



WHAT IS A HURRICANE?

A hurricane is a type of tropical cyclone –

The general term for all circulating weather systems over tropical waters

TROPICAL CYCLONES ARE CLASSIFIED AS:

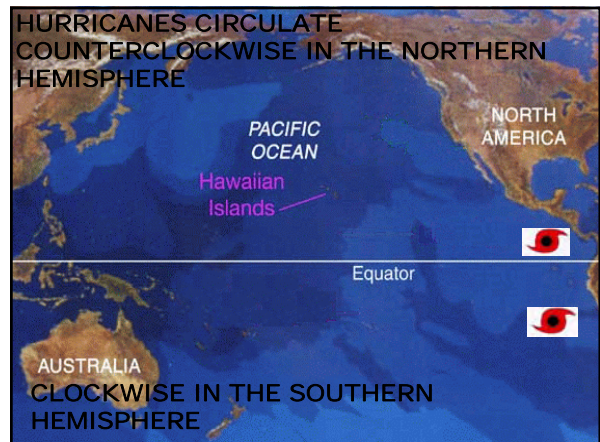
TROPICAL DISTURBANCE: A moving area of thunderstorms that maintains its identity for 24 hours or more

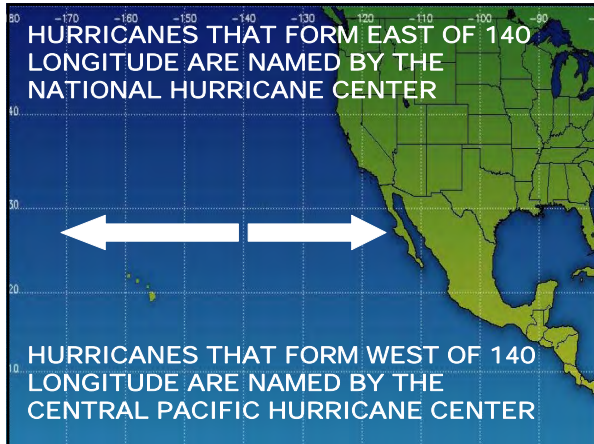
TROPICAL DEPRESSION: An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph or less

TROPICAL STORM: An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph

HURRICANE: An intense tropical weather system with a well defined circulation and maximum sustained winds of 74 mph or higher

IN THE WESTERN PACIFIC, HURRICANES ARE CALLED "TYPHOONS" AND IN THE INDIAN OCEAN THEY ARE CALLED "CYCLONES"

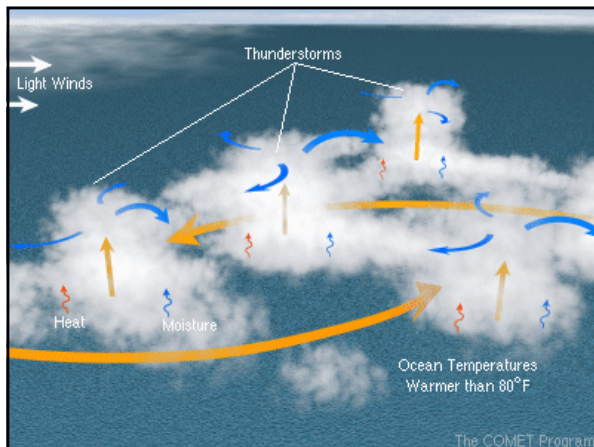




ALTHOUGH WE DESIGNATE HAWAII'S HURRICANE SEASON FROM JUNE THROUGH NOVEMBER.....

Hurricane Ekeka initially formed on January 28, 1992, for a very early start to a year in which we faced 11 tropical cyclones. 1992 was highlighted with the eye of Hurricane Iniki passing directly over Kauai and causing nearly \$3B of damage.

- ### HURRICANE RECIPE
- START WITH**
 - 1. WARM OCEAN WATER (80°F) TO A DEPTH OF ABOUT 100 FEET
 - ADD A DASH OF**
 - 2. UNSTABLE ATMOSPHERE (THUNDERSTORM ACTIVITY)
 - SPRINKLE IN**
 - 3. HIGH HUMIDITY
 - FOLD IN**
 - 4. PRE-EXISTING DISTURBANCE WITH CYCLONIC CIRCULATION
 - MIX WELL WITH**
 - 5. SMALL WIND SHEAR OR LITTLE CHANGE IN WIND SPEED OR DIRECTION



Only **1** in **10** Tropical Disturbances develops into a tropical storm

BUT

7 In **10** Tropical Storms develop into hurricanes

HURRICANES POSE A DANGEROUS TRIPLE THREAT

1. HIGH WINDS

YOU DO NOT WANT TO BE OUTSIDE
DURING THESE HURRICANE FORCE
WINDS



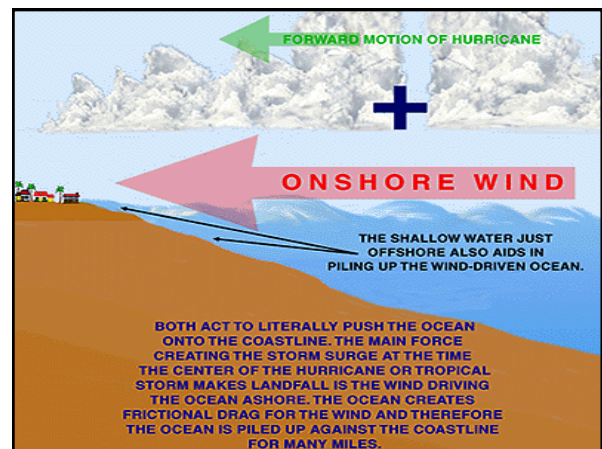
Max Mayfield
1X4 BOARD THROUGH
PALM TREE



Evelyn Shariahan
PLYWOOD SHEET
THROUGH PALM TREE

Tornadoes also form
within hurricanes,
adding to the
hurricane's
destructive power.

2. STORM SURGE



HOW BAD CAN STORM SURGE BE?

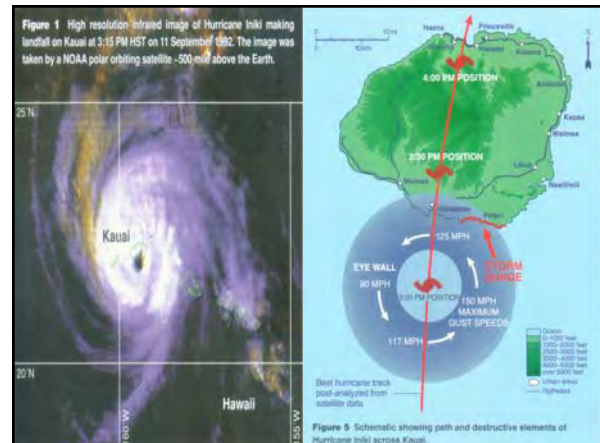
Most of the over 6,000 people killed in the Galveston hurricane of 1900 were killed by storm surge.

More than 300,000 people lost their lives to storm surge in Bangladesh in 1970.

3. HEAVY RAINS AND FLOODS

The core of a hurricane is characterized by a small central region known as the eye.

The typical eye is 12 to 24 miles in diameter and within the eye the winds are light and there are few clouds.



Don't be deceived if the calm of the "eye" passes over your area. The winds will change direction and quickly return to hurricane force. The most violent activity is in the area immediately around the eye, called the eyewall.

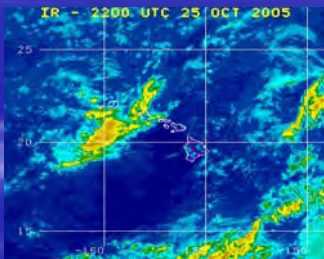


With the advances in surveillance and forecasting we will typically have ample warning of the approach of a hurricane.



Geostationary satellites provide imagery both day and night with estimates of the location, size and intensity of a storm and its surrounding environment.

WHEN A HURRICANE GETS CLOSE TO THE COAST IT IS MONITORED BY LAND-BASED RADAR. THESE RADAR SYSTEMS ALLOW FOR EVEN MORE DETAILED INFORMATION ON HURRICANE SYSTEMS.



When a hurricane system draws close the Central Pacific Hurricane Center will call in the U.S. Air Force "Hurricane Hunters." These pilots will fly aircraft into the core of a hurricane to measure wind, pressure, temperature, humidity and get an accurate location of the hurricane center.



QUIZ QUESTION

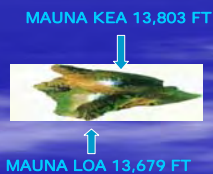
HISTORICAL EVIDENCE SEEMS TO INDICATE THAT MAUI MAY HAVE BEEN IMPACTED BY A HURRICANE BACK IN 1871. MAUI HAS NOT BEEN IMPACTED BY A HURRICANE IN WELL OVER A HUNDRED YEARS BECAUSE THE MOUNTAINS OF THE BIG ISLAND PROTECT US FROM HURRICANES APPROACHING FROM THE EAST.



~~TRUE~~

FALSE

The average hurricane is about **55,000 feet** in height and **300 to 600 miles in diameter**, so the mountains of the Big Island is roughly equivalent to a speed bump to your car!!



HOW WILL YOU BE INFORMED?

BECAUSE WE ARE ABLE TO TRACK HURRICANE SYSTEMS SO WELL, THE MEDIA WILL BEGIN TO COVER THE STORY VERY EARLY.

NOAA WEATHER RADIO CONTINUOUSLY BROADCASTS HURRICANE ADVISORY UPDATES FROM THE NATIONAL WEATHER SERVICE. THESE RADIOS ARE AVAILABLE IN MANY STORES.

CIVIL DEFENSE WILL ISSUE NOTIFICATIONS

CIVIL DEFENSE ADVISORIES ARE FAXED AND E-MAILED TO THE MEDIA AND THE EMERGENCY MANAGEMENT COMMUNITY FOR ACTION AND DISSEMINATION TO THE PUBLIC

CIVIL DEFENSE ADVISORIES ARE POSTED ON OUR WEBSITE AT:

<http://www.mauicounty.gov/departments/CivilDefense>
YOU CAN SIGN UP AT OUR WEBSITE TO RECEIVE ADVISORIES VIA E-MAIL

CALL OUR ADVISORY INFORMATION SYSTEM (AIS) AT 808-986-1200 TO HEAR OUR ADVISORIES

A **HURRICANE WATCH** IS ISSUED WHEN HURRICANE CONDITIONS ARE POSSIBLE WITHIN ROUGHLY **36 HOURS**

THESE ARE SOME OF THE THINGS YOU SHOULD BE DOING:

FREQUENTLY LISTEN TO RADIO, TV, OR NOAA WEATHER RADIO FOR OFFICIAL INFORMATION
HAVE YOUR DISASTER SUPPLY KIT READY

PREPARE TO COVER ALL WINDOW AND DOOR OPENINGS WITH SHIELDING MATERIALS

FUEL AND SERVICE FAMILY VEHICLES

PREPARE TO BRING INSIDE LOOSE, LIGHT-WEIGHT OBJECTS (LAWN FURNITURE, GARBAGE CANS, ETC.)

A **HURRICANE WARNING** IS ISSUED WHEN HURRICANE CONDITIONS ARE EXPECTED WITHIN APPROXIMATELY **24 HOURS**

THE SIREN ALERT SYSTEM WILL BE SOUNDED



THE EMERGENCY ALERT SYSTEM (EAS) WILL BROADCAST THE WARNING MESSAGE THROUGH RADIO AND TELEVISION

DURING THE WARNING PERIOD:

CLOSELY MONITOR RADIO, TV, OR NOAA WEATHER RADIO FOR OFFICIAL INFORMATION

COMPLETE PREPARATION ACTIVITIES, SUCH AS PLACING SHIELDING MATERIAL OVER DOORS AND WINDOWS, STORING LOOSE OBJECTS, ETC.

CIVIL DEFENSE WILL BEGIN TO ANNOUNCE SHELTER LOCATIONS AS THEY ARE OPENED BY THE AMERICAN RED CROSS

IF YOU ARE GOING TO A SHELTER REMEMBER TO TAKE YOUR DISASTER SUPPLIES KIT - THE SHELTER ONLY PROVIDES A REASONABLY SAFE ENVIRONMENT - NOTHING ELSE

LEAVE FOOD AND WATER FOR YOUR PET - PETS ARE NOT ALLOWED IN SHELTERS

IF YOU LIVE IN A WELL CONSTRUCTED BUILDING (HURRICANE STRAPS, TIES, ETC.) OR HAVE FAMILY OR FRIENDS THAT HAVE SUCH A STRUCTURE WHERE YOU CAN STAY- PLAN TO STAY THERE - YOU WILL BE MUCH MORE COMFORTABLE THAN AT A SHELTER

Turn refrigerator to maximum cold and open only when necessary

Unplug small appliances

Turn off propane tanks

Fill bathtub and large containers with water for sanitary purposes

Turn off utilities if instructed to do so

DURING THE STORM - IF WINDS BECOME STRONG:

STAY AWAY FROM WINDOWS AND DOORS EVEN IF THEY ARE COVERED
TAKE REFUGE IN A SMALL INTERIOR ROOM, CLOSET, OR HALLWAY

CLOSE ALL INTERIOR DOORS
SECURE AND BRACE EXTERNAL DOORS

IF YOU ARE IN A TWO-STORY HOUSE, GO TO AN INTERIOR FIRST-FLOOR ROOM, SUCH AS A BATHROOM OR CLOSET



LIE ON THE FLOOR UNDER A TABLE OR ANOTHER STURDY OBJECT

AFTER THE STORM:

Keep listening to radio, TV or NOAA weather radio

Wait until an area is declared safe before entering.

Stay on firm ground. Moving water only 6 inches deep can sweep you off your feet. Standing water may be electrically charged from underground or downed power lines.

Check gas, water and electrical lines and appliances for damage.

Do not drink or prepare food with tap water until you are certain it is not contaminated.

Use the telephone to report life-threatening emergencies only.

QUESTIONS ?