



## East Coast Gets Hammered by Floyd

(This article was put together with input from instructors Slim Ray and Bobby Greene, as well as news reports)

Many feel that the “ultimate storm” is long overdue on the east coast. This inevitable storm will hit Florida and the Carolinas with winds over 150 miles per hour, heavy storm surge, and massive amounts of rain. Most of the high rises on Florida are built in pilings driven into swamps, and will not withstand such winds and water scouring. Over 140 million people live in the projected impact area. Initially Hurricane Floyd was feared to be this storm.



*Ed Alston, an officer with the N.C. Wildlife Resources Commission, pilots his boat through a Greenville subdivision.*

Instead Floyd veered north, causing 500 year flood events in North Carolina, Virginia, even up into Pennsylvania and New Jersey. Eastern North Carolina was particularly hard hit, flooding nearly 700 roads in an area 300 by 600 miles. Over 50 human fatalities resulted. Approximately 30,000 buildings went under water, and over half a million farm animals died.

The rescue effort was hampered in North Carolina when officials either failed to activate trained swiftwater teams or called them too late. The North Carolina Emergency Management Agency (NCEMA) also requested FEMA to support their efforts with USAR Task Forces, which were released early in the event.

Tim Rogers of Charlotte (NC) Fire Dept. was called to assist officials in a nearby county. He helped them in organizing the search effort, making sure public utility crews were safe, organizing search resources, preparing for hazardous materials problems, and decontaminating flood workers. However, after only three days, even though it was clear that even more severe flooding was coming, he was released and not called back.

Bobby Green of South Orange County Rescue Squad reported that after 24 hours on “alert,” he released

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## Tech Tip - Getting the “Hitches” Out of Rescue

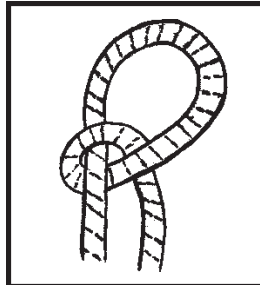
by Jim Segerstrom

In teaching swiftwater and rope rescue many instructors find themselves using the words “knot” and “hitch” interchangeably to describe uses for rope and webbing.

What is a hitch, how many are there, and what are their uses? I think a definition of a hitch would be “a method using rope or webbing, to grab onto something else (another rope, or an object) securely, but without tying a knot.” At the last Low-High Angle Instructor course in Yakima, Washington, the instructor candidates and I were able to identify 13 hitches. There are certainly more, but knowing the uses of the following is a very good start.

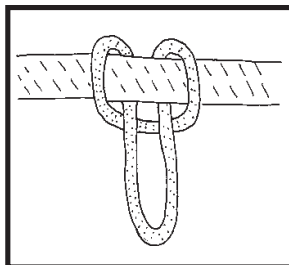
### 1. The Half Hitch

The Half Hitch is used as a safety behind other hitches and knots. It is also used to tie off round turns, such as using webbing to lash a victim into a litter. Many such lashing systems start and finish with “one round turn and two Half Hitches,” or “a Clove and two Half Hitches.”



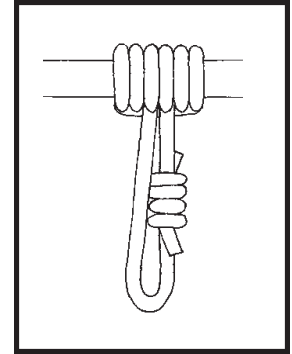
### 2. The Girth Hitch or Lark’s Foot

The Girth Hitch or Lark’s Foot is simply two opposing half hitches. In some programs, high point anchors are secured to trees and posts using girth-hitched webbing. In recent years this anchor has fallen from favor, though no documented anchor failures from its use have surfaced.



### 3. The Prusik

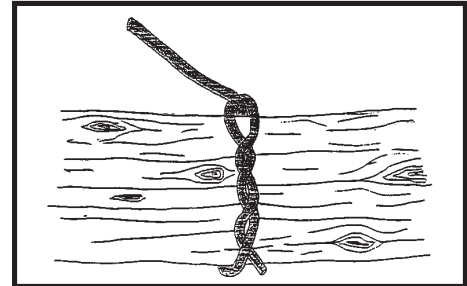
The Prusik is an oddity, since the same instructors that warn against girth hitches with webbing proceed to praise the merits of the Prusik, *even though a Prusik is nothing more than one or two more wraps of a girth hitch*. Note: A Prusik is not a knot. It is, correctly by definition, a hitch.



### 4. The Timber Hitch

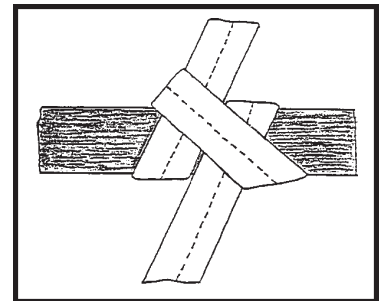
One of several ways to start lashing timbers is by use of the Timber Hitch.

Since it cinches on itself this is also a surprisingly good way to pull a large-diameter line or cable with a smaller “messenger” line.



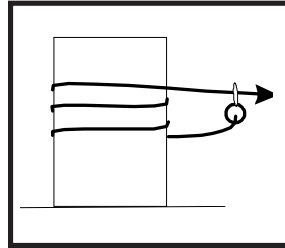
### 5. The Clove Hitch

The Clove Hitch can be used to start and finish timber and litter lashings on small diameter objects, such as a litter rail. It is prone to slipping, so it is sometimes backed up with two half hitches.



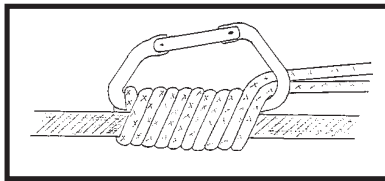
6. The “No Knot”

Since there is no knot in a “No Knot” it has to be a hitch. Indeed it is sometimes described as the “tensionless hitch.”



7. The Bachman Hitch

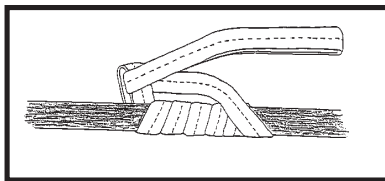
The Bachman Hitch can be tied using rope or webbing and any carabiner. It has several advantages. It can be used as a handled cam for ascending a rope or for hauling. In essence the presence of the carabiner “fools” the rope into thinking it is grabbing something bigger.



However, due to the severe wear created by the pressure exerted on the first turn where it is pinched between the rope and the carabiner, the Bachman should *never* be used as a primary anchor cam.

8. The Kleinheist

The Kleinheist is, like the Bachman, a unidirectional hitch, designed to slide in one direction – up, or towards the load – and pull the opposite direction.

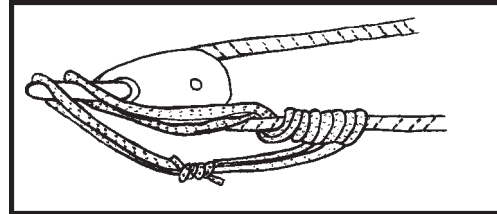


While the Kleinheist works with a Prusik loop, its best application is in an emergency, when a webbing strap needs to be used as a cam on a rope.

9. The Auto-Block or “Military Hitch”

The Auto Block, otherwise know as a Military Hitch, or, in Europe as the “Italian Prusik”, has the advantage

of self-tending close to a pulley in a hauling system. Thus, a single person can tend and haul simultaneously. Since the Auto Block is deliberately



set close to the pulley, there is little loss on the reset, and no need to pull the Auto Block down the rope, as in the use of a Prusik or mechanical cam. Another advantage of the Auto Block is that, unlike a loaded and tensioned Prusik, pressure against the top of the hitch will release it under load. The primary *disadvantage* of the Auto Block is that pressure against the top of the hitch will release it under load!

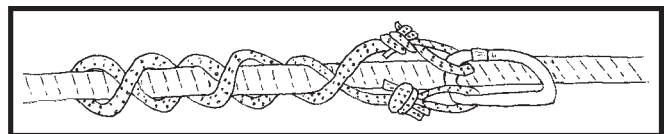
For boaters, however, it does provide better grip on polypropylene throwbag lines than a 3 wrap Prusik.

Caution: While wildly popular in Europe, the Auto Block has not been tested in any organized fashion.

10. The “French Braid”

A crevice rescue technique using a 12’ to 15’ piece of accessory cord is the “French Braid” hitch. It is suggested because the cords can be fashioned into both hitches, harness attachments, and steps, if necessary.

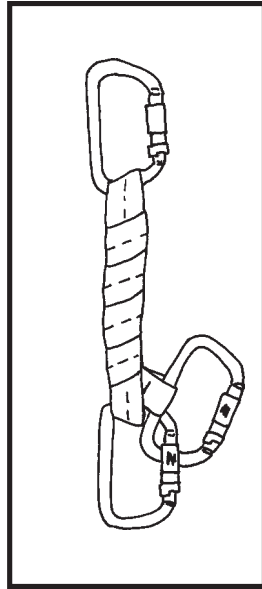
The French Braid is created by tying overhand knots in the ends of the cord. The cord is then simply laced down the rope. Sliding the braid up is very easy, pulling down spreads the lacing, grabbing even wet muddy and icy ropes.



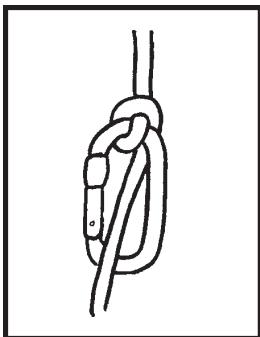
### 11. Mariners Hitch

One of two commonly used load releasing hitches, the Mariners Hitch is a friction hitch using webbing, tied on each end with overhands, and wrapped between two carabiners.

In most rescue texts load releasing hitches are shown as shock absorbers. In their most effective applications they can obviously be used to release loaded Prusiks.



### 12. The Muentner Hitch

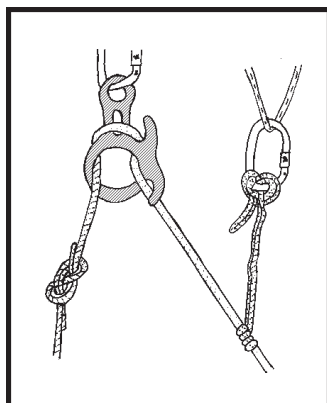


This hitch is either loved or reviled depending on whose course one takes. Nonetheless, the Muentner Hitch is a multidirectional hitch which works well for belaying and, in an emergency, as a rappel device.

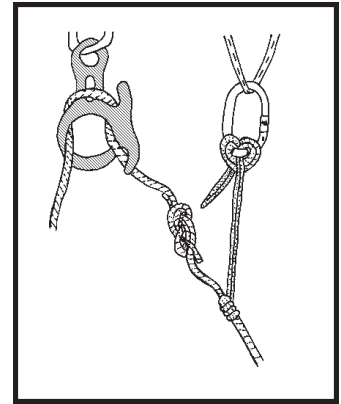
The Muentner Hitch, when used with 12.5 mm rope, requires a pear-shaped carabiner, so that the hitch will roll.

Again, our 15' foot piece of accessory cord comes into use, in conjunction with a Prusik hitch, and the Muentner Hitch as a way to pass a knot through a system.

As the knot approaches the Figure 8 plate, a 3 wrap Prusik is hitched

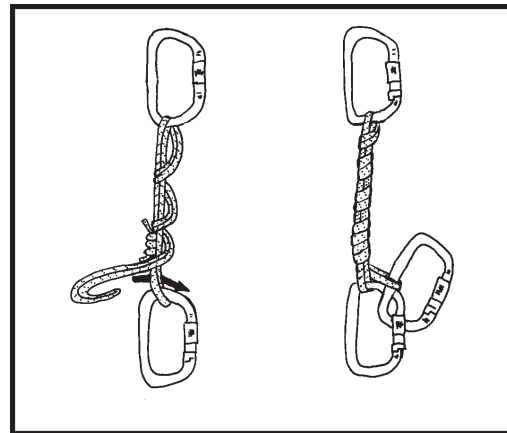


to the rope on the lowering side, and then run through a carabiner at the anchor. The load is then put on the Muentner Hitch, so the knot can be passed to the other side of the Figure 8 plate using the accessory cord as a piggy back lowering system. The cord is then removed from the rope and the lowering is continued.



### 13. The Load Releasing Hitch

Praised by various Canadian rope rescue programs, the "L.R. hitch" is simply a preset system, using the 15' cord, as above. The extra lowering cord is simply wrapped down the cord and clipped to the lower carabiner, with an additional carabiner.



Did I miss any? Let me know. 📧

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*"Floyd" Continued from Page 1*

his swiftwater team at Chapel Hill. A few hours later NCEMA called for the rescue of two National Guardsmen trapped on the roof of their Humvee. Since they were several hours away and all of his people had returned to their real-world jobs, Bobby had to decline the response.

In fact, despite State EMS and the Search & Rescue Committee's hard work in preparing a state resource list for use in such events, identifying the trained personnel, their equipment, and locations, state officials evidently didn't use the document. Instead most of the rescues were performed by a fleet of nearly 100 military helicopters, which made over 1000 real rescues and other assists over nine days.


In Baltimore, Maryland, SRT Instructor Mike Berna reported that his team did several dozen significant rescues, including rescuing two people from a car trapped in a narrow ravine in a county several miles away. Local rescuers had not been able to reach the two and finally called Baltimore County. Mike and his crew set up a highline with the boat (after extended difficulty in getting the line across the river), and rescued the two. The team also located a young boy who, before they arrived, had been reported missing for nearly an hour. He had washed into a storm drain but when "downstream" manhole covers were pulled off he was found clinging to a ladder in the sewer. Mike reports the local fire department has since requested an SRT class.

Meanwhile near Philadelphia, fire and police nearly drowned several of their own. They were using a boat to rescue some civilians from a trapped light rail car when the boat flipped. Rescuers and victims alike were spilled out "downstream" and washed through

fences and back yards. Several of those involved had to be treated for hypothermia. Departments involved were Swedesburg and Washington, along with police from Conshohocken.

Later in the month, Tropical Storm Irene put authorities on alert. This time, Bobby Greene reports, North Carolina state officials activated several teams in order to be ahead of events.

## Lessons Learned from Floyd

1. It is certainly better to pre-deploy rescue resources if there is any chance they will be needed, rather than calling them in the throes of an emergency. Unfortunately, this will always be a difficult move for emergency managers. After all, they may get criticized if those resources *don't* get used! Also there are substantial costs involved in such pre-deployments. Unfortunately the nature of emergency management is that it is easier to explain away that which you didn't do, rather than what you did.
2. "Emergency Management" is fast becoming a title of ridicule rather than respect. As natural catastrophes rise in severity and number it would well behoove those in authority to consider filling such posts with more qualified individuals. They should consider hiring those who have the highest degree of education and experience in disasters and rescue, rather than political appointees, and/or retired military types looking for a second career. The learning curve for "on the job training" is simply too steep and too many errors get made due to inexperience. Indeed it is hard to find a school offering a degree in "emergency management," or courses titled that in any fire and rescue school curricula. It is time! 

## Rescuer Drowning Numbers Down

So far, 1999 has been a diminished year for public safety drownings. However, there have been some.

Most recently a firefighter near Kansas City drowned during a dive practice. He had returned to the bottom to retrieve equipment after a long day of training. Speculation is that he became disoriented due to his fatigue. He drowned in less than 30 feet of water. The incident is still being investigated.

In the UK a firefighter drowned near Manchester, close to the Welsh border, while trying to find the body of a teenager who had disappeared in a lake.

The firefighter had repeatedly been surface diving, wearing his duty clothes, and with a rope tied to him. The rope evidently snagged in underwater branches and debris. He was unable to free himself and drowned.

## Training Issues in the News

by Jim Segerstrom

Jay Bowdler, Arnie Brockmire and I can report that the California OES Swiftwater and Flood Rescue Committee's document on training, equipment and typing has finally been sent to the FIRESCOPE committee (which is a standardization committee for California response). The committee has been meeting every two months since 1997 to achieve this goal. Once FIRESCOPE approves the document, the typing matrix will then be included in the California State Field Operations Guide, which is carried on every fire apparatus in the state. Incident Commanders will then be able to determine their needs and place resource requests by referring to the guide.

The OES committee is rather unique in that law enforcement search and rescue has been included throughout the process. In California, as in many areas, sheriff's SAR units were conducting water and swiftwater operations long before the fire service. The committee spent many hours making sure that the language in the document was compatible to both sides of the house.

In Texas, the A & M Swiftwater Working Group is moving at light speed. Using the California model as a starting point, the committee has sent out questionnaires to every possible jurisdiction and agency to determine what resources exist statewide. It has also determined that in future events an "away team," consisting of a Texas A & M Extension Service or TEEEX representative, a logistician, and a swiftwater rescue technical specialist, will be sent to the locality to assist in determining what resources should be pre-deployed or sent later. Finally, the committee is working to determine what kind of regionally predetermined team concept will work best at the state level.

The model is already working. In the most recent events, Billy Parker of TEEEX and Mike Kane of the Lower Colorado River Authority Police, in

cooperation with the San Antonio Fire Department, pre-deployed assets to San Antonio's Alamo Dome to help in responding to flooding along the gulf coast. Jay Peacock of the Fort Worth Fire Department went to the Emergency Management "bunker" in Austin to run the response from that point. While the deployment didn't go off spotlessly, some valuable lessons were learned and new relationships between the USAR and swiftwater rescue committee were cemented. Mike Kane reports newfound respect for the logistical capabilities of the USAR task forces. (Note: In Texas, the responsibility under the disaster plan for search and rescue assets rests with TEEEX. Emergency Management does not keep track of assets. TEEEX has that responsibility.)

As the result of recent events, FEMA seems to have finally taken an interest in swiftwater rescue. Some in the swiftwater community view this interest with scepticism. In North Carolina at least three FEMA Task Forces were sent to flooding events. (See also "East Coast Gets Hammered by Floyd", page 1.) Depending on who we talk to, they were either great or useless. The truth likely lies somewhere in between. Our contacts in Maryland say that several swiftwater rescue instructors were not contacted. However the Maryland leadership and others say that they specifically called for swiftwater trained people.

### Correction

The July-Sept 1999 issue of *The Rescuer* contained an error regarding the Higgins-Langley Award winners for 1999. The correct winner of the Program Development Award was The Indiana River Rescue School. Los Angeles County's Multi-Agency Swiftwater Rescue Committee won the International Award.

Many thanks to Susan Thrasher for bringing this to our attention!

Pennsylvania says that they sent swiftwater and river rescue trained folks, but in North Carolina we are hearing that the Task Forces, again, showed up with no water rescue equipment or capability, and were quickly released.

While swiftwater and flood rescue educators across the country agree that any Federal money that results from recent lobbying efforts should be spent on training local entities, hazard mitigation, and public

education, there is a growing feeling that the money will be spent to train the 22 USAR Task Forces in swiftwater rescue. Opinions are divided as to whether such a move will provide effective support to local jurisdictions, or that the task forces will likely take just as long to deploy as they do now, arriving after the significant emergencies have passed. The discussion is sure to grow in coming months. 🗨️

## Helicopter News

Jim Segerstrom, Casey Ping, Mike Kane and Ron Bombeck recently completed teaching Aquatic/Helicopter Rescue and Crew Chief courses in St. Louis County, Missouri. Chief Les Crews of the



Chesterfield Fire Department, an SRT 1 Instructor and a graduate of the helo program, had been trying to put this one together for a number of years and finally succeeded.

Aircraft were supplied by the St. Louis County Police, with students from St. Louis Police SWAT, Chesterfield Fire, and Metro West Fire Department. Jim said the best part of the course was taking an evening flight downtown and around the Arch. It was spectacular from 600 feet, he reports.

Instructor Arnie Brockmire has been busy as well, organizing courses in conjunction with Butte County Sheriff's and Chico Fire

Department, where they recently conducted a Crew Chief course.

Arnie and Jim recently did a movie "gag." Flying with Keith Hard of Titan Helicopters, they created a "police helicopter" searching for an escaped convict at night. The movie, yet to be released, is called "Redemption of the Ghost," starring, among

others, John Savage, Alexandra Paul, Diana Ladd, and Rachel Hunter. Look for it in April at a theater near you. Jim reports that the portable light they used, the Nighthawk, is actually brighter and more concentrated than the helo's own Nightsun spotlight. If interested in more details, contact Jim.

Meanwhile, Eric Berg has advised that the San Miguel County Sheriff's Office in Colorado, conducted a short-haul rescue of an injured climber from a loose scree slope at 13,100 feet. The victim had sustained severe leg injuries, and the ground was too loose to conduct a rope rescue. Eric is an SRT 1 and Helicopter instructor.

## Rescuers Busy in Japan

Jim Segerstrom was contacted by the Nippon Television Network in August. Network executives asked him to come to Japan to investigate and comment on a tragic flood incident that took place earlier in the summer in which 13 people died.

The group had camped on a gravel bar about 10 miles downstream from a small power dam on the Korakura River about two hours northwest of Tokyo. Rains in the mountains had made it apparent that the dam would have to be opened, and warning sirens had started sounding for nearly 50 miles down the valley through several villages. The campers, who all came from one company, had been drinking heavily. They ignored the sirens and entreaties of dam personnel. Since there are not any trespassing laws on public property in Japan, there was nothing authorities could do to force them from the area.

Finally, at 6:30 a.m. police were able to persuade three of the group to leave the camp and return to

their vehicles. The dam operators were finally forced to open the dam at 8 a.m. due to the critical level of the water. The campers awoke to find water through their tents. Rather than fleeing to high ground they groggily tried to gather their belongings. By this time the water was waist deep and they were trapped. The stranded group now formed a massive “wedge” formation in the river, about 230 feet from the left bank and about 80 feet from the right. Downstream the river drops about 200 feet for nearly a mile, over a series of dams, ranging from 12 to 30 feet high and finally spills into a reservoir.



A large emergency response was mounted, including several hundred fire and police workers. They labored to get to the trapped party, shooting lines across the river, clipping police and fire to the ropes and attempting to wade to the group. Helicopters were ordered, but couldn't fly due to inclement weather. The dam couldn't be shut for more than a few minutes as the rain continued to fall.

Finally, after nearly 3 hours, the group became so weak and hypothermic that they all washed away together. One father managed to throw his child onto the bank on the right side and two others grabbed roots and pulled themselves out. The rest washed over the first dam to their deaths. The last body, that of a newborn, was located by police divers in the reservoir while Jim was there. Some other nearby trapped campers were rescued by boats on lines, and by helicopters the next morning.

While Rescue 3 Japan has been recently teaching nearly 400 people a year in Japan, most of those have been recreational boaters or commercial whitewater guides. There is a national police force in Japan, but

### Higgins & Langley Medals Now Available

The official Higgins and Langley Memorial Award in Swiftwater Rescue medal is now available for purchase by recipients of awards only. The military-style medal is truly a work of art. The ribbon is registered and the medal is struck from .999 pure silver. The Special Commendation Medal is antiqued. The International and Lifetime Achievement medals are plated in 24 kt gold. All medals are numbered and registered. The cost of a medal and ribbon bar set, including engraving and shipping is \$75.00. Applications must be verified before any order is filled.

To order you can visit the CFS Press website at [www.cfspress.com/hlawards.htm](http://www.cfspress.com/hlawards.htm) or call Slim Ray at 828-253-9102.

## “Ready for the Storm,” by Award-Winning Documentary Filmmaker Nancy Rigg

With haunting music by Dougie MacLean, this brief, emotionally-charged video is a visual anthem to swiftwater rescue. It captures not only the essence of the Higgins and Langley Memorial Awards in Swiftwater Rescue, for which it was produced, but also graphically illustrates the reasons that every agency tasked with flood or swiftwater response needs to be “ready” for the storm.

All proceeds from the sale of this video support the Higgins and Langley Memorial Awards in Swiftwater Rescue and are tax-deductible. This video is available for general use,

but may not be duplicated or used as a source for other videos. Total running time is 3:49, VHS only. Cost including shipping is \$15.00.

For more information or to place an order:

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each prefecture and village has its own fire department, and many of these are volunteer. In a mirror image of the U.S. in 1975, authorities have determined that they had no need for such specialized training. As the result, to date only a few Japanese firefighters have been through the SRT 1 course.

Several weeks after this incident, Jim and Rescue 3 Japan Instructor Takahiro Sato went to the site with a film crew. There they spoke to the mayor and police and fire officials conducting the recovery operations. Jim and Sato later appeared on the Japanese equivalent of “60 Minutes” to discuss the incident. Subsequently, Rescue 3 Japan has received a large number of calls from agencies requesting details on swiftwater and helicopter rescue training.

Japan is well prepared for earthquakes and tsunamis. But floods are a recent phenomenon, as La Nina and warming change the environment. Clearly the current group of instructors in Japan will be busy over the next few years. Jim will be returning in December to demonstrate equipment, and in April to train some of the instructors to deliver the SRT A class.

Meanwhile, Sato brought six of the Japanese instructors to Sonora where they attended the Aquatic/Helicopter class and went through the Low to High Angle class. They then spent a day working on IRBs and RHIBs with the instructor, Jay Bowdler, who is

a captain with Sacramento Fire Department and the chair of the OES Swiftwater and Flood Committee, They will thus be able to speak credibly about these disciplines on their return to Japan. 

## NFPA Awareness Training for Kansas City

After a year of red tape Rescue 3 was awarded a contract to bring all line personnel of the KCFD to the *Awareness Level* in swiftwater rescue. A week later general training started to get the 800 line firemen through the class and all should be through by year’s end. Chief Ed Weixeldorfer deserves congratulations for all his hard work getting through the bureaucratic process in order to make this training possible for his personnel. A special thanks to Rescue 3 Instructors Phil Turnbull, Tim Rogers, Arnie Brockmire, Allen Hartford and Jim Segerstrom for having participated in the teaching. *Operations Level*, as well as *Technician Level* classes are also being planned for early next year. It should be noted that this makes KCFD the first department of their size to have all line personnel trained to the *Awareness Level*. Great job to all concerned!

## RESCUE 3 INTERNATIONAL

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- <http://www.icisf.org/> ---*The International Critical Incident Stress Foundation, Inc* is dedicated to stress prevention, education and support services for emergency services professions, organizations and individuals with the purpose of mitigating the impact of Critical Incident Stress.
- <http://survival-center.com/dl-list/dl26-fem.htm> -- Floods, Hurricanes, Earthquake, even Y2K.....Have you got a disaster kit in your home? Check out FEMA's list of things to have on hand for most disaster emergencies.
- <http://www.ag.uiuc.edu/~disaster/teacher/teacher.html> -- Teachers, parents, public information officers may be interested in some materials available from University of Illinois Cooperative Extension Service. Available is a set of resources for teachers and other child-care or youth workers that helps prepare them for working with children who have been through a disaster.

### Calendar

- March 23-26, 2000. *EMSToday* in Orlando, Florida. Phone Jems Communications at 800-266-5367.
- April 3-6, 2000. *Fire Rescue West 2000* in San Jose, CA. Phone 800-308-6397.
- April 27-29. *2nd Annual Boat Symposium* in San Diego, CA. Contact Sierra Mountain Events at 209-743-0964.
- June 2-5, 2000. *SR/DR 2000* in Miami Beach, FL Convention Center. Phone: 715-477-0170.
- June 20-25, 2000. *InterSchutz* in Augsburg, Germany. International Exhibition for Fire and Catastrophe Prevention and Rescue Services. E-mail [interschutz@hfusa.com](mailto:interschutz@hfusa.com)
- July 20-22, 2000. *Firehouse Expo 2000* in Baltimore, MD. Phone: 877-791-2478.