

Typhoon Usagi Disaster Response Report – 4th Report

Central Emergency Operation Center
Data as of 21.09.2013 21:21:00

I. Rainfall (Source: Central Weather Bureau)

The Central Weather Bureau issued the sea warning for Severe typhoon Usagi at 23:30 on September 19 2013, followed by the sea and land warning at 8:30 on September 20. At 21:00 on September 21, the typhoon was located at 21.1 degree north latitude and 119.6 degree east latitude. This placed the typhoon out at sea 160 km southwest of Cape Eluanbi. the Category 4 storm has a storm radius of 280km and Category 5 storm has a storm radius of 120km. and the typhoon is moving west-northwest by west at a rate of 19 km/h. The latest update indicated that the typhoon center is out at the sea southwest of Cape Eluanbi and moving west-northwest by west. The storm circle still covers the Hengchun Peninsula, eastern, southeastern, central, and southern parts of Taiwan, and Penghu, so there continues to be wind and rain in these regions. The typhoon is expected to continue declining in strength and the storm circle is showing signs of shrinking. Lanyu, Lyudao, Taitung, Hengchun Peninsula, Pingtung, Hualien, Kaohsiung, Tainan, Nantou, Chiayi, Yunlin, Penghu, and Kinmen should stay vigilant and take precautions against strong winds and heavy rains. Shipping sailing or operating of Bashi Channel, Taiwan's southeast coast, northeast coast, Taiwan Strait, and Dongsha Island should also take extra precautions. Yilan should take extra precautions against rains. Taitung, Hualien, Hengchun Peninsula, and the mountains in Yilan and southern Taiwan have a chance of experiencing localized torrential rains or extremely torrential rains between tonight (9/21) and tomorrow morning (9/22). Localized extremely heavy rains and torrential rains are expected in Yilan, southern Taiwan and the mountains in Nantou as well as north of Taichung. Heavy rains and extremely heavy rains are expected in northern Taiwan. Central Taiwan, Penghu, and Kinmen have a chance of experiencing heavy rains. Please watch out for landslides, falling rocks, debris flows or flash floods. Low-lying regions should take precautions against flooding. Wind and waves remain high throughout Taiwan, so please keep away from the coast. The areas affected by gusts should take precautions against power outage. Due to the outer circulation of the typhoon and terrains, the Greater Taipei area has a chance of experiencing gusts above Force 10 so please be careful. Spring tide is currently in effect so low-lying areas should take precautions against flooding and storm surges.

II. Disaster Profile

A. Rainfall (Source: Central Weather Bureau, Ministry of Transportation and Communications)

(Data from 9/19 00:00 to 9/21 17:00)

Area	Rainfall (mm)
Gulu, Datong Township, Yilan County	489
Laiyi, Laiyi Township of Pingtung County	395
Xiangyang, Haiduan Township of Taitung County	374
Fengnan, Fuli Township of Hualien County	367
Xiqiusi Mountain, Jianshi Township of Hsinchu County	341
Lala Montain, Fuxing Township of Taoyuan County	334
Xiaoguan Mountain, Taoyuan District of Kaohsiung City	261
Shiding, Shiding District of New Taipei City	200

B. Wind Speed (Source: Central Weather Bureau, Ministry of Transportation and Communications)

Area	Instantaneous maximum gust speed (Wind category)
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Lanyu, Lanyu Township of Taitung County	17
Hengchun, Hengchun Township of Taitung County	14
Dongji, Wangjia Township of Penghu County	11
Dawu, Dawu Township of Taitung County	11
Wuci, Wuqi District of Taichung City	10
Chenggong, Chenggong Township of Taitung County	10
Xinwu, Xinwu Township of Taoyuan County	10
Penghu, Magong City of Penghu County	10

III. Typhoon Response

A. City-county emergency operation centers established (Source: National Fire Agency, Ministry of the Interior)

Type	Number of EOCs established	Location
County/City	13	Level 1: Tainan City, Kaohsiung City, Nantou County, Yunlin County, Chiayi County, Pingtung County, Hualien County, Taitung County, Penghu County, Kinmen County, Chiayi City Level 2: New Taipei City, Yilan County
Port	3	Level 1: Taichung Port, Kaohsiung Port, Hualien Port

B. Danger areas declared (Source: National Fire Agency, Ministry of the Interior)

County/City	Number of danger areas					Enforcement	
	Low-lying area	Mountain	Coast	River	Other	Warnings issued	Penalty notices issued
New Taipei City	0	0	3	1	8	0	0
Tainan City	0	0	6	0	27	0	0
Kaohsiung City	0	7	12	13	0	0	0
Nantou County	0	289	0	73	234	0	0
Yunlin County	0	13	14	0	0	0	0
Chiayi County	0	6	3	27	0	0	0
Pingtung County	2	8	2	17	0	0	0
Yilan County	0	0	5	35	0	0	0
Hualien County	0	25	18	69	166	0	0
Taitung County	16	16	78	165	0	0	0
Penghu County	0	0	6	0	0	0	0
Kinmen County	0	2	6	0	0	0	0
Chiayi City	0	0	0	2	1	0	0
Total	18	366	153	402	436	0	0

C. Distribution of debris flow danger areas (Source: Soil and Water Conservation Bureau, Council of Agriculture)

County/City	Debris Flow Danger Areas							Status
	Yellow Alert			Red Alert			Total	
	Potential debris flow rivers	Township	Village	Potential debris flow rivers	Township	Village	Potential debris flow rivers	
Kaohsiung City	77	4	24	0	0	0	77	
Taoyuan County	25	1	8	5	1	3	30	
Hsinchu County	26	1	7	0	0	0	26	
Pingtung County	54	9	31	11	1	6	65	

Yilan County	85	4	31	2	1	1	87
Hualien County	111	8	42	2	1	1	113
Taitung County	156	12	58	0	0	0	156
Total	534	39	201	20	4	11	554

Notes: Response to alert:

1. Yellow Alert (predicted rainfall higher than debris flow warning threshold): Local governments should advise residents to evacuate.
2. Red Alert (actual rainfall has reached debris flow warning threshold): Local government may issue mandatory evacuation orders based on local rainfall and actual conditions.

D. Mountain climber contact (Source: National Police Agency, Ministry of the Interior)

Table created: 21/09/2013

Mountain Climbing Applications		Persuaded to not enter mountain areas		Climbers contacted								Climbers out of contact	
				Already left the mountains		Safe accommodation in the mountains		Shelter in place		Leaving the mountains			
Case	Persons	Case	Persons	Case	Persons	Case	Persons	Case	Persons	Case	Persons	Case	Persons
1104	5687	985	5099	119	588	0	0	0	0	0	0	0	0

(Note: Climbers out of contact refers to climbers that have not contacted rangers, family members or the police for more than 48 hours after entering the mountain areas. This table was compiled by the MOI National Police Agency and the MOI Construction and Planning Agency)

E. Accommodation of fishermen from Mainland China (Source: Council of Agriculture, Executive Yuan)

Time	Accommodated on boats	Accommodated on shore	Total
2013/09/21 20:17	991	834	1825

F. Suspension of school of and work (Source: National Fire Agency, Ministry of the Interior)

School and work suspended in Dawu Township, Jinfeng Township, Daren Township, and Lanyu Township in Taitung County tomorrow (9/22).

IV. Evacuation and Emergency Shelters

A. Number of people evacuated (Source: Department of Civil Affairs, Ministry of the Interior)

Municipalities	Estimated number of evacuees	Actual number of additional evacuees	Cumulative number of evacuees
Yilan County	152	75	75
Nantou County	16	16	16
Chiayi County	247	247	247
Pingtung County	352	273	273
Taitung County	152	152	152
Hualien County	2116	1336	1336
Taichung City	28	28	28
Tainan City	78	78	78
Kaohsiung City	1139	1139	1139
Kinmen County	5	5	5
Total	4285	3349	3349

B. Shelters

(1) Emergency shelters (Source: Ministry of Health and Welfare)

Up to 70 shelters were opened, housing a cumulative total of 1274 people. There are currently 70 shelters in operation holding 1248 people. (See attachment 1 for details)

(2) Civilians housed in military camps (Source: Ministry of National Defense)

Military camps were prepared to provide emergency shelter for 49213 civilians at 102 locations.

Table of Military Camps Prepared as Emergency Shelters				
Area	3rd Combat Zone (North)	5th Combat Zone (Central)	4th Combat Zone (South)	2nd Combat Zone (East)
Military Camp Shelters	35	35	24	8
Subtotal	102			
Capacity	16322 people	15653 people	15174 people	2064 people
Subtotal	49213 people			

V. Disaster statistics

A. Deaths and injuries (Source: National Fire Agency, Ministry of the Interior)

County/City	Deaths	Missing	Injured	Remarks
Kinmen County	0	0	9	<ol style="list-style-type: none"> At 11:18 on September 21, one rider was struck by falling street tree snags near Pasta Italian Restaurant in Zhupu W. Rd., Jincheng Township, Kinmen County. He was transported to a hospital at 11:42 and felt pain in his right leg with several bruises on his body. At 11:43 on September 21, there were people struck by falling street tree snags in the Mt Taiwu Cemetery section in Shanwai Vil., Jinhua Township, Kinmen County. 3 women and 2 men were injured when they rode two scooters. All were slightly injured (limb injuries) of which four can walk on their own and the fifth patient (a 10-year-old girl) has facial injuries. At 16:52 on September 21, there are 2 people struck by falling street tree snags in the Queshan Field, Jinsha Township. They sought medical treatment on their own. At 16:52 on September 21, one person was by falling street tree snags in No.32, Xiazhuangzhongxing Rd., Jinhua Township, Kinmen County. The patient remained conscious and was transported to Kinmen Hospital.
Total	0	0	9	-

B. Lifeline damage (Source: Ministry of Economic Affairs, National Communications Commission)

Unit	Item	Scale of impact	Emergency repairs completed (Households, Sites)	Awaiting repairs (Households, Sites)	Remarks
Ministry of Economic Affairs	Water supply	6710	2100	4610	<ol style="list-style-type: none"> Hengchun Operations Station suffered failure to Taipower's transformers. This led to a water outage for 2,500 households in four villages (such as Daquan) in Hengchun Township. Water tankers are on standby. Taipower has repaired the transformers; however, the out wires may be short-circuited due to canebrakes. Water supply will be restored once problems are eliminated and power is restored by Taipower. Power outage at Jinlun Systeem in Taitung County and Langdau System in

					<p>Lanyu has cut water supply to 570 households in the Jinlun area of Taimali Township, and for 200 households in the Langdau area of Lanyu Township. Water supply will be restored once power is restored; the water pumps of Chihpen System failed because power was tripped. Emergency repairs have been carried out and Taina water treatment plants have provide water supply support. 400 households have no tap water. It is expected to restore water supply at 22:00. The water intakes of the Hongye water purification plants were damaged due to extremely heavy rains. The personnel will be dispatched to restore after the water level drops. This led to a water outage for 515 households in Hongye Village and Tauyuan Village of Chishang Township.</p> <p>3. In Taitung County, the Dawu System suffered failure to the electrical-mechanical equipment. This led to a water outage for 425 households in the Daniau, Jialuoban, and Guzhuang areas. Emergency repairs are not possible due to roadside landslide at connective roads. Water supply will be restored once power is restored.</p>
	Electricity	89896	52309	37587	<p>Power outage areas: Pingtung County: Jiadong Township, Shizi Township, Fangshan Township, Mudan Township, Checheng Township, Hengchun Township, Manzhou Township, Chunri Township, Fangliao Township, Laiyi Township, Daren Township. Taitung County: Haiduan Township, Chenggong Township, Changbin Township, Taimali Township, Taitung City, Beinan Township, Donghe Township, Lüdao Township, Yanping Township, Jinfeng Township, Lanyu Township. Kinmen County: Jinsha Township, Jinning Township, Jinhu Township, Jincheng Township. The personnel can be</p>

					dispatched to restore power only after the storm has weakened.
	Telecommunications (Cell station)	104	18	86	104 cell stations failed where 18 have been restored and 86 needs repair. It is expected to restore all of them before 18:00 on September 23.

(Note: This table was filled out by the Ministry of Economic Affairs based on National Communications Commission statistics)

C. Transportation

(1) Transportation damage and repairs (Source: Ministry of Transportation and Communications)

Item	Disaster affected sites (sites)	Repaired (sites)	Not repaired (sites)	Remarks
Provincial Highway	7	4	3	
Total	7	4	3	

(Note: Summary of road damage provided in separate attachment)

(Note: This table was compiled by the Ministry of Transportation Communications based on statistics provided by the EY Council of Indigenous Peoples, EY Council of Agriculture and MOI Construction and Planning Agency)

(2) Suspension of railway services (Source: Ministry of Transportation and Communications)

No.	Date and Time	Line	Service	Reason	Remarks	Reported Time
1	09/21 23:59	Northern Loop Line	Express trains suspended	Cancelled due to Usagi typhoon		09/21 19:55
2	09/21 23:59	Southern Loop Line	All services suspended	Cancelled due to Usagi typhoon		09/21 19:55
3	09/21 23:59	Taitung Line	All services suspended	Cancelled due to Usagi typhoon		09/21 19:56
4	09/21 23:59	Yilan County	Express trains suspended	Cancelled due to Usagi typhoon		09/21 19:56
5	09/21 23:59	Pingxi Line	All services suspended	Cancelled due to Usagi typhoon		09/21 19:56
6	09/21 23:59	Alishan Forest Railway	All services suspended	Cancelled due to Usagi typhoon		09/21 19:56

(3) Flight cancellations (Source: Ministry of Transportation and Communications)

A total of 137 flights were cancelled or delayed due to the effects of Typhoon Usagi.

(See attachment 3 for details)

(4) Regional flooding (Source: Ministry of Economic Affairs)

County/City	Location	Start of flooding	End of flooding	Water depth (m)	Surface area (m ²)	No. of households flooded	Remarks
Yunlin County	Gas station at Bozihliao Fishing Port in Kouhu Township	09/21 13:20	09/21 14:00	0.2		0	Water builds up to about calf-height on roads
Pingtung County	Provincial Highway 1 Shuidiliao section in Fangliao Township	09/21 12:35		0.1		0	Water builds up to a level of 10 cm on roads
Pingtung County	Jiupeng Vil., Manzhou Township	09/21 11:36	09/21 11:40	0.1		0	Seawater intrusion
Taitung County	The neighborhood of Zhaoyong Bridge in Dawu Township	09/21 11:20	09/21 12:30	0		0	Roads
Taitung	No.118, Zhongxi 3rd	09/21	09/21	0		0	House flooding

County	Rd., Fuwen Vil., Chishang Township	18:14	19:30				
Taitung County	Beizhuang Activity Center in Guanshan Township	09/21 16:20			1		Water builds up to 4 about waist, and 4 houses are flooded
Taitung County	No. 46-1, Houpu Rd., Guanshan Township	09/21 17:20			0		0 House flooding
Taitung County	No.55, Zhongqing, Degau Vil., Guanshan Township	09/21 18:34			0		0 House flooding (overflowing of drainage canal)
Total	-	-	-	-	-	-	4 -

D. Water resource facility damage and emergency repairs (Source: Ministry of Economic Affairs)

Facility type	Damaged	Emergency repairs completed	Emergency repairs underway	Remarks
Seawall	1	0	1	09/21 00:00 Taitung City of Taitung County. Eighth River Management Office of Water Resources Agency: Seawall 089-351437 (Fungli Seawall) At the end of Sichuan road (the neighborhood of the beginning of Fungli Seawall), the roadbed was hollowed out due to waves; the contractor of the Eighth River Management Office have been informed to deal with the emergency. Concrete blocks had been placed since 18:00 on September 21. A section about 100m long was damaged. It is expected to complete the work at 00:00 on September 22.

E. Disaster damage to agricultural, forestry, livestock products and facilities (Source: Council of Agriculture)

County/City	Total	Loss of agricultural, forestry, fishery and livestock products (Unit: NT\$1000)					Loss of agricultural, forestry, fishery and livestock facilities (Unit: NT\$1000)			
		Subtotal	Agricultural products	Livestock	Fishery products	Forestry products	Subtotal	Farms and agricultural facilities	Livestock facilities	Fishermen's fishery facilities
Hualien County	99	99	99	0	0	0	0	0	0	0
Taitung County	2192	2192	2192	0	0	0	0	0	0	0
Total	2291	2291	2291	0	0	0	0	0	0	0

VI. Support for City-County Emergency Operations

A. Emergency rescue manpower, equipment and operations (Source: Ministry of National Defense, MOI National Fire Agency, MOI National Airborne Service Corps, MOI National Police Agency, Coast Guard Administration)

Personnel, Equipment and Operations	Armed Forces	Firefighter (including Volunteer Firefighters)	Police (incl. Volunteer Police and Civil Defense)	Air Crew	Coast Guard	Total
Personnel Dispatched (persons)	1162	1407	5128	0	3561	11258
Helicopter (sorties)	0	0	0	0	0	0
Aerial Surveillance (sorties)	0	0	0	0	0	0
Vehicles (missions)	66	2385	0	0	810	3261
Vessels (incl. rubber boats) (vessels)	0	3	0	0	71	74
Machinery (pcs)	9	0	0	0	0	9
People Rescued (persons)	0	18	0	0	0	18

Note: Table data represents cumulative total

B. Emergency response readiness (Source: Ministry of National Defense)

The first emergency response force of 800 people can be deployed with 10 minutes' notice.

The second emergency response force of 1200 people can be deployed with 3 hours' notice.

Table of Pre-Deployed Military Emergency Response Forces on Taiwan				
Area	3rd Combat Zone (North)	5th Combat Zone (Central)	4th Combat Zone (South)	2nd Combat Zone (East)
1st Emergency Response Force	200 people	200 people	200 people	200 people
Location				
Subtotal	800 people			
2nd Emergency Response Force	300 people	300 people	300 people	300 people
Location				
Subtotal	1200 people			

C. Military personnel pre-deployed in high risk areas (Source: Ministry of National Defense)

The military has pre-deployed a total of 1789 servicemen and 42 vehicles in 5 types in high-risk areas.

Table of Pre-Deployed Military Emergency Response Forces on Taiwan					
Area	3rd Combat Zone (North)	5th Combat Zone (Central)	4th Combat Zone (South)	2nd Combat Zone (East)	Total
Location					
Pre-deployed Personnel	352 people	8 people	1048 people	381 people	1789 people
Pre-deployed vehicles	2 types, 14 vehicles	1 types, 2 vehicles	2 types, 26 vehicles	0 types, 0 vehicles	5 types, 42 vehicles