



**ལྷན་པོ་བཙུགས་པའི་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་**  
**ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་ལྷན་ཁྲིམས་**  
**HYDROLOGY & WATER RESOURCES SERVICES DIVISION**  
**NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY**  
**THIMPHU: BHUTAN**



Status and River Level Trends:

Saturday, August 24, 2019

Issued at: 10:00 AM

**Glacier Lake Outburst Flood (GLOF) Early Warning System**

**1. Punaatshang Chhu Sub Basin**

SI 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	6.65	6.67	0.02	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.83	5.84	0.01	
3				Rapstreg Tsho		7.40	5.00	6.30	6.33	0.03	
4				Bay Tsho		7.40	5.00	6.44	6.51	0.07	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	
6				Tarina Wachey		8.50	10.50	6.84	7.06	0.22	
7				Dangsa		5.50	7.00	4.65	4.82	0.17	
8				Taksemakhang		7.50	8.50	5.78	5.94	0.16	
9				Tashithang		9.00	10.50	6.57	7.33	0.76	
10				Yebesa		5.00	7.00	2.03	2.45	0.42	
				Mo Chhu							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 Dangsa Sensor				
SI Nos.	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreg Tsho)	Approx. Distance from Sensor (Thorthormi Tsho)	Approx. Distance from Sensor (Luggay Tsho)	Approx. Time 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. 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 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**

SI 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	4.33	4.47	0.14	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zhenggang.	
2				Khagthang		5.50	6.00	4.78	4.86	0.08		
3				Kurjey		5.72	3.30	5.00	2.30	2.52		
4				Jongthang			5.90	7.00	4.87	5.09		0.22
5				Bijzam		5.52	4.20	5.50	2.57	2.85		0.28

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						
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	Bijzam	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	Kurjey	12.4 km	37.2 km	2771 m	60 minutes	3	Power Plant	20.4 km	46.7 km	1024 m	88 minutes
4	Wangdicholling	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	Thin Chhu	Dodena		1.92	1.95	0.03	Cloudy	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.20	1.52	0.32	Cloudy			
3	Principal				Damchu	6.00	2.77	3.22	0.45	Cloudy			
4	Secondary			Haa Chhu	Haa	2.60	1.02	1.02	0.00	Cloudy	Haa and Wang Chhu Downstream		
5	Principal			Pa Chhu	Bondlay		1.35	1.66	0.31	Cloudy	Downstream of Paro Valley and Wang Chhu Basin		
6	Principal			Amo Chhu	Dorokha		3.30	3.40	0.10	Cloudy	Samse, Phunsholing and Downstream		
7	Secondary				Droyagang	7.07	3.15	3.88	0.73	Cloudy	Phunsholing and Downstream		
8	Secondary				Samdingkha	6.10	3.85	4.25	0.40	Cloudy	Puna-Wangdue Valley and Downstream		
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.01	2.47	0.46		Mo Chhu Valley and Downstream		
10	Secondary						2.60	3.55	0.95				
11	Principal				Wangdue Rapid	7.82	3.05	4.02	0.97	Cloudy	PHPA I/PHPA II and Downstream		
12	Principal			Punatshang Chhu	Turiitar Sunkosh		6.68	3.20	3.80	0.60	Cloudy	Downstream of Dugana and Lhamoizongkha	
13	Secondary						Sunkosh Bridge		2.40	3.00	0.60		Cloudy
14	Principal						Kerabari	11.90	5.43	5.72	0.29		Cloudy
15	Secondary				Mao Chhu	Sherzhong		4.10	4.00	-0.10	Sunny	Gelelephu Valley and Downstream	
16	Principal			Basin III	Manas	Mangdue Chhu	Bijzam	5.35	2.57	2.86	0.29	Cloudy	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary		Dakpai Chhu				2.26	1.49	1.51	0.02		Downstream of Zhemgang and Panbang	
18	Principal		Tingtibi				7.45	3.78	3.97	0.19	Cloudy		
19	Principal		Kurjey			4.00	2.31	2.53	0.22	Cloudy	Chankhar Valley, Zhemgang and Downstream		
20	Principal	Chamkhar Chhu	Shingkar (Bemshang)					2.16	2.30	0.14		Zhemgang and Downstream	
21	Principal						Sumpa	7.65	4.33	4.65	0.32		Lhanse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu
22	Secondary						Khoma	5.30	1.92	1.96	0.04	Cloudy	
23	Secondary	Kuri Chhu	Autsho				8.48	4.20	4.53	0.33	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu	
24	Principal						Kurizampa	18.45	8.30	8.61	0.31	Cloudy	KHPA and Downstream along the Kuri Chhu
25	Principal						Kholong Chhu	6.00	2.14	2.33	0.19		Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Secondary	Drangme Chhu	Doksum					4.31	4.42	0.11	cloudy with L.Rain	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary						Chazam		8.50	8.85	0.35	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal				Omzong	6.75	2.32	2.65	0.33		Downstream of Kuri-Gongri and Panbang		
29	Secondary				Sheri Chhu	2.58	1.54	1.55	0.01	cloudy			
30	Principal				Panbang	12.48	5.92	6.13	0.21	Cloudy	Manas and Downstream		
31	Principal	Ngara Ama Chhu	Pangzam			6.15	6.05	-0.10	Cloudy	Bangtar Settlement and Downstream			
32	Principal				Bangtar		2.44	2.33	-0.11	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