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NWS Provides Typhoon Predictions for 2020

The National Weather Service (NWS) Weather Forecast Office Guam, in coordination with the University of Guam (UOG) Water and Environmental Research Institute of the Western Pacific (WERI), prepared an assessment for tropical storm and typhoon activity for the island of Guam for the remainder of 2020.

The full assessment is attached below and within this email.

The Offices of Guam Homeland Security and Civil Defense (GHS/OCD) advise residents and visitors to make preparations for all-hazards ahead of time; Make a Plan, Build a Kit, Stay Informed:

I. Make a Plan:

- A. Your family may not be together if a disaster strikes, so it is important to think about the following situations and plan just in case. Consider the following questions when making a plan:
 - i. How will my family/household get emergency alerts and warnings?
 - ii. How will my family/household get to safe locations for relevant emergencies?
 - iii. How will my family/household get in touch if cell phone, internet, or landline doesn't work?
 - iv. How will I let loved ones know I am safe?
 - v. How will family/household get to a meeting place after the emergency?
- B. Download and Print A Plan. Visit <https://www.ready.gov/make-a-plan>:
 - i. For parents
 - ii. For kids
 - iii. For your wallet
 - iv. Steps to make a plan
 - v. Tips on emergency alerts and warnings
- C. Here are a few easy steps to start your emergency communication plan:
 - i. Understand how to receive emergency alerts and warnings. Make sure all household members are able to get alerts about an emergency from local officials.
 - Local media; TV, radio, print, text alerts
 - Social media: GHS/OCD Facebook, Instagram and Twitter. National Weather Service Guam Facebook.
 - GHS/OCD website: www.ghs.guam.gov, National Weather Service Guam website: <https://www.weather.gov/gum/>.
 - Emergency Alert System (EAS)
 - All Hazards Alert Warning System (AHAWS): 19 in low-lying areas, with voiced, pre-scripted capabilities and 6 wailing sounds and sirens.

- Have a battery operated radio.
 - GHS/OCD recognize all of these as separate forms of communication and rely on all to relay important emergency notifications.
- ii. Discuss family/household plans for disasters that may affect your area and plan where to go.
 - Have discussions with everyone in the family about the different risks that may affect the community.
 - Typhoons, Earthquakes, Tsunamis, whether you live in a flood zone, etc.
 - iii. Collect information. Create a paper copy of the contact information for your family that includes:
 - phone (work, cell, office)
 - email
 - social media
 - medical facilities, doctors, service providers
 - school
 - iv. Identify information and pick an emergency meeting place. Things to consider:
 - Decide on safe, familiar places where your family can go for protection or to reunite.
 - Examples of meeting places:
 - In your neighborhood: A mailbox at the end of the driveway, or a neighbor's house.
 - Outside of your neighborhood: library, community center, church, or family friend's home.
 - Outside of your village: home of a relative or family friend. Make sure everyone knows the address of the meeting place and discuss ways you would get there.
 - Make sure these locations are accessible for household members with disabilities or access and functional needs.
 - If you have pets or service animals, include them in your plan.
 - v. Share information. Make sure everyone carries a copy in his or her backpack, purse, or wallet. You should also post a copy in a central location in your home, such as your refrigerator or family bulletin board.
 - vi. Practice your plan. Have regular household meetings to review your emergency plans, communication plans and meeting place after a disaster, and then practice, just like you would a fire drill.

II. Build A Kit:

- A. A disaster supplies kit, or emergency kit, is a collection of basic items your household may need in the event of an emergency.
- B. Kits should be assembled well in advance of an emergency. You may have to evacuate at a moment's notice and take essentials with you.
- C. You may need supplies to last for at least 72 hours.
- D. Multiple if possible: Home, work, vehicle
- E. A basic emergency supply kit could include the following recommended items:
 - i. Water, one gallon of water per person per day for at least three days, for drinking and sanitation
 - ii. Food, at least a three-day supply of non-perishable food

- iii. Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- iv. Flashlight and extra batteries
- v. First aid kit
- vi. Whistle to signal for help
- vii. Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
- viii. Moist towelettes, garbage bags and plastic ties for personal sanitation
- ix. Wrench or pliers to turn off utilities
- x. Manual can opener for food
- xi. Cell phone with chargers, inverter or solar charger
- xii. Specific to your household:
 - Prescription medications and glasses
 - Infant formula and diapers
 - Pet food and extra water for your pet
 - Cash or traveler's checks and change
 - Important family documents such as copies of insurance policies, identification and bank account records in a waterproof, portable container
 - Sleeping bag or warm blanket for each person
 - Clothing
 - Household chlorine bleach and medicine dropper – When diluted, nine parts water to one part bleach, bleach can be used as a disinfectant. Or in an emergency, you can use it to treat water by using 16 drops of regular household liquid bleach per gallon of water. Do not use scented, color safe or bleaches with added cleaners.
 - Fire extinguisher
 - Matches in a waterproof container
 - Feminine supplies and personal hygiene items
 - Mess kits, paper cups, plates, paper towels and plastic utensils
 - Paper and pencil
 - Books, games, puzzles or other activities for children

III. Stay Informed:

- A. www.ready.gov
- B. www.ghs.guam.gov
- C. <https://www.weather.gov/gum/>

For more information, contact GHS/OCD Public Information Officer, Jenna Blas at (671) 478-0208 or via email at jenna.g.blas@ghs.guam.gov.

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Full assessment below:

Typhoon Predictions for Guam for 2020

4 June 2020

**Prepared by: Mr. Chip Guard, Sole Proprietor of Tropical Weather Sciences (Guam)
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Landon Aydlett, National Weather Service Forecast Office Guam**

This is the coordinated assessment for tropical storm and typhoon activity for the island of Guam for the remainder of 2020. This assessment is based on independent Pacific-wide typhoon predictions, internal forecast assessments for Micronesia activity, the current and predicted states of the El Niño-Southern Oscillation (ENSO) climate pattern, and the historical tropical cyclone activity associated with past ENSO states. It is prepared for the Government of Guam, Guam citizens, visitors, and other interested parties. These predictions could change over the next few months.

Background: For Micronesia, there is a relatively predictable relationship between tropical cyclone activity and the state of ENSO. In the tropics, tropical cyclones generally move from east or southeast to west or northwest. Thus, if a tropical storm or typhoon develops southeast or east of Guam, it will often track toward the island. If a tropical storm or typhoon develops west or north of Guam, it will usually move away from the island. When an El Niño occurs, tropical storms and typhoons begin to develop earlier in the year and farther to the east toward eastern Micronesia. They tend to move toward the west, west-northwest or northwest, often toward Guam. When a La Niña event occurs, the storms tend to develop later in the year and west of or near the Mariana Islands. In this case, they usually move west or northwest before significantly intensifying. During El Niño events, the chance of Guam getting a direct hit triples when compared to the chance during non-El Niño periods. During an ENSO-neutral state, which is the transition state between El Niño and La Niña, the chance of getting a direct hit by a tropical storm or a typhoon is much better than during La Niña, but not quite as good as during El Niño. In general, the odds of Guam getting a **typhoon** are about 1 in 5 or about once every 5 or 6 years. In El Niño years, the odds are 1 in 3 or about once every 3 years, while in La Niña the odds drop to 1 in 10 or about once every 10 years.

Options: So where are we now? We are now in an ENSO-neutral phase. What do we expect for the future? Most climate forecast models suggest that we will remain in the ENSO-neutral phase through the Summer and into the Fall, then begin to transition to a La Niña phase. Could there be a transition to an El Niño instead of a La Niña? There could be such a transition, and the models are now actually hinting at an eventual El Niño solution. Could we remain in an ENSO-neutral phase? Yes, and that is still a distinct possibility. Since the computer models do not indicate movement toward a moderate to strong La Niña or a moderate to strong El Niño, there is quite a bit of uncertainty in the end-of-year ENSO status and thus in the number and intensities of 2020 tropical cyclones.

Outlook: So, what does all of this mean for Guam?

1. Based on the above assessments, our predictions are for 1-3 tropical depressions or tropical storms to pass within 200 miles of Guam from June through mid-July, followed by 2-3 typhoons to pass within 200 miles of Guam between mid-July and November. The typhoons will most likely be Category 1 to Category 3 typhoons, but a Category 4 typhoon late in the season is possible. The uncertainty in the late Fall to early Winter ENSO status (continuing ENSO-neutral or moving to an El Niño phase or to a La Niña phase) should extend the typhoon season to the end of November. Typhoon tracks should become more equatorward by December, reducing the threat for Guam.

2. For the occurrence of actual winds on Guam, we offer the following. For the remainder of the year, there is a 50-60% chance (1 event every 1.5-2 years) of getting a strong tropical storm (sustained winds 50-73 mph) and a 25-30% chance (1 event every 3-4 years) of getting a Category 1 typhoon (sustained winds 74-95 mph). The chance of getting a Category 2 typhoon (sustained winds 96-110 mph) is about 15-18% (1 event in 6-7 years), while the chance of getting a Category 3 typhoon (sustained winds 111-129 mph) is around 8-10% (1 event every 10-13 years). Chances of getting a Category 4 typhoon (sustained winds 130-155 mph) is around 3-4% (1 event every 25-35 years) and finally, the chances of getting a Category 5 (sustained winds 156-195 mph) is less than 1-2% (1 event every 50-100 years). These percentages will likely need to be fine-tuned as the season evolves. Tropical cyclone activity for Guam could begin around early summer, but keep in mind that weather patterns in our area can change quite rapidly. We are located in the only basin that can get a typhoon any month of the year. Upper atmospheric wind patterns have finally become those favorable to tropical cyclone development. Thus, the odds of getting a few severe tropical storms and/or a Category 1 or 2 typhoon on Guam is actually pretty good with the evolving weather patterns.

3. The continuation of ENSO-neutral into the Fall should keep sea levels relatively near normal with only small fluctuations. This should minimize the threat of coral bleaching for the remainder of 2020.

4. The below normal rainfall we experienced in the first half of 2020 has transitioned to near normal rainfall, which we expect will likely persist through the end of the year.

Keep in mind that these predictions can change as the year progresses.