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 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:

Thursday, August 29, 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	5.81	5.82	0.01	
3				Rapsteng Tsho		7.40	5.00	6.30	6.30	0.00	
4				Bay Tsho		7.40	5.00	6.45	6.49	0.04	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Kharuthang) Puna-Wangdue Valley and Downstream
6				Tarina Wachey		8.50	10.50	NR	6.86	#VALUE!	
7				Dangsa		5.50	7.00	4.63	4.66	0.03	
8				Taksemakhang		7.50	8.50	NR	5.80	#VALUE!	
9				Tashithang		9.00	10.50	NR	6.75	#VALUE!	
10				Yebesa		5.00	7.00	2.06	2.10	0.04	

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 (Rapsteng 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	4.32	4.36	0.04	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zherngang.
2				Khagthang		5.50	6.00	4.75	4.77	0.02	
3				Kurjey		5.72	3.30	5.00	2.25	2.31	
4				Jongthang		5.90	7.00	4.79	NR	#VALUE!	Bijzam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zherngang.
5				Bijzam		5.52	4.20	5.50	2.45	2.51	

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	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		1.89	1.92	0.03	Sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	1.23	1.26	0.03	Sunny		
3	Principal				Damchu	6.00	2.75	2.84	0.09	Cloudy		
4	Secondary			Haa Chhu	Haa	2.60	0.94	1.09	0.15	Sunny	Haa and Wang Chhu Downstream	
5	Principal			Pa Chhu	Bondlay		1.33	1.41	0.08	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal			Amo Chhu	Dorokha		3.20	3.15	-0.05	Sunny	Samse, Phunsholing and Downstream	
7	Secondary				Droyagang	7.07	3.18	3.29	0.11	Sunny	Phunsholing and Downstream	
8	Secondary				Samdingkha	6.10	3.90	3.93	0.03	Sunny	Puna-Wangdue Valley and Downstream	
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.04	2.06	0.02	Sunny	Mo Chhu Valley and Downstream	
10	Secondary							2.50	2.65	0.15		
11	Principal				Wangdue Rapid	7.82	3.00	3.18	0.18	Sunny	PHPA I/PHPA II and Downstream	
12	Principal			Punatshang Chhu	Turihar Sunkosh	6.68	3.15	3.30	0.15	Sunny	Downstream of Dugana and Lhamozingkha	
13	Secondary					Sunkosh Bridge	2.40	2.60	0.20	Sunny		
14	Principal					Kerabari	11.90	5.38	5.59	0.21		Sunny
15	Secondary				Mao Chhu	Sherzhong		3.95	3.95	0.00	Sunny	Gelelephu Valley and Downstream
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	2.46	2.51	0.05	Sunny
17	Secondary	Dakpai Chhu	2.26				1.47	1.50	0.03			
18	Principal	Tingtibi	7.45				3.66	3.67	0.01	Sunny	Downstream of Zhemgang and Panbang	
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.25	2.31	0.06	Sunny	Chamkhar Valley, Zhemgang and Downstream	
20	Principal					Shingkar (Bemshang)		2.16	2.15	-0.01		Zhemgang and Downstream
21	Principal	Kuri Chhu	Sumpa			7.65	4.18	4.21	0.03		Lhanse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu	
22	Secondary					Khoma	5.30	1.90	1.90	0.00		Sunny
23	Secondary					Autsho	8.48	4.00	4.03	0.03		Sunny
24	Principal					Kurizampa	18.45	8.15	8.25	0.10		Sunny
25	Principal	Kholong Chhu	Muktirap			6.00	2.12	2.16	0.04	Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary								4.28	4.19	-0.09	Sunny
27	Secondary	Drangme Chhu	Chazam					8.35	8.35	0.00	Sunny	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal			Omzong	6.75	2.25	2.20	-0.05				
29	Secondary			Sheri Chhu	2.58	1.52	1.54	0.02	Sunny			
30	Principal			Panbang	12.48	5.36	5.75	0.39	Sunny			
31	Principal	Ngara Ama Chhu	Pangzam			6.00	5.95	-0.05	Sunny	Manas and Downstream		
32	Principal			Bangtar		2.24	2.21	-0.03	Sunny	Bangtar Settlement and Downstream		

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