Annex 6A: Sample of Daily Report on Rainfall and Water Level in Mekong River Tributaries

Daily Report: Rainfall (mm) and Mekong River Tributaries Water Level (m) 13/08/2001

Ministry of Agriculture and Forestry, Department of Meteorology and Hydrology

	Station	Rainfall (mm)			Water level (m)			Warning level (m)	Danger level (m)	Water level in the next 24 hours
		Yest-erday	Today	Δ	Yest-erday	Today	Δ			
1	Pak Beng	8.8	22.0	13.2	19.94	19.26	-0.68	29.00	30.00	
2	Houay Xay			0.0			0.00	10.00	11.00	
3	Luang Prabang	6.6	0.0	-6.6	13.18	12.84	-0.34	17.50	18.00	12.55
4	Vientiane	49.0	0.0	-49.0	10.56	10.88	0.32	11.50	12.50	10.70
5	Pakxam	74.9	16.4	-58.5	14.36	14.64	0.28	13.50	14.50	14.90
6	Thakhek	8.0	0.1	-7.9	13.20	13.52	0.32	13.00	13.50	13.82
7	Savannakhet	1.4	5.5	4.1	11.17	11.53	0.36	12.00	13.00	11.85
8	Pakxe	18.6	12.2	-6.4	11.51	11.72	0.21	11.00	12.50	11.94
9	Nam Ngum	16.6	4.4	-12.2	4.10	3.67	-0.43			
10	Upstream of Nam Ngum dam	37.0	28.5	-8.5	210.90	211.00	0.10		212.30	
11	Downstream of Nam Ngum dam				170.30	170.70	0.40			
12	Water inflow to the dam, m^3/s				1360.3	1462.3	102.00			
13	Water inflow to the turbines, m^3/s				427.59	428.37	0.78			
14	Water released, m^3/s				555.84	657.04				

Remarks:

Δ: rainfall yesterday – rainfall today

Δ = 0: no rain

Water flow quantities in m^3/s

Director of Meteorology and Hydrology

(seal over signature)

Annex 6B: Sample of Danger Level Warning in Mekong River Tributaries

Khamouane Province
Division:
Date: 13/08/01

Report of Mekong River Level, Khamouane Province
Warning of Danger Level: 13.50 m

1/8/01 =	11.55 m
2/8/01 =	11.43 m
3/8/01 =	11.40 m
4/8/01 =	11.49 m
5/8/01 =	11.61 m
6/8/01 =	11.80 m
7/8/01 =	11.85 m
8/8/01 =	12.05 m
9/8/01 =	12.31 m
10/8/01=	12.75 m
11/8/01=	12.82 m
12/8/01=	13.20 m
13/8/01=	13.52 m

Remarks: Access road from Thakhek to Nong Bok was cut off

Daily Reporter

(signed)

Annex 7: Public Storm Warning Signal in the Philippines

PSWS #	Meteorological Conditions	Impact of the winds	Precautionary measures
1	1. A tropical cyclone will affect the locality 2. Winds of 30-60 kph may be expected in at least 36 hours or intermittent rains may be expected within 36 hours. (When the tropical cyclone develops very close to the locality a shorter lead-time of the occurrence of the winds will be specified in the warning bulletin.)	1. Twigs and branches of small trees may be broken. 2 Some banana plants may be tilted or downed 3 Some houses of very light materials (nipa and cogon) may be partially unroofed 4. Unless this warning signal is upgraded during the entire existence of the tropical cyclone, only very light or no damage at all may be sustained by the exposed communities. 5. Rice crop, however, may suffer significant damaged when it is in its flowering stage.	1 When the tropical cyclone is strong or is intensifying and is moving closer, this signal may be upgraded to the next higher level. 2. The waves on coastal waters may gradually develop and become bigger and higher 3. The people are advised to listen to the latest severe weather bulletin issued by PAGASA every six hours. In the meantime, business may be carried out as usual except when flood occur. 4. Disaster preparedness is activated to alert status.
2	1. A tropical cyclone will affect the locality. 2. Winds of greater than 60 kph and up to 100 kph may be expected in at least 24 hours	1. Some coconut trees may be tilted with few others broken 2. Few big trees may be uprooted. 3 Many banana plants may be downed. 4. Rice and corn may be adversely affected. 5. Large number of nipa and cogon houses may be partially or totally unroofed. 6. Some old galvanized iron roofings may be peeled off. 7 In general, the winds may bring light to moderate damage to the exposed communities.	1 The sea and coastal waters are dangerous to small sea crafts 2. Special attention should be given to the latest position, the direction and speed of movement and the intensity of the storm as it may intensify and move towards the locality 3. The general public especially people traveling by sea and air are cautioned to avoid unnecessary risks. 4. Outdoor activities of children should be postponed. 5. Secure properties before the signal is upgraded. 6. Disaster preparedness agencies / organizations are in action to alert their communities.
3	1 A tropical cyclone will affect the locality 2 Winds of greater than 100 kph up to 185 kph may be expected in at least 18 hours	1. Many coconut trees may be broken or destroyed. 2. Almost all banana plants may be downed and a large number of trees may be uprooted 3. Rice and corn crops may suffer heavy losses 4. Majority of all nipa and cogon houses may be unroofed or destroyed and there may be considerable damage to structures of light to medium construction. 5. There may be widespread disruption of electrical power and communication services. 6 In general, moderate to heavy damage may be experienced, particularly in the agricultural and industrial sectors.	1. The disturbance is dangerous to the communities threatened/ affected. 2. The sea and coastal waters will be very dangerous to all sea crafts. 3. Travel is very risky especially by sea and air 4. People are advised to seek shelter in strong buildings, evacuate low- lying areas and to stay away from the coasts and riverbanks. 5 Watch out for the passage of the "eye" of the typhoon indicated by a sudden occurrence of fair weather immediately after very bad weather with very strong winds coming generally from the north. 6. When the "eye" of the typhoon hit the community do not venture away from the safe shelter because after one to two hours the worst weather will resume with the very strong winds coming from the south

PSWS #	Meteorological Conditions	Impact of the winds	Precautionary measures
			7. Classes in all levels should be suspended and children should stay in the safety of strong buildings. 8. Disaster preparedness and response agencies/organizations are in action with appropriate response to actual emergency
4	1. A very intense typhoon will affect the locality. 2 Very strong winds of more than 185 kph may be expected in at least 12 hours.	1. Coconut plantation may suffer extensive damage. 2. Many large trees may be uprooted. 3. Rice and corn plantation may suffer severe losses. 4. Most residential and institutional buildings of mixed construction may be severely damaged 5 Electrical power distribution and communication services may be severely disrupted 6. In the overall, damage to affected communities can be very heavy.	1 The situation is potentially very destructive to the community. 2 All travels and outdoor activities should be cancelled. 3. Evacuation to safer shelters should have been completed since it may be too late under this situation. 4. With PSWS #4, the locality is very likely to be hit directly by the eye of the typhoon. As the eye of the typhoon approaches, the weather will continuously worsen with the winds increasing to its strongest coming generally from the north. Then a sudden improvement of the weather with light winds (a lull) will be experienced. This means that the eye of the typhoon is over the locality. This improved weather may last for one to two hours depending on the diameter of the eye and the speed of movement. As the eye moves out of the locality, the worst weather experienced before the lull will suddenly commence This time the very strong winds will come generally from the south. 5. The disaster coordinating councils concerned and other disaster response organizations are now fully responding to emergencies and in full readiness to immediately respond to possible calamity.

It is important to note that when any Public Storm Warning Signal Number is hoisted or put in effect for the first time, the corresponding meteorological conditions are not yet prevailing over the locality. This is because the purpose of the signal is to warn the impending occurrence of the given meteorological conditions. It must be noted also that the approximate lead time to expect the range of the wind speeds given for each signal number is valid only when the signal number is put in effect for the first time. Thus, the associated meteorological conditions are still expected in at least 36 hours when PSWS #1 is put in effect initially; in at least 24 hours with PSWS #2; in at least 18 hours with PSWS #3; and in at least 12 hours with PSWS #4 The lead-time shortens correspondingly in the subsequent issues of the warning bulletin when the signal number remains in effect as the tropical cyclone comes closer

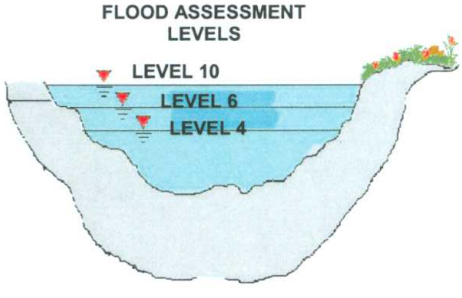
It is also important to remember that tropical cyclones are constantly in motion; generally towards the Philippines when PAGASA is issuing the warning. Therefore, the Public Storm Warning Signal Number over a threatened or affected locality may be sequentially upgraded or downgraded. This means that PSWS #1 may be upgraded to PSWS #2, then to PSWS #3 and to PSWS #4 as necessary when a very intense typhoon is approaching or downgraded when the typhoon is moving away. However, in case of rapid improvement of the weather condition due to the considerable weakening or acceleration of speed of movement of the tropical cyclone moving away from the country, the downgrading of signal may jump one signal level. For example, PSWS #3 may be downgraded to PSWS #1 or all signals from PSWS #2 may be lowered.

The delineation of areas for a given signal number is based on the intensity, size of circulation and the forecast direction and speed of movement of the tropical storm or typhoon at the time of issue of the warning bulletin. The change in intensity, size of circulation or movement of the tropical cyclone also determines the change in the PSWS number over a given locality

Annex 8A: Flood Bulletin Messages Issued by PAGASA, Philippines

Flood warning	Condition*	Action required from the public
Flooding is possible	The expected significant rise of station water level exceeds level 4 within the next 24 hours; or the observed and the expected significant rise of station water level within the next 24 hours are between level 4 and level 6.	Awareness within the next 24 hours
Flooding is threatening	The expected significant rise of station water level exceeds level 6 within the next 24 hours; or the observed and the expected significant rise of station water level within the next 24 hours are between level 6 and level 10.	Preparedness within the next 24 hours
Flooding is expected to occur	The expected significant rise of station water level exceeds level 10 within the next 24 hours.	Response within the next 24 hours
Flooding is expected to persist	The observed and the expected station water level within the next 24 hours are above level 10.	Response within the next 24 hours
Flooding is no longer expected to occur	The observed station water level below level 10 is generally receding and no immediate significant rise is expected.	
Flooding is no longer expected to persist	The observed station water level above level 10 is generally receding and no immediate significant rise is expected.	
Flooding is no longer threatening	The observed station water level below level 10 is generally receding and no immediate significant rise is expected.	
Flooding is no longer possible	The observed station water level below level 10 is generally receding and no immediate significant rise is expected.	

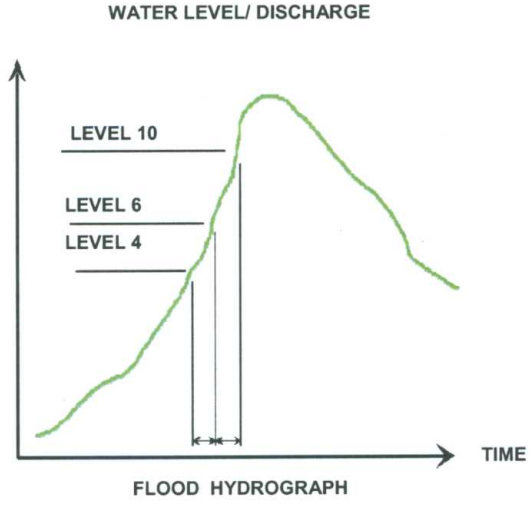
*Flood assessment levels are explained below:



Level 4: The water level at the gauging station when the represented channel reach/lake/swamp is estimated to be 40% full on the average.

Level 6: The water level at the gauging station when the represented channel reach/lake/swamp is estimated to be 60% full on the average.

Level 10: The water level at the gauging station when a certain section of the represented channel reach/lake/swamp is estimated to be 100% full.



Annex 8B: Sample Flood Bulletin Issued by PAGASA, Philippines

Republic of the Philippines
Department of Science and Technology
PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND
ASTRONOMICAL SERVICES ADMINISTRATION (PAGASA)
WFFC Bldg. Agham Road, Diliman, Q.C. 1104
FAX: 9294065; TEL. 9282754, 9265060

FLOOD FORECASTING BRANCH

FLOOD FORECASTING AND WARNING SECTION

Tuguegarao, Cagayan Tel No. (078) 844-1323

FLOOD BULLETIN NO. 5
ISSUED AT 4:00 AM, 19 AUGUST 2000
(VALID UNTIL THE NEXT ISSUANCE AT 4:00 PM TODAY)

AVERAGE BASIN RAINFALL:
PAST 48 HOURS ENDING AT 3 AM TODAY = 200 mm
FORECAST 24 HOURS BEGINNING AT 8 AM TODAY = LESS THAN 60 mm

EXPECTED HYDROLOGICAL RESPONSE:

1. FURTHER RISE OF THE FLOODWATERS FROM UPPER CAGAYAN RIVER AND TRIBUTARIES DIADI AND ILUT RIVERS.
   FLOODING IS EXPECTED TO PERSIST: IN THE LOW-LYING AREAS OF CAUAYAN, BANQUERO, ECHAGUE AND ALICIA UNTIL TOMORROW MORNING.
2. RAPID RISE AND OVERFLOWING OF MIDDLE CAGAYAN RIVER AND TRIBUTARY MAGAT RIVER.
   FLOODING IS EXPECTED TO OCCUR: IN THE LOW-LYING AREAS OF AURORA, LUNA, NAGUILIAN, GAMU, ILAGAN, SARAGAN, SAN PABLO AND TUMAUINI BEGINNING THIS AFTERNOON.
3. GRADUAL RISE OF LOWER CAGAYAN RIVER AND TRIBUTARIES PARET, PINACANAUAN AND CHICO RIVERS.
   FLOODING IS THREATENING: IN THE LOW LYING AREAS OF SOLANA, IGUIG, AMULONG, ALCALA, MINANGA NORTE, TUGUEGARAO, GATTARAN, LAL-LO AND APARRI BEGINNING LATE THIS MORNING.

THE RESIDENTS AND DISASTER COORDINATING COUNCILS CONCERNED ARE ADVISED TO TAKE APPROPRIATE ACTION

1. PATULOY NA PAGTAAS NG TUBIG SA ITAAS NA BAHAGI NG ILOG CAGAYAN AT MGA SANGANG ILOG DIADI AT ILUT.
   ANG BAHA AY INAASAHANG MANANATILI: SA MGA MABABABANG BAHAGI NG CAUAYAN, BANQUERO, ECHAGUE AT ALICIA HANGGANG BUKAS NG UMAGA.
2. MABILIS NA PAGTAAS NG TUBIG AT PAG-APAW NG GITNANG BAHAGI NG ILOG CAGAYAN AT SANGANG ILOG MAGAT.
   ANG BAHA AY INAASAHANG MAGAGANAP: SA MGA MABABABANG BAHAGI NG AURORA, LUNA, NAGUILIAN, GAMU, ILAGAN, SARAGAN, SAN PABLO AT TUMAUINI SIMULA NGAYONG HAPON.
3. UNTI-UNTING PAGTAAS NG TUBIG SA IBABANG BAHAGI NG ILOG CAGAYAN AT MGA SANGANG ILOG PARET, PINACANAUAN AT CHICO.
   ANG BAHA AY MAY BANTANG PANGANIB: SA MGA MABABABANG BAHAGI NG SOLANA, IGUIG, AMULONG, ALCALA, MINANGA NORTE, TUGUEGARAO, GATTARAN, LAL-LO AT APARRI SIMULA NGAYONG UMAGA.

ANG MGA KINAUUKULANG NANINIRAHAN AT DISASTER COORDINATING COUNCILS AY PINAPAYUHAN NA GUMAWA NG MGA KAUKULANG HAKBANG.

Prepared by: Noted by: