



རྒྱུ་མཉམ་སྲུང་ལྷན་ཁྲིམས་འཛིན་པའི་འཛུགས་སྐོར་ལྷན་ཁྲིམས་  
 རྒྱལ་ཡོངས་རྒྱུ་མཉམ་སྲུང་ལྷན་ཁྲིམས་འཛིན་པའི་འཛུགས་སྐོར་ལྷན་ཁྲིམས་  
 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

Sunday, November 17, 2019

Issued at: 10:00 AM

I. Punatshang Chhu Sub Basin

Sl 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	6.32	6.32	0.00	Thanza, Tenchey, Lhedi and Lumana area and Downstream of Pho Chhu and Puna-Wangdue Valley	
2				Thorhormi Tsho		7.50	5.00	5.56	5.57	-0.01		
3				Rapstreng Tsho		7.40	5.00	6.09	6.09	0.00		
4				Bay Tsho		7.40	5.00	6.31	6.30	0.01		
5				Thanza		7.70	8.70	6.33	6.33	0.00	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajam, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
6				Tarina Wachey		8.50	10.50	6.47	6.47	0.00		
7				Dangsa		5.50	7.00	3.67	3.67	0.00		
8				Taksemkhang		7.50	8.50	5.29	5.28	0.01		
9				Tashithang		9.00	10.50	5.14	5.12	0.02		Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream
10				Yehesa		5.00	7.00	1.36	1.35	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					
Sl 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	Sl 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 5-7 hours	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
							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 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	3.78	3.74	-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	4.44	4.43	-0.01		
3				Kurje	5.72	3.30	5.00	1.65	1.63	-0.02		
4				Mangdue Chhu	Jongthang		5.90	7.00	3.84	3.92	0.08	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Troangsa and Zhemgang
5				Bjizam		5.52	4.20	5.50	1.79	1.78	-0.01	

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	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		1.53	1.51	-0.02	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	0.53	0.52	-0.01	Sunny			
3	Principal				Damchu	6.00	2.16	2.15	-0.01	Sunny	Chukha and Downstream		
4	Secondary				Haa Chhu	Haa	2.60	0.59	0.59	0.00	Sunny	Has and Wang Chhu Downstream	
5	Secondary			Pa Chhu	Bonday		0.89	0.88	-0.01	Sunny	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	2.37	2.36	-0.01	Cloudy	Phunsholing and Downstream		
8	Secondary			Basin II	Punatsang Chhu	Pho Chhu	Samdingkha		6.10	2.70	2.71	0.01	Sunny
9	Principal	Yebesa	3.94				1.32	1.32	0.00	Sunny	Mo Chhu Valley and Downstream		
10	Secondary	Punatsang Chhu	Wangdue Bridge					0.95	0.90	-0.05	Cloudy	PHPA I,PHPA II and Downstream	
11	Principal		Wangdue Rapid			7.82	1.39	1.39	0.00	Cloudy			
12	Principal		Turtar Sunkosh			6.68	2.00	2.00	0.00	Partly Cloudy	Downstream of Dagana and Lhamoizinkha		
13	Secondary		Sunkosh Bridge				1.25	1.25	0.00	Sunny			
14	Principal	Mao Chhu	Sherzhong			Kerabari		11.90	3.82	3.82	0.00	Cloudy	Lhamoizinkha and Downstream
15	Secondary							3.65	3.60	-0.05	Cloudy	Gelelephu Valley and Downstream	
16	Principal	Basin III	Manas	Mangdue Chhu	Bjizam		5.35	1.79	1.79	0.00	Partly Cloudy	MHPA Dam,Power House and Downstream of Tromgsa & Zhemgang	
17	Secondary				Dakpai Chhu	2.26	1.25	1.25	0.00	Sunny	Downstream of Zhemgang and Panbang		
18	Principal			Tingtibi	7.45	2.89	2.88	-0.01					
19	Principal			Chamkhar Chhu	Kurjey		4.00	1.65	1.64	-0.01	Sunny	Chamkhar Valley, Zhemgang and Downstream	
20	Principal				Shingkar		1.45	1.45	0.00	Sunny	Zhemgang and Downstream		
21	Principal			Kuri Chhu	Sumpa		7.65	3.13	3.10	-0.03	Sunny	Lhunste Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary				Khoma	5.30	1.40	1.38	-0.02				
23	Secondary				Autsho	8.48	2.99	2.98	-0.01	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu		
24	Principal				Kurizampa	18.45	6.95	6.94	-0.01	Cloudy	KHPA and Downstream along the Kuri Chhu		
25	Principal			Kholong Chhu	Muktirap		6.00	1.61	1.60	-0.01	Sunny	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Principal				Doksum		3.15	3.14	-0.01	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu		
27	Secondary			Drangme Chhu	Chazam			7.35	7.30	-0.05	Sunny	Downstream Settlement of Kuri-Gongri and Panbang	
28	Principal	Ozorong	6.75		1.20	1.18	-0.02	Cloudy	Downstream of Kuri-Gongri and Panbang				
29	Secondary	Sheri Chhu	2.58		1.35	1.36	0.01						
30	Principal	Panbang	12.48		4.22	4.21	-0.01	Cloudy	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam			5.55	5.55	0.00	Cloudy	Bangtar Settlement and Downstream			
32	Principal			Bangtar		1.88	1.90	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