The Pickle Barrel Review

THE OFFICIAL NEWSLETTER OF THE WESTON MOUNTAIN DIGITAL RADIO ASSOCIATION

March 2025

Introduction

Greetings one and all, and once again welcome to the Pickle Barrel Review! As in the previous issues, you'll find this issue filled with the latest happenings not only of the W7NEO system, and the NE-OREGON room, but System Fusion, Allstar, along with GMRS. All that said, as always, we invite others to contribute with articles, or if your club or organization is having an event such as a tailgate, swap meet, VE testing, or whatever, you can list it here as well. The only thing we ask is that your contribution be nonpolitical (unless it's a government action that directly affects Ham Radio), respectful of others (no personal attacks), and relatively family friendly. We realize your pretty darn proud of it, but we really don't want to hear about your new tattoo, let alone just where exactly it's located on your body. And just to be clear, we apologize, but unfortunately your brother-in-law's bachelor party still doesn't count as a

coming event. So, all that said, feel free to reach in the barrel, grab yourself a pickle, pull up a chair and have ah sit for a spell as we discuss the latest happenings in Fusion, Allstar, GMRS, and Personal Radio Communications in general. And for the record, you can rest assured that every line of the PBR is a 100% AI free zone, and will remain so (As proof just look at all the mistakes!).

A word from our sponsor

Old Fred's Tonics

With all the snow flying of late, it's clear that Old Man Winter is in full glory, and with that, another Old Man is at the ready to help you through those long cold winter nights. Old Fred's Tonics would like to let you know about his having recently produced a fresh batch of tonic that's guaranteed to help you with that sore throat, runny nose, and those aching muscles from having shoveled out the driveway once too often.

Although the windows in most of the surrounding buildings are still in the process of being replaced, Fred assures us that the new barn has been completed enough to once again begin production after the unfortunate events of this past fall's explosion.

So, the next time you find yourself sitting in your evening rocker sore and sniffling, grab up a bottle of Old Fred's Tonic and say good-bye to all those aches and pains, along with those annoying sniffles! Again, Fred would like to remind folks that his tonic is also great for jump starting that old oil heater, but asks that in doing so folks maintain a good safe distance during application.

Repeater Updates

Since our last issue, thanks to winter weather conditions, there haven't been allot of changes to our repeater system overall. So not much to report on this month.

On the upside, our group is meeting on a semi regular basis in order to discuss possible improvements to the system, and to flesh out the summer plans for the system overall. Unfortunately, many of our points of contact for acquiring potential repeater sites are with various Federal agencies. So, as you know from watching the news, their futures in those positions is in question. I myself am a retired Federal Civil Service employee having dedicated just over

31 years of my life. So, needless to say, I have a special place in my heart for these guys and gals who are dedicated to serving we the public to the very best of their abilities. So please keep them in your thoughts, because as we all know, it's never easy when you spend your life knowing that what your doing is much bigger than you to suddenly get shown the door for no real reason.

That's about it for now, but as always, we're always looking for ways to improve our system, and make it just that much better for everyone to enjoy. So, if you have any good ideas, let us know. We may or may not use them, but fresh ideas are always appreciated.

Disaster Preparedness

On June 30, 1908, at around 7:08am local time, an asteroid ripped through the Earth's atmosphere exploding in the skies over Siberia. Reindeer herders of the local Evenki people who witnessed the event - none from closer than 20 miles away - described seeing a fireball trailing smoke, then a flash brighter than the Sun, followed by a loud noise like thunder. Those closest to the event reported being blown into the air and knocked unconscious, and their dwellings damaged or destroyed altogether. Along with that were reports of massive forest fires, and trees flattened for a distance of 1,250 miles. Further afield, eyewitnesses reported seeing a large column of smoke rising high into

the atmosphere. Fortunately, because of the relatively low population density, very few human casualties resulted, but there were many herds of reindeer that perished.

Due to the intensity of the “fireball” as the asteroid streaked across the morning sky it was referred to as a “Bolide.” A Bolide is normally taken to mean an exceptionally bright meteor.

Shortly after having entered the atmosphere, with an estimated diameter of 130 feet, the asteroid exploded at an altitude of about 6 miles. The resultant airburst similar to that of a nuclear weapon’s airburst, sent out a shock wave along with an intense blast of heat stretching out over a broad area. This correlated with the eyewitness reports, and with the destruction described by later expeditions. Typically, in the case of an air burst, the energy from the explosion is distributed more evenly over a wider area, however, the peak energy is lower at ground zero.

The resulting explosion of the asteroid was also recorded on seismic instruments hundreds of miles from the site in Russia that recorded the tremors having been caused by the shock wave. All this would eventually come to be known as “The Tunguska Event.”

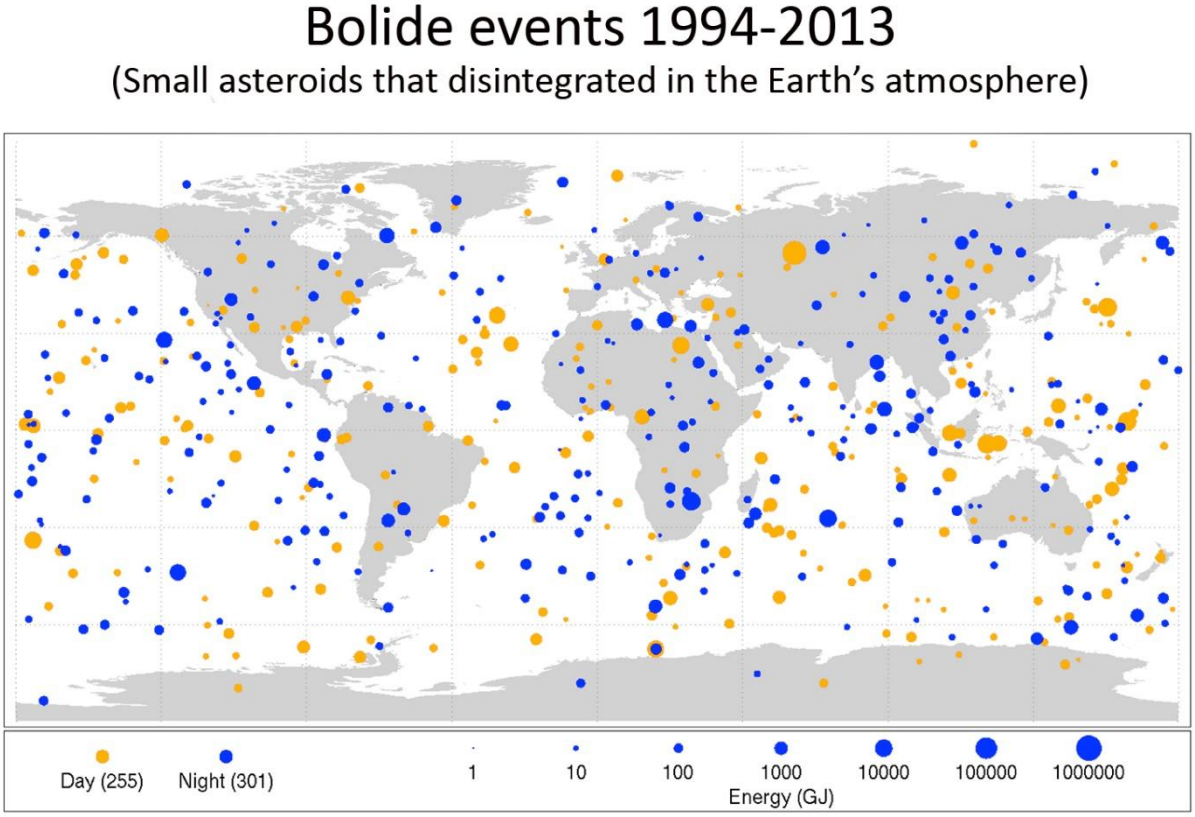
The location of the asteroid impact in Siberia later named “The Tunguska Event.”

Due to the remoteness of the site of the impact, the event drew little attention within Russia, let alone outside of the country. The first actual scientific expedition wouldn't reach the area for nearly twenty years. But even after twenty years had passed there was still ample evidence of the original shock wave, and the resulting blast of heat from the aerial explosion of the asteroid.

Felled trees after the Tunguska Event

Current action in order to mitigate NEO's

Since the Tunguska event archaeologists have found numerous evidence of similar events in the past. Based upon their findings, its thought that asteroids making their way to earth's surface isn't really all that uncommon. Smaller asteroids regularly break up in our atmosphere causing little if any serious damage. But since obviously it's still a good idea to keep an eye out, in 2016 NASA established the Planetary Defense Coordination Office (PDCO). The PDCO continues to this very day searching for, and monitoring Near Earth Objects, or "NEOs" that happen to wander within 30 million miles of Earth's orbit. The primary purpose of the PDCO is to find, track, characterize, and – if necessary – mitigate against NEO impacts.



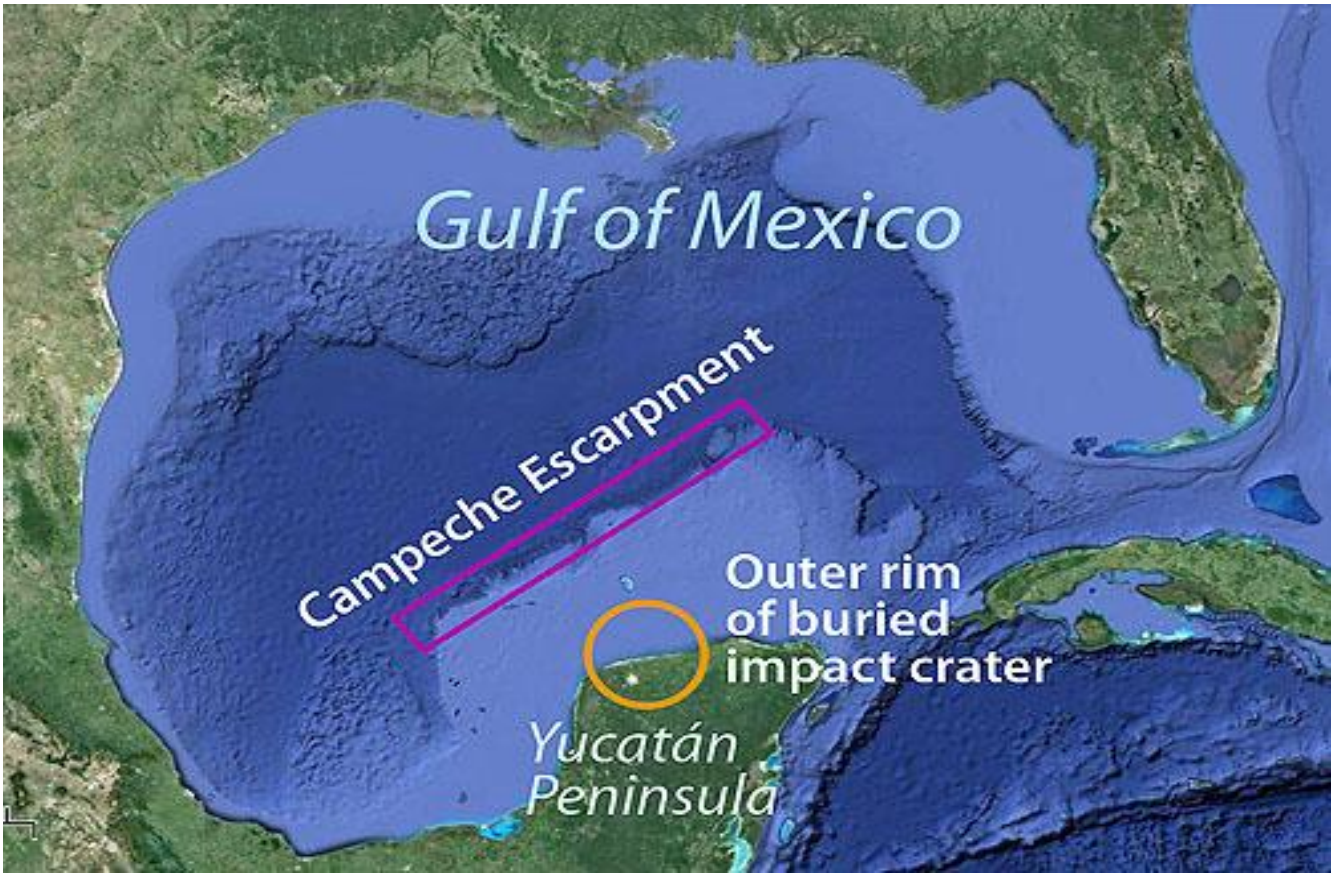
Bolide,-"Fireball"- events around the world from 1994 ~ 2013.

During NASA's Double Asteroid Redirection Test (DART) mission in 2022, technology was tested which basically amounted to testing our ability to "bump" a rogue asteroid off course using a specially designed long-range spacecraft. The main goal of the test being to demonstrate the ability to (Hopefully) redirect a small asteroid should one pose a danger to Earth in the future.

The importance of the success of such a mission was further emphasized when in April of 2023, seven NEO's approached to within the orbit of the Moon but fortunately passed by without harm. This prompted the PDCO to release a strategic plan for planetary defense, outlining the goals of continued observation and vigilance. The positive experience with DART showed that the technology did in fact exist in order to mitigate against possible NEO impacts with Earth.

Lindley Johnson, NASA's Planetary Defense Officer, and Lead Program Executive for the Planetary Defense Coordination Office, said; "A collision of an NEO with Earth is the only natural disaster we now know how humanity could completely prevent" Lindley went on to say; "We must keep searching for what we know is still out there, and we must continue to research and test Planetary Defense technologies and capabilities that could one day protect our planet's inhabitants from a devastating event." Now tell me that isn't right out of H.G. Wells.

The asteroid that ended the age of the dinosaurs was estimated to be somewhere between 10 to 15 kilometers in diameter (6 to 10 miles), which is roughly the height of Mount Everest. As a reminder, at its point of impact it left behind a crater in the Gulf of Mexico just off the Yucatan Peninsula 200 kilometers (120 miles) in diameter and 1 kilometer (0.62 miles) in depth.



The Chicxulub crater, a large impact crater located off the coast of the Yucatán Peninsula in The Gulf of Mexico.

Current threat

Fast forward to present day, and the asteroid dubbed “2024-YR4,” and the possibilities of devastating damage from its impact here on earth. First off, the size of YR4 is estimated to be somewhere between 131 to 295 feet (40 to 90 meters) wide. Now remember, the asteroid that was responsible for the Tunguska event was only 130 feet wide, and it leveled an area of approximately 346 square miles.

Size comparison of asteroid 2024-YF4 to the Statue of Liberty.

Scientists are currently closely watching YR4, gathering as much information as they are able to until 2028 when it will disappear out of sight until 2032, when it has just over a 2% chance of hitting Earth. Fortunately, the expectation if it does impact with earth, is that it won't be a dooms day scenario such as what the dinosaurs experienced with earthquakes lasting months, and an "impact winter" lasting 15 years. But like the Tunguska Event, it could still do ALLOT of damage if it were to impact in a relatively densely populated area such as Southern California (Like they haven't been through enough already), Paris, Puget Sound, or Tokyo, just to name a few.

Illustration of asteroid impact event on populated area of earth.

Not all space rocks are created equal

Now that we've covered some of the history, along with present-day possibilities of an asteroid impact, as well as who's watching them (for now anyway). I just know there's the nagging question of; "What about the other possible threats, such as mentors, and comets impacting the earth? Also, just what exactly distinguishes them apart from one another? Well, I'm glad you asked, let's get right into it shall we.

NEO Size and Hazard according to NASA Planetary Defense Strategy

First let's look at the definition of an asteroid. To begin with, asteroids are basically leftovers from the original formation of our solar system which took place about 4.6 billion years ago. They are relatively small, rocky objects that orbit around our sun. The difference between an asteroid and a Meteoroid is that Meteoroids have a pretty broad size range. They include any space debris bigger than a molecule and smaller than about 330 feet (100 meters) -- space debris bigger than this is considered an asteroid. But most of the debris the Earth comes in contact with is "dust" shed by comets traveling through the solar system. Truth be told, most meteorites found on Earth actually originate from shattered asteroids.

So, to break it all down in more simple terms, asteroids are rocky objects, comets are icy bodies -or big dirty space snowballs- that orbit the sun. Whereas meteors—or meteoroids—are space rocks that burn up in Earth's

atmosphere, creating a streak of light in the sky, which is often referred to as "shooting stars." Just for the sake of clarity, a meteorite is nothing more than a meteor that somehow manages to survive its passage through the earth's atmosphere such that part of it strikes the ground. As Ham's we look forward to regular meteor showers which take place throughout the year on a regular basis, and provide us with an opportunity to bounce VHF & UHF signals off the ionized tail following the meteor. These showers are the Quadrantids, Lyrids, Eta Aquarids, Perseids, Orionids, Leonids, and Geminids.

It's worth mentioning that there is a popular school of thought among scientists that our oceans, and all water on earth today might just have originated from comet impacts while the earth was forming. But then that's a discussion for another day…

In more extreme cases of asteroid impact, unlike what our TR24 rock is anticipated to be, an asteroid impact on Earth could have catastrophic aftereffects. The dust and debris kicked up by the explosion could block out the sun, resulting in cooler temperatures and the disruption of global climate, along with the release of sulfur dioxide further adding to the mix. In addition, impacts in oceans could trigger massive tsunamis, while impacts on land would cause major earthquakes. And as if we weren't doing enough harm already all on our own, in the event of a significant asteroid impact, we would have disruptions to the ozone layer. This would lead to increased levels of harmful ultraviolet radiation reaching the Earth's surface. You're reaching for your tin foil hat now aren't you.

What the future may hold

With regards to YR24, at the moment scientists aren't exactly sure just how big it really is. But it's estimated that what some are referring to as a 'city-destroying space rock,' is believed to measure about 40 and 90 meters (130 and 300 ft) in diameter. According to the European Space Agency (ESA); "The hazard represented by a 40 m asteroid is very different from that of a 90 m asteroid," The ESA goes on to say that; "Although, astronomers will use the James Webb Space Telescope (JWST) to measure the asteroid, determining the exact size may be difficult due to just how much of the asteroid is actually

visible. The JWST is expected to record two observations of the asteroid when it passes within Earth's visual range. The first observation could come in March when 2024 YR4 attains peak brightness, with more observations to follow in May. Unfortunately, this will be the last chance experts will have to observe the asteroid before it returns in 2028.

According to Lindley Jonson, NASA is on track to launch a new asteroid-finding telescope in the fall of 2027 called “The Near-Earth Surveyor.” According to NASA’s Jet Propulsion Laboratory, the Near-Earth Surveyor is an infrared space telescope designed to help advance NASA’s planetary defense efforts.

Johnson goes on to say; “We’ve got to discover what's out there, determine their orbits, and then determine whether they represent an impact hazard to the Earth over time,"

FEMA and its function should an asteroid hit earth

In the meantime, FEMA has been working with NASA, along with various other federal response organizations on a world-wide scale in order to plan various responses in the event of an asteroid impact.

Upon notification from NASA of an impending NEO impact threat, FEMA would be a key player in coordinating with NASA, the Department of State, various Emergency Response institutions, and other relevant State and Federal agencies to ensure a unified and effective response. Here in the United States FEMA would be assuming the lead role of being a key player in the ground-based emergency response and recovery efforts, and mitigating the effects of the impact, as directed by the executive office of the Unite States. FEMA is currently focused on the practical aspects of an impact, such as when, where, and how an asteroid would impact, and the type and extent of damage that could occur.

NGO’s (Non-Government Organizations) such as the Amateur Radio community, Red Cross, and others would follow direction from FEMA in accordance with the National Incident Management System (NIMS) under RACES protocols.

Think about it as in the case of any number of hurricanes, earthquakes, and how Amateur Radio operators typically step up to the task of providing vital communications links. Only this time the damage could very well be much worse, with cleanup and recovery lasting considerably longer.

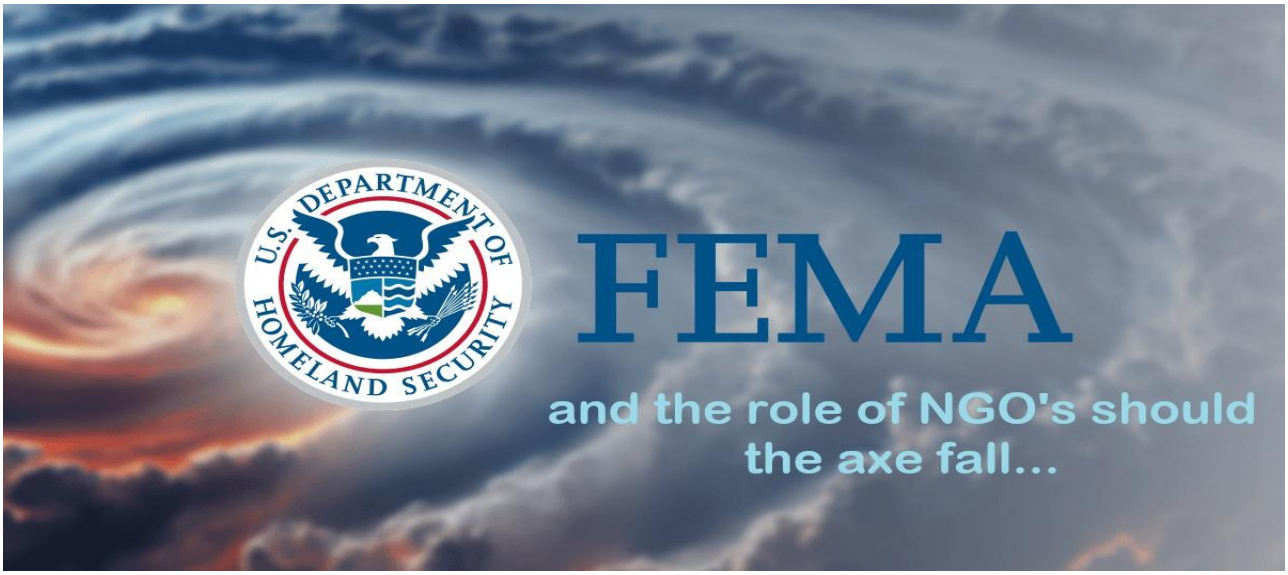
Lynn Wilson, K7LW

For the FEMA tabletop exercises click here.

For the NASA Planetary Defense Strategy and Action Plan click here.

For more information on the Near-Earth Object Surveyor Telescope
Click here.

Government Actions



With the new regime leading our country now, and climate change responsible for not only more natural disasters, but considerably more severe natural disasters, emergency communications, or “EMCOMM” is now more front and center than ever before. Add to that the theme of the new leadership being to eliminate (What they term as) government waste, and downsize government in general across the board, the question of just how much in the

way of Federal assistance, and more importantly, in the way of Federal disaster relief funds will be available in the future comes into question. In a recent statement by Trump, he said; "*I think we're going to recommend that FEMA go away*." Adding; "*I'd like to see the states take care of disasters*." Needless to say, this has caused quite the uprising in our nations congress, particularly among congressmen in states hardest hit by recent severe weather events.

For the most part, it can be agreed that FEMA (Federal Emergency Management Agency) is in need of more responsible budgeting, that's not in question. With the inevitability of global climate change, that just adds to the problem. But regardless of just how all this eventually plays out, the question on our minds as Amateur Radio operators, is how will all this affect our end of the EMCOMM world, and perhaps NGOs (Non-Government Organizations) as emergency responders in general? Especially in the event FEMA is no longer in the picture.

FEMA's Mission

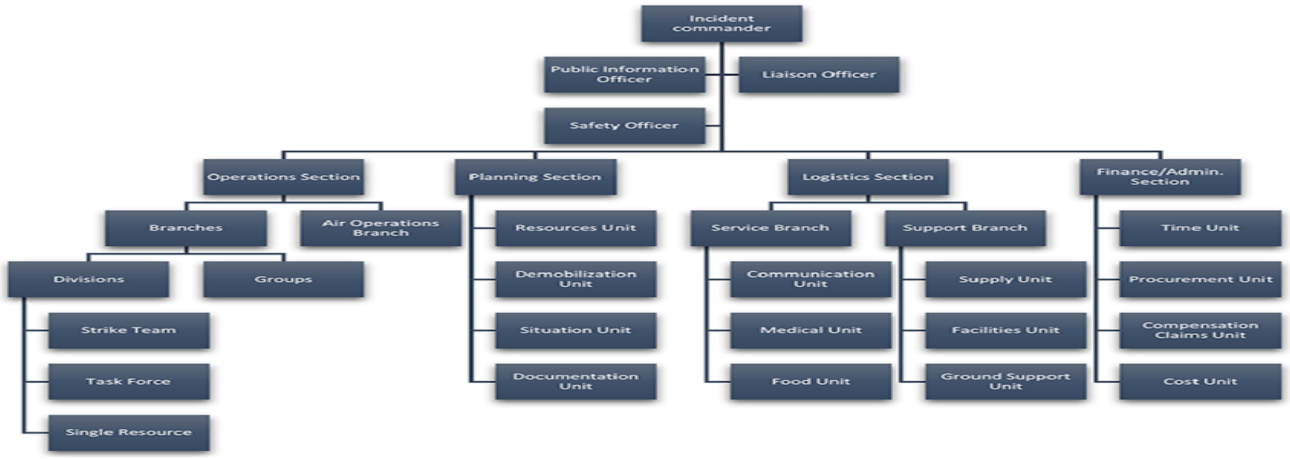
First, let's take a look at the mission of FEMA in general, and just where and when FEMA comes onto the scene. FEMA is activated in an emergency when a disaster is declared by the President. Typically, after a disaster is declared, a request is made by the Governor of the affected state, or Tribal Leader, for Federal assistance when the damage is deemed beyond the combined capabilities of state and local governments to handle. The process basically consists of the submission of the request within 5 days after the need for assistance becomes apparent, and within 30 days of the end of the incident period or 30 days after the date of declaration, whichever is later. The Federal government, led by FEMA, then responds at the request of, and in support of States, Tribes, Territories, and Insular Areas and local jurisdictions impacted by the disaster. Response actions are organized under the National Response Framework. There is much more to the process, but that gives you the basic big picture view of how it all flows.

After the initial application process is completed, FEMA would be assuming the lead role of being a key player in the ground-based emergency response.

Along with recovery efforts, while working closely with state and local emergency responders in order to mitigate the effects of the disaster, as directed by the executive office of the Unite States.

That's all well and good, but what about us NGOs, where exactly would we come into play in all this? Although the role of NGOs in general is somewhat of a broad brush, NGOs play a crucial role in disaster response by providing immediate aid, supporting long-term recovery, and fostering community resilience through training, early warning systems, and awareness campaigns. Often filling gaps where government resources are limited. In the case of Amateur Radio during a disaster response, specifically in the case of natural disasters such as hurricanes, earthquakes, and floods, Amateur Radio operators have historically played a crucial role. This, by providing essential communication links between emergency responders and relief organizations when other systems were down.

Fortunately, FEMA recognizes the vital role of Amateur Radio operators in disaster response, incorporating them into the National Incident Management System (NIMS) and collaborating with various Amateur Radio organizations to ensure reliable communication will still prevail even when traditional systems fail. FEMA acknowledges that Amateur Radio operators can provide crucial communication capabilities, especially when conventional systems are disrupted or overwhelmed during emergencies. Such as when the twin towers in New York City went down during 9/11, and cell phone service was overloaded.



FEMA ICS Organization chart

NIMS Integration:

The National Incident Management System (NIMS) manages incidents across government, non-governmental organizations, and the private sector. The Incident Command System (ICS) is a tactical communications system used to manage emergencies on the ground.

FEMA's National Incident Management System (NIMS) is a layered emergency response plan that includes support from Amateur Radio operators. NIMS recognizes the role of Amateur Radio in providing communications support to emergency management, public safety, and other government agencies. In most all cases Amateur Radio response, along with EMCOMM in general, is governed directly by NIMS response guidelines.

National Incident Management System (NIMS) Operational response conditions as it applies to NGO communications entities are as follows:

A. The incident complexity is NIMS Type 5 or 4, and all communications needs are being handled through commercial services, there is no need for additional communications resources.

B. When incident complexity reaches NIMS Type 3 or 2, regular communications systems may not be capable of normal capacity in the affected areas. Supplemental Amateur Radio communications resources can fill the gap until regular communications are restored, depending on the quantity of communicators needed and operational periods. Deployment of emergency communications resources from outside the affected jurisdiction(s) is possible.

C. During major emergencies and disasters (NIMS Type 1 incident complexity), there may be major failures and overloading of the communications infrastructure, including the degradation or loss of the electrical grid, cellular phone network, internet, public safety radio systems,

and AM/FM radio systems. In such cases, supplemental emergency communications resources are needed in quantity and for extended periods until regular communications are restored.

Auxiliary Communicator (AUXC) Role:

AUXCOMM stands for "Auxiliary Communications" and refers to the organizations and personnel who provide emergency communications support to various agencies. An Auxiliary Communicator (AUXC) is a trained individual who provides auxiliary communications support to emergency management, public safety, and other government agencies, utilizing various communication systems like Amateur Radio, and working within the Incident Command System (ICS) framework.

The expanded Communications Unit (COMU) structure within NIMS includes the Auxiliary Communicator (AUXC) role, which covers personnel from services that provide communications support, including Amateur Radio.

RACES is a program created by FEMA and the Federal Communications Commission (FCC) that links licensed radio amateurs certified by civil defense agencies to use Amateur Radio frequencies for communication during drills and emergencies. The concept of a standby "Radio Amateur Civil Emergency Service" to replace the conventional "Amateur Radio Service" during wartime was developed in 1952 as result of input from the American Radio Relay League and the Department of the Army's Office of Civil Defense.

So, with all this said, chances are that about now you're asking yourself; "Just how is it that the elimination of FEMA can be justified?"

Your right to ask the question, and you're not alone in your confusion. Congressmen, particularly those located in states that have been affected by various natural disasters, are pushing back on Trump's ambitions of disbanding FEMA, and leaving it all up to the states. I reached out to both Washington, and Oregon ARES, and OEM officials for their take, at the time of print, but I have only received one response to my question of just how would Amateur Radio's role in emergency response change should FEMA go away. But I was able to speak to a couple of members of ARES via phone, and

basically, the answer was that the Amateur Radio emergency response folks would first come under state supervision until FEMA took over once a state of emergency was declared by the Federal Executive Office. Essentially, we as Amateur Radio Communicators would be taking direction from FEMA via the State Office of Emergency Management. If FEMA were out of the picture entirely, we as NGO EMCOMM radio operators would simply take our marching orders from State Emergency Management.

Unfortunately, my impression from those that I was able to talk to is that our State Amateur Radio Emergency Communications representatives just aren't sure what's going to happen. On top of that, there seems to be limited communication between the various state Emergency Operation Management offices. Fortunately, for the moment anyway, this is a layered process, and for most of us we will continue to follow our NIMS protocol and work directly with our state, and local officials as needed.

As part of the W7NEO repeater group we have our own Comprehensive Emergency Operations Management Plan, which we will follow in the event of an emergency. I would encourage readers to read through it, and if you have ANY questions, please feel free to contact one of us.

Lynn Wilson, K7LW

For FEMA Declaration Timelines Process click here.

For FEMA National Response Framework (NRF) click here.

Emergency Communications

There is nothing going on this month that we're aware of, but stay tuned. If we hear of anything in the way of simulated emergency drills, or other such exercises we'll be sure and let our readers know about it.

Please be aware that the WMDRA (W7NEO) does not officially participate in any of the above listed training. Although we do make our systems available to outside organizations provided prior arrangements have been made with

WMDRA, and it is agreed upon by those organizations to abide by our policies. Otherwise, this information is simply made available to our users for informational purposes only.

Current events

Given that it's the dead of winter, and the land is covered in snow and ice, alas we have nothing to report in the way of current events for the moment…

VE Testing

There is no VE testing going on that we're aware of, but if you check the Links section of our website, there may be information on some of our friend's websites as to where you might find a test session going on near you.

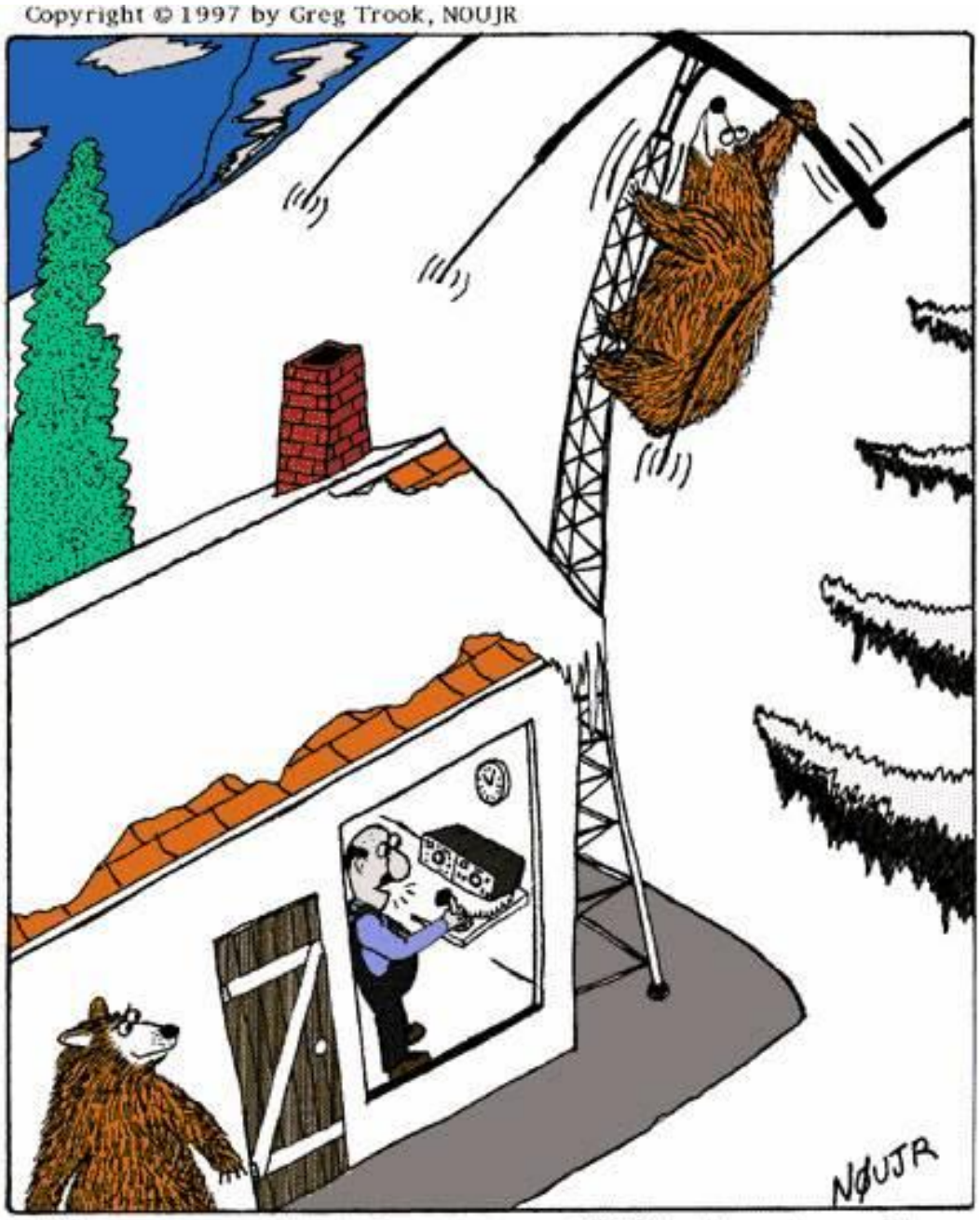
But in the meantime, if you do have a regular test session taking place, feel free to let us know, and we'll post it here in the next issue of the Pickle Barrel Review.

The End

Well, that's about it for this edition of the Pickle Barrel Review, I hope you enjoyed it. We'll continue to work to keep it informative, fun, and interesting. So, until next time, we here at the WMDRA (W7NEO) hope everyone is managing to stay warm, and enjoying the winter band conditions. But in the meantime, feel free to reach in the barrel, and grab another pickle, there's plenty to go around, along with plenty of great conversation!

73,

Weston Mountain Digital Radio Association
W7NEO



"Hang on a minute Larry...my SWR is jumping...I'm going outside and see what the problem is..."

"Eighty percent of success is showing up."

– *Woody Allen.*