



ལྷན་སྐྱོང་ལྷན་པོའི་ཚོང་སྐྱོང་ཞབས་ཏོག་སྒྲིག་ཚོན།  
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 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:  
 Glacier Lake Outburst Flood (GLOF) Early Warning System

Wednesday, November 20, 2019

Issued at: 10:00 AM

I. Panatshang Chhu Sub Basin

SI No.	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 9:00 AM Yesterday	Water Level (m) recorded at 9:00 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM	Downstream Settlement
1	Basin II	Punatshang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.33	6.33	0.00	Thanza, Tenchey, Lhedi and Lumana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorhormi Tsho		7.50	5.00	5.57	5.57	0.00	
3				Rapstreng Tsho		7.40	5.00	6.09	6.08	0.01	
4				Bay Tsho		7.40	5.00	6.28	6.27	0.01	
5				Thanza		7.70	8.70	6.33	6.33	0.00	
6				Tarina Wachey		8.50	10.50	6.45	6.48	-0.03	
7				Dangsa		5.50	7.00	3.67	3.67	0.00	
8			Mo Chhu	Taksemkhang		7.50	8.50	5.29	5.29	0.00	Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream
9			Tashithang		9.00	10.50	5.10	5.08	0.02		
10			Yehesa		5.00	7.00	1.32	1.31	0.01		

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				
SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreng Tsho)	Approx. Distance from Sensor (Thorhormi Tsho)	Approx. Distance from Sensor (Luggay Tsho)	Approx. Tme available for Evacuation	SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Time for Flood to reach at the Place	Approx. Tme 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	20 km	90 minutes	1 hours 30 minutes
4	Lhedi	16.7 km	17.6 km	18.5 km	21.8 km		4	Khuruthang	24 km	120 minutes	2 hours
5	Puna-	100 km	100 km	100 km	100 km		5	Bajo Town	30.5 km	145 minutes	2 hours 25 minutes
						5-7 hours	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

SI No.	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 9:00 AM Yesterday	Water Level (m) recorded at 9:00 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM	Downstream Settlement
1	Basin III	Manas	Chamkhar Chhu	Tshampa		5.00	6.50	3.75	3.73	-0.02	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.
2				Khagthang		5.50	6.00	4.43	4.42	-0.01	
3				Kurje	5.72	3.30	5.00	1.63	1.62	-0.01	
4			Mangdue Chhu	Jongthang		5.90	7.00	NR	3.91	#VALUE!	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Troangsa and Zhemgang
5			Bjizam		5.52	4.20	5.50	1.78	1.78	0.00	

Approximate Lead Time for Evacuation of Chamkhar Chhu Sub Basin

Approximate Lead Time for Evacuation after the detection of Flood at the Tshampa AWLS

Approximate Lead Time for Evacuation of Mangdue Chhu Sub Basin

Approximate Lead Time for Evacuation after the detection of Flood at the Jongthang AWLS

SI Nos	Name of Place Downstream	Approx. Distance from the Tshampa AWLS	Approx. Cumulative Distance from Tshampa AWLS	Elevation	Approx. Lead Time	SI 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	Bjizam	18.5 km	18.5 km	2223 m	34 minutes
2	Chorkhor Toe	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	Wangdichollin	5.7 km	42.9 km	2600 m	79 minutes						
5	Bumthang	1 km	43.9 km	2562 m	83 minutes						
6	Gangriting	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 No.	Station Type	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Water Level (m) recorded at 9:00 AM Yesterday	Water Level (m) recorded at 9:00 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hours ending at 9:00 AM Today	Weather Condition	Downstream Settlement	
1	AWLS	Basin I	Wang Chhu	Thim Chhu	Dodena		1.51	1.50	-0.01	Cloudy	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	0.51	0.50	-0.01	Cloudy		
3	Principal				Damchu	6.00	2.14	2.13	-0.01	Sunny	Chukha and Downstream	
4	Secondary			Haa Chhu	Haa	2.60	0.60	0.58	-0.02	Cloudy	Has and Wang Chhu Downstream	
5	Secondary			Pa Chhu	Bonday		0.88	0.87	-0.01	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal			Amo Chhu	Dorokha		2.50	2.50	0.00	Cloudy	Samtse, Phunsholing and Downstream	
7	Principal				Doyagang	7.07	2.36	2.34	-0.02	Cloudy	Phunsholing and Downstream	
8	Secondary			Pho Chhu	Samdingkha	6.10	2.73	2.73	0.00	Cloudy	Pana-Wangdue Valley and Downstream	
9	Principal	Basin II	Punatsang Chhu	Mo Chhu	Yebesa	3.94	1.31	1.30	-0.01	Cloudy	Mo Chhu Valley and Downstream	
10	Secondary				Wangdue Bridge		0.85	0.85	0.00	Cloudy	PHPA I,PHPA II and Downstream	
11	Principal			Punatsang Chhu	Wangdue Rapid	7.82	1.37	1.37	0.00	Cloudy		
12	Principal				Turtar Sunkosh	6.68	1.95	1.95	0.00	Cloudy	Downstream of Dagana and Lhamoizinkha	
13	Secondary				Sunkosh Bridge		1.20	1.20	0.00	Cloudy		
14	Principal			Mao Chhu	Sherzhong	Kerabari	11.90	3.79	3.78	-0.01	Cloudy	Lhamoizinkha and Downstream
15	Secondary								3.60	3.60	0.00	Cloudy
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	1.78	1.79	0.01	Cloudy
17	Secondary	Dakpai Chhu	2.26				1.23	1.23	0.00	Cloudy	Downstream of Zhemgang and Panbang	
18	Principal	Tingtubi	7.45			2.85	2.84	-0.01				
19	Principal	Chamkhar Chhu	Kurjey				4.00	1.63	1.63	0.00	Cloudy	Chamkhar Valley, Zhemgang and Downstream
20	Principal					Shingkar		1.44	1.44	0.00	Cloudy	Zhemgang and Downstream
21	Principal	Kuri Chhu				Sumpa	7.65	3.10	3.20	0.10	Cloudy	Lhunste Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu
22	Secondary					Khoma	5.30	1.36	1.38	0.02		
23	Secondary					Autsho	8.48	2.97	3.05	0.08	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu
24	Principal					Kurizampa	18.45	6.93	7.01	0.08	Cloudy	KHPA and Downstream along the Kuri Chhu
25	Principal	Kholong Chhu	Muktirap				6.00	1.60	1.65	0.05	Cloudy	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Principal					Doksum		3.12	3.11	-0.01	Cloudy	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary	Drangme Chhu				Chazam		7.30	7.30	0.00	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal			Ozorong	6.75	1.18	1.17	-0.01	Cloudy	Downstream of Kuri-Gongri and Panbang		
29	Secondary			Sheri Chhu	2.58	1.35	1.35	0.00				
30	Principal	Panbang			12.48	4.21	4.21	0.00	Cloudy	Manas and Downstream		
31	Principal			Pangzam		5.55	5.55	0.00	cloudy	Bangtar Settlement and Downstream		
32	Principal	Ngara Ama Chhu	Bangtar		1.90	1.88	-0.02	Cloudy	Downstream of Bangtar Settlement			

NOTE The Water Level are relative Gauge Hight of the Observation site reference to the Site Specific and does not represent the actual water depth.

ALERT  
ALARM

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

ISSUED BY: FMCR,HWRSD,NCHM