FIG WORKING WEEK 2019

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"Geospatial Information for a Smarter Life and Environmental Resilience"

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Mapping Landslide Events in Vietnam Using the Global Landslide Catalog and GIS

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Introduction

Recent landslide events in Vietnam

Landslide in Dong Bang commune, Mai Chau, Hoa Binh, 14/8/16

Deadly Landslide in Phu Cuong commune, Tan Lac, Hoa Binh, 12/10/17

Theory

- Mapping landslide events and GIS
- Global Landslide Catalog
- Lack of National Landslide Catalog (GIS database) and maps in Vietnam
- Our study

Methods

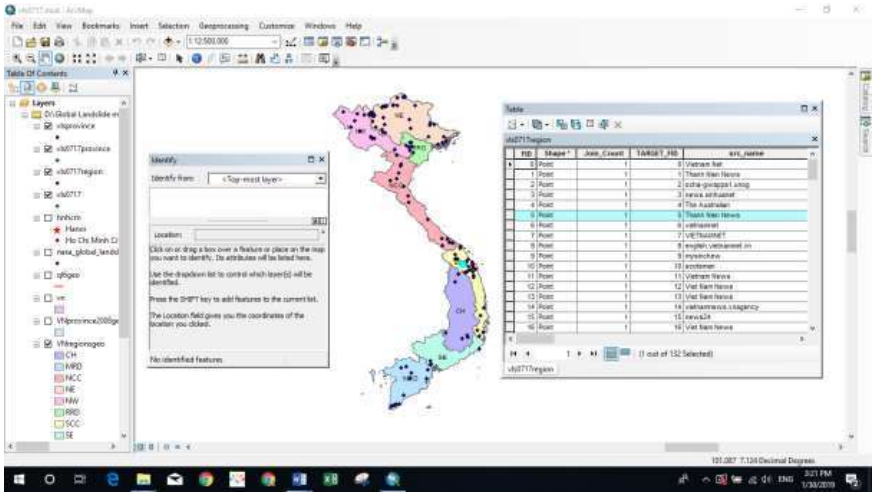
- Data collection
- Database creation
- Data analysis and mapping

The official web pages of NASA (https://data.nasa.gov/Earth-Science/Global-Landslide-CatalogExport/dd9e-wu2v/data)

Eight socioeconomic regions of Vietnam

Results

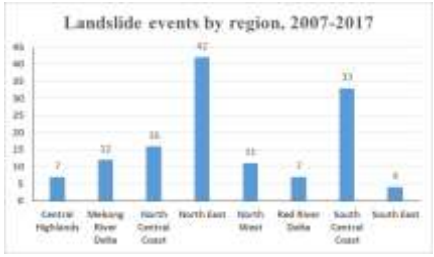
- GIS database of landslide events in Vietnam over the last decade, 2007-2017
- Map showing national distribution of landslides in Vietnam, 132 landslide events
- Map showing regional distribution of landslide events
- Map showing provinicial distribution of landslide events
- Map showing yearly distribution of landslide events
- Map showing monthly distribution of landslide events



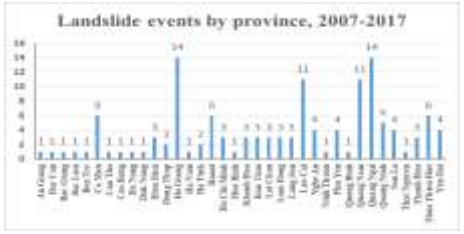
An illustration of GIS databasse of landslides in Vietnam

National distribution of landslide events in Vietnam

Regional distribution of landslide events in Vietnan



Provincial distribution of landslide events in Vietnam



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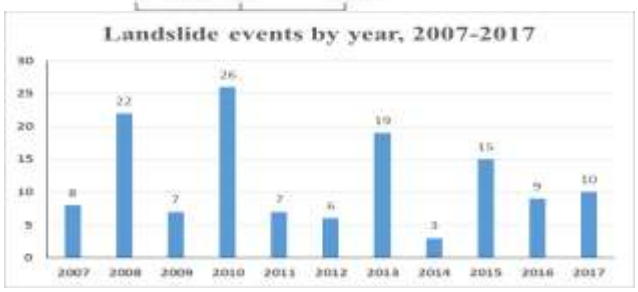
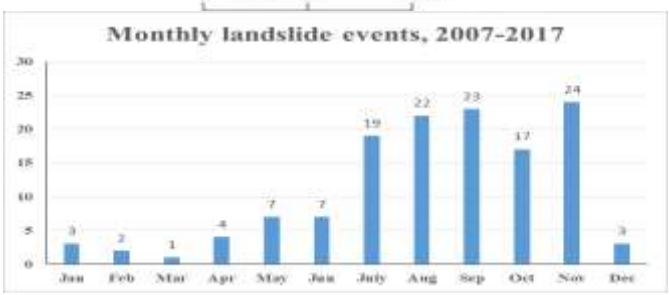
Yearly landslide events in Vietnam



Monthly landslide events in Vietnam



Conclusion

- With the Global Landslide Catalog and GIS, we could map landslide events in Vietnam in a robust, consistent, and affordable way.
- The created spatial and temporal distribution maps of landslides could help to communicate, better understand landslide events in Vietnam over the last decade, 2007-2017. This information is essential to planning and management of limited resources to prevent and mitigate future adverse impacts of landslides.
- Further studies are needed to exploit and update the created database and maps as new data and techniques become available. The approach used in this study could be applied in other parts of the world, especially in developing countries for landslide disaster management for sustainable development.

Thank You

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