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



Status and River Level Trends:

Wednesday, September 25, 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	6.54	6.53	-0.01	Thanza, Tenchey, Lhedri and Lunama area and Downstream of Pho Chhu and Puna-Wangdue Valley			
2				Thorthormi Tsho		7.50	5.00	5.71	5.70	-0.01				
3				Rapstreng Tsho		7.40	5.00	6.21	6.19	-0.02				
4				Bay Tsho		7.40	5.00	6.31	6.25	-0.06				
5							Thanza		7.70	8.70	6.59	6.57	-0.02	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream
6							Tarina Wachey		8.50	10.50	6.75	6.72	-0.03	
7							Dangsa		5.50	7.00	4.69	4.60	-0.09	
8							Taksemakhang		7.50	8.50	NR	5.74	#VALUE!	
9							Tashithang		9.00	10.50	7.05	6.80	-0.25	
10							Yebesa		5.00	7.00	2.33	2.21	-0.12	

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	Lhedri	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 diastance 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	NR	NR	#VALUE!	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhenfgang.	
2				Khagthang		5.50	6.00	NR	NR	#VALUE!		
3				Kurjey		5.72	3.30	5.00	NR	NR		#VALUE!
4				Jongthang			5.90	7.00	NR	NR	#VALUE!	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhenfgang
5				Mangdue Chhu		Bjizam		5.50	5.50	NR	NR	

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	Bjizam	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	Gangriting PS	0.3km	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		1.94	1.93	-0.01	Partly Sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	1.33	1.29	-0.04	Partly Sunny		
3	Principal				Damchu	6.00	2.91	2.86	-0.05	Sunny	Chukha and Downstream	
4	Secondary			Haa Chhu	Haa	2.60	1.00	0.99	-0.01	Cloudy	Haa and Wang Chhu Downstream	
5	Principal			Pa Chhu	Bondlay		1.47	1.41	-0.06	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal			Amo Chhu	Dorokha		3.35	3.30	-0.05	Sunny	Sanise, Phunsholing and Downstream	
7	Secondary				Droyagang	7.07	3.55	3.46	-0.09	Cloudy	Phunsholing and Downstream	
8	Secondary				Samdingkha	6.10	3.93	3.95	0.02	Cloudy	Puna-Wangdue Valley and Downstream	
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.27	2.15	-0.12	Cloudy	Mo Chhu Valley and Downstream	
10	Secondary							3.20	2.75	-0.45	Cloudy	
11	Principal				Wangdue Rapid	7.82	3.52	3.22	-0.30	Cloudy	PHPA I,PHPA II and Downstream	
12	Principal			Punatshang Chhu	Turitar Sunkosh	6.68	3.50	3.40	-0.10	Cloudy	Downstream of Dagana and Lhamoizingkha	
13	Secondary				Sunkosh Bridge		2.85	2.65	-0.20	Cloudy		
14	Principal				Kerabari	11.90	5.85	5.89	0.04	Cloudy	Lhamoizingkha and Downstream	
15	Secondary				Mao Chhu	Sherzhong		4.00	4.05	0.05	Cloudy	Gelephu Valley and Downstream
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	2.76	2.66	-0.10	Cloudy
17	Secondary	Dakpai Chhu	2.26				1.61	1.60	-0.01	Cloudy	Downstream of Zhemgang and Panbang	
18	Principal	Tingtibi	7.45				4.14	4.05	-0.09			
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.44	2.33	-0.11	Sunny	Chamkhar Valley, Zhemgang and Downstream	
20	Principal		Shingkar (Benshang)				2.34	2.18	-0.16	Cloudy	Zhemgang and Downstream	
21	Principal	Kuri Chhu	Sumpa			7.65	4.90	4.55	-0.35	Cloudy	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary		Khoma			5.30	2.35	2.25	-0.10			
23	Secondary		Autsho			8.48	4.95	4.67	-0.28	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu	
24	Principal		Kurizampa			18.45	9.40	8.97	-0.43	Cloudy	KHPA and Downstream along the Kuri Chhu	
25	Principal	Kholong Chhu	Muktirap			6.00	2.95	2.65	-0.30	Cloudy	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary		Doksum				4.37	4.35	-0.02	Cloudy	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary	Drangme Chhu	Chazam				9.50	9.40	-0.10	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang	
28	Principal		Omzong	6.75	2.87	3.15	0.28	Cloudy	Downstream of Kuri-Gongri and Panbang			
29	Secondary		Sheri Chhu	2.58	1.68	1.79	0.11					
30	Principal		Panbang	12.48	6.45	6.57	0.12	Cloudy	Manas and Downstream			
31	Principal	Ngara Ama Chhu	Pangzam		6.00	6.15	0.15	Cloudy	Bangtar Settlement and Downstream			
32	Principal		Bangtar		2.28	2.30	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 doesnot represent the actual water depth.

ALERT

MISSING

NR Represent that the Data has not been reported or Not Updated

GLOF & Rainstorm Flood Early Warning System of Mangdue Chhu and Chamkhar Chhu Sub Basin is down.

ISSUED BY: FMCR,HWRSD,NCHM