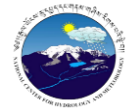




ཐུང་ཕྱུང་རྒྱུ་ལེན་པོ་སྤྲོད་ཞབས་ཏྲུག་སྒྲིལ་བཤུགས་ལྷན་ཁང་།  
 རྒྱལ་ཡོངས་ཐུང་ཕྱུང་དང་གནམ་གཤིས་རྒྱུ་ལེན་ལྷན་ཁང་།  
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:

Sunday, August 04, 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	6.67	0.01	Thanza, Tenchey, Lhedri and Lunama area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho	7.50	5.00	5.82	5.83	0.01		
3				Rapstreng Tsho	7.40	5.00	6.32	6.33	0.01		
4				Bay Tsho	7.40	5.00	6.52	6.55	0.03		
5				Thanza	7.70	8.70	NR	NR	#VALUE!		
6				Tarina Wachey	8.50	10.50	7.00	7.02	0.02		
7				Dangsa	5.50	7.00	4.93	4.98	0.05		
8				Taksemakhang	7.50	8.50	6.07	6.06	-0.01		
9				Tashithang	9.00	10.50	7.85	7.90	0.05		
10				Yehesa	5.00	7.00	2.57	2.60	0.03		
			Mo Chhu								Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajata, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream
											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 the 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	Pumakha 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	4.57	4.51	-0.06	Chokortoe Pri School, Kurje Village, Wangdicholing, Chamkhar Town, Gangrithang Pri School, Gyelekhar Village and Downstream settlement under Zhemgang.
2				Khagthang	5.50	6.00	4.96	4.95	-0.01		
3				Kurje	5.72	3.30	5.00	2.60	-0.02		
4				Jongthang	5.90	7.00	5.28	5.31	0.03		
5				Bizam	5.52	4.20	5.50	3.10	-0.03		
			Mangdue Chhu								Bizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang

Approximate Lead Time for Evacuation of Chamkhar Chhu Sub Basin

Approximate Lead Time for Evacuation after the detection of Flood at the Tshampa AWLS

Approximate Lead Time for Evacuation of Mangdue Chhu Sub Basin

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	Bizam	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	Gangrithang 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		NR	NR	#VALUE!		Thingphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	1.54	1.47	-0.07	Cloudy		
3	Principal			Damchu	6.00	3.12	3.05	-0.07	Cloudy	Chukha and Downstream		
4	Secondary			Haas Chhu	Haa	2.60	1.23	1.10	-0.13	Cloudy	Haas and Wang Chhu Downstream	
5	Principal			Pa Chhu	Bonday		1.60	1.60	0.00	Cloudy	Downstream of Poro Valley and Wang Chhu Basin	
6	Principal			Amo Chhu	Dorokha		3.35	3.30	-0.05	Partly Sunny	Samtse, Phuntsholing and Downstream	
7	Secondary				Droyagang	7.07	3.79	3.74	-0.05		Phuntsholing and Downstream	
8	Secondary				Samdingkha	6.10	4.45	4.49	0.04		Puna-Wangdue Valley and Downstream	
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	2.56	2.57	0.01		Mo Chhu Valley and Downstream	
10	Secondary				Wangdue Bridge		3.60	3.65	0.05			
11	Principal				Wangdue Rapid	7.82	4.20	4.30	0.1	Sunny	PHPA I,PHPA II and Downstream	
12	Principal			Punatshang Chhu	Turitar Sunkosh	6.68	4.05	3.90	-0.15	Sunny	Downstream of Daganu and Lhamoizangkha	
13	Secondary				Sunkosh Bridge		3.15	3.00	-0.15	Sunny		
14	Principal				Kerabari	11.90	6.25	6.00	-0.25		Lhamoizangkha and Downstream	
15	Secondary				Mao Chhu	Sherzhong		4.45	4.35	-0.10	Sunny	Gelephu Valley and Downstream
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	3.10	3.08	-0.02	Sunny
17	Secondary	Dakpai Chhu	2.26				1.48	1.51	0.03	Sunny	Downstream of Zhemgang and Panbang	
18	Principal	Tingtibi	7.45				4.36	4.34	-0.02			
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.60	2.58	-0.02	Sunny	Chamkhar Valley, Zhemgang and Downstream	
20	Principal		Shingkar (Bemthang)				2.46	2.40	-0.06		Zhemgang and Downstream	
21	Principal	Kuri Chhu	Sumpa			7.65	5.33	5.40	0.07	Sunny	Lhanste Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary		Khoma			5.30	2.50	2.65	0.15			
23	Secondary		Autsho			8.48	5.33	5.45	0.12	Clear Sky	Kurizampa,KHPA and Downstream along the Kuri Chhu	
24	Principal		Kurizampa			18.45	9.65	9.67	0.02	Sunny	KHPA and Downstream along the Kuri Chhu	
25	Principal	Kholong Chhu	Muktirap			6.00	2.92	3.05	0.13	Sunny	Doksam,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary		Doksam				4.85	4.64	-0.21	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary	Drangme Chhu	Chazam				10.05	9.85	-0.20	Sunny	Downstream Settlement of Kuri-Gongri and Panbang	
28	Principal		Ozorong	6.75	4.05	3.75	-0.30	Sunny				
29	Secondary		Sheri Chhu	2.58	1.75	1.70	-0.05			Downstream of Kuri-Gongri and Panbang		
30	Principal		Panbang	12.48	7.65	7.03	-0.62	Sunny	Manas and Downstream			
31	Principal	Ngara Ama Chhu	Pangzam		6.55	6.60	0.05		Bangtar Settlement and Downstream			
32	Principal		Bangtar		3.05	2.92	-0.13	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