

FLOOD HAZARD INDEX

 product sheet

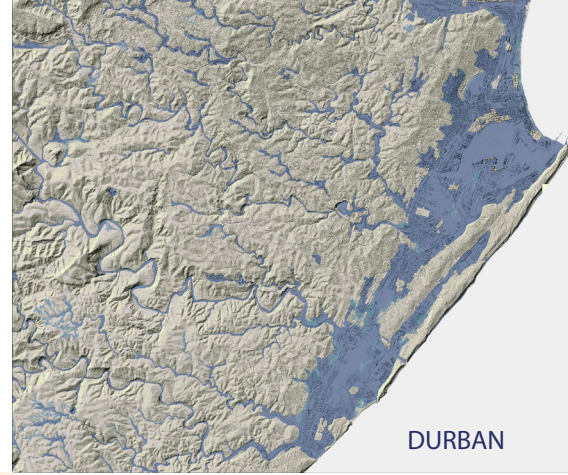
Mitigate flood risk by knowing where floods are most likely to occur

Floods are among Earth's most destructive natural hazards. It is projected that the frequency and severity of flood events will increase with climate change. However, the impact of flood events can be mitigated by identifying and delineating (mapping) areas that are most at risk. Such maps can be used to prioritize areas where remedial actions should be implemented. Communities, infrastructure and businesses that are most vulnerable to flood events can be identified, and resilience to exposure can be increased.

The Flood Hazard Index was developed by combining machine learning, existing 1:100-year flood lines and GeoSmart's 2m-resolution Digital Elevation Model of South Africa (DEMSA2), which has an unprecedented 50 cm vertical accuracy.

Features and benefits

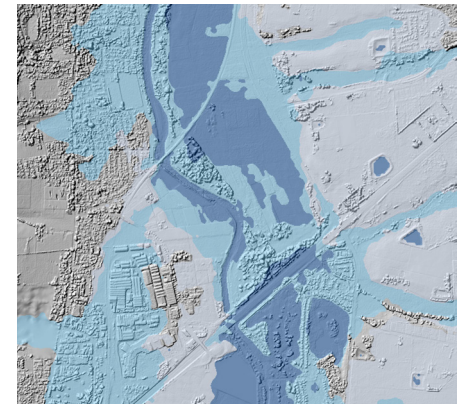
- Available for anywhere in South Africa at high accuracy.
- Easy-to-understand hazard level classes (Very High, High, Medium, Low).
- Computer-to-computer dynamic hazard queries through an application programming interface (API).
- Query location-specific hazard level per coordinate (latitude and longitude) or by area (polygon).
- Additional information: Elevation, Height Above Nearest Drainage, and Slope Gradient (Slope Failure Hazard).
- Continuous accuracy improvements over time as machine learning model is trained with new data.
- Also available in geographical information system (GIS) formats, e.g. GeoTIF rasters, ESRI vector shapefiles and/or CAD formats, e.g. DWG (AutoCAD), DXF (AutoDesk), DGN (Microstation).



Applications

- Insurance risk assessments
- Disaster mitigation and management
- Town and regional planning
- Infrastructure development planning
- Property valuations
- Agricultural planning and development
- Environmental management

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