robert Snow, called 911 and rushed his boat to the lake.

Snow was able to rescue Dylan and Joshua, but he could not save Derek's life. Dylan and Joshua were out of the hospital on Christmas.

Derek's mother says he is a hero, because he got his friends out of the freezing lake first. However, Derek was unable to hang on in the icy conditions.



Joshua's grandmother says she told the kids the lake was too dangerous.

The boys had all been students at Columbus Signatory Academy.

Derek had just moved this year to Iowa, but came back to visit for the holiday. It took rescuers three hours to pull Derek's body out of the pond.

There were trained police divers available on scene, but they could not proceed because they were not certified for the icy waters.

Related:

[16-year-old dead after falling through lake's ice](#)

Pig cadaver may help Winnipeg rescue workers find drowned boy

<http://www.vancouver.sun.com/news/cadaver+help+Winnipeg+rescue+workers+find+drowned/4064647/story.html>

January 5, 2011 Winnipeg Free Press

WINNIPEG — It's an unorthodox bid to bring closure to a Manitoba family's tragedy.

A month after six-year-old Nathaniel Thorassie drowned, officials in Winnipeg on Wednesday brought a pig cadaver to the Red River in hopes it will lead divers to the boy's body.

Nathaniel and his 10-year-old brother, Ralph Chartrand Jr., were playing with hockey sticks and breaking chunks of ice by the open water on Dec. 4 when the ice's edge broke away.

Both boys fell into the river but Chartrand was pulled to safety by a passerby who threw him a rope.

Officials have been perplexed as to location of the young boy's body, which should be near the spot he drowned, said Sgt. Rob Riffel, head of the Winnipeg Police Service dive unit.

"We're kind of wracking our brain on what happened to Nathaniel," he said.



Mclaine Flett, the mother of missing six-year-old Nathaniel Thorassie, kneels at a makeshift memorial as rescue workers searched under the Disraeli Bridge in Winnipeg for the boy's body.

File photo by: Joe Bryksa / Winnipeg Free Press

Riffel said a large majority of search missions are successful within a few days, making this case particularly baffling.

A pig cadaver was to be lowered into the river in hopes it will give the search team a better idea of what happened to Nathaniel.

"Because of their similar lung structure and similar muscle mass (to humans), they're used a lot in drowning research," Riffel said. "This isn't anything super scientific; it's just another thing that we're trying."

University of Manitoba professor Gordon Giesbrecht, an expert on cold water survival, was overseeing the experiment.



FOUND ON THE WEB

New test could estimate age of crime suspects from bloodstains

http://www.world-science.net/othernews/101122_age
Nov. 22, 2010 Courtesy of Cell Press and World Science staff

A new test can estimate crime suspects' or missing people's ages to an accuracy of nine years based on bloodstains at a crime scene, scientists report.

"Human age can be estimated from blood with reasonable accuracy using a simple, robust, and sensitive test assay," said Manfred Kayser of the Erasmus MC University Medical Center Rotterdam in the Netherlands, one of the developers. "Our method is applicable in situations where only bloodstains are available, which covers a large proportion of crime cases."



In principle, the technique could be put to immediate use by law enforcement, say the researchers, who report their findings in the Nov. 23 issue of the journal *Current Biology*. They have begun a required validation of the test, designed to ensure quality standards are met.

The method will be especially useful in cases in which age information is important to provide leads, Kayser added. Existing methods for age estimation have limited use for crime investigation, he said, because they depend on the availability of teeth, bones, or other identifiable body parts.

The new method takes advantage of a feature of immune cells known as T cells. These play a key role in recognizing foreign invaders, an ability that depends on structures on the cellular surfaces called T cell receptors. Each receptor matches specific molecules derived from bacteria,

viruses, parasites, or malignant cells. That diversity of receptors is achieved through a specific rearrangement of the T cells' DNA, a process that produces small circular DNA molecules as a by-product.

The number of those circular DNA molecules, known as signal joint TCR excision circles, declines at a constant rate with age. The new test measures the concentrations of these circles "in the total DNA extracted from a small blood sample and use a reference gene not affected by age to compensate for the total amount of DNA in the sample," Kayser explained.

Kayser said the test is at least as accurate as any test designed to estimate a human trait from DNA information. Its prediction accuracies are comparable to or better than those recently demonstrated for predicting brown versus blue eye color from DNA, a test that has already been put to forensic use, he added.

The new techniques may be harbingers of what's to come as researchers uncover new methods to reconstruct the appearance of unknown persons from crime scene samples. Conventional DNA profiling "can only identify persons already known" to investigators, Kayser said.

FOUND ON THE WEB

Cold weather may lead to fish kills

As temperatures drop in Florida, the number of cold-related fish kills is likely to increase. Chilly winter

temperatures can lead to fish die-offs in Florida's marine habitats, rivers and lakes.

The good news is that these events are natural occurrences and typically do not cause permanent damage to the ecosystem or to fish populations. In some cases they are even beneficial, in that they help limit the spread of invasive, exotic species.

Fish kills are often caused by sudden temperature fluctuations or by extended periods of extreme temperatures. Such kills can occur any time of the year in Florida, but they are most common in winter, when air temperatures drop. Although water stays relatively warm for awhile after the air cools, extended cold snaps can cause water temperatures in inland water bodies and estuaries to drop. The cold may kill fish outright by cold stress or weaken them so that they are more susceptible to disease. Another phenomenon, called lake-turnover, may occur when suddenly cooled surface water sinks and mixes with deeper, oxygen-poor water. This can cause fish to suffocate, often leading them to gulp at the surface before they die.

Warm-water species, including popular game fish like snook, are particularly vulnerable to cold temperatures. Exotic species such as butterfly peacock bass, tilapia, and sucker-mouth catfish are also especially susceptible to cold weather.

Fish affected by the cold may appear lethargic and may be seen at the surface where the water may be warmer from the sun. All recreational regulations still apply to fish impacted by the cold temperatures, even if they appear to be dead or dying.

It is important for Florida Fish and Wildlife Conservation Commission scientists to keep track of the location and extent of fish kills in natural lakes and estuaries, to see if there are problems developing in an ecosystem that might require investigation or restorative measures.

Although it is not necessary to report fish kills in private ponds, FWC scientists can assist the public by providing information about cold-weather fish kills in these water bodies. Residents can report fish kills in natural water bodies to the FWC at <http://research.MyFWC.com/fishkill/submit.asp> or call the FWC Fish Kill Hotline at 800-636-0511. For more information on fish kills, visit <http://research.MyFWC.com> and select "Fish and Wildlife Health" under the "Explore" section.

Telltale bacteria could reveal time of drowning

<http://www.newscientist.com/article/dn19729-telltale-bacteria-could-reveal-time-of-drowning.html>

November 2010 by Wendy Zukerman

[When a fisherman's body washed ashore on Australia's Queensland coast last week](#), police initially had no way of working out when he had died. "Unless a body is witnessed entering the water, there is no reliable method for determining the length of time that a body has been submerged," says [Gemma Dickson](#), a forensic biologist at the University of Otago in Dunedin, New Zealand.

That could soon change. Dickson and colleagues have discovered how the type of marine bacteria colonising a body changes as it decomposes, providing a "clock" of how long bodies have been in the water.

At present, forensic scientists have no accurate way of estimating time of death for bodies fished out of water. Looking at how badly decomposed the body, for instance, [is unreliable](#). And well-established methods that determine time of death for corpses on land, such as [insect infestation](#), aren't likely to be useful with submerged bodies.

So Dickson and colleagues submerged three adult pigs' heads in Otago Harbour, New Zealand, while sampling the bacteria on their decomposing skin every two to four days. The heads were underwater for three weeks, or until they were reduced to a skull. To see how water temperature affected the bacteria, the team submerged the first head in autumn, the second in early winter and the third in late winter.

Dickson found that stages of decomposition had different bacterial signatures. For example, for the heads submerged in winter, *Psychromonas* bacteria colonised during the first stages of decomposition, while specific genera in the Bacteroidales order only colonised after 10 days of submersion. "These genera could be analysed in isolation or together to predict time of entry into the water" says Dickson.

[The results](#) will be published in the journal [Forensic Science International](#).

Developing decay

"This opens a lot of possibilities and there is a lot of potential to develop this further," says entomologist [Helen Spafford](#) at the University of Hawai'i at Manoa, who was not involved in the work.

But more research will be needed before the technique can be used in the real world, says [Ian Dadour](#), a forensic scientist at the University of Western Australia in Perth, also not involved in the study. He says the small size of the study and the fact that the heads were submerged in different seasons mean that the results will have to be replicated elsewhere before they can be useful.

In any event, Queensland police will not need the new technique. [Witnesses had seen a fisherman fall into the water after trying to retrieve a rod](#), only a few hours before the body was washed ashore.

When this article was first posted, we mistook Pseudoalteromonas for Psychromonas. We have also replaced a "several genera of flavobacteria only emerged after 17 days underwater" with "specific genera in the Bacteroidales order only colonised after 10 days of submersion. 'These genera could be analysed in isolation or together to predict time of entry into the water,' says Dickson."

How firefighters can make a difference - There are two keys for building successful teams in a fire department

<http://www.firerescue1.com/cod-company-officer-development/articles/920711-How-firefighters-can-make-a-difference/>
December 13, 2010 By Linda Willing

A few years ago, I was invited to speak at a conference in California. A young firefighter from the Oakland Fire Department picked me up at the airport. He had around three years on the job and was brimming with enthusiasm for his newfound identity. I asked him, "How

do you like being a firefighter?" and he responded without hesitation, "I love it."

I asked him, "What do you like most about the job?" He had a ready answer. "Oakland is a busy fire department. We get to fight fires a lot and it's great, it's fun and rewarding, and a real rush."

No surprises there. Firefighters love fires, especially when they are new on the job. But I pressed him further. "Sure, fighting fires is great. But is there anything else you especially like about the job?"

He thought for a moment. Then his face brightened. "We have this really cool program here," he said. "It's called Random Acts. If we see a problem or someone in need out in the community, we can put in a request through the organization to help them out."

He went on to describe how the previous summer some firefighters went on a call for a person who was paralyzed. The man lived in a single room and the air conditioner was broken. The room was unbearably hot. So the firefighters put in a request to get the man a new air conditioner.

'Made all the difference'

The foundation bought him one, and the firefighters got to give it to him. "It was so great seeing the

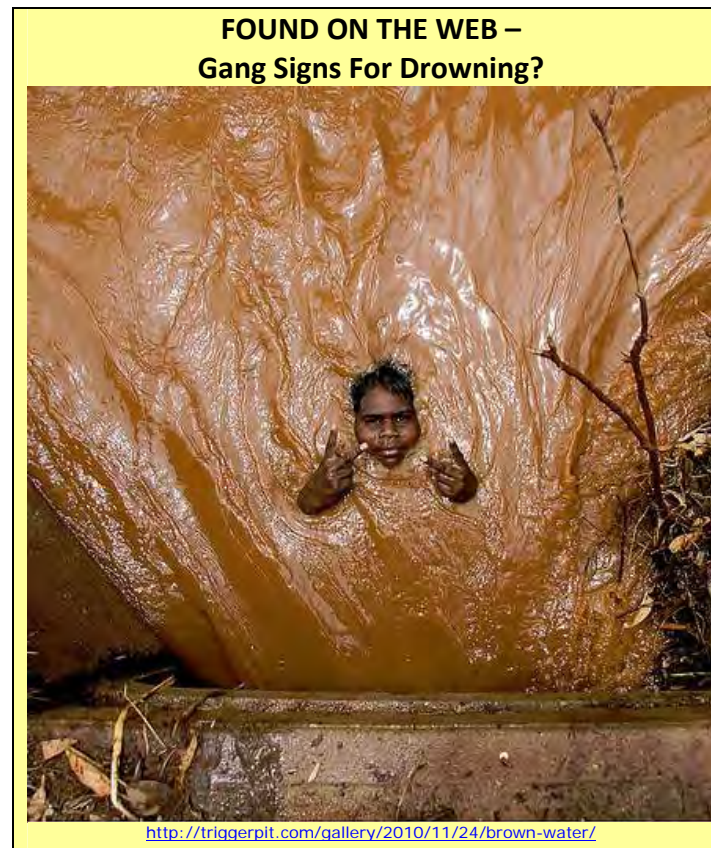
look on his face that day," the young firefighter said. "It made all the difference in the world to him."

At that point the firefighter dropped me off at my hotel and I did not see him again, but the conversation stuck with me. It occurred to me later that he had described two key aspects of successful team building.

The first is: Make sure people get the chance to do what they are supposed to do. You can't fight a fire every day, and some departments have very few fires anymore. But firefighters are still the only ones who fight fire. It is imperative for them to feel competent and confident in their skills, and to use those skills in a meaningful way on a regular basis.

On a busier department, this means making sure some people don't get lost out at the quieter stations. On a department with fewer fires, it means designing training that is creative and meaningful, and not just the same old thing done in the same old way, with people giving only half their attention to it.

Firefighters fight fire. It's what they do, but the job is more than that, which leads to the young man's second point. Firefighting was a rush, but he really remembered the look on that man's face when he received the air conditioner. It



was important to him that firefighters could make that kind of difference.

The motto of the Random Acts program is "No egos, badges or resumes." Anyone, even a first year firefighter, can recommend a citizen for assistance. If the request is granted, that person is part of the team that delivers the air conditioner, or the bicycle, or the new crib. There is real fulfillment for individuals being empowered in this way, and real gain for the fire department when individuals feel connected to their communities at a deeper level.

Available to anyone

The best news is that these two critical ways of building teams and morale are available to anyone. You don't have to be a chief or even an officer. Valuing skills and supporting one another in practicing them in a meaningful way are things that can happen at the shift level, within a station, or even between two firefighters who take the initiative to informally train on a piece of equipment.

As for connecting with the community, the needs there are so great that all eyes are required to clearly see how best the fire department can be utilized. And the most important part of the Random Acts model is that not only can anyone report an observed need, but that same person gets to go full circle and see that need fulfilled.

Too often, input and real participation from all members of the department is unwelcome, unused, or simply ignored. To provide all individuals the opportunity to really do the job and to see the results of their efforts on a large or small scale are key aspects of building an effective and satisfied team.

For more information about the Oakland Fire Department Random Acts program, go to www.ofrandomacts.org.

Neighborhood Disaster Tabletop Exercises for CERTs, Neighborhood Watch Programs and Neighborhood Associations and others



A team of national, regional and state organizations invites Community Emergency Response Teams (CERT) and Neighborhood Watch programs along with Neighborhood Associations to participate in one of the scheduled disaster tabletop exercises being facilitated via the internet.

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Diving Medicine Online

[Ernest Campbell, MD, FACS](#)

Comprehensive information about diving and undersea medicine for the non-medical diver, the non-diving physician and the specialist.

[Panic Attacks and the Blue Orb Syndrome](#)

Recent studies are beginning to suggest that episodes of panic or near-panic may explain many recreational diving accidents and possibly throw light on the cause of some diving fatalities.

Most think of scuba diving as taking place in a serene paradise surrounded by beauty and the thrill of weightlessness, but in a recent national survey, more than half of divers reported experiencing at least one panic or near-panic episode, according to William Morgan, director of Sport Psychology Laboratory at the University of Wisconsin-Madison and the principal author of the study.

The panic attack was often spurred by something that a non-diver would deem serious -- entanglement, an equipment malfunction or the sight of a shark. But the attacks don't make things better; instead, they can lead

to irrational and dangerous behavior. If divers and instructors knew more about the phenomenon, Morgan adds, they could screen out people who might be susceptible to life-threatening panic attacks.

The primary cause of diving fatalities is listed as drowning, 60% of all deaths usually caused by specific problems such as lack of air, entanglement (in fishing nets, rope or kelp), air embolism, narcosis and panic.

In Morgan's study, over half of the scuba divers reported that they had experienced panic or near-panic episodes on one or more occasions. Panic was significantly higher in women (64%) than in men (50%), but more men (48%) perceived the events as being life-threatening than women (35%).

The panic attacks are not restricted to beginning divers; sometimes experienced scuba divers with hundreds of logged dives experience panic for no apparent reason. It is thought that in such cases the panic occurs because divers lose sight of familiar objects, become disoriented and experience a form of sensory deprivation. This problem has been labeled the "blue orb syndrome." However, among inexperienced divers, there is usually an objective basis (e.g., loss of air or a shark) behind the panic response.

Panic response is when a diver behaves irrationally. There is usually an observable stimulus responsible for this behavior, such as the sudden appearance of a shark, loss of visibility, loss of air, entrapment in fishing line, or any unexpected occurrence perceived by the diver as a threat. The diver's attention narrows and he loses the ability to sort out his options. If, for example, a problem develops with the air regulator, the restricted air flow could prompt

the diver to ascend rapidly enough to cause an air embolism (bubble) in the bloodstream, which can be fatal. This would be considered a panic response if the diver had other safe options, such as access to a pony bottle (an emergency air supply), or was diving with other divers who could share their air supply, allowing a gradual ascent.

There are some obvious diving activities which tend to lead to panic episodes, such as the stresses of equipment malfunctioning, dangerous marine life (e.g., sharks), loss of orientation during a cave, ice or wreck dive, and so on. Diving with faulty or inappropriate equipment or performing high-risk dives has greater potential for panic episodes; these problems can be prevented or minimized with appropriate training and cautionary actions.

There is a psychological variable known as "trait anxiety" that is regarded as a stable or enduring feature of personality, whereas state anxiety is situational or transitory. In this regard, it can be accurately predicted that individuals who score high on trait anxiety are more likely to have increased state anxiety and panic during scuba activities and are at potentially greater risk than those scoring in the normal range. These people probably should not dive because it has been found that interventions such as biofeedback, hypnosis, imagery and relaxation have not been effective in reducing the anxiety responses associated with the panic attacks. Psychological research has shown that hypnosis is effective in relaxing scuba divers, but it can also have the undesired effect of increasing heat loss in divers. Relaxation can lead to increased anxiety and panic attacks in some "high anxious" individuals (this phenomenon is known as relaxation-induced-anxiety, or RIA). Individuals with a

history of high anxiety and panic episodes should probably be identified and counseled during scuba training classes about the potential risks.



The risks and dangers of scuba diving are not well known among recreational scuba divers. Since 1970, the number of annual U.S. scuba diving fatalities has varied from a low of 66 to a high of 147. The real severity of the problem is masked by several unknown variables, having to do with the total number of divers.

First, the total number of active scuba divers is unknown. Estimates range from 1.5 to 3.5 million in the United States alone and therefore, valid estimates of risk using traditional methods are not possible. Fatality estimates range from a low of 2-3 per 100,000 to 6-9 per 100,000, depending on the number of fatalities and estimations of the number of active divers in a given year.

Second, most studies of diver fatalities define a diver as someone certified as a diver. This is problematic because some individuals (a) scuba dive, but have not been certified, (b) are certified and never dive, and (c) may hold as many as 25 advanced level certifications with the result that such a diver would be treated statistically as 25 divers.

Third, risk estimates in this activity have not considered the fact that someone who dives once in a given year is treated statistically in the same way as a diver who makes several hundred dives.

The risk of scuba diving causing non-fatal accidents is also difficult to answer because we don't have valid data on the number of active divers or an estimate of degree of involvement or exposure. We do know that

approximately 600-900 divers are treated for decompression illness (DCI) in the United States each year. This category includes decompression sickness (DCS) and arterial gas embolism (AGE).

Nine hundred and fifty-eight cases of DCI were treated in the U.S. during 1993. However, this figure includes neither divers who experienced DCI but did not seek treatment, nor does it include those who sought treatment but may have been treated for other problems. Furthermore, a wide variety of additional problems such as cardiopulmonary difficulties, near-drowning episodes and musculoskeletal injuries occur each year. It is unknown what proportion of these problems goes unreported.

Anxiety and panic are not discussed in commonly used instructional materials of the national certifying bodies involved in scuba training. Panic, along with the problems that can occur in scuba diving as a consequence of panic, isn't even addressed in these training manuals.

Here are some excellent presentations about panic by a diving psychiatrist, David Colvard, MD. These are Powerpoint Presentations that may be downloaded, authors' permission.

- ["Understanding Stress, Anxiety & Panic in Divers"](#)
- ["Identifying Anxiety & Panic Risk in Divers"](#)
- ["Prevention Strategies for Anxiety & Panic in Divers"](#)
- ["Anxiety, Panic and Psychiatric Problems in Divers"](#)

* EVENTS *



[Evidence Photographer Certification](#) January 11, 2011 - January 18, 2011 San Antonio, TX

Subsea UK 2011

Feb. 9-10 Aberdeen, Scotland

www.subseaUK.com

[Underwater Intervention](#) February 22 - 24, 2011

New Orleans, LA, USA

[The New Orleans Boat and Sportshow](#)

From 27 Jan. 2011 to 30 Jan. 2011

New Orleans Morial Convention Center - New Orleans, LA, USA

[Boat & Scuba - More information](#)

BOOT, Dusseldorf, Germany - 20-30 January 2011

February 8, 2011 - February 10, 2011

ACSR Annual Training Conference

Jacksonville, FL www.acsr.org

[International Armored Vehicle Conference](#)

07 - 10 February, 2011, ExCeL Centre, London, UK

[Side Scan Sonar Training](#)

[Black Laser Learning](#)® annual 3-day intensive side scan sonar training program will be **February 8, 9, and 10, 2011** at the **University of Delaware, Newark Delaware**. The program is the most detailed and comprehensive sonar training available. This seminar is open to all civilian, law enforcement and government organizations. [Course Syllabus](#). Contact us about special on-going Law Enforcement, Hummingbird Marine Rescue or Navy sonar Training programs.

[Our World Underwater](#), Chicago. USA

18-20 February 2011

[AAFS](#) February 21, 2011 - February 26, 2011

Chicago, IL

[SWAT Counter Terrorism Operations](#)

March 8-11, 2011 - Camp Blanding, FL

[Beneath The Sea 2011 Expo](#)

March 25, 26, 27

[SWAT Counter Terrorism Operations](#)

April 12-15, 2011 - Yakima Firing Range, WA

[National Drowning Prevention Symposium](#)

April 14 -26 Colorado Springs, CO

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Vintage Scuba



Scott Hydro-Pak full face mask with built in second stage regulator. These were introduced in about 1954 and were considered the "Cadillac" of scuba gear at the time.



The unusual Sportsways Navy depth gauge with revolving numbers (on the left) was used by "Mike Nelson" in the TV series "Sea Hunt" in the early 1960's. The Swimaster gauge (center) reads to 260 feet, and was manufactured in West Germany. It is liquid filled, and the face includes markings for no decompression limits. Shown on the right is Scubapro's finest gauge ever, from the 1970's. It is helium filled and reads up to an incredible depth of 500 feet, way beyond the limits of SCUBA diving. It was made in Italy by SOS.

<http://www.vintagescubasupply.com/accsview.html>

PSDiver Monthly Continuing Education

PSDM-CE-80

1. **Hazus-MH will perform all of the following except**
 - a. loss estimations
 - b. loss mitigation analysis
 - c. file tax returns
 - d. risk assessments
2. **Using Hazus-MH can help water response teams**
 - a. achieve funding
 - b. identify high risk flood areas
 - c. create a pre-plan for disaster readiness
 - d. all of the above
3. **Basic skills in _____ are necessary to use Hazus-MH**
 - a. computer programming
 - b. Black-Ops
 - c. GIS
 - d. Photoshop
4. **Training programs in Hazus-MH is provided by**
 - a. FEMA at EMI
 - b. the Polis Center
 - c. Loma Linda
 - d. all of the above
5. **Contracting a Hazus-MH instructor can provide you with**
 - a. a detailed risk assessment for your community
 - b. personalized training
 - c. software installation and trouble-shooting
 - d. all of the above
6. **Using Hazus-MH is so easy even**
 - a. a fireman can do it
 - b. a policeman can do it
 - c. a high school student can do it
 - d. all of the above
7. **Hazus-MH loss estimates include**
 - a. social, physical and economic losses
 - b. personal, emotional and spiritual losses
 - c. tactical military losses
 - d. all of the above
8. **Hazus-MH can help justify budget for training and equipment for water response teams by**
 - a. providing stimulus money
 - b. modeling flood scenarios
 - c. providing virtual flood response training
 - d. providing swiftwater rescue training
9. **To improve accuracy**
 - a. data can be updated by the user
 - b. upgrades are available for a fee
 - c. local high school students can reprogram the system
 - d. change your monitor settings
10. **Support network for Hazus-MH users can be found through**
 - a. Hazus support groups
 - b. Hazus users anonymous
 - c. every high school
 - d. your local librarian

11. The Environmental Response Team dives to

- a. Support Superfund cleanups and emergency response
- b. Document numbers of endangered fish
- c. Free Willy
- d. Rescue drowning spotted owls

12. The EPA's Envirofacts Database

- a. Presents location and data of invasive flora and fauna infestations
- b. Presents locations of beach cleanups
- c. Presents outfall location and data that can be of use for worst case water quality at a certain dive site.
- d. Shows certain areas where divers are not allowed to dive.

13. In Portland Harbor alone there are over _____ sewage outfalls.

- a. 3
- b. 30
- c. 300
- d. 3000

14. EPA Divers need drysuits when diving because

- a. The amount of nitrogen in saltwater can cause the bends
- b. It was part of the grant
- c. They need to a barrier from the contaminated and polluted water
- d. Certain fishes or plants are dangerous underwater

15. EPA Divers under training go through all of these except

- a. Techniques to communicate with the underwater creatures
- b. Methods on dive planning
- c. Decontamination techniques
- d. Ways to manage heat stress

16. All dive sites have some sort of information of conditions

- a. False
- b. True

17. Exhaust droplet inhalation is a potential problem for which type of protective gear.

- a. PPE
- b. FFM
- c. Helmets
- d. B and C

18. Given that under most circumstances definitive information about contaminants and dive conditions will not be available, what is the rule governing EPA action?

- a. Don't dive
- b. Choose the gear which best fits the situation.
- c. Upgrade diver PPE and decontamination procedures to be prepared for the worst.
- d. Act on the best information you can find.

19. Which is a crucial part of a safe approach to polluted water?

- a. PPE
- b. Decontamination
- c. Medical Examinations/Immunizations
- d. All of the Above

20. In which location is bacterial contamination especially a problem to watch out for.

- a. Waters near metropolitan areas
- b. The open ocean
- c. Swamps
- d. Black water

21. Where can information such as recent bacterial counts and a breakdown of safe and unsafe bacterial levels be found?

- a. The Center for Strategic Data Gathering
- b. The Center for Disease Control and Prevention
- c. The Special Activities Division
- d. The BEACH (Beach environmental assessment and Coastal Health Program).

Team Discussion:

1. Poll team members for grant writing experience. Choose qualified/interested individuals to search for funding opportunities.
2. As a team, discuss which opportunities would be the best fit for your team. Form a grant writing team to share the responsibilities of completing research, documentation and the application process.
3. As a team, discuss specific ways that Hazus could be used to support a grant submission for your community.
4. Through Department of Public Works, City or County Office of GIS, find an analyst that can provide your team with a map of sewage outfalls and storm drains for local waterways.

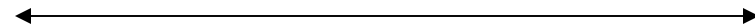
5. Have your GIS analyst provide a map of superfund sites in your community or nearby your response jurisdiction. Reference: [Superfund Sites](#)

6. As a team, rate your ability to safely respond to a situation in a polluted environment. Discuss this in terms of:

- equipment
- procedures
- types of contaminants
- Decon abilities
- training

7. Divide your team into two equal groups. One team will conduct an inventory of available resources and equipment that could be used for a polluted water dive and the decontamination afterwards. The other team will review the policies and operational guidelines currently in place that apply to a polluted water dive and the decontamination processes required. Consideration should be given to the relationship or differences in the decontamination process relative to a hazardous materials decontamination operation.

8. As a team, compare the results of the two groups and identify needs, weaknesses, equipment shortages, manpower requirements etc. If revisions need to be made to operational guidelines, these results should offer proof of need, justification for budget and manpower etc.



VOLUNTEERS NEEDED to help with our monthly CE offerings. If you would like to assist, email psdivermonthly@aol.com. Leave your contact information and one of us will contact you with details.

