



ཐུང་ཕྱང་རྒྱུ་ལྷན་ཁུངས་འཛུགས་ཀྱི་འཕེལ་རྒྱུ་ཆེན་མོ།  
 རྒྱལ་ཡོངས་ཐུང་ཕྱང་དང་གནས་གཤིས་རྒྱུ་ལྷན་ཁུངས་ཀྱི་འཕེལ་རྒྱུ་ཆེན་མོ།

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 10, 2019

Issued at: 10:00 AM

1. 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 Today	Downstream Settlement			
1	Basin II	Punatshang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.32	6.31	0.01	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley			
2				Thorhormi Tsho		7.50	5.00	5.55	5.55	0.00				
3				Rapstreng Tsho		7.40	5.00	6.03	6.03	0.00				
4				Bay Tsho		7.40	5.00	6.21	6.22	-0.01				
5							Thanza		7.70	8.70	6.30	6.30	0.00	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream
6							Tarima Wachey		8.50	10.50	6.48	6.48	0.00	
7							Dangsa		5.50	7.00	3.70	3.70	0.00	
8							Taksemakhang		7.50	8.50	NR	NR	#VALUE!	
9							Tashithang		9.00	10.50	5.22	5.20	0.02	
10							Yebsa		5.00	7.00	1.39	1.42	-0.03	

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	Approx.	Approx.	Approx.	Approx. Time	Sl Nos	Name of Place	Approx.	Approx. Time for	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	Khuruthang	24 km	120 minutes	2 hours
5	Puna-Wangdue	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 diastance 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 Today	Downstream Settlement			
1	Basin III	Manas	Chamkhar Chhu	Tshampa		5.00	6.50	NR	NR	#VALUE!	Chokortse Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangrihang Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.			
2				Khagthang		5.50	6.00	NR	NR	#VALUE!				
3				Kurje	5.72	3.30	5.00	NR	NR	#VALUE!				
4							Mangdue Chhu		5.90	7.00	NR	NR	#VALUE!	Bijam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5							Bijam	5.52	4.20	5.50	NR	NR	#VALUE!	

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	Approx. Dista	Approx.	Elevation	Approx. Lead	Sl Nos	Name of Place	Approx. Distan	Approx.	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	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	Gangrihang	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 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		1.56	1.57	0.01	Sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	0.61	0.59	-0.02	Sunny		
3	Principal				Damchu	6.00	2.21	2.20	-0.01	Sunny		Chukha and Downstream
4	Secondary				Haa Chhu	2.60	0.63	0.62	-0.01	Sunny		Haa and Wang Chhu Downstream
5	Secondary				Pa Chhu	Bonday	0.91	0.91	0.00	Sunny		Downstream of Paro Valley and Wang Chhu Basin
6	Principal				Amo Chhu	Dorokha	2.50	2.50	0.00	Sunny		Samtse, Phunsholing and Downstream
7	Principal				Doyagang	7.07	2.45	2.44	-0.01	Sunny		Phunsholing and Downstream
8	Secondary	Basin II	Punatshang Chhu	Pho Chhu	Samdinkha	6.10	2.75	2.74	-0.01	Sunny	Puna-Wangdue Valley and Downstream	
9	Principal				Mo Chhu	Yebesa	3.94	1.37	1.36	-0.01	Sunny	Mo Chhu Valley and Downstream
10	Secondary				Wangdue Bridge		1.00	1.00	0.00		Downstream of Dagana and Lhamoizingkha	
11	Principal				Wangdue Rapid	7.82	1.49	1.47	-0.02	Sunny		
12	Principal				Turtar Sunkosh	6.68	2.05	2.05	0.00	Cloudy		
13	Secondary				Sunkosh Bridge		1.30	1.30	0.00	Cloudy		
14	Principal				Kerabari	11.90	3.96	3.94	-0.02	Cloudy		
15	Secondary	Sherzhong		3.65	3.65	0.00	Cloudy					
16	Principal	Bjizam	5.35	1.84	1.83	-0.01	Cloudy	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang				
17	Secondary	Basin III	Manas	Mangdue Chhu	Dakpai Chhu	2.26	1.30	1.30	0.00	Cloudy	Downstream of Zhmgang and Panbang	
18	Principal				Tingtbi	7.45	3.00	2.99	-0.01			
19	Principal				Chamkhar Chhu	Kurjey	4.00	1.69	1.69	0.00	Sunny	Chamkhar Valley, Zhemgang and Downstream
20	Principal					Shingkhar		1.50	1.49	-0.01	Cloudy	Zhemgang and Downstream
21	Principal				Kuri Chhu	Sumpa	7.65	3.18	3.16	-0.02	Cloudy	Lhunte Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu
22	Secondary					Khoma	5.30	1.42	1.41	-0.01		
23	Secondary					Autsho	8.48	3.06	3.04	-0.02	Partly Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu
24	Principal	Kurizampa	18.45	7.07		7.02	-0.05	Cloudy	KHPA and Downstream along the Kuri Chhu			
25	Principal	Kholong Chhu	Muktrirap	6.00	1.71	1.66	-0.05	Clear Weather	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu			
26	Principal	Drangme Chhu	Doksum		3.21	3.20	-0.01	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu			
27	Secondary		Chazam		7.50	7.50	0.00	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang			
28	Principal		Ozorong	6.75	1.40	1.38	-0.02	Sunny	Downstream of Kuri-Gongri and Panbang			
29	Secondary		Sheri Chhu	2.58	1.38	1.36	-0.02					
30	Principal	Panbang	12.48	4.44	4.33	-0.11	Clear Weather	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam		5.59	5.59	0.00	Cloudy	Bangtar Settlement and Downstream			
32	Principal		Bangtar		1.92	1.93	0.01	Light Rain	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

Note: The Chamkhar Chu and Mangdue System is down,inconvenience is highly regretted.

ISSUED BY: FMCR,HWRSD,NCHM