



**GOVERNMENT OF INDIA
MINISTRY OF EARTHSCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET DIVISION
FLASH FLOOD GUIDANCE CELL**



NATIONAL FLASH FLOOD GUIDANCE BULLETIN

DATED: 17.10.2021 TIME OF ISSUE: 1300 IST VALID TILL 1730 IST

From: India Meteorological Department, New Delhi (Email Id: sasiaffg.imd@gmail.com)

To: **RMC's: New Delhi; MC's: Shimla, Dehradun; and corresponding FMO's.**

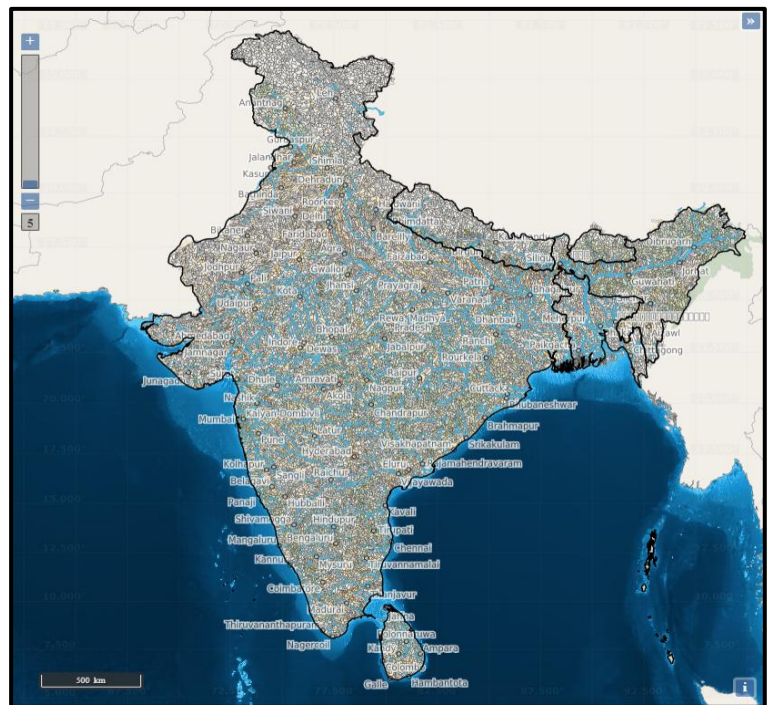
Area of Concern (AoC): Few watersheds and neighborhoods of Himachal Pradesh, Uttarakhand Met Subdivisions.

Diagnostic Guidance: Based on Merged Mean Areal Precipitation at 1130 IST, recorded rainfall is up to **100 mm** in last 6 hours and up to **292 mm** in last 24 hours over Kerala & Mahe, Uttarakhand. Land Surface Model shows few fully saturated over Kerala & Mahe and few nearly saturated watersheds up to 85% over AoC and up to 55% soil saturation over remaining parts of the country.

Prognostic Guidance: Dynamic Global (GFS) & Mesoscale Model (WRF & NCUM) forecasts **High rainfall** up to **150 mm** in next 24 hours over AoC.

Observed Flash Flood Threat (IFFT) Till 1130 IST of 17.10.2021:

No Flash Flood Threat indicated based on last 6 hours observations.



Disclaimer: This is only a guidance bulletin and not a warning for flash floods.

Contact: WMO Regional Centre (SASIAFFGS),

Hydromet Division, Flash Flood Guidance Cell

Phone: 011-43824359/011-43824410

Email: sasiaffg.imd@gmail.com

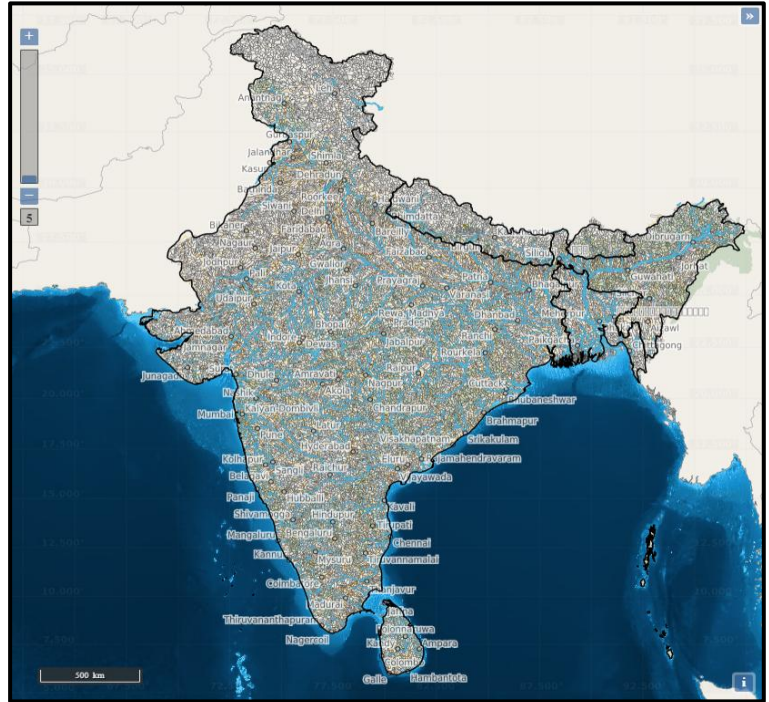


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Forecasted Flash Flood Threat (FFT)
Till 1730 IST of 17.10.2021:

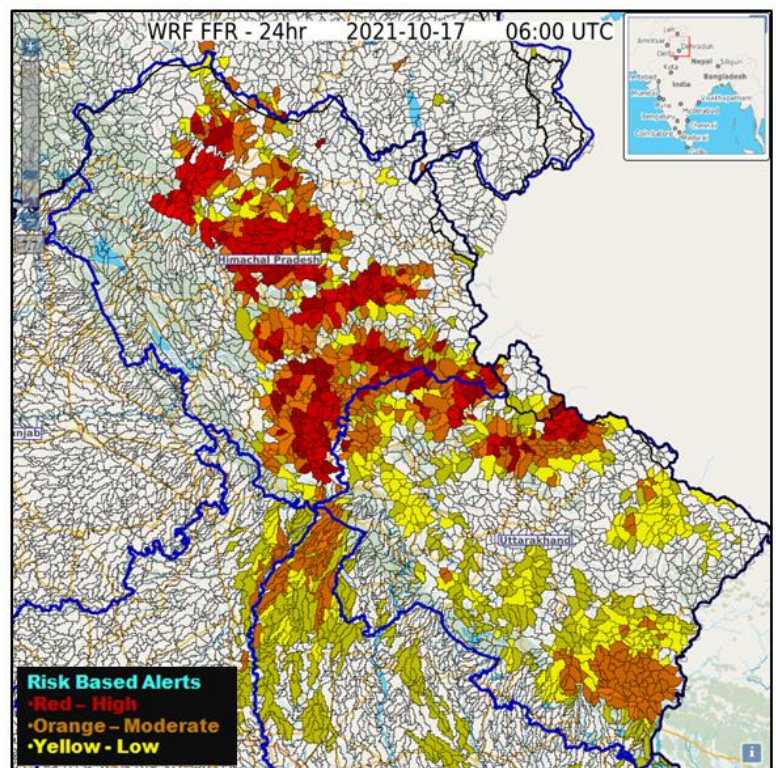
No Flash Flood Threat for next 6 hours.



24 hours Flash Flood Risk (FFR)
Outlook Till 0530 IST of 18.10.2021:

Moderate to High Risk likely over few watersheds and neighborhoods of **Uttarakhand and Himachal Pradesh** met subdivisions in **next 24 hours**.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as depicted in map due to **expected forecasted rainfall in next 24 hours**.



Note: Next Bulletin will be issued based on 1730 IST of 17.10.2021.

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Terms and Terminologies

Merged Mean Areal Precipitation (MAP)

This product is derived for each basin based on the best available mean areal precipitation estimates from bias-adjusted satellite/radar estimated rainfall and Gauge data.

Flash Flood Guidance (FFG)

The FFG value indicates the total volume of rainfall over the given duration which is just enough to cause bankfull flow at the outlet of the draining stream.

Imminent Flash Flood Threat (IFFT)

The values indicate the difference of the Merged MAP and the corresponding FFG for the given duration. In this case, the IFFT value is considered a current “**observation**”.

Persistent Flash Flood Threat (PFFT)

The values indicate the difference of recent persisted Merged MAP and the corresponding FFG of the given duration. In this case, the PFFT is considered a “**forecast**” with persistence of observed rainfall.

Forecast Flash Flood Threat (FFFT)

The values indicate the difference of forecasts of mean areal rainfall by NWP models and the corresponding current FFG of the given duration.

Flash Flood Risk (FFR)

Flash Flood Risk products of 12-hour, 24-hour and 36-hour are relative frequencies of positive flash flood threat for the entire forecast lead time interval. This is a measure of the forecast flash flood occurrence frequency and may be considered as a flash flood outlook.

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