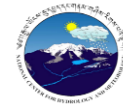




རྒྱལ་ཁྲིམས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་  
 རྒྱལ་ཁྲིམས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་ལྷན་ཁུངས་  
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:

Monday, August 26, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punatsang 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	Punatsang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.65	6.65	0.00	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.83	5.82	-0.01	
3				Rapstreng Tsho		7.40	5.00	6.29	6.29	0.00	
4				Bay Tsho		7.40	5.00	6.41	6.46	0.05	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengna, Khuruthang) Puna-Wangdue Valley and Downstream
6				Tarina Wachey		8.50	10.50	6.86	6.86	0.00	
7				Dangsa		5.50	7.00	4.76	4.72	-0.04	
8				Taksemakhang		7.50	8.50	5.83	5.81	-0.02	
9				Tashithang		9.00	10.50	7.61	6.98	-0.63	
10				Yebesa		5.00	7.00	2.55	2.24	-0.31	

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 (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		5-7 hours	5	Bajo Town	30.5 km	145 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	4.42	4.36	-0.06	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zherngang.	
2				Khagthang		5.50	6.00	4.83	4.80	-0.03		
3				Kurje		5.72	3.30	5.00	2.41	2.34		-0.07
4				Jongthang			5.90	7.00	NR	NR	#VALUE!	Bijzam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zherngang.
5				Bijzam		5.52	4.20	5.50	2.73	2.59	-0.14	

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	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	Thin Chhu	Dodena		2.02	2.01	-0.01	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.54	1.44	-0.10	Sunny			
3	Principal				Damchu	6.00	3.06	2.92	-0.14	Sunny/Clear			
4	Secondary			Basin II	Punatshang Chhu	Haa Chhu	Haa	2.60	1.26	1.14	-0.12	Sunny	Haa and Wang Chhu Downstream
5	Principal						Pa Chhu	Bondlay		1.59	1.45	-0.14	Clear
6	Principal					Amo Chhu	Dorokha		3.40	3.35	-0.05	Sunny	Samse, Phunsholing and Downstream
7	Secondary						Droyagang	7.07	3.55	3.34	-0.21	Sunny	Phunsholing and Downstream
8	Secondary						Samdingkha	6.10	4.25	3.93	-0.32	Sunny	Puna-Wangdue Valley and Downstream
9	Principal	Basin III	Manas	Mo Chhu	Yebesa	3.94	2.52	2.23	-0.29		Mo Chhu Valley and Downstream		
10	Secondary				Wangdue Bridge		3.40	2.90	-0.50	Clear	PHPA I/PHPA II and Downstream		
11	Principal			Wangdue Rapid	7.82	4.00	3.33	-0.67					
12	Principal			Punatshang Chhu	Turitar Sunkosh	6.68	3.55	3.40	-0.15	Sunny	Downstream of Dugana and Lhamoizongkha		
13	Secondary				Sunkosh Bridge		2.70	2.60	-0.10	Sunny			
14	Principal				Kerabari	11.90	5.71	5.59	-0.12	Sunny		Lhamoizongkha and Downstream	
15	Secondary			Mao Chhu	Sherzhong		4.05	4.00	-0.05	Sunny	Gelelephu Valley and Downstream		
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	2.74	2.61	-0.13	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang
17	Secondary	Dakpai Chhu	2.26				1.50	1.49	-0.01	Sunny	Downstream of Zhemgang and Panbang		
18	Principal	Tingtibi	7.45				3.80	3.78	-0.02				
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.41	2.34	-0.07	Sunny	Chamkhar Valley, Zhemgang and Downstream		
20	Principal		Shingkar (Bemshang)				2.21	2.19	-0.02		Zhemgang and Downstream		
21	Principal	Kuri Chhu	Sumpa			7.65	4.48	4.36	-0.12	Sunny	Lhanse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu		
22	Secondary		Khoma			5.30	1.95	1.93	-0.02				
23	Secondary		Autsho			8.48	4.43	4.26	-0.17	Sunny/Clear			
24	Principal		Kurizampa			18.45	8.65	8.40	-0.25	Sunny			
25	Principal	Kholong Chhu	Muktirap			6.00	2.28	2.32	0.04	Clear	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu		
26	Secondary	Drangme Chhu	Doksum				4.37	4.33	-0.04	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu		
27	Secondary		Chazam				8.50	8.50	0.00	Sunny	Downstream Settlement of Kuri-Gongri and Panbang		
28	Principal		Omzong	6.75	2.45	2.50	0.05	Sunny/Clear	Downstream of Kuri-Gongri and Panbang				
29	Secondary		Sheri Chhu	2.58	1.54	1.55	0.01						
30	Principal		Panbang	12.48	5.78	5.73	-0.05	Clear	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam		6.05	6.00	-0.05		Bangtar Settlement and Downstream				
32	Principal		Bangtar		2.30	2.25	-0.05	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