



རྒྱུ་ཕྱུང་རྒྱུ་ལ་དང་རྒྱུ་ལོ་ཐོན་སྐྱོད་ཞབས་ཏེ་གཞི་ཚན།
 རྒྱལ་ཡོངས་རྒྱུ་ཕྱུང་དང་གནས་གཤིས་རྒྱུ་ལོ་ཐོན་སྐྱོད་ལྷན་ཁང་།
HYDROLOGY & WATER RESOURCES SERVICES DIVISION
NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY
THIMPHU: BHUTAN



Status and River Level Trends:
Glacier Lake Outburst Flood (GLOF) Early Warning System

Friday, November 8, 2019

Issued at: 10:00 AM

1. Punatshang Chhu Sub Basin

Sl No.	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 9:00 AM Yesterday	Water Level (m) recorded at 9:00 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	6.31	6.32	-0.01	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho	7.50	5.00	5.56	5.55	0.01		
3				Rapstreng Tsho	7.40	5.00	6.02	6.03	-0.01		
4				Bay Tsho	7.40	5.00	6.19	6.21	-0.02		
5				Thanza	7.70	8.70	6.29	6.30	-0.01	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
6				Tarina Wachey	8.50	10.50	6.49	6.48	0.01		
7				Dangsa	5.50	7.00	3.73	3.71	0.02		
8				Taksemakhang	7.50	8.50	5.31	5.31	0.00		
9				Tashithang	9.00	10.50	5.28	5.25	0.03		
10				Yebsa	5.00	7.00	1.43	1.42	0.01		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 Dangsa Sensor					
Sl Nos	Name of Place	Approx.	Approx.	Approx.	Approx.	Approx. Time	Sl Nos	Name of Place	Approx.	Approx. Time for	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	Lhedi	16.7 km	17.6 km	18.5 km	21.8 km		4	Khuruthang	24 km	120 minutes	2 hours
5	Puna-Wangdue	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

Sl No.	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 9:00 AM Yesterday	Water Level (m) recorded at 9:00 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	3.79	3.78	-0.01	Chokortse Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangrihang Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.	
2				Khagthang	5.50	6.00	4.47	4.46	-0.01			
3				Kurje	5.72	3.30	5.00	1.72	1.70	-0.02		
4				Mangdue Chhu	Jongthang		5.90	7.00	4.01	3.99	-0.02	Bijam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5					Bijam	5.52	4.20	5.50	1.86	1.87	0.01	

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					
Sl Nos	Name of Place	Approx. Dista	Approx.	Elevation	Approx. Lead	Sl Nos	Name of Place	Approx. Distan	Approx.	Elevation	Approx. Lead Time
1	Khagthang	20.3 km	20.3 km	3704 m	27 minutes	1	Bijam	18.5 km	18.5 km	2223 m	34 minutes
2	Chorkhor Toe	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	Wangdichollin	5.7 km	42.9 km	2600 m	79 minutes						
5	Bumthang	1 km	43.9 km	2562 m	83 minutes						
6	Gangrihang	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 No.	Station Type	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Water Level (m) recorded at 9:00 AM Yesterday	Water Level (m) recorded at 9:00 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hours ending at 9:00 AM Today	Weather Condition	Downstream Settlement	
1	AWLS	Basin I	Wang Chhu	Thim Chhu	Dodena		1.57	1.56	-0.01	Partly Sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	0.63	0.61	-0.02	Partly Sunny		
3	Principal				Damchu	6.00	2.24	2.22	-0.02	Cloudy		
4	Secondary				Haa Chhu	2.60	0.64	0.63	-0.01	Cloudy		
5	Secondary				Pa Chhu	Bonday	0.94	0.92	-0.02	Cloudy		
6	Principal				Amo Chhu	Dorokha	2.50	2.50	0.00	Sunny		
7	Principal				Doyagang	7.07	2.49	2.47	-0.02	Sunny		
8	Secondary	Basin II	Punatshang Chhu	Pho Chhu	Samingkha	6.10	2.79	2.77	-0.02	Sunny	Puna-Wangdue Valley and Downstream	
9	Principal				Mo Chhu	Yebesa	3.94	1.39	1.38	-0.01	Cloudy	Mo Chhu Valley and Downstream
10	Secondary				Wangdue Bridge		1.10	1.10	0.00	Cloudy	Punatshang Chhu	Downstream of Dagana and Lhamoizingkha
11	Principal				Wangdue Rapid	7.82	1.55	1.51	-0.04	Sunny		
12	Principal				Turitar Sunkosh	6.68	2.10	2.10	0.00			
13	Secondary				Sunkosh Bridge		1.35	1.35	0.00			
14	Principal					Kerabari	11.90	4.05	3.98	-0.07	Sunny	Lhamoizingkha and Downstream
15	Secondary		Sherzhong		3.70	3.65	-0.05	Sunny	Gelephu Valley and Downstream			
16	Principal		Bjizam	5.35	1.86	1.85	-0.01	Cloudy	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang			
17	Secondary	Basin III	Manas	Mangdue Chhu	Dakpai Chhu	2.26	1.32	1.31	-0.01	Sunny	Downstream of Zhemgang and Panbang	
18	Principal				Tingtibi	7.45	3.03	3.01	-0.02			
19	Principal				Kurjey	4.00	1.72	1.70	-0.02			
20	Principal			Chamkhar Chhu	Shingkhar		1.53	1.50	-0.03	Cloudy	Chamkhar Valley, Zhemgang and Downstream	
21	Principal										Zhemgang and Downstream	
22	Secondary			Kuri Chhu	Sumpa	7.65	3.22	3.20	-0.02	Cloudy	Lhuntse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu	
23	Secondary				Khoma	5.30	1.45	1.43	-0.02			
24	Principal				Autsho	8.48	3.11	3.08	-0.03	Sunny		
25	Principal				Kurizampa	18.45	7.09	7.06	-0.03	Sunny		
26	Principal			Kholong Chhu	Muktrirap	6.00	1.71	1.70	-0.01	Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary				Doksum		3.23	3.22	-0.01	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
28	Principal				Chazam		7.55	7.50	-0.05	Sunny	Downstream Settlement of Kuri-Gongri and Panbang	
29	Secondary	Drangme Chhu	Ozorong	6.75	1.40	1.40	0.00	Sunny	Downstream of Kuri-Gongri and Panbang			
30	Principal		Sheri Chhu	2.58	1.40	1.36	-0.04					
31	Principal		Panbang	12.48	4.40	4.35	-0.05	Sunny	Manas and Downstream			
32	Principal	Ngara Ama Chhu	Pangzam		5.60	5.59	-0.01	Cloudy	Bangtar Settlement and Downstream			
32	Principal			Bangtar		1.94	1.92	-0.02	Partly Cloudy	Downstream of Bangtar Settlement		

NOTE The Water Level are relative Gauge Hight of the Observation site reference to the Site Specific and does not represent the actual water depth.

ALERT
ALARM

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

ISSUED BY: FMCR, HWRSD, NCHM