



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



Status and River Level Trends:

Thursday, October 24, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punatshang 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	Punatshang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.37	6.36	-0.01	Thanza, Tenchey, Lhedri and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthorni Tsho		7.50	5.00	5.60	5.60	0.00	
3				Rapstreng Tsho		7.40	5.00	6.05	6.05	0.00	
4				Bay Tsho		7.40	5.00	6.21	6.21	0.00	
5				Thanza		7.70	8.70	6.34	6.34	0.00	
6				Tarina Wachey		8.50	10.50	6.55	6.54	-0.01	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream
7				Dangpa		5.50	7.00	3.91	3.90	-0.01	
8				Taksemakhang		7.50	8.50	5.39	5.40	0.01	
9				Tashithang		9.00	10.50	5.57	5.59	0.02	
10				Yebsa		5.00	7.00	NR	1.60	#VALUE!	

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 Dangpa Sensor				
SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreng Tsho)	Approx. Distance from Sensor (Thorthorni 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		1	Wolathang	5.8 km	30 minutes	30 minutes
2	Tenchey	2.9 km	4.1 km	4.6 km	8.2 km	20-60 minutes	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	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	3.90	3.91	0.01	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.	
2				Khagthang		5.50	6.00	4.54	4.54	0.00		
3				Kurje		5.72	3.30	5.00	1.87	1.86		-0.01
4				Jongthang			5.90	7.00	NR	4.19	#VALUE!	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5				Bjizam			5.52	4.20	5.50	2.01	2.00	

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	Chokhor 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	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		1.64	1.66	0.02	Cloudy	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	0.80	0.79	-0.01	Cloudy			
3	Principal				Damchu	6.00	2.39	2.37	-0.02	Cloudy	Chukha and Downstream		
4	Secondary				Haas Chhu	Haa	2.60	0.73	0.72	-0.01	Cloudy	Haa and Wang Chhu Downstream	
5	Secondary				Pa Chhu	Bondlay		1.05	1.04	-0.01	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal				Amo Chhu	Dorokha		2.65	2.70	0.05	Cloudy	Sanise, Phunsholing and Downstream	
7	Principal					Doyagang	7.07	2.72	2.70	-0.02	Cloudy	Phunsholing and Downstream	
8	Secondary					Pho Chhu	Samdingkha	6.10	3.10	3.06	-0.04	Cloudy	Puna-Wangdue Valley and Downstream
9	Principal	Basin II	Punatsang Chhu	Mo Chhu	Yebesa	3.94	1.55	1.58	0.03	Cloudy	Mo Chhu Valley and Downstream		
10	Secondary					Wangdue Bridge		1.50	1.40	-0.10	Cloudy	PHPA I,PHPA II and Downstream	
11	Principal				Wangdue Rapid	7.82	1.89	1.90	0.01	Cloudy			
12	Principal				Punatsang Chhu	Turitar Sunkosh	6.68	2.40	2.35	-0.05	Cloudy	Downstream of Dagana and Lhamoizingkha	
13	Secondary					Sunkosh Bridge		1.75	1.70	-0.05	Cloudy		
14	Principal					Kerabari	11.90	4.40	4.37	-0.03	Cloudy	Lhamoizingkha and Downstream	
15	Secondary					Mao Chhu	Sherzhong		3.70	3.75	0.05	Cloudy	Gelephu Valley and Downstream
16	Principal			Basin III	Manas	Mangdue Chhu	Bijam	5.35	2.01	2.01	0.00	Cloudy	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary		Dakpai Chhu				2.26	1.43	1.41	-0.02	Cloudy	Downstream of Zhemgang and Panbang	
18	Principal					Tingtibi	7.45	3.29	3.20	-0.09	Cloudy	Chankhar Valley, Zhemgang and Downstream	
19	Principal		Chankhar Chhu			Kurjey	4.00	1.87	1.86	-0.01	Cloudy		
20	Principal					Shingkar (Benshang)		1.67	1.66	-0.01	Cloudy	Zhemgang and Downstream	
21	Principal		Kuri Chhu			Sumpa	7.65	3.53	3.65	0.12	Cloudy	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary						Khoma	5.30	1.62	1.60	-0.02		Cloudy
23	Secondary						Autsho	8.48	3.43	3.55	0.12		Cloudy
24	Principal					Kurizampa	18.45	7.49	7.44	-0.05	Cloudy	KHPA and Downstream along the Kuri Chhu	
25	Principal		Kholong Chhu			Muktirap	6.00	1.91	1.88	-0.03	Cloudy	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Principal		Drangme Chhu			Doksum		3.41	3.39	-0.02	Cloudy	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary						Chazam		7.75	7.75	0.00	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal						Omzong	6.75	1.68	1.68	0.00	Sunny	Downstream of Kuri-Gongri and Panbang
29	Secondary						Sheri Chhu	2.58	1.50	1.51	0.01		
30	Principal					Panbang	12.48	4.80	4.67	-0.13	clear	Manas and Downstream	
31	Principal		Ngara Ama Chhu			Pangzam		5.65	5.65	0.00	Cloudy	Bangtar Settlement and Downstream	
32	Principal				Bangtar		1.96	1.97	0.01	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

WARNING

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

ISSUED BY: FMCR,HWRSD,NCHM