



ལྷན་པོ་བཞུགས་པའི་རྒྱལ་ཁྲིམས་འཛུགས་ཀྱི་ཨུའི་ཚན་པོ་།
 རྒྱལ་ཁྲིམས་ལྷན་པོ་བཞུགས་པའི་རྒྱལ་ཁྲིམས་འཛུགས་ཀྱི་ཨུའི་ཚན་པོ་།
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY
 THIMPHU: BHUTAN



Status and River Level Trends:

Friday, August 09, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punaatshang Chhu Sub Basin

Sl Nos.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded	Alert Water Level	Alarm Water Level	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Downstream Settlement
1	Basin II	Punaatshang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.67	6.67	0.00	Thanza, Tenchey, Lhodi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho	7.50	5.00	5.85	5.84	-0.01		
3				Rapstreng Tsho	7.40	5.00	6.32	6.30	#VALUE!		
4				Bay Tsho	7.40	5.00	6.46	6.45	-0.01		
5				Thanza	7.70	8.70	NR	NR	#VALUE!		
6				Tarina Wachey	8.50	10.50	6.89	7.00	0.11	Pho Chhu Valley (Tamdanchu, Wolathang, Samdingkha, Khawjara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
7				Dangsa	5.50	7.00	4.85	4.84	-0.01		
8				Taksemakhang	7.50	8.50	6.04	NR	#VALUE!		
9				Tashithang	9.00	10.50	7.81	NR	#VALUE!		
10				Yehesa	5.00	7.00	2.58	2.52	-0.06		Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream

Approximate Lead Time for Evacuation after the detection of flood at Four lake Sensor

Approximate Lead Time for Evacuation after the detection of Flood at the Dangsa Sensor

Sl Nos.	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreng Tsho)	Approx. Distance from Sensor (Thorthormi Tsho)	Approx. Distance from Sensor (Luggay Tsho)	Approx. Time available for Evacuation	Sl Nos.	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Time for Flood to reach at the Place	Approx. Time available for Evacuation
1	Thanza	1.5 km	2.8 km	3.3 km	6.7 km	20-60 minutes	1	Wolathang	5.8 km	30 minutes	30 minutes
2	Tenchey	2.9 km	4.1 km	4.6 km	8.2 km		2	Samdingkha	12.0 km	55 minutes	55 minutes
3	Tshojo	8.1 km	10.0 km	10.5 km	13.8 km		3	Punakha Dzong	20 km	90 minutes	1 hours 30 minutes
4	Lhodi	16.7 km	17.6 km	18.5 km	21.8 km		4	Khuruthang Town	24 km	120 minutes	2 hours
5	Puna-Wangdue Valley	100 km	100 km	100 km	100 km		5	Bajo Town	30.5 km	145 minutes	2 hours 25 minutes
							6	Wangdue Bridge	33 km	150 minutes	2 hours 30 minutes

NOTE: The above distance were Calculated from basic tools in the Google Earth Map, thus distance were approximate only.

Glacier Lake Outburst Flood (GLOF) & Rainstorm Flood Early Warning System.

2. Chamkhar Chhu and Mangdue Chhu Sub Basin

Sl Nos.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Alert Water Level (m)	Alarm Water Level (m)	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Downstream Settlement
1	Basin III	Manas	Chamkhar Chhu	Tshampa		5.00	6.50	4.58	4.54	-0.04	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.
2				Khagthang	5.50	6.00	5.03	4.92	-0.11		
3				Kurje	5.72	3.30	5.00	2.71	2.60	-0.11	
4				Jongthang	5.90	7.00	5.32	NR	#VALUE!		
5				Bijam	5.52	4.20	5.50	3.13	2.97	-0.16	

Approximate Lead Time for Evacuation of Chamkhar Chhu Sub Basin

Approximate Lead Time for Evacuation of Mangdue Chhu Sub Basin

Approximate Lead Time for Evacuation after the detection of Flood at the Tshampa AWLS						Approximate Lead Time for Evacuation after the detection of Flood at the Jongthang AWLS					
Sl Nos.	Name of Place Downstream	Approx. Distance from the Tshampa AWLS	Approx. Cumulative Distance from Tshampa AWLS	Elevation	Approx. Lead Time	Sl Nos.	Name of Place Downstream	Approx. Distance from the Tshampa AWLS	Approx. Cumulative Distance from Tshampa AWLS	Elevation	Approx. Lead Time
1	Khagthang	20.3 km	20.3 km	3704 m	27 minutes	1	Bijam	18.5 km	18.5 km	2223 m	34 minutes
2	Chorkhor Toe PS	4.5 km	24.8 km	2904 m	34 minutes	2	Dam Site	7.8 km	26.3 km	1848 m	50 minutes
3	Kurje	12.4 km	37.2 km	2771 m	60 minutes	3	Power Plant	20.4 km	46.7 km	1024 m	88 minutes
4	Wangdicholing	5.7 km	42.9 km	2600 m	79 minutes						
5	Bumthang	1 km	43.9 km	2562 m	83 minutes						
6	Gangriting PS	0.3 km	44.2 km	2552 m	84 minutes						
7	Gyelkhar	1.7 km	45.9 km	2538 m	91 minutes						

3. River Level Status of Gauging Station

Sl Nos.	Station Type	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Weather Condition	Downstream Settlement		
1	AWLS	Basin I	Wang Chhu	Thin Chhu	Dodena		2.21	2.14	-0.07	Partly Cloudy	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.65	1.58	-0.07	Cloudy			
3	Principal				Damchu	6.00	3.17	3.05	-0.12	Cloudy			
4	Secondary			Haa Chhu	Haa	2.60	1.12	1.04	-0.08	Cloudy	Haa and Wang Chhu Downstream		
5	Principal			Pa Chhu	Bonday		1.59	1.51	-0.08	Cloudy	Downstream of Puro Valley and Wang Chhu Basin		
6	Principal			Amo Chhu	Dorokha		3.45	3.35	-0.10	Cloudy	Santse, Phunsholing and Downstream		
7	Secondary				Droyagang	7.07	3.69	3.51	-0.18	Light Rain	Phunsholing and Downstream		
8	Secondary				Pho Chhu	Samdingkha	6.10	4.68	4.33	-0.35		Puna-Wangdue Valley and Downstream	
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.59	2.51	-0.08		Mo Chhu Valley and Downstream		
10	Secondary						3.50	3.55	0.05				
11	Principal				Wangdue Rapid	7.82	4.05	3.95	-0.10	Partly Cloudy	PHPA I,PHPA II and Downstream		
12	Principal			Punatshang Chhu	Turtitar Sunkosh		6.68	4.10	4.00	-0.10	Cloudy	Downstream of Dagana and Lhamoizingkha	
13	Secondary						Sunkosh Bridge		3.25	3.10	-0.15		Light Rain
14	Principal						Kerabari	11.90	6.50	6.25	-0.25		Cloudy
15	Secondary				Mao Chhu	Sherzhong		4.55	4.45	-0.10	Light Rain	Gelephu Valley and Downstream	
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	3.14	2.98	-0.16	Cloudy	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary		Dakpai Chhu				2.26	1.51	1.48	-0.03			
18	Principal		Tingtibi				7.45	4.35	4.20	-0.15	Cloudy	Downstream of Zangang and Panbang	
19	Principal	Chamkhar Chhu	Kurjey				4.00	2.75	2.61	-0.14	Cloudy	Chamkhar Valley, Zhemgang and Downstream	
20	Principal						Shingkhar (Bemethang)		2.46	2.40	-0.06		
21	Principal	Kuri Chhu	Sumpa				7.65	5.25	4.85	-0.40	Cloudy	Lhunse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary						Khoma	5.30	2.70	2.33	-0.37		
23	Secondary						Autsho	8.48	5.25	4.80	-0.45	Partly Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu
24	Principal						Kurizampa	18.45	9.42	9.00	-0.42	Cloudy	KHPA and Downstream along the Kuri Chhu
25	Principal	Kholong Chhu	Muktirap				6.00	3.20	2.70	-0.50	Sunny	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary						Doksum		4.43	4.48	0.05	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary	Drangme Chhu	Chazam					9.85	9.30	-0.55	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang	
28	Principal				Ozorong	6.75	3.30	2.80	-0.50				
29	Secondary				Sheri Chhu	2.58	1.75	1.65	-0.10	Cloudy	Downstream of Kuri-Gongri and Panbang		
30	Principal				Panbang	12.48	7.30	6.93	-0.37	Cloudy	Manas and Downstream		
31	Principal	Ngara Ama Chhu	Pangzam			6.55	6.45	-0.10	Cloudy	Bangtar Settlement and Downstream			
32	Principal				Bangtar		3.20	2.80	-0.40	Partly Cloudy	Downstream of Bangtar Settlement		

NOTE The Water Level are relative Gauge Hight of the Observation site reference to the Site Specific and doesnot represent the actual water depth.

ALERT

MISSING

NR Represent that the Data has not been reported or Not Updated

ISSUED BY: FMCR,HWRSD,NCHM