



ཐུང་ཕྱུང་རྒྱུ་ལྷན་ཁུངས་འཛུགས་ལྷན་ཁུངས་
 རྒྱལ་ཡོངས་ཐུང་ཕྱུང་དང་ལྷན་ཁུངས་འཛུགས་ལྷན་ཁུངས་
 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

Saturday, November 9, 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	6.32	6.32	0.00	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorhormi Tsho	7.50	5.00	5.55	5.55	0.00		
3				Rapstreg Tsho	7.40	5.00	6.03	6.03	0.00		
4				Bay Tsho	7.40	5.00	6.21	6.21	0.00		
5				Thanza	7.70	8.70	6.30	6.30	0.00	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
6				Tarina Wachey	8.50	10.50	6.48	6.48	0.00		
7				Dangsa	5.50	7.00	3.71	3.70	0.01		
8				Taksemakhang	7.50	8.50	5.31	NR	#VALUE!		Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream
9				Tashithang	9.00	10.50	5.25	5.22	0.03		
10				Yebsa	5.00	7.00	1.42	1.39	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					
Sl Nos	Name of Place	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	Bajo Town	30.5 km	145 minutes	2 hours 25 minutes
					5-7 hours	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

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	3.78	NR	#VALUE!	Chokortse Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangrihang Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.	
2				Khagthang	5.50	6.00	4.46	NR	#VALUE!			
3				Kurje	5.72	3.30	5.00	1.70	NR	#VALUE!		
4				Mangdue Chhu	Jongthang		5.90	7.00	3.99	NR	#VALUE!	Bijam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5					Bijam	5.52	4.20	5.50	1.87	NR	#VALUE!	

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	0.3 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 No.	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 9:00 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		1.56	1.56	0.00	Sunny	Thimphu Valley and Downstream	
2	Principal				Lungtenphu	2.82	0.61	0.61	0.00	Sunny		
3	Principal				Damchu	6.00	2.22	2.21	-0.01	Sunny		
4	Secondary				Haa Chhu	2.60	0.63	0.63	0.00	Sunny		
5	Secondary				Pa Chhu	Bonday	0.92	0.91	-0.01	clear		
6	Principal				Amo Chhu	Dorokha	2.50	2.50	0.00	Sunny		
7	Principal				Doyagang	7.07	2.47	2.45	-0.02	Sunny		
8	Secondary	Basin II	Punatshang Chhu	Pho Chhu	Samingkha	6.10	2.77	2.75	-0.02	Sunny	Puna-Wangdue Valley and Downstream	
9	Principal				Mo Chhu	Yebesa	3.94	1.38	1.37	-0.01	Sunny	Mo Chhu Valley and Downstream
10	Secondary				Punatshang Chhu	Wangdue Bridge		1.10	1.00	-0.10	Sunny	Downstream of Dagana and Lhamoizingkha
11	Principal					Wangdue Rapid	7.82	1.51	1.49	-0.02	Sunny	
12	Principal					Turitar Sunkosh	6.68	2.10	2.05	-0.05	clear	
13	Secondary					Sunkosh Bridge		1.35	1.30	-0.05	Sunny	
14	Principal					Kerabari	11.90	3.98	3.96	-0.02	Sunny	Lhamoizingkha and Downstream
15	Secondary		Sherzhong		3.65	3.65	0.00	Sunny	Gelephu Valley and Downstream			
16	Principal		Bjizam	5.35	1.85	1.84	-0.01	clear	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang			
17	Secondary	Basin III	Manas	Mangdue Chhu	Dakpai Chhu	2.26	1.31	1.30	-0.01	Sunny	Downstream of Zhemgang and Panbang	
18	Principal				Tingtibi	7.45	3.01	3.00	-0.01			
19	Principal			Chamkhar Chhu	Kurjey	4.00	1.70	1.69	-0.01	Sunny	Chamkhar Valley, Zhemgang and Downstream	
20	Principal				Shingkhar		1.50	1.50	0.00	Sunny	Zhemgang and Downstream	
21	Principal			Kuri Chhu	Sumpa	7.65	3.20	3.18	-0.02	Sunny	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
22	Secondary				Khoma	5.30	1.43	1.42	-0.01			
23	Secondary				Autsho	8.48	3.08	3.06	-0.02			clear
24	Principal				Kurizampa	18.45	7.06	7.07	0.01			Sunny
25	Principal			Kholong Chhu	Muktrirap	6.00	1.70	1.71	0.01	Sunny	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Principal				Doksum		3.22	3.21	-0.01	Sunny		
27	Secondary			Drangme Chhu	Chazam		7.50	7.50	0.00	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
28	Principal				Ozorong	6.75	1.40	1.40	0.00	Sunny	Downstream Settlement of Kuri-Gongri and Panbang	
29	Secondary	Sheri Chhu	2.58		1.36	1.38	0.02					
30	Principal	Panbang	12.48		4.35	4.44	0.09	clear				
31	Principal	Pangzam		5.59	5.59	0.00	Sunny					
32	Principal		Ngara Ama Chhu	Bangtar		1.92	1.92	0.00	partly sunny	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