



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



Status and River Level Trends:

Wednesday, October 23, 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	6.38	6.37	-0.01	Thanza, Tenchey, Lhedri and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.61	5.60	-0.01	
3				Rapstreng Tsho		7.40	5.00	6.05	6.05	0.00	
4				Bay Tsho		7.40	5.00	6.20	6.21	0.01	
5				Thanza		7.70	8.70	6.35	6.34	-0.01	
6				Tarina Wachey		8.50	10.50	6.56	6.55	-0.01	Pho Chhu Valley (Tamidanchu, Wolathang, Samidngkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream
7				Dangpa		5.50	7.00	3.94	3.91	-0.03	
8				Taksemakhang		7.50	8.50	5.39	5.39	0.00	
9				Tashithang		9.00	10.50	5.61	5.57	-0.04	
10				Yebsa		5.00	7.00	1.62	NR	#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 (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		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	3.91	3.90	-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	4.55	4.54	-0.01		
3				Kurje		5.72	3.20	5.00	1.88	1.87		-0.01
4				Jongthang			5.90	7.00	NR	NR	#VALUE!	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5				Bjizam			5.52	4.20	5.50	2.04	2.01	

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	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		1.67	1.64	-0.03	Partly sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	0.81	0.80	-0.01	partly sunny		
3	Principal				Damchu	6.00	2.41	2.39	-0.02	Cloudy	Chukha and Downstream	
4	Secondary				Haa Chhu	Haa	2.60	0.75	0.73	-0.02	Sunny	Haa and Wang Chhu Downstream
5	Secondary				Pa Chhu	Bondlay		1.06	1.05	-0.01	Sunny	Downstream of Paro Valley and Wang Chhu Basin
6	Principal				Amo Chhu	Dorokha		2.70	2.65	-0.05	Cloudy	Sanise, Phunsholing and Downstream
7	Principal					Doyagang	7.07	2.73	2.72	-0.01	Cloudy	Phunsholing and Downstream
8	Secondary					Samdingkha	6.10	3.12	3.10	-0.02	Cloudy	Puna-Wangdue Valley and Downstream
9	Principal	Basin II	Punatshang Chhu	Pho Chhu		3.94	1.57	1.55	-0.02	Cloudy	Mo Chhu Valley and Downstream	
10	Secondary			Mo Chhu	Yebesa			1.45	1.50	0.05	Cloudy	PHPA I,PHPA II and Downstream
11	Principal				Wangdue Bridge		7.82	1.94	1.89	-0.05	partly sunny	
12	Principal				Wangdue Rapid		6.68	2.40	2.40	0.00	Cloudy	Downstream of Dagana and Lhamoizingkha
13	Secondary				Punatshang Chhu	Turitar Sunkosh		1.75	1.75	0.00	Cloudy	
14	Principal					Sunkosh Bridge	11.90	4.46	4.40	-0.06	Cloudy	Lhamoizingkha and Downstream
15	Secondary					Kerabari		3.75	3.70	-0.05	Cloudy	Gelephu Valley and Downstream
16	Principal				Mao Chhu	Sherzhong	5.35	2.05	2.01	-0.04	Cloudy	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary	Basin III	Manas	Mangdue Chhu	Bijzam	2.26	1.42	1.43	0.01	Sunny	Downstream of Zhemgang and Panbang	
18	Principal				Dakpai Chhu	7.45	3.30	3.29	-0.01			
19	Principal				Tingtibi	4.00	1.89	1.87	-0.02	Partly Sunny	Chankhar Valley, Zhemgang and Downstream	
20	Principal			Chamkhar Chhu	Kurjey		1.70	1.67	-0.03	Sunny	Zhemgang and Downstream	
21	Principal				Shingkar (Benshang)	7.65	3.90	3.53	-0.37	Sunny	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary			Sumpa	5.30	1.62	1.62	0.00				
23	Secondary			Kuri Chhu	Khoma	8.48	3.70	3.43	-0.27	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu	
24	Principal				Autsho	18.45	7.85	7.49	-0.36	Cloudy	KHPA and Downstream along the Kuri Chhu	
25	Principal				Kurizampa	6.00	2.00	1.91	-0.09	Sunny	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Principal			Kholong Chhu	Muktirap		3.45	3.41	-0.04	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary					Doksum		7.75	7.75	0.00	Sunny	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal					Chazam	6.75	1.68	1.68	0.00	Sunny	Downstream of Kuri-Gongri and Panbang
29	Secondary					Ozorong	2.58	1.50	1.50	0.00		
30	Principal				Sheri Chhu	Panhang	12.48	5.03	4.80	-0.23	Sunny	Manas and Downstream
31	Principal				Pangzam		5.70	5.65	-0.05	Cloudy	Bangtar Settlement and Downstream	
32	Principal				Ngara Ama Chhu	Bangtar		1.97	1.96	-0.01	Partly 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