

Tab B to Appendix 4 to Part V of EM Plan
Public Awareness Pamphlet: Tornadoes

Fleet Activities, Okinawa

DISASTER PREPAREDNESS PAMPHLET

TORNADOES/WATERSPOUTS



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GENERAL

Tornadoes are arguably the most violent of storms, and many people newly assigned to Okinawa do not realize that Okinawa averages 18 per year. It is important to understand nature's warnings signs: the sky may appear dark green; it may sound like a freight train or jet passing by; hail falls, which is extremely rare on Okinawa.

WHAT IS THE THREAT?

1. Tornadoes can occur with little to know warning. They can occur all year round but most commonly accompany tropical cyclones, typhoons, and heat thunderstorms.

a. Supercell-type tornadoes have occurred within the rain band of typhoons, which are common on Okinawa from 1 June to 30 November (the "typhoon season"). Typhoons addressed in a separate pamphlet.

b. Many waterspouts (nonsupercell tornadoes) have occurred near the coastline of Okinawa. The following pictures are of a waterspout on 20 August 2010 off the coast of Yomitan, Okinawa, five minutes drive from Torii Station main gate and 10 minutes from Kadena Air Base Gate Four. The photo to the right shows Okinawa's popular Alavila Hotel in the forefront.



Waterspout off the coast of Okinawa, 20 August 2010

c. On 3 April 2002, one of Fleet Activities very own was the victim of a tornado that touched down in O'Donnell Housing and flipped over his car.

d. Various statistical characteristics of tornadoes and waterspouts are as follows:

- Tornadoes occur most frequently in September and least frequently in March.
- Waterspouts occur most frequently in October.
- Both tornadoes and waterspouts have higher activities during daytime. The activity of tornadoes has two peaks between 1000 and 1100, and between 1500 and 1600 Japan Standard Time.
- About two-fifths of the tornadoes occur on multiple-tornado days.
- The average lifetimes of tornadoes and waterspouts are 12 and 14 minutes, respectively.
- The average damage path width and path length are 98 m and 3.2 km, respectively.
- Throughout Japan, fatalities and injuries caused by tornadoes per year are 0.58 and 29.7, respectively. Completely destroyed, severely damaged, and partly damaged residential houses per year are 17.0, 39.0, and 329, respectively.

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- About 46% of tornadoes are associated with extratropical cyclones (16% in a warm sector and 15% associated with cold fronts) and 20% associated with typhoons.

WHAT CAN I DO?

PREPARE:

- ☛ Have an emergency kit ready!
- ☛ Have a shelter prepared. The interior room, away from windows, and loose objects.
- ☛ If there are warnings and time allows, secure loose items outside.

RESPOND:

- ☛ Move away from windows and get to an interior room or hallway, preferable as far downstairs as possible. A bathtub with a mattress pulled over is another option.
- ☛ If you're in your vehicle, exit the vehicle and find indoor shelter since tornados can more easily pick up cars. It is foolish to try to outrun a tornado in your vehicle.
- ☛ If you're outdoors, try to find a sturdy building if possible. Staying outdoors is a last resort. If you find yourself too far from shelter, seek shelter in a ditch or depression and lay flat while covering your head. If water starts to surge in from flooding, relocate quickly.
- ☛ Be careful to avoid debris that may be flying about at deadly speed.
- ☛ Avoid all water activity when there is any threat of tornadoes/waterspouts in the area. Waterspouts are generally weaker than their land counterparts (tornadoes) but still extremely dangerous.

RECOVER:

- ☛ Be careful in and around damaged structures.
- ☛ Stay away from obvious dangers such as downed power lines, ruptured/damaged fuel tanks, open flames, falling/dangling trees/branches, etc.

WHO CAN I CALL?

EMERGENCY TELEPHONE NUMBERS	
EMERGENCY SERVICES (Fire, Police, Ambulance)	OTHER IMPORTANT CONTACTS
<ul style="list-style-type: none">➤ On Base: 911➤ Off Base to Base 911: 911-1911➤ Cell Phone to 911: 098-911-1911➤ Japanese: 119 (Fire/Ambulance); 110 (Police)➤ VOIP: 011-81-98-911-1911 (Skype, Vonage)	<ul style="list-style-type: none">➤ CFAO CDO: 090-9789-9631➤ CFAO Security: 098-954-1410➤ White Beach Fire: 098-954-1365➤ Navy Hospital Emergency Room: 098-893-1984➤ Navy Ambulance: 098-893-7911➤ Taxi: 098-959-7433➤ Daiko: 098-959-5900➤ Towing (24 hours): 090-3794-2556➤ Weather Information: 634-4081➤ Kadena Utilities: 634-3879➤ Emergency Operations Center: 634-9335/9331

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INFORMATION

When typhoons threaten Okinawa, the most reliable means for staying abreast of tornado threats is via the Japan Meteorological Association (JMA) website at <http://www.jma.go.jp/> (click the “**Radar and Nowcast**” link then click “**Tornado**” tab). The tornado tab will color code areas under a threat as either yellow or red. If/when Okinawa has yellow or red colors on or near it, click on Okinawa to zoom in. Yellow areas will have a 1% to 5% for a tornado; red would be a 5% to 10% chance within an hour of the listed date/times.

SUMMARY:

Okinawa’s homes and business are typically built of reinforced concrete that is able to withstand higher winds than most parts of the world. With minimal advanced planning, you and your family will remain safe, comfortable, and dry in the event a tornado strikes your area.

In the event that evacuation to a shelter becomes necessary, know the location of Fleet Activities Okinawa headquarters, and from there expect escorts to a shelter.

For questions, comments, recommendations regarding this pamphlet, contact the Fleet Activities Okinawa Emergency Management Officer at 634-9331/9305.