**Seasonal Extreme Temperature (RCP 4.5)**

<table>
<thead>
<tr>
<th>SON</th>
<th>Increase in temperatures are evident relative to the historical baseline period. In 2011–2020, the district of Jashore is hotter than the rest of Bangladesh. Succeeding periods show a trend of temperature rise from the south and southwestern parts (where Jashore is located), northward. In 2050, a significant temperature increase in most of the districts can be observed.</th>
</tr>
</thead>
</table>

**Map I.216: Seasonal Extreme Temperature (SON, RCP 4.5)**

- **2011–2020**
- **2021–2030**
- **2031–2040**
- **2041–2050**
Map I.217: Seasonal Extreme Temperature (SON 2011–2020, RCP 4.5)

Legend

- District boundary
- Temperature (°C)
  - 19.01–20.51
  - 20.52–22.01
  - 22.02–23.51
  - 23.52–25.01
  - 25.02–26.51
  - 26.52–28.00
  - 28.01–29.50
  - 29.51–31.00
  - 31.01–32.50
  - 32.51–34.00

Data Sources:
- BODC, JPO, and IOC, 2005, GIBCCD Digital Atlas (bathymetry)
- Shrestha, Neelanjan Bhuiyan (temperature, humidity), and
  WMO (district boundaries).
Map I.218: Seasonal Extreme Temperature (SON 2021–2030, RCP 4.5)

Legend
- District boundary

Temperature (°C)
- 19.01–20.51
- 20.52–22.01
- 22.02–23.51
- 23.52–25.01
- 25.02–26.51
- 26.52–28.00
- 28.01–29.50
- 29.51–31.00
- 31.01–32.50
- 32.51–34.00
Map I.219: Seasonal Extreme Temperature (SON 2031–2040, RCP 4.5)
Temperature increases start in the southwestern portions of Bangladesh. In 2011–2020, the higher temperature in the district of Satkhira is notable. The temperature increase expands northward and northeastward from these locations. In 2031–2040, temperatures across Bangladesh will be widely uniform, except for three districts. In 2050, the southern areas will be hotter than the northern regions.
Map I.223: Seasonal Extreme Temperature (SON 2021–2030, RCP 8.5)

Legend

- District boundary

Temperature (°C)

- 19.01–20.51
- 20.52–22.01
- 22.02–23.51
- 23.52–25.01
- 25.02–26.51
- 26.52–28.00
- 28.01–29.50
- 29.51–31.00
- 31.01–32.50
- 32.51–34.00

Data Sources:
- BODG, JHO, and IOC, 2002, GIBCC Digital Atlas (bathymetry)
- GADM database (geographical data)
- Data from the Bangladesh Water Development Board.
Map I.224: Seasonal Extreme Temperature (SON 2031–2040, RCP 8.5)
Other Geophysical Hazards

Bangladesh is highly vulnerable to earthquakes because of its proximity to the edges of tectonic plates and fault lines (Khan et al. 2001). The seismic behavior of Bangladesh is said to be highly dependent on the country’s regional tectonic setting. The Shillong Plateau and the Mikir Hills of the exposed Indian shield is a major earthquake center in the region. The Arakan Yoma Anticlinorium in the southeastern part of Bangladesh is another area of active seismicity (Hossain 1989).
Map I.226: Earthquakes in Bangladesh

Legend
- District boundary
- Z Value
  - 0
  - 0.075
  - 0.16
  - 0.25

Data Sources:
- GSD (Earthquakes) and W/RPC (District boundaries).

Bay of Bengal
Map I.228: Landslide Hazard Index, Bangladesh

Legend
- District boundary

Hazard

- Very low
- Low
- Moderate
- High
- Very high

Map: Landslide Hazard Index, Bangladesh

Data Sources:
- Goleam Mohshib Bhawan (landslide hazard indices) and
 WARNPO (district boundaries).
Map Data Sources

Government Ministries/Departments/Agencies in Bangladesh
Bangladesh Agricultural Research Council
  Drought (kharif and pre-kharif)
Bangladesh Water Development Board
  Erosion
Geological Survey of Bangladesh
  Earthquake
Soil Resources Development Institute
  Soil salinity
Water Resources Planning Organization
  District boundary
  Flood

International Institutions
General Bathymetric Chart of the Oceans Digital Atlas 2003, published by
the British Oceanographic Data Centre on behalf of the Intergovernmental
Oceanographic Commission and International Hydrographic Organization
  Bathymetry
SANDER + PARTNER. www.Sander–Partner.com
  Rainfall
  Temperature

Private Individuals (national consultants)
Md. Golam Mahabub Sarwar, Climate Change Risk and Vulnerability
Assessment Specialist
  Cyclone hazard index
  Earthquake hazard index
  Erosion hazard index
  Flash flood hazard Index
  Flood hazard index
  Landslide hazard index
  Salinity hazard index
  Sea level rise
  Sea level rise hazard index
  Storm surge hazard index
Md. Shameem Hassan Bhuiyan, Hydrometeorologist
Md. Sirajul Islam, Disaster Management/Multihazard Specialist
MST. Farida Perveen, Remote Sensing-GIS Specialist and Country Team Leader
  - Drought (kharif and pre-kharif) hazard index
  - Rainfall hazard index
  - Temperature hazard index
References


Climate and disaster risks impact the daily lives of everybody. For the future to remain bright and sustainable, changing climate and potential risks should be incorporated into today’s development plans and actions (photo by S.K. Faruk Mossain).
Bangladesh Climate and Disaster Risk Atlas

*Hazards—Volume I*

This atlas provides spatial information about Bangladesh and thematic maps necessary for assessing future development investments in the agriculture and water sectors for climate risks and geophysical hazards. It is also intended to support the formulation of co-beneficial options for climate change adaptation and disaster risk reduction and management. The two-volume atlas is a major output of the project Establishing a Climate Risk Screening System for Mainstreaming Climate Change Adaptation into National Development Budgeting Activities in Bangladesh under the Asian Development Bank’s regional knowledge and support (capacity development) technical assistance Action on Climate Change in South Asia (2013–2018).

The *Bangladesh Climate and Disaster Risk Atlas* is composed of *Hazards—Volume I* and *Exposures, Vulnerabilities, and Risks—Volume II*.

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