



རྒྱལ་ཁྲིམས་རྒྱུ་མཉམ་སྲུང་གི་ལྷན་ཁུངས་ཀྱི་འཕེལ་རྒྱུ་ཚོལ་བཤུ་ལྷན་ཁུངས་  
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:

Saturday, August 17, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punatsang 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	Punatsang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.68	6.69	0.01	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.86	5.87	0.01	
3				Rapstreg Tsho		7.40	5.00	6.33	6.34	0.01	
4				Bay Tsho		7.40	5.00	6.51	6.55	0.04	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	
6				Tarina Wachey		8.50	10.50	6.99	7.06	0.07	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Kharuthang) Puna-Wangdue Valley and Downstream
7				Dangsa		5.50	7.00	4.80	4.96	0.16	
8				Taksemakhang		7.50	8.50	5.89	5.97	0.08	
9				Tashithang		9.00	10.50	7.08	7.77	0.69	
10				Yebesa		5.00	7.00	2.32	2.60	0.28	

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				
SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreg 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	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 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
							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 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	4.49	4.55	0.06	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zhenfgang.	
2				Khagthang		5.50	6.00	4.88	5.01	0.13		
3				Kurjey		5.72	3.30	5.00	2.52	2.72		0.20
4				Jongthang		5.90	7.00	5.14	NR	NR	#VALUE!	Bijzam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhenfgang.
5				Bijzam		5.52	4.20	5.50	2.86	3.26	0.40	

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	Bijzam	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	Gangritang 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

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		2.03	2.18	0.15	Sunny	Thimphu Valley and Downstream			
2	Principal				Lungtenphu	2.82	1.43	1.75	0.32	Sunny				
3	Principal				Damchu	6.00	2.97	3.70	0.73	Cloudy				
4	Secondary					Haa Chhu	Haa	2.60	1.16	1.20	0.04		Haa and Wang Chhu Downstream	
5	Principal					Pa Chhu	Bondlay		1.50	1.88	0.38	Cloudy	Downstream of Paro Valley and Wang Chhu Basin	
6	Principal					Amo Chhu	Dorokha		3.45	3.40	-0.05	Sunny	Samse, Phuntsholing and Downstream	
7	Secondary						Droyagang		7.07	3.56	3.62	0.06	Sunny	Phuntsholing and Downstream
8	Secondary					Pho Chhu	Samdingkha		6.10	4.22	4.60	0.38		Puna-Wangdue Valley and Downstream
9	Principal	Basin II	Punatshang Chhu	Mo Chhu	Yebesa		3.94	2.30	2.57	0.27		Mo Chhu Valley and Downstream		
10	Secondary						Wangdue Bridge			3.05	3.90	0.85		
11	Principal					Wangdue Rapid		7.82	3.59	4.46	0.87		PHPA I/PHPA II and Downstream	
12	Principal					Punatshang Chhu	Turitar Sunkosh		6.68	3.60	4.25	0.65		Downstream of Dugana and Lhamozingkha
13	Secondary						Sunkosh Bridge			2.80	3.50	0.70	Cloudy	
14	Principal						Kerabari		11.90	5.90	6.30	0.40	Sunny	
15	Secondary					Mao Chhu	Sherzhong		4.15	4.15	0.00	Cloudy	Gelelephu Valley and Downstream	
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam		5.35	2.86	3.26	0.40	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang
17	Secondary						Dakpai Chhu		2.26	1.49	1.42	-0.07	Sunny	Downstream of Zhemgang and Panbang
18	Principal						Tingtibi		7.45	4.14	4.18	0.04		
19	Principal					Chamkhar Chhu	Kurjey		4.00	2.53	2.78	0.25	Sunny	Chamkhar Valley, Zhemgang and Downstream
20	Principal						Shingkar (Bemthang)			2.35	2.60	0.25		Zhemgang and Downstream
21	Principal					Kuri Chhu	Sumpa		7.65	5.05	5.15	0.10	Sunny	Lhantse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu
22	Secondary						Khoma		5.30	2.25	2.30	0.05		
23	Secondary						Autsho		8.48	5.05	5.05	0.00	Sunny	Kurizampa, KHPA and Downstream along the Kuri Chhu
24	Principal						Kurizampa		18.45	9.36	9.20	-0.16	Sunny	KHPA and Downstream along the Kuri Chhu
25	Principal					Kholong Chhu	Mukitrap		6.00	2.60	2.55	-0.05	Sunny	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
26	Secondary					Drangme Chhu	Doksum			4.44	4.40	-0.04	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu
27	Secondary						Chazam				9.20	9.05	-0.15	Sunny
28	Principal			Omzong			6.75	3.15	3.44	0.29	Sunny	Downstream of Kuri-Gongri and Panbang		
29	Secondary			Sheri Chhu			2.58	1.70	1.70	0.00				
30	Principal				Panbang		12.48	6.96	6.96	0.00	Sunny	Manas and Downstream		
31	Principal			Ngara Ama Chhu	Pangzam			6.35	6.35	0.00	Sunny	Bangtar Settlement and Downstream		
32	Principal					Bangtar			2.59	2.60	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.  
**ALERT**  
**MISSING**  
 NR Represent that the Data has not been reported or Not Updated