



ལྷན་པོ་འཛུགས་ཀྱི་ལས་འགན་ཁུངས་འཛུགས་ཀྱི་འཕེལ་རྒྱུ་ལྷན་པོ།
 རྒྱལ་ཡོངས་ལྷན་པོ་འཛུགས་ཀྱི་ལས་འགན་ཁུངས་འཛུགས་ཀྱི་འཕེལ་རྒྱུ་ལྷན་པོ།
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY
 THIMPHU: BBUTAN



Status and River Level Trends:

Sunday, October 13, 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 | 6.45 | 6.45 | 0.00 | Thanza, Tenchey, Lhedri and Lunama area and Downstream of Pho Chhu and Puna-Wangdue Valley |
| 2 | | | | Thorthormi Tsho | | 7.50 | 5.00 | NR | 5.65 | #VALUE! | |
| 3 | | | | Rapstreng Tsho | | 7.40 | 5.00 | 6.09 | 6.09 | 0.00 | |
| 4 | | | | Bay Tsho | | 7.40 | 5.00 | 6.26 | 6.28 | 0.02 | |
| 5 | | | | Thanza | | 7.70 | 8.70 | 6.50 | 6.50 | 0.00 | |
| 6 | | | | Tarina Wachey | | 8.50 | 10.50 | 6.64 | 6.63 | -0.01 | Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengana, Khuruthang) Puna-Wangdue Valley and Downstream |
| 7 | | | | Dangsa | | 5.50 | 7.00 | 4.19 | 4.17 | -0.02 | |
| 8 | | | | Taksemakhang | | 7.50 | 8.50 | 5.49 | 5.48 | -0.01 | |
| 9 | | | | Tashithang | | 9.00 | 10.50 | 6.02 | 5.97 | -0.05 | |
| 10 | | | | Yebesa | | 5.00 | 7.00 | 1.83 | 1.79 | -0.04 | |

| 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 (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 | 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 | 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 |
| | | | | | | | 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 | 4.04 | 4.03 | -0.01 | Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangriting Pry School, Gyelkhar Village and Downstream settlement under Zhenfgang. | |
| 2 | | | | Khagthang | | 5.50 | 6.00 | 4.65 | 4.64 | -0.01 | | |
| 3 | | | | Kurjey | | 5.72 | 3.30 | 5.00 | 2.05 | 2.02 | | -0.03 |
| 4 | | | | Jongthang | | | 5.90 | 7.00 | 4.50 | 4.46 | -0.04 | Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsang and Zhenfgang |
| 5 | | | | Bjizam | | 5.52 | 4.20 | 5.50 | 2.26 | 2.23 | -0.03 | |

| 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 | 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 | 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 | 0.3km | 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 | | 1.80 | 1.76 | -0.04 | Sunny | Thimphu Valley and Downstream | | |
| 2 | Principal | | | | Lungtenphu | 2.82 | 1.01 | 1.02 | 0.01 | Sunny | | | |
| 3 | Principal | | | | Damchu | 6.00 | 2.62 | 2.59 | -0.03 | Sunny | | | |
| 4 | Secondary | | | Haas Chhu | Haa | 2.60 | 0.87 | 0.84 | -0.03 | Sunny | Haa and Wang Chhu Downstream | | |
| 5 | Principal | | | Pa Chhu | Bondlay | | 1.22 | 1.20 | -0.02 | Sunny | Downstream of Paro Valley and Wang Chhu Basin | | |
| 6 | Principal | | | Amo Chhu | Dorokha | | 3.00 | 2.95 | -0.05 | Cloudy | Sanise, Phunsholing and Downstream | | |
| 7 | Secondary | | | | Doyagang | | 7.07 | 2.96 | 2.98 | 0.02 | Sunny | Phunsholing and Downstream | |
| 8 | Secondary | | | | Samdingkha | | 6.10 | 3.35 | 3.30 | -0.05 | Sunny | Puna-Wangdue Valley and Downstream | |
| 9 | Principal | Basin II | Punatshang Chhu | Mo Chhu | Yebesa | | 3.94 | 1.79 | 1.75 | -0.04 | | Mo Chhu Valley and Downstream | |
| 10 | Secondary | | | | | | | | 1.95 | 1.80 | -0.15 | Sunny | |
| 11 | Principal | | | Punatshang Chhu | Wangdue Bridge | | | 7.82 | 2.14 | 2.32 | 0.18 | | PHPA I,PHPA II and Downstream |
| 12 | Principal | | | | Turitar Sunkosh | | | 6.68 | 2.85 | 2.75 | -0.10 | Cloudy | Downstream of Dagana and Lhamoizingkha |
| 13 | Secondary | | | | Sunkosh Bridge | | | | 2.10 | 2.05 | -0.05 | Cloudy | |
| 14 | Principal | | | | Kerabari | | | 11.90 | 4.98 | 4.88 | -0.10 | Sunny | Lhamoizingkha and Downstream |
| 15 | Secondary | | | | Mao Chhu | Sherzhong | | 3.85 | 3.85 | 0.00 | Cloudy | Gelephu Valley and Downstream | |
| 16 | Principal | | | Basin III | Manas | Mangdue Chhu | Bijam | | 5.35 | 2.25 | 2.23 | -0.02 | Sunny |
| 17 | Secondary | Dakpai Chhu | | | | | | 2.26 | 1.57 | 1.56 | -0.01 | Cloudy | Downstream of Zhemgang and Panbang |
| 18 | Principal | Tingtibi | | | | | | 7.45 | 3.68 | 3.66 | -0.02 | | |
| 19 | Principal | Chamkhar Chhu | Kurjey | | | | | 4.00 | 2.05 | 2.03 | -0.02 | Sunny | Chamkhar Valley, Zhemgang and Downstream |
| 20 | Principal | | Shingkar (Benshang) | | | | | | 1.78 | 1.80 | 0.02 | Light Rain | Zhemgang and Downstream |
| 21 | Principal | Kuri Chhu | Sumpa | | | | | 7.65 | 3.90 | 3.83 | -0.07 | Sunny | Lhuntse Downstream,Kurizampa,KHPA and Downstream along the Kuri Chhu |
| 22 | Secondary | | Khoma | | | | | 5.30 | 1.80 | 1.76 | -0.04 | | |
| 23 | Secondary | | Autsho | | | | | 8.48 | 3.83 | 3.75 | -0.08 | Partly Sunny | Kurizampa,KHPA and Downstream along the Kuri Chhu |
| 24 | Principal | | Kurizampa | | | | | 18.45 | 8.00 | 7.87 | -0.13 | Cloudy | KHPA and Downstream along the Kuri Chhu |
| 25 | Principal | Kholong Chhu | Muktirap | | | | | 6.00 | 2.21 | 2.10 | -0.11 | Partly Cloudy | Doksum,Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu |
| 26 | Secondary | | Doksum | | | | 4.01 | 3.98 | -0.03 | Sunny | Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu | | |
| 27 | Secondary | Drangme Chhu | Chazam | | | | 8.30 | 8.20 | -0.10 | Cloudy | Downstream Settlement of Kuri-Gongri and Panbang | | |
| 28 | Principal | | Omzong | | | 6.75 | 2.05 | 2.15 | 0.10 | Sunny | Downstream of Kuri-Gongri and Panbang | | |
| 29 | Secondary | | Sheri Chhu | | | 2.58 | 1.59 | 1.58 | -0.01 | | | | |
| 30 | Principal | | Panhang | | | 12.48 | 5.33 | 5.03 | -0.30 | Cloudy | Manas and Downstream | | |
| 31 | Principal | Ngara Ama Chhu | Pangzam | | | | 5.85 | 5.95 | 0.10 | Cloudy | Bangtar Settlement and Downstream | | |
| 32 | Principal | | Bangtar | | | | 2.13 | 2.12 | -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

WARNING

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

ISSUED BY: FMCR,HWRSD,NCHM