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

Status and River Level Trends:

Thursday, August 15, 2019

Issued at: 10:00 AM

Glacier Lake Outbrust 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	Alerm 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				Luggay Tsho		7.80	10.00	6.67	6.68	0.01		
2				Thorthormi Tsho		7.50	5.00	5.87	5.86	-0.01	Thanza,Tenchey,Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wang Valley	
3				Rapstreng Tsho		7.40	5.00	6.34	6.33	-0.01		
4			Pho Chhu	Bay Tsho		7.40	5.00	6.52	6.49	-0.03		
5	Basin ll	Punatshang		Thanza		7.70	8.70	NR	NR	#VALUE!		
6	Dasin n	Chhu	Chhu Tarina Wachey Dangsa Taksemakhang Mo Chhu Takinag Yebesa	Tarina Wachey		8.50	10.50	7.06	7.05	-0.01	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana,	
7				Dangsa		5.50	7.00	4.85	4.85	0.00	Khuruthang) Puna-Wangdue Valley and Downstream	
8				Taksemakhang		7.50	8.50	6.00	5.94	-0.06		
9					9.00	10.50	7.54	7.33	-0.21	Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream		
10				Yebesa		5.00	7.00	2.50	2.43	-0.07		
	Approximate l	Lead Time for E	vacuation after t	he detection of flood at	Four lake Senso	r	Approximate Lead Time for Evacuation after the detection of flood at Dangsa 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 (Luggey Tsho)	Approx. Tme 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. 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	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 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 diastance were approximate only.

Glacier Lake Outbrust 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)	Alerm 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				Tshampa		5.00	6.50	4.48	NR	#VALUE!	
2			Chamkhar Chhu	Khagthang		5.50	6.00	4.89	NR	#VALUE!	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangrithng School, Gvelkhar Village and Downstream settlement under Zhemgang.
3	Basin III	Manas		Kurjey	5.72	3.30	5.00	2.52	2.60	0.08	School, Gyeikhai vinage and Downstream settement under Zieringang.
4			Mangdue Chhu	Jongthang		5.90	7.00	NR	5.14	#VALUE!	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongs
5				Bjizam	5.52	4.20	5.50	2.81	2.88	0.07	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 Downstream	Approx.Distance from the Tshampa AWLS	Approx. Cumlative Distance from Tshampa AWLS	Elevation	Approx. Lead Time	SI Nos	Name of Place Downstream	Approx.Distance from the Tshampa AWLS	Approx. Cumlative Distance from Tshampa AWLS	Elevation	Approx. Lead Time

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Dam Site Power Plan

1 2 18.5 km 7.8 km

20.4 km

18.5 km 26.3 km 46.7 km

2223 r

1848 m 1024 m

1 Khagthang 20.3 km 20.3 km 3704 m 27 minut 2 Chorkhor Toe PS 4.5 km 24.8 km 2904 m 34 minut	
3 Kurjey 12.4 km 37.2 km 2771 m 60 minut	
4 Wangdicholling 5.7 km 42.9 km 2600 m 79 minut	
5 Bumthang 1 km 43.9 km 2562 m 83 minut	
6 Gangrithang PS 0.3km 44.2 km 2552 m 84 minut	
7 Gyelkhar 1.7 km 45.9 km 2538 m 91 minut	

3. River Level Status of Gauging Station

l 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			Thim Chhu	Dodena		2.07	2.04	-0.03	Sunny	Thimphu Valley and Downstream
2	Principal				Lungtenphu	2.82	1.46	1.44	-0.02	Sunny	
3	Principal				Damchu	6.00	2.96	2.99	0.03	Sunny	Chukha and Downstream
4	Secondary	Basin l	Wang Chhu	Haa Chhu	Haa	2.60	1.13	1.18	0.05	Sunny	Haa and Wang Chhu Downstream
5	Principal			Pa Chhu	Bonday		1.48	1.57	0.09	Sunny	Downstream of Paro Valley and Wang Chhu Basin
6	Principal			Amo Chhu	Dorokha		3.45	3.35	-0.10	Sunny	Samtse, Phuntsholing and Downstream
7	Secondary				Droyagang	7.07	3.64	3.58	-0.06	Cloudy	Phunsholing and Downstream
8	Secondary			Pho Chhu	Samdingkha	6.10	4.28	4.30	0.02	Cloudy	Puna-Wangdue Valley and Downstream
9	Principal			Mo Chhu	Yebesa	3.94	2.50	2.41	-0.09	Cloudy	Mo Chhu Valley and Downstream
10	Secondary			Punatshang Chhu	Wangdue Bridge		3.35	3.40	0.05	Sunny	PHPA I,PHPA II and Downstream
11	Principal	Basin II	Punatshang Chhu		Wangdue Rapid	7.82	3.93	3.90	-0.03	Sunny	
12	Principal	Duan n	r unatsnang Ciniu		Turitar Sunkosh	6.68	3.90	4.10	0.20	Sunny	Downstream of Dagana and Lhamoizingkha
13	Secondary				Sunkosh Bridge		3.00	3.20	0.20	Sunny	
14	Principal				Kerabari	11.90	6.02	6.22	0.20	Sunny/Clear	Lhamoizingkha and Downstream
15	Secondary			Mao Chhu	Sherzhong		4.20	4.25	0.05	Sunny	Gelelephu Valley and Downstream
16	Principal			Mangdue Chhu Chamkhar Chhu Kuri Chhu Manas Kholong Chhu	Bjizam	5.35	2.83	2.87	0.04	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang
17	Secondary				Dakpai Chhu	2.26	1.46	1.47	0.01	Sunny	Downstream of Zhmgang and Panbang
18	Principal				Tingtibi	7.45	4.09	4.10	0.01		
19	Principal				Kurjey	4.00	2.53	2.60	0.07		Chamkhar Valley, Zhemgang and Downstream
20	Principal	-			Shingkhar (Bemethang)		2.33	2.42	0.09		Zhemgang and Downstream
21	Principal				Sumpa	7.65	5.10	5.00	-0.10	Cloudy	Lhuntse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu
22	Secondary				Khoma	5.30	2.40	2.47	0.07		
23	Secondary				Autsho	8.48	5.15	5.07	-0.08	Cloudy	Kurizampa, KHPA and Downstream along the Kuri Chhu
24	Principal	Basin Ill	Manas		Kurizampa	18.45	9.57	9.50	-0.07	Cloudy	KHPA and Downstream along the Kuri Chhu
25	Principal				Muktirap	6.00	2.85	2.75	-0.10	Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Ch
26	Secondary	1		Drangme Chhu	Doksum		4.29	4.52	0.23	Cloudy	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary	-			Chazam		9.40	9.90	0.50	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang
28	Principal				Ozorong	6.75	3.10	3.55	0.45	Cloudy	Downstream of Kuri-Gongri and Panbang
29	Secondary				Sheri Chhu	2.58	1.90	1.73	-0.17		Downstream of Kun-Gongri and Panbang
30	Principal				Panbang	12.48	6.63	7.59	0.96	Clear	Manas and Downstream
31	Principal			Ngara Ama Chhu	Pangzam		6.35	6.45	0.10	L/Rainny	Bangtar Settlement and Downstream
32	Principal				Bangtar		2.62	2.60	-0.02	Cloudy	Downstream of Bangtar Settlement

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

ISSUED BY: FMCR,HWRSD,NCHM