NVARC
Nashoba Valley
Amateur Radio Club

SIGNAL

SPECIAL SERVICE CLUB

August 1997 Volume 6 Number 8

Club Call N1NC

N1NC

Last Months Meeting

Last months meeting was the annual cook-out. On the barbecue grille there were an assortment steaks, chickens, burgers and hot dogs. Some played croquet and many took a dip in the pool. After eating, some chatted under the awning on the patio and some inside the house. Nature provided some fireworks with a thunder and lightning show later in the evening, but everything was dry under the tarp.

This Month's Meeting

There is no meeting in August. The next meeting will be Sept 18. We will be meeting at the Pepperell Community Center.

Mass Highways Adopt a Road

It seemed like it took forever, but the signs are now up for the segment of Rt. 119 we adopted. The signs are up just west of the Groton schools in Groton and at Shirley St. in Pepperell. We need to arrange monthly cleanups of that section from now until October. Jim Western AA1PO did the liaison with the State and Bob McArthur KE1ED is doing the organizing of the work parties.

Public Service

NVARC Club members helped provide communications for the Harvard Classic Bike Race on July 27th. We provided safety communications to intersections for traffic control and racer information. Thanks to the following participants for their help. Ralph KD1SM, Karen KA1JVU, Bob W1XP, Stan KD1LE, Greg N1VAV, Pat N1VAW.

We have received "Thank You" notes for help at the Harvard Bike Race and the Pepperell 4th of July Parade,

From The ARRL Newsletter

MIR, SHUTTLE QSO VIA HAM RADIO!

Ham radio has served as a convenient "chat" medium between the US space shuttle Columbia and the troubled Russian Mir space station in recent days. Last weekend, shuttle Commander Jim Halsell, KC5RNI, had two short, direct contacts on 2 meters with fellow astronaut Mike Foale, KB5UAC, aboard Mir. The first ship-to-ship SAREX/MIREX contact happened Saturday, July 5, at 1202 UTC during a Mir/Columbia "conjunction" over the Indian Ocean when the two spacecraft were only some 50 nautical miles apart. The contact lasted less than a minute. A little while later, with both spacecraft over the Pacific Ocean at 1336 UTC, another 30-45 second contact took place, according to Will Marchant, KC6ROL, of AMSAT. Marchant said the shuttle crew could hear Mir a lot longer than Foale could copy the shuttle's signal--due to Mir's superior antenna and higher power. "The shuttle crew was pretty excited about their contact," Marchant said. Shuttle Pilot Susan Still reported observing Mir through binoculars while the ham radio contact was under way.

But the best QSO was yet to come. On Tuesday, July 8, 1900 UTC, Foale contacted the Johnson Space Center Amateur Radio Club station W5RRR, and, using a phone patch, the club patched through NASA's communications circuits to the space shuttle, enabling Foale to speak at length with the Columbia crew. During the ten-minute contact, Foale

filled in his fellow astronauts about the situation aboard Mir, where a Progress supply rocket had just successfully been docked.

"We'd like to invite you to visit Mir," Foale said to the shuttle crew, which respectfully declined. Foale said the arrival of the Progress was "almost like Christmas." He said his personal items still in the damaged Spektr module had been replaced, along with a videocassette player. Foale told Halsell the Mir crew enjoys watching American movies when they have the time. He also told his fellow astronauts aboard the Columbia that he had not had a chance to see any of the pictures from the Mars Pathfinder mission as yet.

Foale said the Progress carried tea, coffee, chocolate and even fresh food, something that made the shuttle crew envious since they had long since consumed all of their fresh food. Janice Voss, KC5BTK, who flew with Foale on the STS-63 Mir rendezvous mission, said the two space programs were so intertwined that she had a package of Russian corn aboard the shuttle. Foale replied that the tea which he had just drunk (the first hot tea in a while) was the typical instant tea that's part of the shuttle's pantry.

During the contact, Mir passed from northwest to southeast, and Foale reported looking out of the flight engineer's window and seeing Florida. The shuttle was approximately 1000 miles further west. During a communication "handover" break, fellow astronaut and CapCom Bill McArthur, KC5ACR, got a chance to exchange a few words with Foale. Foale also talked to astronaut Mike Gernhardt and gave Mir flight engineer Sasha Lazutkin the opportunity to talk to the shuttle crew.

NASA TV has aired segments of the Mir/shuttle conversation. Other Columbia-Mir conjunctions will be possible through the mission but whether another contact is attempted depends on the Columbia and Mir work schedules.

In a separate conversation via normal NASA communication channels, Foale told NASA chief Dan Goldin that he felt spoiled by the good communication with his family that ham radio has made possible. "Mike was really thankful for having ham radio onboard -- he enjoys talking with everyone," said SAREX Principal Investigator Matt Bordelon, KC5BTL, who was on hand at the time.

Meanwhile, the MIREX support team--Miles Mann, WF1F, and Dave Larsen, N6CO--has been handling family traffic for Foale via ham radio and attempting to help Foale with his radio problems (the Mir's transceiver was cutting out on high power because of a circuit overload). In a packet message to Larsen, Foale expressed the gratitude of the Mir crew "for all the good wishes and interest over the world, in our troubles and tribulations." Foale singled out for special mention "the few hams who work tirelessly on our behalf" to pass personal messages. Foale said that he and his wife were "extremely grateful to those hams who pass our messages for us." He also expressed appreciation for "how the world press is reacting to our situation." Added Foale: "We do not get this sort of opinion from our controllers." After the Mir's collision with a Progress cargo rocket, Foale said, "it was impossible to get any personal news of our well-being to our families" via the official communication channels. "Ham radio allowed us to fill the gap."

"We are particularly interested in longer contacts, than simple QSO exchanges," Foale said. "It is good to tell people about our life here on Mir, and our problems, but the lives of hams on Earth are also interesting to us, and I hope more hams will take the time to tell us about their QTH and surroundings also," he concluded.

W1AW Station Manager Joe Carcia, NJ1Q, reports W1AW was able to connect with the R0MIR-1 packet BBS on 145.985 MHz on July 8 at around 1600 UTC. The pass was at approximately 22 degrees. "We've been trying for weeks to connect," Carcia said. The message he posted was: "Hello from the staff and visitors from W1AW in Newington, CT. Good luck and 73."

On July 10, Foale told N6CO in another packet message that the crew was "extremely busy, trying to crawl through all the bags unloaded from Progress." Foale said the crew will do a training run on July 15 prior to the space walk to attempt to repair the damage and restore power to the space station. Foale will sit out the space walk in the Soyuz vehicle.

[Thanks to Philip Chien, KC4YER, Pat Kilroy, WD8LAQ, Frank H. Bauer, KA3HDO, Dave Larsen, N6CO, Joe Carcia, NJ1Q, Matt Bordelon, KC5BTL, and Rosalie White, WA1STO, for their contributions to this report.--Ed]

QST NAMES NEW "YL NEWS" EDITOR

Diane Ortiz, K2DO, has been named as the new editor of QST's bimonthly "YL News" column.

Ms. Ortiz is an editorial manager and writer at Newsday, one of New York City and Long Island's largest daily newspapers. Her Amateur Radio writing
credits include articles published in CQ VHF, CQ Contest and elsewhere. She is a member of the ARRL, YLRL, QCWA and FISTS.

Licensed in 1972 as WN2HML, Ms. Ortiz has embraced a broad range of interests from VHF contesting to public service activities. She is currently the ARRL Hudson Division Assistant Director in charge of publicity, an ARRL Public Information Officer, a Volunteer Examiner, and the secretary of the Long Island Mobile Amateur Radio Club. Ms. Ortiz is also involved in producing New York City's first live monthly cable TV show devoted to Amateur Radio.

The first "YL News" column under Diane Ortiz's byline is scheduled to appear in the October issue of QST. "I'm very excited at the opportunity to showcase the experiences, views and accomplishments of women Amateur Radio operators in QST's "YL News" column," Ms Ortiz stated. "It's a place where I hope everyone will want to look for news, ideas and information about women and ham radio."--Steve Ford, WB8IMY

DXCC APPROVES OPERATIONS

The ARRL DXCC Desk has received and approved documentation for the following operations:

3A/DJ7RJ, 3B8/DL6UAA, 3B8/EA3ELM, 3C5Z, 3D2UK, 3XY03A, 8Q7AF, 9H3VG, 9H3VH, 9H3WD, 9H3WM, 9K2/YO9HP, and 9U5T.

Also: BS7H, C50YL, C53HP, C93/JA6SJN, C93/JG6BKB, C93/JR6XIW, D25L, D2FIB, D68KS, ES1HR, ET3FB, HS9AL, J3X, J6/F5CCO, J75T, J77C, J77FT, J79BP, J79QA, J79RC, J79WP, PJ8DX,

Also: S07NY, SM5ENX/DU1, T32HA, TI*/AA8HV, TI/ON7ZM, TL8EJ, TN7A, TO5C, TT6FNU, TY1RY, V5/DK2WH, V5/W8UVZ, VK0IR, VK9FL, VK9PG, XT2GA, XZ1N, YV7/AH6OM, YV7/WH6DAG, Z2/SM0FIB, and ZK1JOO.

For more information, contact Bill Kennamer, K5FUV, bkennamer@arrl.org.

IN BRIEF:

* FCC consumer assistance line: The FCC's Consumer Assistance number in Gettysburg, 800-322-1117, is being discontinued. All calls now should go to the new, toll-free number, 888-CALL FCC (888-225-5322). For the time being, calls to 800-322-1117 will ring over to the new number after a little message that informs the caller of the change.

* Pathfinder mission engineer is WA6NVA: Gordon Wood, WA6NVA, of La Canada, California, credits ham radio for starting him on the path that led to his becoming the chief engineer for communications for the Pathfinder mission. Wood works at the Jet Propulsion Laboratory in Pasadena, California. The Pathfinder mission has, so far, been a spectacular success and popular with the public. Wood got into ham radio about 40 years ago, at age 12, when his father bought him an old short-wave radio at a thrift shop. An article July 4 in The Los Angeles Times quotes Wood as saying: "Mankind after all these years is reaching out from his own planet with little toys to snoop around and understand whatever else is out there in the universe." Previously, he worked on the Mariner, Viking and Voyager interplanetary missions. Pathfinder images and news are available at http://mars.sgi.com/, http://mpfwww.jpl.nasa.gov/, and http://dhcom.com/astronomy/pathfinder.htm.--thanks to Jeff Reinhardt, AA6JR

* Pathfinder frequency: If you're up for some real DXing, according to Phil Karn, KA9Q, the downlink frequency for the Mars Pathfinder it is 8.420 GHz. See his Mars Pathfinder X-band Downlink Link Budget page at http://people.qualcomm.com/karn/mpf_budget.html.

* Clarification--What is a leap second? A report in The ARRL Letter, Vol 16, No 26, oversimplified the reasons behind the so-called "leap second." A leap second is one second added to Coordinated Universal Time (UTC) to make UTC agree with astronomical time to within 0.9 second. UTC is based on the performance of atomic clocks. Astronomical time is based on the rate of rotation of the earth. Since atomic clocks are more stable than the rate at which the earth rotates, leap seconds are needed to keep the two time scales in agreement. The first leap second occurred on June 30, 1972. Although it is possible to have a negative leap second (a second removed from UTC), so far, all leap seconds have been positive (a second has been added to UTC). Based on what we know about Earth's rotation, it is unlikely that we will have a negative leap second in the foreseeable future.--National Institute of Standards and Technology

* New WIA VK3 QSL bureau: The new address for the Wireless Institute of Australia's VK3 QSL Bureau is WIA Victoria, Inwards QSL Bureau, 40G Victory Blvd., Ashburton, Victoria 3147 Australia. The current VK3 bureau address will be discontinued after December 31, 1997.--WIA

Volunteers Needed

We have now opened the scheduling up to individual hams who wish to take a single shift at the Eastern States Exposition (Big E) in West Springfield Ma Sept 12 - 28th. We need coverage from 10 AM to 10 PM. We run 2 shifts Monday - Thursday 10A to 4P and 4P to 10P, and Fri., Sat. and Sun. 3 shifts 10 A to 2 P, 2 P to 6 P, and 6 P to 10 P. We are still accepting club reservations for a single shift or a full day. Currently we have solid commitments from clubs for 2 days. Admission tickets for the Big E are provided and are good for the whole day for those who work the booth. A total of 2 persons per shift are needed. We have 8 days covered by Floaters, people who have said they will work a day where we need them. Also we have the day captains (Al Gerke and myself will cover that.)

It's fun!! If you want to participate we need your info - name. call. e-mail and mailing address send to Larry Buck, K1HEJ, at 262 Winthrop St. New Britain Ct. BUCK@CCSUA.CTSTATEU.EDU. Looking forward to see you all there. Larry K1HEJ

Looking For A QST Article?

If anyone is looking for QST articles I have put together indexes for the years 1996 back to 1990 in a loose leaf notebook. The indexes are organized by column under which they appeared and any category or categories that describe them.

Stan

Board Meeting Minutes

There is no board meeting in August. Hope to see you in the Fall.

NVARC QSL BUREAU

Bring your cards and a QST label to the meeting or to breakfast and the club will take care of the shipping and bureau fee. We sent out two pounds of cards this month. Stan

$The Treasurer's Report $

No report till the September Board Meeting.

Antenna

Why My Antenna Doesn't Work

Here are some thoughts, observations, and a few measurements on why some times that latest antenna just doesn't work like the book says it should.

It all started a few months ago while I was visiting WA5IOD. Bill has this idea that if it is in the air it has to support at least two antennas even if it also is an antenna. Well, anyway, we were sitting out behind the ham shack enjoying the cool Gulf breeze and some liquid refreshment, when Bill made the statement, "Fifteen meter dipoles don't work!". Well, that is a pretty strong statement so I asked why he should say that. Well he gestured towards one of the many wires hanging above our heads and said that the15 meter dipole just would not work. He went on to relate how he had spent a lot of time trying to get the antenna to work. It was a sloping dipole and was at the tower end of a guy wire that was one of three on the 40 ft crank up tower. Feeling that the guys should serve more of a purpose than just holding up the tower (considering the number and ferocity of the local hurricanes that seems like it might be asking enough), he had made the three top guys into dipoles for 17, 15, and 10 meters. He was just not able to get the 15 meter SWR down to a reasonable value. He measured and cut, and measured and added, and on and on. He even replaced the coax cable, although he couldn't find anything wrong with it. It still didn't work. This is all a bother, because the tower has to be cranked down and back up each time. Finally he gave up, the sun spots had gone away by then and the band was dead.

Well we talked about it. I was sure that a dipole could be made to work in that configuration. I have used the same type of dipoles on the lower bands. We decided we needed to investigate some of the things that could possibly affect the antenna. The antenna was made of heavy stranded guy wire, such that might be used on TV antennas. It was insulated at each end with large egg type insulators These are installed in compression and will not part the support should the insulator fail. The same type insulator was used in the center of the antenna. Guy wire was also used at each end to connect to the top of the tower and to the house at the other end. In addition the metal tower was at one side and the lower support guy was directly below the antenna. It was decided the first thing to investigate was the effect of the insulators. It was the one thing that we might do something about. The first test

was to see the effects of the loop of wire at each end of the antenna where the wire wrapped through the large insulator. Any extra conductor at the end of the antenna is capacity loading. This has the effect of lowering the antenna resonant frequency. It is the extra wire loop on the end which makes the antenna longer. An test antenna was built using more of the same insulators on each end of the antenna. This antenna was built for 20 meters. It was cut long so that after the tests it could be cut to length and put in use. The center insulator was a small strip of plastic. The antenna was fed with RG8X and pulled up in the clear about 11 feet over the ground/sea water. The resonant frequency was measured and it was about 600 KHz lower than the value given by the usual formula.

468 / L(ft) = F(MHz)

At this point the ends of the antenna were supported by nylon rope. The antenna was looking like it was about 20 inches longer than the tape measure indicated. A good deal of this 20 inches can be accounted for by the wire in the loop of the antenna insulators. The wires had been wrapped and soldered at each insulator. With the large insulators and the frequency involved the effect is large. With smaller insulators or at lower frequencies (longer wavelengths), the effect is less.

Next we added a random length of guy wire to one end in the normal manner for these compression insulators. This has the loops overlapping at right angles. We did not want the wire to be near resonance on the test frequency. It should be resonant at about 9.75 MHz based on its length. This lowered the resonant frequency of the antenna an additional 300 KHz. This coupling between the two collinear wires, was the effect that was suspected in the first place,. This was not a surprise. This coupling is well documented in test books. A modern method of investigating this problem would have been to model it on a computer, but we had chosen the experimental approach. We added a second insulator with a little over a foot of wire separating the insulators. The insulators were all in compression (overlapping loops), as they should be in a guy wire situation. The resonant frequency shift was halved to 150 KHz.. Still evidence of significant coupling across the insulators. We finally connected the two insulators on the one end with the guy wire support as two strain insulators (the wire loops not overlapping) and the effects of the metallic guy were eliminated as evidenced by the resonant frequency returning to the original value. This implies that the coupling is mainly due to the overlap of the wires as they loop around the insulator. Therefore if a satisfactory strain insulator could be used the effects of the guy wire on each end of the dipole could be eliminated. Multiple insulators do not seem like the solution. They are heavy and expensive. What does seem like a reasonable solution is the use of a strong non stretch fiber such as Dacron. Some 5/16 double weave Dacron is rated at 1260 lb.. Using several strands in parallel in a manner to protect the rope form chafing by the guy wire and with a suitable insulator seems like a very workable solution. The strength should be greater than that of the guy wire. Remember when using rope to use a good knot. I always use the bowline. It will not slip and is easy to untie. (If you don't know how to tie a bowline find a local Boy Scout).

So anyway, what does this all mean? Well it underscores the many things that can affect an antenna. Once you understand the problem many times the solution is straight forward if not simple. Understanding the reason for the confusing resonant frequency on the 15 meter dipole allowed a satisfactory antenna to be made. In the case of this antenna it is suspected there was an interaction between the dipole and the piece of guy wire to the house from the end of the antenna. When the antenna was shortened, the guy had to be lengthened and vise versa. It seemed that "you couldn't get there form here." The lower end of the guy was moved for other reasons and this changed the total length of the guy. It is always recommended to break up the guys with insulators to avoid resonances. Charts of the lengths to be avoided are in the **ARRL Antenna Book** and other antenna books. The message here is use suitable non conductors for antenna supports when possible. If you must use conductors, then be aware that they may detune the antenna, especially at higher frequencies. It is all good science. It only seems like Black Magic at times.

73 Bob W1XP

CW Practice Nets

The NVARC slow speed net meets Tuesday and Thursday at 7:30 p.m. on 28.123 MHz. Except the third Thursday of the month. That being the club meeting night.

NWS Hurricane Information for Hurricane Awareness Week

Hurricane season runs from June 1st through November 30th. For Southern New England...August through September is our most active period. Since 1900...30 of the 39 tropical storms and hurricanes have struck in August and September. Of the 9 hurricanes which made landfall in Southern New England...all but one did so in August or Sep-

tember. The exception was the New England Hurricane of 1916 which made landfall on July 21st.

History

Since 1900...thirty-nine tropical systems have impacted New England. Twenty-five were hurricanes...while fourteen were of tropical storm strength. Any tropical storm or hurricane is capable of bringing a combination of high winds large storm surges and severe inland flooding along area rivers and streams.

Of the 24 hurricanes, 9 made landfall along the southern New England coast. Of those 9 hurricanes, 7 of them were either of Category 2 or 3 intensity based on the Saffir/Simpson Hurricane Scale. Though the primary threat to New England is during August and September, the region has been affected as early as June and as late as mid October.

The worst storm of the century was The Great New England Hurricane Of 1938 which struck on September 21st. The great New England Hurricane of 1938 struck at high tide, which coincided with the highest astronomical tide of the year...pushing a storm surge of 12 to 15 feet across the south coast and up the many bays and Inlets including Narragansett and Buzzards Bays. Winds of over 120 mph blew across the coastal regions. The Blue Hill Observatory in Milton, Ma. recorded a sustained 5 minute wind
Of 121 mph and a peak gust to 186 mph.

Parts of interior Connecticut and Massachusetts not only bore the brunt of high winds but also experienced severe river flooding as rain from the hurricane combined with heavy rains earlier that week to produce rainfall totals of up to 17 inches. This resulted in some of the worst river flooding ever experienced in parts of Connecticut and Massachusetts.

This powerful storm caused 564 deaths and over 1700 injuries. Nearly 9000 homes and businesses were destroyed with over 15000 damaged. The boating community was equally devastated with 2600 boats destroyed and 3300 damaged.

It is not uncommon for Southern New England to be impacted more than once in a given season. The area has been impacted by two or more tropical storms or hurricanes in one season a total of 11 times. The most notable season was 1954 when hurricanes Carol Edna and Hazel impacted the region.

The strongest hurricanes such as The Great New England Hurricane Of 1938 and Hurricane Carol have brought severe damage to coastal locations while totally disrupting utility power for days across the interior from high winds. Both the stronger hurricanes and several of the weaker tropical storms have caused inland river flooding in various parts of the Southern New England.

History clearly shows that everyone living in Southern New England must take tropical storms and hurricanes seriously. Whether you live along the coast, by a river or stream, or far inland, a tropical storm or hurricane striking New England will have a great impact on you and your local area.

Southern New England is in the unenviable position of receiving all three "hurricane threats":

1) coastal inundation due to the storm surge
2) widespread wind damage
3) widespread inland small stream and river flooding

Tropical Depression...A tropical system in which the maximum sustained surface wind is 33 knots (38 mph) or less.
Tropical Storm...A tropical system in which the maximum sustained surface wind ranges from 34 to 63 knots (39 to 73 mph).
Hurricane...A tropical system in which the maximum sustained surface wind is 64 knots (74 mph) or greater.
Hurricane Eye...The relatively calm area in the center of the storm. In this area winds are light and the sky often is only partly covered by clouds.
Saffir/Simpson Hurricane Scale...A scale ranging from one to five based on intensity of the hurricane. This can be used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane.
Hurricane Local Statement…Public release prepared by your local National Weather Service office in or near the threatened area giving specific details on weather conditions...evacuation decisions made by local officials...and other precautions necessary to protect life and property.
Storm Surge...An abnormal rise in sea level accompanying a Hurricane or other intense storm. The height of the storm surge Is the difference between the observed level of the sea surface and the astronomical tide that would have occurred in the absence of the storm.
Tropical Storm Watch...an announcement that a tropical storm or tropical storm conditions pose a threat to coastal areas generally within 36 hours.
Tropical Storm Warning...A warning that a tropical storm or tropical storm conditions including sus-

tained winds of 39 to 73 mph. will affect a specified coastal area within 24 hours or less.

Hurricane Watch...An announcement for specific areas that a hurricane or hurricane conditions pose a possible threat to coastal areas generally within 36 hours.

Hurricane Warning...A warning that hurricane conditions, including sustained winds of 74 mph or greater, associated with a hurricane are expected in a specified coastal area within 24 hours or less.

Inland High Wind Watch For Hurricane Force Winds…This type of watch will be issued for inland communities when the potential exists for hurricane force winds to occur within the next 24 hours associated with the passage of a hurricane.

Inland High Wind Warning For Hurricane Force Winds…This warning will be issued for inland communities when hurricane force winds associated with the passage of a hurricane are expected during the next 12 hours.

The 1997 hurricane season names are: Ana, Bill, Claudette, Danny, Erika, Fabian, Grace, Henri, Isabel, Juan, Kate, Larry, Mindy, Nicholas, Odette, Peter, Rose, Sam, Teresa, Victor and Wanda.

The Inland Wind Threat

Inland residents may not need to evacuate, but must properly prepare their property for high winds and disrupted utility power. Boarding up windows is a necessity for homes exposed to high winds

The "Often Forgotten" River Flood Threat

While most Southern New Englanders relate hurricanes to severe coastal flooding, and rightfully so, history shows us that 15 tropical storms and hurricanes since 1900 have caused significant inland small stream and river flooding. If you live near a river or stream that is susceptible to flooding. keep updated on its status and be ready to head for a storm shelter or other safe haven should a flood or flash flood warning be issued.

Keep Informed

Remember, most of New England's tropical storms and hurricanes accelerate as they approach, dramatically reducing your time to prepare. Never base your actions on the estimated time of landfall for hazardous weather will often move in more than 2 hours prior to the time the eye of the storm makes landfall.

Whenever a tropical storm or hurricane strikes tune in the NOAA Weather Radio for the latest information 24 hours a day.

You should have a hurricane tracking chart handy. Many local radio or TV stations broadcast this information. Your local NOAA Weather Radio Station will always broadcast the latest positions as a hurricane approaches along with a variety of storm related information. Its your best source of weather information at your fingertips, 24 hours a day.

Plan Ahead

Now is the time to review what you need to do to protect yourself and your family should a hurricane threaten the area later this summer.

The evacuation question, to stay or leave?
Coastal residents may need to decide whether or not to evacuate. If local officials recommend that you evacuate, do so Immediately.

You Should Know

The elevation of your property above mean sea level. The location of the nearest storm shelter and the quickest route to get there.

Evacuation possibility.
Make arrangements now for the relocation of pets should you have to evacuate. Many shelters do not allow pets. Have your car filled with gas and ready to go should you be asked to leave your home. Be certain of which shelter you must go to and what the safest route is. Anyone living in a mobile home should plan to relocate to a more sturdy shelter.

If you live in a mobile or modular home plan to leave. Realize that you will not be the only one heading inland. Be ready to leave on short notice. Be sure to have pictures or at the very least serial numbers and a description of items in your house for insurance purposes. Take your copy of the policy with you.

Preparing Your Home

Move all outdoor furniture, toys and trash cans indoors. Remove the pool cover and store it inside. Fill the pool with water and remove any non-permanent equipment including ladders, slides, and covers. Secure storm shutters or board up larger windows (have nails and boards on hand for this purpose). Close drapes across windows to protect against flying glass. Wedge sliding glass doors to prevent them from lifting out of their tracks. Brace garage doors and avoid opening any door on the windward side of the home. You may want to move electronics equipment including televisions, VCR's, and personal computers away from windows in

case they are blown in and water enters the room. Store up bottled fresh water. Local water supplies often become contaminated after hurricanes. Make sure your cars have a full tank of gas. Have plenty of batteries on hand for flash lights, AM/FM radios, and your NOAA weather radio. Make sure you get refills on needed prescriptions and other personal supplies. Stock up on packaged foods and canned goods that require little or no cooking or refrigeration. Do not use candles. Many people have been injured or killed during and after hurricanes from fires set off by candles.

If you follow these steps when a Hurricane Watch is issued you will be prepared and ready to act quickly and calmly should the Watch be upgraded to a Warning.

Your National Weather Service urges you to follow these safety tips if you must evacuate:

Before You Leave Your Home

Make sure that all family members not at home know where you will be staying. Move valuable items to higher points within your home or have a close friend or relative inland store them for you. Turn off all gas, water, and electrical services. Unplug all electrical items. Lock all windows and doors and wedge sliding glass doors to prevent them from lifting out of their tracks. Pack enough clothes for all family members heading to the storm shelter. Bring along the important papers including insurance policies, inventory lists and medical information.

Travel Tips

Do not drive farther than necessary. Take familiar routes, especially if you are traveling at night. Make sure you have a full tank of gas. Always leave before the onset of gale force winds and heavy rain. New England hurricanes are often preceded by a false period of calm before conditions deteriorate rapidly. Do not be fooled.

Items To Take To The Shelter

Blankets, sleeping bags, pillows, towels, any necessary medications as well as personal hygiene items including soap, a toothbrush and toothpaste. Remember that pets, alcoholic beverages, and weapons are not allowed at evacuation shelters.

Remember most of New England's tropical storms and hurricanes accelerate as they approach dramatically reducing your time to prepare. Never base your actions on the estimated time of landfall...for hazardous weather will often move in more than 2 hours prior to the time the eye of the storm makes landfall.

Your national weather service urges you to follow these safety tips:

Power Failure Tips

It is almost a certainty that electrical and phone power will be disrupted. Have batteries ready for AM/FM radios, flashlights, and your NOAA Weather Radio. Have various foods available that do not need cooking or refrigeration. Be sure to unplug all non-essential electrical items. Personal computers are very susceptible to damage during power failures and power surges. If power is lost immediately turn off the gas.

If you follow these actions, you will be prepared for the storm. Think before you act. Avoid taking any unnecessary risks and make a concerted effort to stay calm.

After The Hurricane Has Passed

Though the hurricane has passed many dangers still exist. You must be alert at all times and follow the directions from your local police and civil defense officials.

For Those Who Have Evacuated

Do not return to your home until you have been directed to do so. Upon returning do not turn on any electronic equipment until the electricity has been safely restored. Be sure to check all electronic equipment for water damage. If you are uncertain throw the item away. It is better to be safe than to risk electrocution. Do not touch the gas until it has been determined that it is safe to turn it back on.

Tips For Everyone To Follow

If there has been structural damage to your home, or to trees in your yard, be very careful. Ask for assistance from fire and rescue officials before you risk getting injured from fallen debris. Get bottled water. It is quite possible that local water supplies may be contaminated. If power remains disrupted use flashlights. Candles left unattended can start fires. Be sure to guard against spoiled food. If the power was disrupted food in the refrigerator may have spoiled. Freezers will keep food for several days if the doors were left closed after the power went off. Do not refreeze food once it begins to thaw.

Beware Of The Outdoor Hazards

Watch for loose or dangling power lines. Many lives are lost by electrocution. Be extra careful when clearing fallen trees and limbs with a chain saw. Power lines could be entangled. Do not be a victim of a chain saw accident. When in doubt leave the work to the professionals. If you have generator be sure to turn the master power switch in your circuit breaker box off prior to turning the generator on. Also, be sure that the generator is outdoors and in a well ventilated area.

Take your time and be extra careful. Do not be afraid to ask for assistance. If there has been damage to your property contact your insurance agent, but have patience for there will be many others with damage as well.

Note: This article is a compilation of the seven statements issued by the NWS for Hurricane Awareness Week through the SKYWARN distribution list. There was considerable rearranging and reformatting to put it in a one article form.—Ed.

August Calendar

2nd - 3rd	The ARRL UHF Contest North American QSO Party Ten-Ten Summer Phone
16th-17th	ARRL 10 GHz Contest MIT Flea
23rd	Gardner Mohawk ARC
24th	Enfield Ct Hamfest Adams Ma Hamfest

Say What?

"There are two kinds of people, those who do the work and those who take credit. Try to be in the first group; there is less competition there."
Indira Gandhi

VE Test Info

Effective July 1, 1997 the new Novice and Technician question pools (elements 2 and 3A) will be implemented for use on all future Novice and Technician examinations. This makes the new Novice Exam 35 questions with a passing score of 26 and the Technician Exam 30 questions with a passing score of 22.

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Meetings are held on the 3rd Thursday of the month - 7:30 p.m. - Pepperell Community Ctr. Talk-in 146.490 simplex
442.90 + 100Hz Repeater
This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are OK.
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