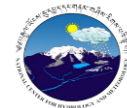




རྒྱུ་འཕྲོད་རྒྱུ་ལྷན་ཁྲིམས་ལྷན་ཁུངས་ཀྱི་འཕྲོད་ཚན།
 རྒྱལ་ཡོངས་རྒྱུ་འཕྲོད་དང་གནམ་གཤིས་རྒྱུ་འཕྲོད་ལྷན་ཁུངས་
HYDROLOGY & WATER RESOURCES SERVICES DIVISION
NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY
THIMPHU: BHUTAN



Status and River Level Trends:

Friday, October 18, 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	6.44	6.43	-0.01	Thanza, Tenchey, Lhedri and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho	7.50	5.00	5.63	5.63	0.00		
3				Rapstreng Tsho	7.40	5.00	6.09	6.08	-0.01		
4				Bay Tsho	7.40	5.00	6.27	6.25	-0.02		
5				Thanza	7.70	8.70	6.39	6.38	-0.01		
6				Tarina Wachey	8.50	10.50	6.61	6.60	-0.01	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream	
7				Dangpa	5.50	7.00	4.07	4.04	-0.03		
8				Taksamkhang	7.50	8.50	5.43	NR	#VALUE!		
9				Tashithang	9.00	10.50	5.72	5.71	-0.01		
10				Yebsa	5.00	7.00	1.67	1.65	-0.02		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 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	3.98	3.96	-0.02	Chokortoe Pry School, Kurje Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.
2				Khagthang	5.50	6.00	4.60	4.59	-0.01		
3				Kurje	5.72	3.20	5.00	1.93	1.93	0.00	
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	2.11	2.09	

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		1.72	NR	#VALUE!	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	0.88	0.87	-0.01	Sunny			
3	Principal					Damchu	6.00	2.48	2.47	-0.01	Sunny	Chukha and Downstream	
4	Secondary					Haas Chhu	Haa	2.60	0.79	0.77	-0.02	Sunny	Haas and Wang Chhu Downstream
5	Secondary					Pa Chhu	Bondlay		1.13	1.11	-0.02	Clear	Downstream of Paro Valley and Wang Chhu Basin
6	Principal					Amo Chhu	Dorokha		2.80	2.80	0.00	Sunny	Sanise, Phunsholing and Downstream
7	Principal						Doyagang	7.07	2.81	2.80	-0.01	Sunny	Phunsholing and Downstream
8	Secondary					Pho Chhu	Samdingkha	6.10	3.20	3.19	-0.01	Sunny	Puna-Wangdue Valley and Downstream
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa	3.94	1.64	1.62	-0.02	Sunny	Mo Chhu Valley and Downstream		
10	Secondary						Wangdue Bridge		1.65	1.55	-0.10	Sunny	PHPA I,PHPA II and Downstream
11	Principal					Wangdue Rapid	7.82	2.11	2.08	-0.03	Sunny		
12	Principal					Punatshang Chhu	Turitar Sunkosh	6.68	2.60	2.55	-0.05	Sunny	Downstream of Dagana and Lhamoizingkha
13	Secondary						Sunkosh Bridge		1.85	1.80	-0.05	Sunny	
14	Principal						Kerabari	11.90	4.64	4.64	0.00	Sunny	
15	Secondary					Mao Chhu	Sherzhong		3.80	3.80	0.00	Sunny	Gelephu Valley and Downstream
16	Principal			Basin III	Manas	Mangdue Chhu	Bijzam	5.35	2.11	2.09	-0.02	Sunny	MHPA Dam,Power House and Downstream of Trongsa & Zhengang
17	Secondary						Dakpai Chhu	2.26	1.48	1.46	-0.02	Sunny	Downstream of Zhengang and Panbang
18	Principal						Tingtibi	7.45	3.45	3.34	-0.11		
19	Principal					Chamkhar Chhu	Kurjey	4.00	1.94	1.93	-0.01	Sunny	Chamkhar Valley, Zhengang and Downstream
20	Principal						Shingkar (Benshang)		1.72	1.72	0.00	Sunny	Zhengang and Downstream
21	Principal					Kuri Chhu	Sumpa	7.65	3.58	3.57	-0.01	Sunny	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu
22	Secondary						Khoma	5.30	1.66	1.67	0.01		
23	Secondary						Autsho	8.48	3.48	3.47	-0.01	Sunny	Kurizampa,KHPA and Downstream along the Kuri Chhu
24	Principal						Kurizampa	18.45	7.53	7.55	0.02	Sunny	KHPA and Downstream along the Kuri Chhu
25	Principal					Kholong Chhu	Mukhtirap	6.00	1.95	1.91	-0.04	Sunny	Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Principal					Drangme Chhu	Doksum		3.75	3.66	-0.09	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary						Chazam		7.90	7.85	-0.05	Sunny	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal						Omzong	6.75	1.78	1.78	0.00	Sunny	Downstream of Kuri-Gongri and Panbang
29	Secondary						Sheri Chhu	2.58	1.53	1.54	0.01		
30	Principal						Panbang	12.48	4.85	4.84	-0.01	Clear	Manas and Downstream
31	Principal					Ngara Ama Chhu	Pangzam		5.75	5.70	-0.05	Sunny	Bangtar Settlement and Downstream
32	Principal			Bangtar			2.05	2.02	-0.03	Sunny	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