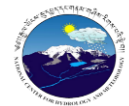




ཆུ་ཕྱུང་རྒྱུ་ལྡན་ཆུ་ལྷན་ཁྲུས་ཀྱི་འཕེལ་འགྲུལ་ལྟུང་ལྷན་ཁྲུས་
HYDROLOGY & WATER RESOURCES SERVICES DIVISION
NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY
THIMPHU: BHUTAN



Status and River Level Trends:

Sunday, August 18, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punatshang 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	Punatshang Chhu	Pho Chhu	Luggay Tsho		7.50	10.00	6.69	6.69	0.00	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorhormi Tsho		7.50	5.00	5.87	5.87	0.00	
3				Rapsteng Tsho		7.40	5.00	6.34	6.33	-0.01	
4				Bay Tsho		7.40	5.00	6.55	6.52	-0.03	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Kharuthang) Puna-Wangdue Valley and Downstream
6				Tarina Wachey		8.50	10.50	7.06	7.02	-0.04	
7				Dangsa		5.50	7.00	4.96	4.87	-0.09	
8			Mo Chhu	Taksemakhang		7.50	8.50	5.97	5.96	-0.01	Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream
9				Tashithang		9.00	10.50	7.77	7.50	-0.27	
10				Yehesa		5.00	7.00	2.60	2.49	-0.11	

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 Dangsa Sensor				
Sl Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapsteng Tsho)	Approx. Distance from Sensor (Thorhormi Tsho)	Approx. Distance from Sensor (Luggey 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	Lhedi	16.7 km	17.6 km	18.5 km	21.8 km		4	Kharuthang Town	24 km	120 minutes	2 hours
5	Puna-Wangdue Valley	100 km	100 km	100 km	100 km	5-7 hours	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 diastance 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	4.55	4.48	-0.07	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zhengang.
2				Khagthang		5.50	6.00	5.01	4.92	-0.09	
3				Kurje	5.72	3.30	5.00	2.72	2.59	-0.13	
4			Mangdue Chhu	Jongthang		5.90	7.00	NR	5.18	#VALUE!	Bijram Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhengang.
5				Bijram	5.52	4.20	5.50	3.26	2.95	-0.31	

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	Bijram	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	Gangritang 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	Thim Chhu	Dodena		2.18	2.14	-0.04	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.75	1.59	-0.16	Sunny			
3	Principal				Damchu	6.00	3.70	3.10	-0.60	Sunny	Chukha and Downstream		
4	Secondary			Haa Chhu	Haa	2.60	1.17	1.37	0.20	Sunny	Haa and Wang Chhu Downstream		
5	Principal			Pa Chhu	Bonday	1.88	1.88	1.57	-0.31	Sunny	Downstream of Paro Valley and Wang Chhu Basin		
6	Principal			Amo Chhu	Dorokha	3.40	3.35	-0.05	Cloudy	Samtse, Phuntsholing and Downstream			
7	Secondary				Droyagang	7.07	3.62	3.66	0.04	Cloudy	Phuntsholing and Downstream		
8	Secondary			Pho Chhu	Samdingkha	6.10	4.60	4.40	-0.20		Puna-Wangdue Valley and Downstream		
9	Principal			Mo Chhu	Yebesa	3.94	2.57	2.47	-0.10		Mo Chhu Valley and Downstream		
10	Secondary	Basin II	Punatshang Chhu	Punatshang Chhu	Wangdue Bridge		3.90	3.40	-0.50	clear	PHPA I,PHPA II and Downstream		
11	Principal				Wangdue Rapid	7.82	4.46	4.00	-0.46				
12	Principal				Turitar Sunkosh	6.68	4.25	3.95	-0.30	Cloudy	Downstream of Dagana and Lhamoizinkha		
13	Secondary				Sunkosh Bridge		3.50	3.10	-0.40	Sunny			
14	Principal			Mao Chhu	Kerabari	11.90	6.30	6.15	-0.15	Cloudy	Lhamoizinkha and Downstream		
15	Secondary				Sherzhong		4.15	4.05	-0.10	L/Rainy	Gelelephu Valley and Downstream		
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	3.26	2.95	-0.31	Sunny	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary						Dakpai Chhu	2.26	1.42	1.48	0.06	Cloudy	Downstream of Zhungang and Panbang
18	Principal					Tingthi	7.45	4.18	4.24	0.06	Chamkhar Valley, Zhemgang and Downstream		
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.78	2.60	-0.18	Zhemgang and Downstream			
20	Principal		Shingkhar (Bemthang)				2.60	2.43	-0.17				
21	Principal	Kuri Chhu	Sumpa			7.65	5.15	4.90	-0.25	Sunny	Lhunse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu		
22	Secondary		Khoma			5.30	2.30	2.32	0.02				
23	Secondary		Autsho			8.48	5.05	4.88	-0.17	Sunny	Kurizampa,KHPA and Downstream along the Kuri Chhu		
24	Principal		Kurizampa	18.45	9.20	9.10	-0.10	Sunny	KHPA and Downstream along the Kuri Chhu				
25	Principal	Kholong Chhu	Muktrirap	6.00	2.55	2.95	0.40		Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu				
26	Secondary	Drangme Chhu	Doksum		4.40	4.39	-0.01	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu				
27	Secondary		Chazam		9.05	9.35	0.30	Sunny	Downstream Settlement of Kuri-Gongri and Panbang				
28	Principal		Ozorong	6.75	3.44	3.25	-0.19		Downstream of Kuri-Gongri and Panbang				
29	Secondary		Sheri Chhu	2.58	1.70	1.62	-0.08						
30	Principal		Panbang	12.48	6.96	6.64	-0.32	Cloudy	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam		6.35	6.30	-0.05	Sunny	Bangtar Settlement and Downstream				
32	Principal		Bangtar		2.60	2.69	0.09	Sunny	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