April 1: Lots of different meaning to many people. April Fools’ Day! My favorite day of the year – for more reasons than most can imagine (just ask my family and staff). April Fools’ Day is celebrated in many countries on April 1 every year. Sometimes referred to as All Fools’ Day, April 1 is not a national holiday in the US, but is widely recognized and celebrated as a day when people play practical jokes and hoaxes on each other. Anybody who has ever been impacted by a disaster or crisis knows that the impacts are serious and often life-threatening. But as a profession, we always need to balance those “life-and-death” issues with a bit of humor in order to keep our sanity and maintain stability in our mental health. Today also represents the first official day of the UW 2013 Spring Academic Quarter.

Today represents the first official day of the UW 2013 Spring Academic Quarter. The promise of springtime and the return of students from break always reinvigorates me. As a full-time professional staff member, I often forget a primary reason why my staff and I are here – to serve the students who represent the heartbeat of this great institution. Often times, my staff and I get caught up in the details and requirements of endless staff meetings, email correspondence, and planning for drills, exercises and other planning activities. We may forget the primary reason that the UW Emergency Management Office was established – to protect the student body from acts of extreme harm, disasters and major crises. In fact, today, UW Emergency Management officially celebrates our 10-Year Anniversary of being established here on the UW campus.

Fortunately, over the past year, we have been honored to been exposed to an increasing number of student activities which have enriched our office tremendously. Since 2009, UWEM has been the lucky recipient of a number of student interns and part-time employees working in our office. Having fresh, young minds in our midst provides us “old-dogs” with a constant stream of new ideas and provides us with valuable research and assistance that we quite frankly would not be able to perform with just 3 full-time employees. Over the past 4 years, our interns and student employees have developed over 5 operational disaster response and recovery plans, developed cutting edge software applications and social media content, provided assistance in our EOC during drills and actual activations, and assisted our staff in various public outreach and training events. New graduate and undergraduate students approach us nearly every week with proposals for practicum studies, as well as internship proposals. We welcome the opportunity to mentor both traditional students as well as non-traditional students in this exciting field we call emergency management. Our door is always open. And for those you who are considering a career in emergency management, we have also posted a FAQ on how to “break into” the profession. Written by UWEM BARC Manager Scott Preston, this article (click here) has received hundreds of hits due to its popularity. Welcome back students of all ages!
Partner of the Quarter: Lawrie Robertson

As our “poster child” for both academic and research continuity programs, the UW’s School of Public Health (SPH) continues to provide Best Practices and examples of how to effectively integrate and implement the UW’s mandated Business, Academic and Research continuity programs throughout the entire School. Last month, SPH Assistant Dean Lawrie Robertson was presented with the January—March 2013 UW Partner in Preparedness Award.

Of course, as always, Lawrie very quickly wanted to share this honor with his peers noting “Thank you for the recognition, but as noted, our School progress and efforts reflect a collective set of contributions. Thus, I accept the award as merely one of many representatives of our School’s effort... I know that this work is built on a strong foundation established by Mark Oberle, Andy Stergachis, Pat Wahl and Jeanne O’Connell and many others. We enjoy and deeply appreciate our collaborative working relationship with your team, the BARC group, and our Health Sciences colleagues as we keep focused on getting more prepared. Many thanks, Lawrie”

Thanks Lawrie and the SPH Team for setting the bar high and providing a stellar example for others!

Department of Defense Information Assurance Scholarship Program ($$$)

In a previous newsletter we wrote about the Master’s program in Infrastructure Planning and Management Degree here at the UW. The program touches on emergency management, cyber security, risk analysis and a host of other interdisciplinary subjects. To expand on that information, the program also qualifies under the federal Department of Defense (DoD) Information Assurance Scholarship Program. The scholarship program goal is to gain well-educated, highly skilled personnel in a variety of information assurance related disciplines. Finding and properly training an adequate number of such personnel is one of the most important challenges the DoD faces. The UW is part of what is known as one of the National Centers of Academic Excellence in Information Assurance, and can offer this scholarship within number academic areas.

The benefits of the program are
- Academic scholarships covering full tuition, fees, and books
- Stipends for students
- Paid Internships in IA roles at the DoD
- Travel expenses for IA conferences and other learning and networking opportunities
- An IA job within the DoD following graduation

Any questions can be sent to AskIASP@nsa.gov
UWEM Speaks at University of Tennessee

UWEM’s Scott Preston had the privilege to speak at a higher education-centric emergency management conference held at the University of Tennessee at Chattanooga (UTC), in Chattanooga, TN on March 12. This was the first conference of its type held at UTC.

The conference was attended by emergency management representatives from 80 other institutions of higher education from Florida to Alaska. Some of the topics discussed were the role of social networking in emergency management, the use of technology in situational awareness and the need to build strong relationships between the University and the community.

Scott’s presentation was entitled “No Plan Survives Contact with Reality” and was on the 5 challenges, common to incidents, and how to manage them, particularly against the backdrop of Special Event planning and management.

The presentation was well-received and the networking contacts made on behalf of UWEM will be invaluable. UWEM constantly looks for opportunities to support the Higher Education community by sharing ideas and best practices and incorporating the same in our own efforts to improve emergency planning, response and recovery for the University of Washington system.

If you have a need for planning assistance or a question about best practices, don’t hesitate to contact UWEM to see what we can do to help. If we don’t have the answer, chances are we know a colleague who does.
A “Kit” for Every Occasion!

If you are like us, the dark, wet depressing winters makes one want to head South to find the warmth of the sun. You decide a cruise to the tropical islands of the Caribbean is just what you need. You book your trip and begin planning for your great adventure. The last thing on your mind is the need to pack emergency supplies with you on your trip. Or at least it used to be. Recent cruise ship disasters might have you thinking differently.

Just like any other disaster that can occur we can’t live in fear, but we can be better prepared to face whatever disaster might come our way. So I know everyone has their home emergency kit, their car kit and work kit. But do you have your cruise ship kit? In the wake of all the recent disaster event on cruise ships a preparedness company has come up with a new kit! In reality this kit is nothing new just packaged in a nifty water tight bag, but has the same basic essentials needed to survive without food, water and electricity. Check it out!

15 Travel Emergency Kit Basics

Travel has always been a somewhat calculated risk. Many things can go wrong, even when we’ve planned our travels to the “Nth” degree. Planes can suffer mechanical failures. Trains can grind to a halt, suffering signal failures. Ships can run aground, or worse. Revolutions can turn countries upside-down. Hotels can lose reservations, or suffer substantial water pipe failures. Unplanned weather can dash any plans. Planning and packing for possible emergencies makes good sense.

- **Waterproof LED flashlight** — They are longer lasting, more reliable, provide powerful light, and have a longer last charge than standard flashlights.

- **Duct tape** — This legendary product can patch tears in luggage, repair fallen hems, or even temporarily bind up just about anything in an emergency. I bring two travel size rolls (2″ wide x 5 yards long) on my trips.

- **SteriPen and spare water** — SteriPens use UV light to purify water. They have been independently tested to produce water exceeding US EPA clean drinking water standards.

- **Fingernail clippers** — Knives and long scissors aren’t permitted in carry-on luggage. Nail clippers can suffice for scissors, as necessary, in an emergency.
• **Enough medications to last a week beyond the length of the planned trip** — You don’t know how long you could be stranded in an emergency. In Haiti in 2008, for example, some travelers who encountered hurricanes there were stranded for a week or more. Obtaining essential medications during an emergency is often impossible. It’s essential to have your medications available during an emergency, especially prescription medications, which can be extremely difficult to obtain when traveling out of your home country, at any time.

• **Smartphone** — Smartphones enable you to make emergency calls during troubled times to contact family and friends and make plans to deal with emergencies. Moreover, smartphones have the ability to store critical travel documents for instant retrieval, as necessary, such as passports, e-tickets, etc. • **Passport copies and other travel documents** — Sometimes essential travel documents can be lost or stolen. Having copies of these documents while traveling can facilitate obtaining replacements, or merely making your way on your journey without them.

• **ATM/Debit card and cash** — There may be times you need unanticipated cash during your travels. Having access to local cash via bank ATMs can be a godsend while traveling. In times of emergency, however, hotels, restaurants, and other locations might not have the ability to accept debit or credit cards. Bank ATMs might be unusable too. Having at least $100–$200 in local cash when electronic systems aren’t functioning may be essential.

• **First Aid kit** — Having first aid supplies to treat common accidents and illnesses while away from home is important, especially in times of emergencies.

• **Spare batteries and backup power supply for smartphones** — Generally, even when your destination has lost power, cell phone systems will work, at least for a while, due to their power backup systems. It’s critical to be able to keep your smartphone charged and other devices (flashlight, etc.) working during emergencies.

• **Travel toilet paper** — Even when there is no emergency, travel toilet paper may come in handy. More than once, I’ve entered an airplane lavatory, on a long flight, to find no toilet paper.

• **Emergency snacks/food** — When you’re stuck in an emergency, and restaurants, food vendors and markets are closed, having some emergency food available is essential. Some healthy snacks, fruit, etc., can be extremely helpful.

• **Antiseptic soap** — Using it during emergencies while washing with water of unknown quality can help keep you safe.

• **Critical toilet articles** — Hygiene items such as toothpaste, a toothbrush, soap, shampoo, deodorant, etc., can prove critical.

• **Pen and paper** — If all else fails when given emergency information, have a pen and paper at hand so you can write down the information.

Electro-Magnetic Pulse: Not Science Fiction

In the movie “Batman Rises”, the titular hero uses an electro-magnetic pulse (EMP) device that releases electromagnetic radiation to fry the sensitive electronics of his adversaries, rendering them inoperable. While that Batman movie is an entertaining bit of science fiction, EMP physics and its ability for the destruction of sensitive electronics represents a very real possibility and a potential threat to our high-tech society.

Two Scenarios

There are two basic scenarios where an EMP could occur: one that is natural and one that is man-made.

Natural EMP’s can occur when our Sun produces a geomagnetic storm that releases charged particles that compress the Earth’s magnetic field, sometimes referred to as a ‘coronal mass ejection’. These particles cause a disruption of the Earth’s magnetic field and displays as an energized light show high in the Earth’s atmosphere, usually at higher latitudes. These light shows are called the Aurora Borealis or more commonly, the Northern Lights. The other, less visually stunning effect is that the change in the Earth’s magnetic field and how it interacts with the Earth’s atmosphere can cause an electrical discharge that overwhelms modern electronic components and the electrical utilities that support our modern society. The largest geomagnetic storm recorded to date on September 1-2, 1859 is called the Carrington Event and resulted in an electric current that circumvented the world, providing mild electric shocks to telegraph operators and starting fires.

Man-made EMP’s can occur through the use of a device that is designed to send out an EMP. These could be in the form of a nuclear weapon of some sort or some other non-nuclear technology device that produces EMP’s. These devices can be very large such as with an inter-continental ballistic missile or relatively small and able to fit inside of a van or similar sized vehicle. The closer to the ground the EMP occurs, the more localized the effect will be. An EMP burst high in the atmosphere over the central United States (250-312 miles) could cause significant disruption to electronics and the electrical distribution system from coast to coast. Such a device could be used by any person or persons with access to the necessary materials, supplies and knowledge, for whatever purpose they feel is justified. There are plenty of people in the world who disagree with the United States’ policies. A few of those people disagree to the point of feeling compelled to act in some fashion.

Difficult Recovery

Regardless of the source of the EMP, recovery from such an event could be very problematic. This is due to the potential disruption of multiple critical infrastructure systems that is caused by loss of the Supervisory Control and Data Acquisition (SCADA) control systems that monitor and manage these infrastructures on a daily basis and the potential loss of extremely-high-voltage (EHV) transformers:
* National power distribution.
* Industrial manufacturing.
* Data and communication lines.
* Water distribution systems.
* Natural gas distribution.
* Transportation systems (cars, trucks, trains, ships and planes will cease to function).
* Municipal sewer management.
* Medical and emergency response systems

Secondary effects from these impacts will mean the loss of distribution of food and other resources as well as critical supplies such as medication. The loss of industrial manufacturing means that producing the components needed to replace the sensitive electronics that have been destroyed by the EMP will slow the recovery process significantly. Also, the EHV’s that are critical to our national electrical grid cost several million dollars each and are difficult to transport. Consequently, they are made individually, to order (i.e. there is no stockpile of these anywhere).

**Planning and Mitigation Efforts are Key**

So, what can be done in these plausible, if scary scenarios? Much of the local impact to people can be mitigated by the same emergency planning that we promote for other disasters:

* Store food and water.
* Be prepared for a long-term power outage.
* Educate yourself on how to become better prepared to help yourself, your neighbors and the community.

If you have taken the time to prepare for a significant storm, or earthquake, then chances are, you’re prepared for a long-term power outage as well. As with all hazards, the more you can prepare to survive without our social systems intact for a period of time, the better off you will be. UWEM can help you know how to prepare yourself, your family and even your department at work for all sorts of hazards.

**Reference Material**

If you are interested in reading more about geomagnetic storms and other sources of EMP’s, here a limited list of some readings.


Scientists and gamers alike can now play disease detective, through “Solve the Outbreak,” a new iPad app from the Centers for Disease Control and Prevention (CDC). The app lets users assume the role of a disease outbreak investigator in the agency’s Epidemic Intelligence Service (EIS) by navigating three fictional outbreaks based on real-life events. Users get clues, review data, and make decisions to determine the cause of the outbreak.

“The goal is to use new technology to provide an engaging, interactive way for users to learn how CDC solves outbreaks, thereby increasing general knowledge about real-life public health issues,” said CDC Director Dr. Tom Frieden. “This application allows us to illustrate the challenges of solving outbreaks and how our disease detectives work on the front lines to save lives and protect people 24/7.” In the game, participants also become familiar with health tips, definitions and information about epidemiology, which is a science used to investigate outbreaks and to monitor patterns, causes and effects of diseases on the public. Users advance in rank as they earn points and can post their results on Facebook and Twitter to challenge other participants.

“This is a great learning tool for science teachers, teens, young adults, public health enthusiasts and mystery lovers,” said Carol Crawford, branch chief, CDC’s Electronic Media Branch. “The three introductory scenarios are based on actual events EIS officers have solved. We also plan to add new outbreak cases.”

Established in the early 1950s, the EIS program recruits some of the most gifted physicians, scientists, health professionals and veterinarians into a two year on the job training program in epidemiology. In addition to their scientific, research, and surveillance work in public health, EIS officers, also known as disease detectives, are ready at a moment’s notice to fly anywhere in United States and around the world to investigate mysterious disease outbreaks, natural and man-made disasters, and other public health emergencies.

“The public no longer have to experience an outbreak investigation through fictional Hollywood films like Contagion,” Dr. Frieden said. “Users can now get their own first-hand experience of being a disease detective through this new application.”

Solve the Outbreak application is available in the iTunes store at:
Sounds Like Something From a Science Fiction Movie

On Friday, February 15th, as the world was watching for another “close-call meteor” another meteorite streaked across the sky and exploded over central Russia, raining fireballs over a vast area and causing a shock wave that smashed windows, damaged buildings and injured nearly 1,200 people.

People heading to work in Chelyabinsk, Russia, heard what sounded like an explosion, saw a bright light and then felt the shock wave, according to a Reuters correspondent in the industrial city 950 miles east of Moscow.

The fireball, travelling at a speed of 19 miles per second according to Russian space agency, had blazed across the horizon, leaving a long white trail that could be seen as far as 125 miles away. Car alarms went off, thousands of windows shattered and mobile phone networks were disrupted. The Interior Ministry said the meteorite explosion, a very rare spectacle, also unleashed a sonic boom. "I was driving to work, it was quite dark, but it suddenly became as bright as if it were day," said Viktor Prokofiev, 36, a resident of Yekaterinburg in the Urals Mountains. I felt like I was blinded by headlights."

The meteorite, which weighed about 10 metric tons and may have been made of iron, entered Earth's atmosphere and broke apart 19-31 miles above ground. The energy released when it entered the Earth's atmosphere was equivalent to a few kiloton, the power of a small atomic weapon exploding.

No deaths were reported but the Russian government estimated 20,000 rescue and clean-up workers were sent to the region after President Vladimir Putin ordered federal and local emergency workers to ease the disruption and help the victims. The Interior Ministry said about 1,200 people had been injured, at least 200 of them children, and most from shards of glass. Imagine if a similar situation occurred over Seattle. Would you know what to do? Imagine the money you could make if you were a glass-repair business!

Click here for a 7-minute YouTube video compilation of some of the best amateur videos compiled as a result of the incident. Fascinating and a bit scary at the same time. It makes one wonder about how relatively insignificant we are all as inhabitants of this beautiful blue planet hurtling through outer space.
All-Hazards: Sink Holes

Lately, the national media has shared a couple of stories on sinkholes, a collapse of the ground surface due to underlying erosion of the soil and bedrock. About 20% of the United States is geologically susceptible to sink holes.

One news story told of a man in Florida that was in his home when a sinkhole opened up underneath his bedroom and he fell in. Unfortunately, the story has a tragic ending as authorities were not able to locate him. Another news story was about a golfer in Illinois that found himself suddenly dropped under the fairway by an 18-foot-deep sinkhole. He survived with a minor shoulder injury.

Other areas of the country have had recent sink hole incidents as well:
- Allentown, Bethlehem and Rockledge, PA.
- Assumption parish, LA
- Washington, D.C.
- Holyoke, Mass.

Sinkholes may be naturally occurring from underground run-off and erosion or may be man-made from ruptured utility lines, like this one that occurred near the UW Seattle Campus a few years back on May 2, 2007, following a water-main break on Eastlake Avenue that caused a 20 foot wide, 10 foot deep sinkhole. [http://seattletimes.com/html/localnews/2003691070_watermain03m.html](http://seattletimes.com/html/localnews/2003691070_watermain03m.html)
Being a Good Samaritan

We often hear that when family, friends, coworkers, neighbors or even total strangers experience some sort of emergency or calamity in front of us, we should “be Good Samaritans” and provide aid to them in their time of need. In a general sense, a Good Samaritan law (or laws) offers legal protection to people who give assistance to people who are injured, ill, in danger or otherwise incapacitated. The laws differ by country and even by state, so the responsibilities and rights of helpers vs. “helpees” may vary. For Washington state, RCW 4.24.300 removes liability when voluntarily providing medical aid to people in an emergency; this is meant to remove the fear of legal action after-the-fact so that people will feel more confident in stepping in to help others in need. RCW 9.01.055 spells out conditions under which average citizens retain the same immunity as local law enforcement officers when duly appointed police officers, deputies, sheriffs and state patrol officers explicitly request the assistance of a citizen & receive affirmation from the citizen that they will assist as needed. In the case of providing assistance to another citizen in need, they are usually required to remain on the scene until a professional first-responder arrives and allows them to leave. In addition, only assistance that is given freely without compensation or repayment expected is subject to protection & immunity from the legal system; this is meant to reward people who choose to act out of the best of intentions and penalize those who would exploit someone under an obvious disadvantage. The state of Washington additionally has a law that covers volunteers who act as Emergency Workers, and therefore have specific duties expected of them in the performance of their duties. The Emergency Worker Program is detailed in WAC 118-04; the key difference is that Emergency Workers are identified and trained prior to an emergency, and are usually offered some form of compensation by the state of Washington, not the victims that they assist. People acting in the spirit of Good Samaritans receive only thanks, perhaps a smile or a handshake and the knowledge that they can step forward to help out with the weight of the state backing them up.

Spring Cleaning = Spring Training

Winter is slowly beginning to recede, and as the calendar approaches March Madness & Easter, people across the Puget Sound begin to take action on some of their New Year’s Resolutions. Spring Cleaning is an annual chore in which we attempt to clear our homes and offices of clutter that has been collected over the last 12 months (or longer!) In many cases, this is a convenient time to devote a few moments to emergency readiness & supplies in the process. When replacing light bulbs and dusting away cobwebs, replace the batteries in your home smoke detector and test the device while you’re up on the step-ladder. When cleaning out A/C or furnace filters, make sure the filter is replaced as needed. When cleaning off shelves in closets or laundry rooms, take advantage of the open space to begin building a first-aid kit or purchase a kit and store it where you can get access to it in a hurry. As you go from room to room on your cleaning spree, point out places that family members can use to escape from the home in the event of a fire; if you have pets, make sure one person is picked to take care of helping pets evacuate as well. Lastly, while checking all nooks, crannies and crevices for critters, make sure to use any pesticides responsibly. When finished, properly secure these hazardous materials in a safe place that is out of sight & out of mind for children and pets. With one last look around the house, adjusting any picture frames or paintings that are slightly tilted, make sure that you have a list of emergency phone numbers that is up-to-date near your home telephone. Cleaning the house and reducing the number of obvious hazards around the home is hard work, but it is so much easier than having to recover from a messy accident that could have easily been prevented. Find some time & elbow grease this weekend; you’ll be glad you did!
April: 72-Hour Comfort Kit
Chances are you will have to rely upon supplies you have available in your home for at least the first three days following any major disaster. Store these items in something that is portable and easily carried, like a plastic tub with a tight-fitting lid. In the event of fire or rapid evacuation, you’ll appreciate having more than just the clothes on your back.

May: Important Documents
After a major disaster, you may need financial assistance and will want to document any property loss for insurance and income tax purposes. Having ready access to the documents necessary for completing application forms, as well as those which could be difficult to replace, will help reduce delays and frustration.

June: Extended Events
Coping with the impact of a disaster is never fun. However, much of the inconvenience and discomfort the disaster causes can be reduced by planning alternative ways to take care of your needs.

HELP WANTED! UW Emergency Management is always looking for volunteers to be trained and ready to work in the Emergency Operations Center (EOC) upon activation. If you are interested in learning more about this wonderful opportunity please email: disaster@uw.edu

Follow us on Facebook
NYPD and Microsoft Partner

Local tech giant Microsoft and the NYPD have partnered together to create the Domain Awareness System, known for short as “the dashboard.” Instead of sending the bat signal each time Gotham City receives a 911 call, the alert will be notified showing officers on an interactive map, footage from nearby security cameras, and whether there are any high level types of threats such as radiation detected. The dashboard instantly scans data from the police department’s arrest records, 911 calls, 3,000 security cameras, license plate readers, radiation detectors and assembles the data visually for the operator. Most recently the NYPD used the technology to pinpoint and determine where and how many shooters were involved in the Empire State Building incident in August of last year. Rob Enderle of Enderie Group, a technology analysis firm, says “This is the kind of stuff you used to only see in movies. Getting it to work in a way that police departments can use in real time is huge.” It was a venture that began in 2009 as part of the Lower Manhattan Security Initiative, a network of private and public cameras monitored by the department’s counterterrorism bureau. NYPD decided they wanted to develop a system that was created specifically with them in mind. In order to recoup some of the $30-$40 million the system cost to build, Microsoft has decided to market the system to other municipalities with the NYC getting a 30% cut. You can rest Batman, the Nerds have it from here.

Tuesday, February 19, 2013 photo shows a detail of a video wall showing New York city police officers an interactive map of an area in the city, security footage from nearby cameras.

Washington State Disaster Reservists

When people hear the phrase “perform your civic duty,” imaginations often conjure up scenes of jury duty or mailing in a ballot for local elections. A less-frequent, but no less important expression of civic duty is the Washington state Disaster Reservist Program, which employs professional emergency workers on a temporary basis to respond to crises within Washington state boundaries. Volunteers are paid to undergo training to assist government agencies and first-responders in a limited capacity, and then paid when activated to render aid to communities in need. While not a full-time career option, the Disaster Reservist Program is a unique way to gain experience and networking contacts in the Emergency Management career field, as well as being a great source of community service in times when our neighbors and “nearly-neighbors” need our help the most. When active, state Reservists can expect to work 8-12 hours per day, for 5-7 days each week until their assistance is no longer required. Some of the tasks that are assigned to Reservists include: Preliminary Damage Assessment, Community Relations, Assistance Award Processing, Quality Assurance and administrative positions within a Disaster Recovery Center. Reservists are matched to support disasters near their place of residence as best as possible, to minimize the burden of travel expenses when lending a hand during times of need. Compensation for working on disaster recovery includes earning sick leave days from the state of Washington, as well as an hourly wage of $20.19 for each hour activated for training or response. Learn more about the Disaster Reservist Program.
Top Grossing Disaster Movies

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**Disaster Films:** Disasters have been the subject of film-goers' fascination since the time of silent film epics, and this interest continues to exist up to the present time. Catastrophes can take so many different forms - but they are mostly man-made or natural. They can be either impending or ongoing, or they can exist locally or globally.

The most commonly portrayed disasters in films are:

- natural disasters (earthquakes, floods, hurricanes, tropical storms, etc.)
- accidents (skyscraper fires, plane crashes, ocean liners capsized or struck by icebergs, viruses unleashed)
- planetary-related (asteroids or meteors off-course)
- criminally-instigated (bombs planted in planes, terrorist conspiracies)
- alien invasions and rampaging creatures (often mutant)
- nuclear-related crises
- millennial-related (the end of the world, or end of the century tales)
- about failed technology or technology-gone awry (computers running amok)

Along with showing the spectacular disaster, these films concentrate on the chaotic events surrounding the disaster, including efforts for survival, the effects upon individuals and families, and 'what-if' scenarios. The best disaster films comment upon the negative effects of advancing technology, demonstrate the 'hubris' of scientists and other individuals, deliver uplifting moral lessons of sacrifice, and provide a 'how-to' in terms of survival skills.

[http://www.boxofficemojo.com/genres/chart/?id=disaster.htm](http://www.boxofficemojo.com/genres/chart/?id=disaster.htm)
Most disaster films have large-scale special effects (especially in the recent past's mega-budget spectaculars), huge casts of stars faced with the crisis, a persevering hero or heroine (i.e., Charlton Heston, Steve McQueen, etc.) called upon to lead the struggle against the threat, and many plot-lines affecting multiple characters. In many cases, the 'evil' or 'selfish' individuals are the first to succumb to the conflagration. As in any sub-genre, the move to capitalize on the 'disaster film' trend has led to many sub-par disaster films, with weak and unsubtle, formulaic plots, improbable circumstances and bad science, poor character development, and laughable acting from third-rate stars portraying cliched characters.

**The Greatest Disaster and End of the World Films: Pre-1970s**

Before the 1970s when disaster films underwent a strong revival, there were many earlier action/adventure disaster films, such as *The Hurricane* (1937) - including one of the most spectacular tropical storm scenes ever shot in film history. And two 50s films, *The High and the Mighty* (1954) and *Zero Hour* (1957) - were the inspiration for all the airplane disaster films of the 70s. The real horrors of World War II, and the perceived threat of nuclear annihilation and radioactive mutancy during the resultant Cold War led to a further onslaught of disaster-related films in the 50s.

**The Major Era of Disaster Films: The 1970s**

In the 1970s, actual disasters, such as the Watergate crisis (from 1972 to 1974), the collision of two 747s in the Canary Islands (in late March, 1977), and the Three Mile Island incident (in late March, 1979) made the time ripe for Hollywood to contribute. Big-budget disaster films provided all-star casts and interlocking, *Grand Hotel* or "Ship of Fools" type stories, with suspenseful action, races against time, and impending crises in locales such as aboard imperiled airliners, trains, dirigibles, crowded stadiums, sinking or wrecked ocean-liners, or in towering burning skyscrapers or earthquake zones.

Producer and director Irwin Allen was nicknamed "The Master of Disaster" in the 1970s due to the tremendous success of his films. The three films most responsible for jump-starting the renaissance of spectacular disaster films were *Airport* (1970), and Allen's two special effects-laden epics *The Poseidon Adventure* (1972) and *The Towering Inferno* (1974). These kinds of films would often receive numerous special/visual effects Oscar nominations, but were often neglected for their acting performances:

**Disaster Films in the 1980s:**

There were only a few notable disaster films in the 1980s.

**More Recent Resurgence of Disaster Films:**

There was a modern-day resurgence of disaster films, beginning in the mid-1990s. The sub-genre was really revived at this time with the emergence of advanced special effects techniques. The focus of such films is on the spectacular calamity and a small group of people in imminent danger, and how they must cope or devise a method of escape, or more recently, to survive in the apocalyptic aftermath. Disaster films from the recent past and present have included similar and more imaginative kinds of catastrophies (or threats of disaster), such as killer viruses, deadly terrorists, tornadoes, asteroid impacts, ecological disasters, among others.

[http://www.filmsite.org/disasterfilms.html](http://www.filmsite.org/disasterfilms.html)