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HYDROLOGY & WATER RESOURCES SERVICES DIVISION NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY THIMPHU: BHUTAN



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

Friday, November 1, 2019

Issued at: 10:00 AM

1. Punatshang Chhu Sub Basin

SI No.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded	Alert Water Level	Alerm 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				Luggay Tsho		7.80	10.00	6.31	6.31	0.00	
2				Thorthormi Tsho		7.50	5.00	5.58	5.57	0.01	
3			Pho Chhu	Rapstreng Tsho		7.40	5.00	6.04	6.03	0.01	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Pun Wangdue Valley
4				Bay Tsho		7.40	5.00	6.22	6.20	0.02	Transpare Taney
5	Basin II	Punatshang		Thanza		7.70	8.70	6.32	6.31	0.01	
6	Basin II	Chhu		Tarina Wachey		8.50	10.50	6.50	6.50	0.00	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana,
7				Dangsa		5.50	7.00	3.79	3.79	0.00	Khuruthang) Puna-Wangdue Valley and Downstream
8				Taksemakhang		7.50	8.50	5.35	5.34	0.01	
9			Mo Chhu	Tashithang		9.00	10.50	5.38	5.37	0.01	Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream
10				Yebesa		5.00	7.00	1.47	1.47	0.00	

	Approximate L	ead Time for l	Evacuation after	the detection of	flood at Four lake S	ensor	Approximate Lead Time for Evacuation after the detection of flood at Dangsa Sensor						
SI Nos	Name of Place	Approx.	Approx.	Approx.	Approx. Distance	Approx. Tme	SI Nos	Name of Place	Approx.	Approx. Time for	Approx. Tme 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	2	Samdingkha	12.0 km	55 minutes	55 minutes		
3	Tshojo	8.1 km	10.0 km	10.5 km	13.8 km	minutes 3 I	Punakha Dzong	20 km	90 minutes	1 hours 30 minutes			
4	Lhedi	16.7 km	17.6 km	18.5 km	21.8 km		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	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 diastance were approximate only

Glacier Lake Outbrust Flood (GLOF) & Rainstorm Flood Early Warning System.
2. Chamkhar Chhu and Mangdue Chhu Sub Basin

SI No.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Alert Water Level (m)	Alerm Water Level (m)			Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Downstream Settlement
1			Chamkhar Chhu Mangdue Chhu	Tshampa		5.00	6.50	3.83	3.82	-0.01	
2		asin III Manas		Khagthang		5.50	6.00	4.50	4.50	0.00	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangrithng Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.
3	Basin III			Kurjey	5.72	3.30	5.00	1.78	1.77	-0.01	School, Oyekhar vinage and Downstream settement under Zirengang.
4				Jongthang		5.90	7.00	4.08	4.08	0.00	Bjizam Community,MHPA Dam, Power House and Downstream settlement of Trongsa
5		Mangaue Chnu	Bjizam	5.52	4.20	5.50	1.91	1.91	0.00	and Zhemgang	

Approximate Lead Time for Evacuation of Chamkhar Chhu Sub Basin Approximate Lead Time for Evacuation after the detection of Flood at the Tshampa AWLS							Approximate Lead Time for Evacuation of Mangdue Chhu Sub Basin 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						SI Nos	Name of Place	Approx.Distan	Approx.	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	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	Gangrithang	0.3km	44.2 km	2552 m	84 minutes	1							
7	Gyelkhar	1.7 km	45.9 km	2538 m	91 minutes								

3. River Level Status of Gauging Station

SI 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				Dodena		1.61	1.60	-0.01	Sunny	Thimphu Valley and Downstream
2	Principal			Thim Chhu	Lungtenphu	2.82	0.68	0.67	-0.01	Sunny	miniphu vancy and Downstream
3	Principal				Damchu	6.00	2.29	2.28	-0.01	Sunny	Chukha and Downstream
4	Secondary	Basin 1	Wang Chhu	Haa Chhu	Haa	2.60	0.69	0.68	-0.01	Sunny	Haa and Wang Chhu Downstream
5	Secondary			Pa Chhu	Bonday		0.97	0.96	-0.01	Sunny	Downstream of Paro Valley and Wang Chhu Basin
6	Principal			Amo Chhu	Dorokha		2.60	2.60	0.00	Sunny	Samtse, Phuntsholing and Downstream
7	Principal			Amo Ciniu	Doyagang	7.07	2.58	2.55	-0.03	Sunny	Phunsholing and Downstream
8	Secondary			Pho Chhu	Samdingkha	6.10	2.85	2.84	-0.01	Sunny	Puna-Wangdue Valley and Downstream
9	Principal			Mo Chhu	Yebesa	3.94	1.45	1.44	-0.01	Sunny	Mo Chhu Valley and Downstream
10	Secondary				Wangdue Bridge		1.15	1.20	0.05	Sunny	PHPA I,PHPA II and Downstream
11	Principal	Basin II	Punatshang	g	Wangdue Rapid	7.82	1.66	1.65	-0.01	Sunny	
12	Principal	Dasin II	Chhu	Punatshang Chhu	Turitar Sunkosh	6.68	2.20	2.15	-0.05	Sunny	Downstream of Dagana and Lhamoizingkha
13	Secondary				Sunkosh Bridge		1.45	1.45	0.00	Clear Weather	Downstream of Dagana and Lhamoizingkha
14	Principal				Kerabari	11.90	4.17	4.14	-0.03	Clear Weather	Lhamoizingkha and Downstream
15	Secondary			Mao Chhu	Sherzhong		3.75	3.75	0.00	Sunny	Gelelephu Valley and Downstream
16	Principal				Bjizam	5.35	1.91	1.91	0.00	Sunny	MHPA Dam,Power House and Downstream of Trongsa & Zhemgang
17	Secondary			Mangdue Chhu	Dakpai Chhu	2.26	1.36	1.36	0.00	Sunny	Downstream of Zhmgang and Panbang
18	Principal				Tingtibi	7.45	3.12	3.11	-0.01		
19	Principal			Chamkhar Chhu	Kurjey	4.00	1.78	1.77	-0.01	Sunny	Chamkhar Valley, Zhemgang and Downstream
20	Principal				Shingkhar		1.60	1.58	-0.02	Sunny	Zhemgang and Downstream
21	Principal				Sumpa	7.65	3.31	3.30	-0.01	Sunny	Lhuntse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu
22	Secondary			Kuri Chhu	Khoma	5.30	1.50	1.50	0.00	Sumiy	Liturise Downstream, Kurizampa, Krif A and Downstream along the Kuri Ciniu
23	Secondary		Manas		Autsho	8.48	3.21	3.19	-0.02	Sunny	Kurizampa,KHPA and Downstream along the Kuri Chhu
24	Principal	Basin III			Kurizampa	18.45	7.22	7.19	-0.03	Sunny	KHPA and Downstream along the Kuri Chhu
25	Principal			Kholong Chhu	Muktirap	6.00	1.77	1.77	0.00	Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Principal			Drangme Chhu	Doksum		3.32	3.33	0.01	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary				Chazam		7.75	7.65	-0.10	Sunny	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal				Ozorong	6.75	1.42	1.40	-0.02	· · · · · ·	December of Vivi County and Dechara
29	Secondary				Sheri Chhu	2.58	1.41	1.41	0.00	Sunny	Downstream of Kuri-Gongri and Panbang
30	Principal				Panbang	12.48	4.53	4.46	-0.07	Sunny	Manas and Downstream
31	Principal				Pangzam		5.65	5.65	0.00	Sunny	Bangtar Settlement and Downstream
32	Principal			Ngara Ama Chhu	Bangtar		1.95	1.92	-0.03	Sunny	Downstream of Bangtar Settlement

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

NOTE

ISSUED BY: FMCR,HWRSD,NCHM