



རྒྱུ་ཕྱུང་རྒྱུ་ལ་དང་རྒྱུ་ལྷན་སྐྱེད་ཞབས་ཏེ་གཞི་ཚན།
 རྒྱལ་ཡོངས་རྒྱུ་ཕྱུང་དང་གནས་གཤིས་རྒྱུ་ལྷན་སྐྱེད་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

Wednesday, November 13, 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	6.31	0.00	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho	7.50	5.00	5.55	5.56	-0.01		
3				Rapstreng Tsho	7.40	5.00	6.06	6.07	-0.01		
4				Bay Tsho	7.40	5.00	6.25	6.27	-0.02		
5				Thanza	7.70	8.70	6.31	6.31	0.00	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
6				Tarina Wachey	8.50	10.50	6.47	6.47	0.00		
7				Dangsa	5.50	7.00	3.69	3.68	0.01		
8				Taksemakhang	7.50	8.50	5.29	5.28	0.01		
9				Tashithang	9.00	10.50	5.17	5.16	0.01		
10				Yebsa	5.00	7.00	1.38	1.38	0.00		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	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 diastance were approximate only

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	3.75	-0.03	Chokortse Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangrihang Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.	
2				Khagthang	5.50	6.00	4.44	4.44	0.00			
3				Kurjey	5.72	3.30	5.00	1.67	1.66	-0.01		
4				Mangdue Chhu	Jongthang		5.90	7.00	3.96	3.95	-0.01	Bijam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhemgang
5					Bijam	5.52	4.20	5.50	1.82	1.80	-0.02	

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	Kurjey	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 9:00 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		1.52	1.53	0.01	Sunny	Thimphu Valley and Downstream				
2	Principal				Lungtenphu	2.82	0.57	0.56	-0.01	Sunny					
3	Principal				Damchu	6.00	2.18	2.18	0.00	Sunny		Chukha and Downstream			
4	Secondary				Haa Chhu	2.60	0.61	0.60	-0.01	Sunny		Haa and Wang Chhu Downstream			
5	Secondary				Pa Chhu	Bonday		0.90	0.89	-0.01		Sunny	Downstream of Paro Valley and Wang Chhu Basin		
6	Principal				Amo Chhu	Dorokha		2.50	2.50	0.00		Sunny	Samtse, Phunsholing and Downstream		
7	Principal				Doyagang		7.07	2.43	2.42	-0.01		Sunny	Phunsholing and Downstream		
8	Secondary	Basin II	Punatshang Chhu	Pho Chhu	Samingkha	6.10	2.75	2.74	-0.01	Sunny	Puna-Wangdue Valley and Downstream				
9	Principal				Mo Chhu	Yebesa		3.94	1.35	1.33	-0.02	Sunny	Mo Chhu Valley and Downstream		
10	Secondary				Punatshang Chhu	Wangdue Bridge			1.00	0.95	-0.05	Sunny	PHPA I, PHPA II and Downstream		
11	Principal					Wangdue Rapid		7.82	1.44	1.43	-0.01	Sunny			
12	Principal					Turitar Sunkosh		6.68	2.05	2.05	0.00	Sunny			
13	Secondary					Sunkosh Bridge			1.30	1.30	0.00	Sunny			
14	Principal				Mao Chhu	Kerabari		11.90	3.90	3.88	-0.02	Sunny	Lhamoizingkha and Downstream		
15	Secondary						Sherzhong			3.65	3.65	0.00	Sunny	Gelephu Valley and Downstream	
16	Principal				Basin III	Manas	Mangdue Chhu	Bjizam	5.35	1.82	1.80	-0.02	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang	
17	Secondary							Dakpai Chhu		2.26	1.28	1.28	0.00	Sunny	Downstream of Zhemgang and Panbang
18	Principal	Tingtbi		7.45					2.96	2.96	0.00				
19	Principal	Chamkhar Chhu	Kurjey					4.00	1.66	1.66	0.00	Sunny	Chamkhar Valley, Zhemgang and Downstream		
20	Principal		Shingkhar						1.47	1.46	-0.01	Sunny	Zhemgang and Downstream		
21	Principal	Kuri Chhu	Sumpa					7.65	3.15	3.14	-0.01	Sunny	Lhuntse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu		
22	Secondary		Khoma						5.30	1.41	1.38			-0.03	
23	Secondary		Autsho						8.48	3.04	3.02	-0.02		Sunny	
24	Principal		Kurizampa						18.45	7.00	6.97	-0.03		Sunny	
25	Principal		Kholong Chhu	Muktrirap					6.00	1.65	1.64	-0.01		Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Principal			Doksum							3.18	3.17		-0.01	Sunny
27	Secondary	Drangme Chhu	Chazam						7.45	7.40	-0.05	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu		
28	Principal		Ozorong			6.75	1.39	1.34	-0.05	Sunny	Downstream Settlement of Kuri-Gongri and Panbang				
29	Secondary		Sheri Chhu			2.58	1.37	1.35	-0.02						
30	Principal		Panbang			12.48	4.29	4.28	-0.01	Sunny	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam			5.58	5.56	-0.02	Sunny	Bangtar Settlement and Downstream					
32	Principal		Bangtar				1.91	1.90	-0.01	Sunny	Downstream of Bangtar Settlement				

NOTE The Water Level are relative Gauge Height 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