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



Status and River Level Trends:

Monday, September 02, 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	6.66	6.65	-0.01	Thanza, Tenchey, Lhedri and Lunama area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.81	5.81	0.00	
3				Rapstreng Tsho		7.40	5.00	6.29	6.29	0.00	
4				Bay Tsho		7.40	5.00	6.44	6.48	0.04	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	
6				Tarina Wachey		8.50	10.50	6.85	6.85	0.00	
7				Dangsa		5.50	7.00	4.69	4.70	0.01	
8				Taksemakhang		7.50	8.50	5.79	5.78	-0.01	
9			Tashithang		9.00	10.50	6.65	6.74	0.09	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
10			Yebesa		5.00	7.00	2.07	2.10	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				
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	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	4.37	4.36	-0.01	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelekhar Village and Downstream settlement under Zhen gang.
2				Khagthang		5.50	6.00	4.77	4.80	0.03	
3				Kurje		5.72	3.30	5.00	2.37	-0.02	
4				Jongthang		5.90	7.00	4.87	4.83	-0.04	
5			Mangdue Chhu		5.52	4.20	5.50	2.55	2.49	-0.06	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhen gang

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	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	Gangriting PS	0.3 km	44.2 km	2552 m	84 minutes						
7	Gyelekhar	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		1.88	1.86	-0.02	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.22	1.21	-0.01	Sunny			
3	Principal				Damchu	6.00	2.78	2.75	-0.03	Sunny			
4	Secondary			Haa Chhu	Haa	2.60	1.07	1.01	-0.06	Cloudy	Haa and Wang Chhu Downstream		
5	Principal			Pa Chhu	Bondlay		1.37	1.40	0.03	Sunny	Downstream of Paro Valley and Wang Chhu Basin		
6	Principal			Amo Chhu	Dorokha		3.20	3.15	-0.05	Sunny	Sanise, Phunsholing and Downstream		
7	Secondary				Droyagang	7.07	3.18	3.17	-0.01	Sunny	Phunsholing and Downstream		
8	Secondary				Samdingkha	6.10	3.94	3.95	0.01	Sunny	Puna-Wangdue Valley and Downstream		
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.06	2.06	0.00	Sunny	Mo Chhu Valley and Downstream		
10	Secondary						2.65	2.65	0.00	Clear Weather			
11	Principal				Wangdue Rapid	7.82	3.16	3.10	-0.06	Sunny	PHPA I,PHPA II and Downstream		
12	Principal			Punatshang Chhu	Turiitar Sunkosh		6.68	3.35	3.25	-0.10	Sunny	Downstream of Dagana and Lhamoizingkha	
13	Secondary						Sunkosh Bridge		2.65	2.40	-0.25		Sunny
14	Principal						Kerabari	11.90	5.60	5.38	-0.22		Sunny
15	Secondary				Mao Chhu	Sherzhong		3.95	3.85	-0.10	Sunny	Gelelephu Valley and Downstream	
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	2.57	2.50	-0.07	Sunny	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary		Dakpai Chhu				2.26	1.65	1.60	-0.05	Sunny	Downstream of Zhemgang and Panbang	
18	Principal		Tingtibi				7.45	3.72	3.66	-0.06			
19	Principal	Chamkhar Chhu	Kurjey				4.00	2.38	2.35	-0.03	Cloudy	Chamkhar Valley, Zhemgang and Downstream	
20	Principal						Shingkar (Benshang)		2.18	2.15	-0.03		Zhemgang and Downstream
21	Principal						Sumpa	7.65	4.28	4.26	-0.02	Sunny	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu
22	Secondary	Kuri Chhu	Khoma				5.30	1.92	1.90	-0.02			
23	Secondary						Autsho	8.48	4.18	4.06	-0.12		
24	Principal						Kurizampa	18.45	8.35	8.20	-0.15	Sunny	
25	Principal	Kholong Chhu	Muktrirap				6.00	2.30	2.44	0.14	Partly Cloudy	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary						Doksum		4.28	4.25	-0.03	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary						Chazam		9.40	8.50	-0.90	Sunny	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal	Drangme Chhu	Omzong		6.75	2.43	2.43	0.00	Clear Weather	Downstream of Kuri-Gongri and Panbang			
29	Secondary				Sheri Chhu	2.58	1.56	1.64			0.08		
30	Principal				Panbang	12.48	6.00	5.79			-0.21	Clear Weather	
31	Principal	Ngara Ama Chhu		Pangzam		6.10	6.00	-0.10	Sunny	Bangtar Settlement and Downstream			
32	Principal				Bangtar		2.22	2.42	0.20	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