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Saturday, October 05, 2019

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



10:00 AM

Issued at:

Status and River Level Trends:

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	6.48	6.49	0.01			
2				Thorthormi Tsho		7.50	5.00	NR	NR	#VALUE!			
3				Rapstreng Tsho		7.40	5.00	6.16	6.14	-0.02	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Vallev		
4			Pho Chhu	Bay Tsho		7.40	5.00	6.25	6.36	0.11	+ uncy		
5	Basin II	Punatshang		Thanza		7.70	8.70	6.54	6.55	0.01	1		
6	Dasin n	Chhu		Tarina Wachey		8.50	10.50	6.69	6.70	0.01	Pho Chhu Valley (Tamidamchu, Wolathang, Samidingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream		
7				Dangsa		5.50	7.00	4.39	4.39	0.00			
8				Taksemakhang		7.50	8.50	5.58	5.57	-0.01			
9			Mo Chhu	Mo Chhu Tashithang		9.00	10.50	6.43	6.38	-0.05	Gasa, Mo Chhu Valley, Puna-Wangdue Valley and Downstream		
10				Yebesa		5.00	7.00	2.00	1.99	-0.01	1		
	Approximate	Lead Time for <b>F</b>	vacuation after	the detection of flood at	Four lake Sensor	r	Approximate Lead Time for Evacuation after the detection of flood at Dangsa Sensor						
Sl 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	Sl 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

2	Sl 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			Chamkhar Chhu	Tshampa		5.00	6.50	4.18	4.16	-0.02	
	2	Basin III Manas	Chamkhar Chhu		Khagthang		5.50	6.00	4.71	4.70	-0.01	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangrithng Pry School, Gyelkhar Village and Downstream settlement under Zhemgang.
	3			Kurjey	5.72	3.30	5.00	2.19	2.16	-0.03	beisor, o jennaar vinage and bowing can serientent under zuengang.	
	4			Mangdue Chhu	Jongthang		5.90	7.00	4.72	4.67	-0.05	Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa
Г	5	1		Mangude Chhu	Bjizam	5.52	4.20	5.50	2.46	2.39	-0.07	and Zhemgang

Арри			Chamkhar Chhu Sub Ba ction of Flood at the Tsl		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.Distance from the Tshampa AWLS	Approx. Cumlative Distance from Tshampa AWLS	Elevation	Approx. Lead Time	Sl Nos	Name of Place Downstream	Approx.Distance from the Tshampa AWLS	Approx. Cumlative 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	Chorkhor 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	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	Wangdicholling	5.7 km	42.9 km	2600 m	79 minutes						
5	Bumthang	1 km	43.9 km	2562 m	83 minutes						
6	Gangrithang PS	0.3km	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

SI 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				Dodena		1.90	1.88	-0.02	Cloudy	Thimphu Valley and Downstream	
2	Principal			Thim Chhu	Lungtenphu	2.82	1.24	1.20	-0.04	Cloudy	A	
3	Principal				Damchu	6.00	2.82	2.76	-0.06	Cloudy	Chukha and Downstream	
4	Secondary	Basin l	Wang Chhu	Haa Chhu	Haa	2.60	1.00	0.98	-0.02	Cloudy	Haa and Wang Chhu Downstream	
5	Principal			Pa Chhu	Bonday		1.37	1.33	-0.04	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal			Amo Chhu	Dorokha		3.25	3.20	-0.05	Cloudy	Samtse, Phuntsholing and Downstream	
7	Secondary				Doyagang	7.07	3.29	3.21	-0.08	Cloudy	Phunsholing and Downstream	
8	Secondary			Pho Chhu	Samdingkha	6.10	3.62	3.60	-0.02	Sunny	Puna-Wangdue Valley and Downstream	
9	Principal			Mo Chhu	Yebesa	3.94	1.97	1.95	-0.02	Cloudy	Mo Chhu Valley and Downstream	
10	Secondary			u Punatshang Chhu Tur	Wangdue Bridge		2.40	2.35	-0.05	Cloudy	PHPA I, PHPA II and Downstream	
11	Principal	Basin II	Punatshang Chhu		Wangdue Rapid	7.82	2.81	2.71	-0.10	Cloudy		
12	Principal	Duan n	r unatsnang Cintu		Turitar Sunkosh	6.68	3.15	3.00	-0.15	Sunny	Downstream of Dagana and Lhamoizingkha	
13	Secondary				Sunkosh Bridge		2.35	2.30	-0.05	Cloudy	Downsteam of Dugant and Entropy ingette	
14	Principal				Kerabari	11.90	5.40	5.28	-0.12	Cloudy	Lhamoizingkha and Downstream	
15	Secondary			Mao Chhu	Sherzhong		3.90	3.95	0.05	Sunny	Gelelephu Valley and Downstream	
16	Principal			Bjizam   Mangdue Chhu Dakyai Chhu   Tingibi Tingibi   Chamkbar Chhu Kuriçy   Shingkhar (Benchang) (Benchang)	Bjizam	5.35	2.47	2.40	-0.07	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang	
17	Secondary				2.26	1.58	1.58	0.00	Sunny	Downstream of Zhmgang and Panbang		
18	Principal				Tingtibi	7.45	3.94	3.88	-0.06	Sunny	Downstream of Zinigang and Lanoang	
19	Principal		in III Manas		Kurjey	4.00	2.19	2.17	-0.02	Cloudy	Chamkhar Valley, Zhemgang and Downstream	
20	Principal						2.01	1.96	-0.05	Sunny	Zhemgang and Downstream	
21	Principal					Sumpa	7.65	4.20	4.10	-0.10	Clauder	
22	Secondary			Kuri Chhu	Khoma	5.30	1.92	1.91	-0.01	Cloudy	Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu	
23	Secondary				Autsho	8.48	4.13	4.03	-0.10	Cloudy	Kurizampa,KHPA and Downstream along the Kuri Chhu	
24	Principal	Basin III			Kurizampa	18.45	8.30	8.24	-0.06	Cloudy	KHPA and Downstream along the Kuri Chhu	
25	Principal			Kholong Chhu	Muktirap	6.00	2.31	2.25	-0.06	Cloudy	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
26	Secondary			Drangme Chhu	Doksum		4.17	4.15	-0.02	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu	
27	Secondary				Chazam		8.55	8.50	-0.05	Cloudy	Downstream Settlement of Kuri-Gongri and Panbang	
28	Principal				Ozorong	6.75	2.21	2.15	-0.06	Cloudy	Downstream of Kuri-Gongri and Panbang	
29	Secondary				Sheri Chhu	2.58	1.64	1.60	-0.04	croady	Downstream of Kurt-Gongri and Panbang	
30	Principal				Panbang	12.48	5.71	5.60	-0.11	clear	Manas and Downstream	
31	Principal			Ngara Ama Chhu	Pangzam		6.05	6.00	-0.05	Cloudy	Bangtar Settlement and Downstream	
32	Principal				Bangtar		2.24	2.23	-0.01	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.

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

ISSUED BY: FMCR,HWRSD,NCHM