

IRDR DATA BRIEF

Satellite Data for Flash Flood/Debris Flow in China and Nepal on 26 August 2026

Overview

On 26 August 2026, a catastrophic flash flood and debris flow event struck the Nepal-China border region, triggered by an ice-rock avalanche that temporarily dammed the Lhende/Bhotekoshi River system before breaching and unleashing a massive surge of water, mud, and debris. In immediate response to this disaster, two major Chinese scientific data centers, which are IRDR's partners, activated emergency protocols and rapidly mobilized satellite and scientific datasets to support emergency response, damage assessment, and relief operations. This brief summarizes the satellite and scientific data resources made available by these two centers.

Data Center 1: National Earth Observation Data Center (NODA)

The **National Earth Observation Data Center** (<https://noda.ac.cn>) swiftly activated its emergency response mechanism following the disaster. By 22:00 on 26 August, the Center officially launched a dedicated data service portal for the event.

Data Service Portal:

“2026 年 8 月西藏日喀则泥石流灾害应急数据专题服务”

<https://noda.ac.cn/datasharing/theme/viewThemeById?id=FL20260826NPL>

Data Holdings (as of initial release):

- **Total Data Volume:** Over 20 GB of high-resolution pre- and post-event satellite imagery
- **Satellite Assets:** Data from multiple civilian and commercial satellite constellations, including:
 - **Gaofen-1, -2, -3, -6, -7** (China High-Resolution Earth Observation System)
 - **Huanjing-2B** (Environment Satellite)

- **Dianjian-1**
- **Jilin-1** (Commercial constellation)
- **Purpose:** Supporting emergency response, disaster relief, and damage assessment through timely provision of high-resolution optical and radar imagery.

The Center has committed to continuous updates as additional data and derived products become available.

Data Center 2: National Cryosphere Desert Data Center (NCDC)

The **National Cryosphere Desert Data Center** (<https://www.ncdc.ac.cn>), in coordination with multiple institutional partners, has established a comprehensive scientific data emergency response service for the event.

Collaborating Institutions:

- National Earthquake Data Center
- Satellite Ocean Application Center
- Resource Satellite Application Center
- Gaofen Gansu Center
- Geovis

Data Service Portal:

“西藏日喀则市吉隆县泥石流灾害（20260826）科学数据应急响应服务”

<https://www.ncdc.ac.cn/portal/emergency?eid=674669dd-ea53-4433-8c2b-e839e86d721c>

Data Holdings (as of initial release):

- **Total Service Datasets:** 53 datasets
- **Total Data Volume:** Approximately 85 GB
- **Data Categories:** A comprehensive suite of emergency response scientific data, including:
 - Fundamental geographic data
 - Satellite remote sensing data (optical, radar, and other modalities)

- Population distribution data
- Terrain and topographic data
- **Platform Features:** The emergency system provides data visualization, interoperability, and data download capabilities for use by emergency responders, rescue teams, and research institutions.

The NCDC will continue to collect, curate, and release additional emergency data resources through this platform as they become available.

Value of These Data Resources

The rapid mobilization of these satellite and scientific datasets underscores the critical role of Earth observation in disaster response. The combined data resources provide essential information for:

- **Rapid Impact Assessment:** High-resolution pre- and post-event imagery enables identification of affected settlements, infrastructure damage, and landslide/debris flow extent.
- **Cascading Hazard Monitoring:** Satellite data supports monitoring of unstable slopes, temporary river blockages, and downstream flood propagation, which are key elements of this event's cascade mechanism.
- **Search and Rescue Operations:** Timely data delivery helps emergency responders prioritize areas of highest impact and plan access routes.
- **Scientific Analysis:** The comprehensive datasets (including terrain, population, and multi-sensor imagery) enable detailed reconstruction of the event's source mechanisms, dynamics, and downstream behavior, contributing to improved early warning and risk reduction for future Himalayan disasters.

Data sources: National Earth Observation Data Center (NODA) and National Cryosphere Desert Data Center (NCDC), accessed 28 August 2026. Data products are provided in support of emergency response and disaster risk reduction efforts.