

# Post flood damage data collection and assessment in Albania based on DesInventar methodology

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## Abstract and DesInventar methodology

## Flood statistics

From 2013, the General Directorate of Civil Emergency – Ministry of Internal Affairs of the Republic of Albania, established a national disaster loss collection system based on DesInventar methodology. DesInventar is used by roughly 80 countries worldwide, it is promoted by UNISDR and it is used as a homogeneous system for assessing global disaster trends at global scale. DesInventar is a methodology and software tool that lead to the systematic collection, documentation and analysis of loss data on disasters.

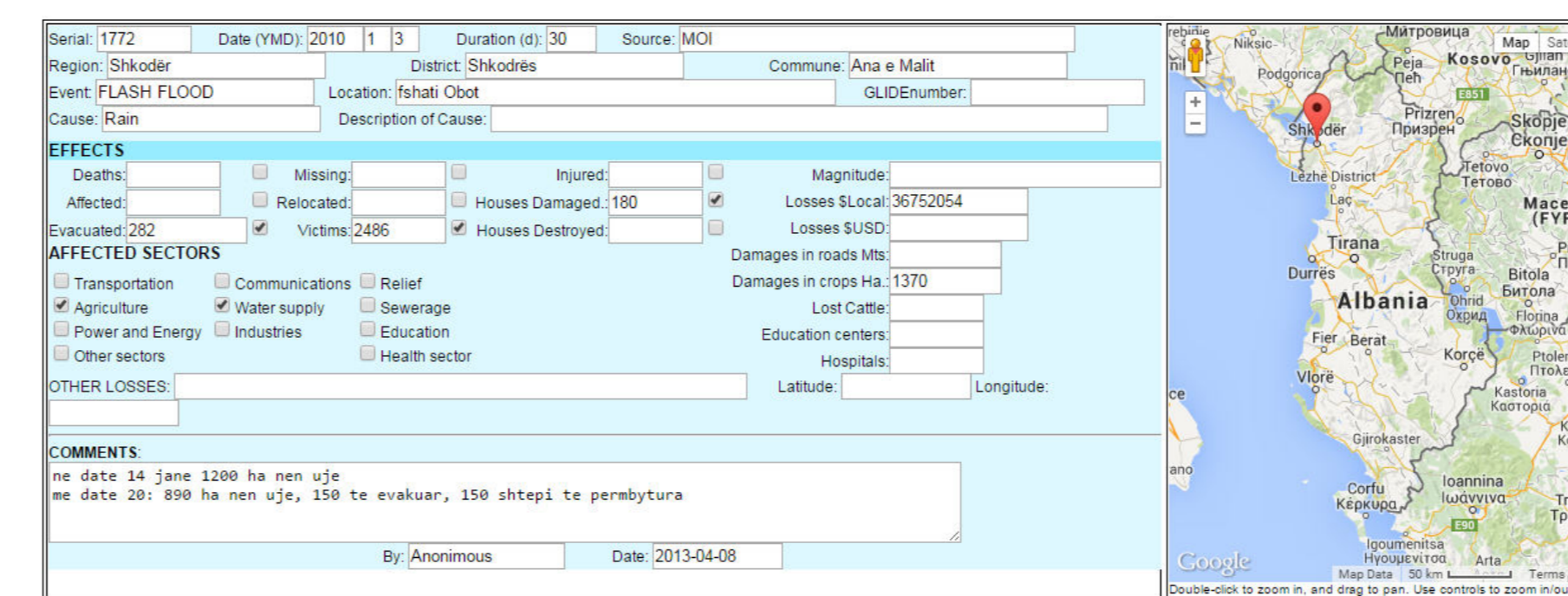
### Source of Data

The main sources of information about disasters in Albania were: Ministry of Internal Affairs (Disaster Reports), the National Library (newspapers) and the State archive (historical catalogue of disasters). Currently, the National Operative Centre for Civil Emergency - Ministry of Internal Affairs, is using the system operationally on a daily base.

### Database consistency

For floods, the database contains nearly 900 datasets, for a period of 148 years (from 1865 to 2013). The data are geo-referenced on the administrative units of Albania: Region, Provinces and Municipalities. The datasets describe the events by reporting the date of occurrence, the duration, the localization in administrative units and the cause. Additional information regards the effects and damage that the event caused on people (deaths, injured, missing, affected, relocated, evacuated, victims) and on houses (houses damaged or destroyed). Other quantitative indicators reported are the economic losses in local currency or US dollars, the damage on roads, the crops affected, the lost cattle and the involvement of social elements over the territory such as education and health centres. Qualitative indicators are also registered for the following sectors: transportations, communications, relief, agriculture, water supply, sewerage, power and energy, industries, education, health sector, other sectors.

### Example of DesInventar DataCard



### Box: Floods and flash floods

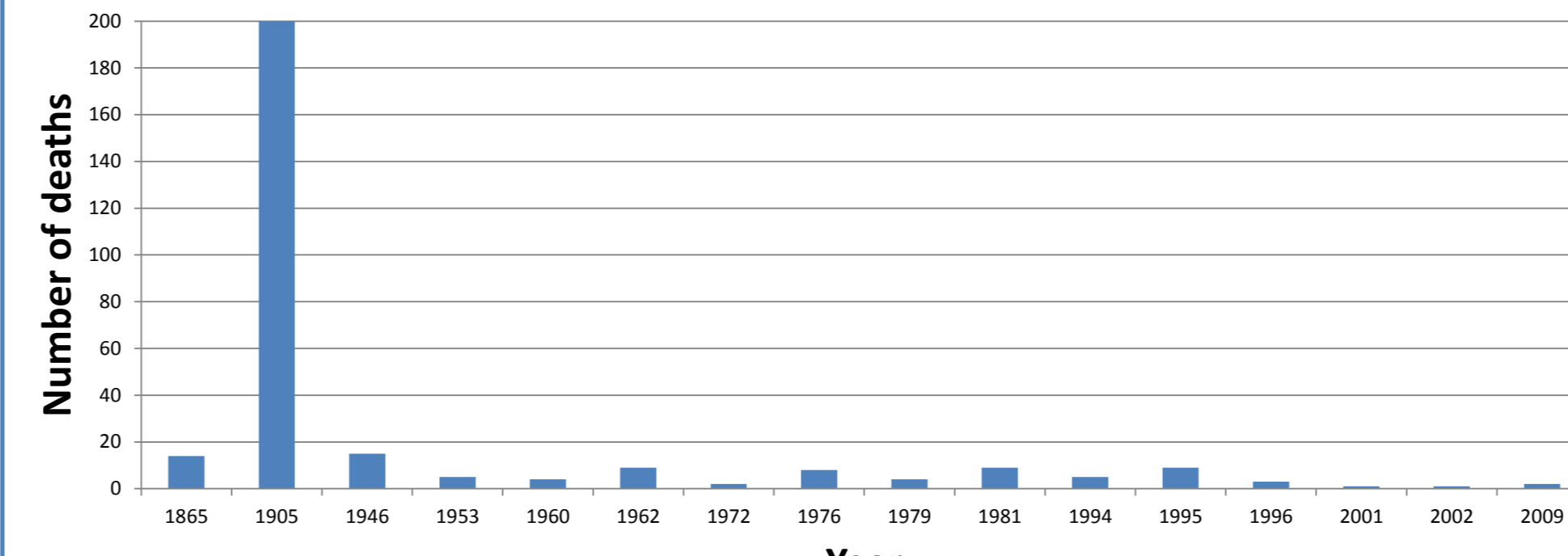
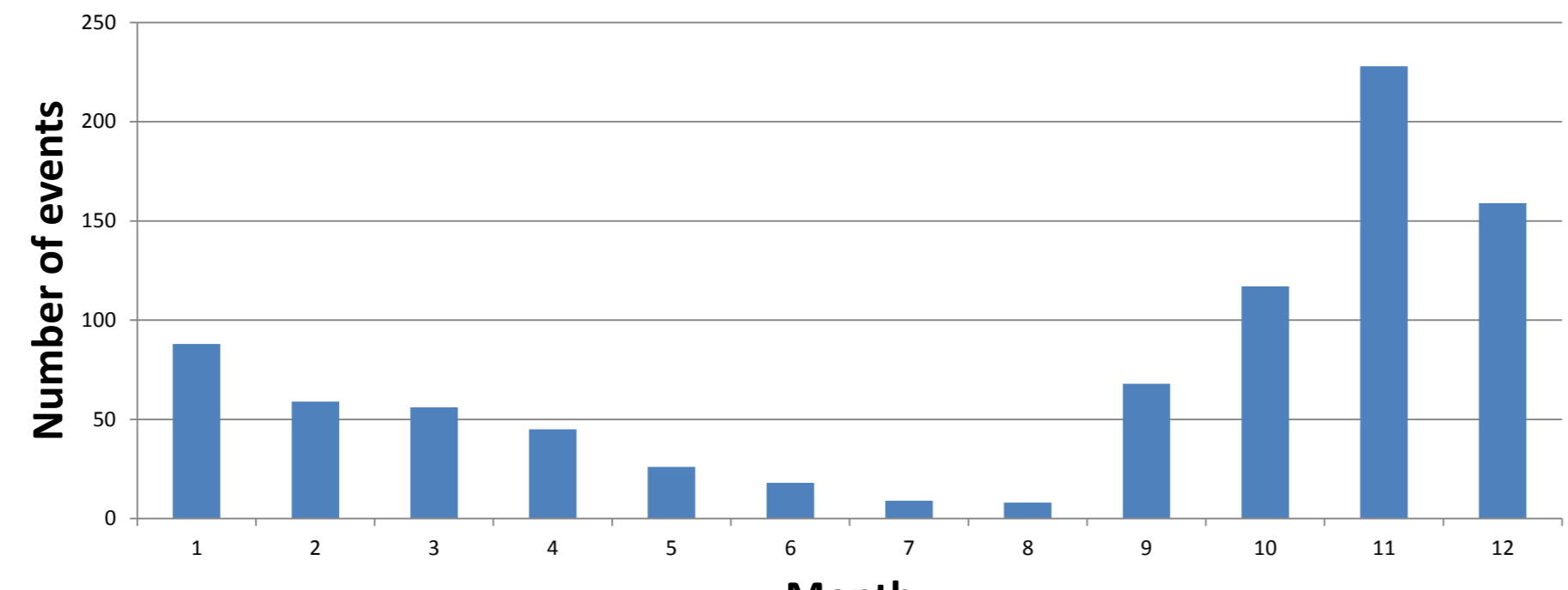
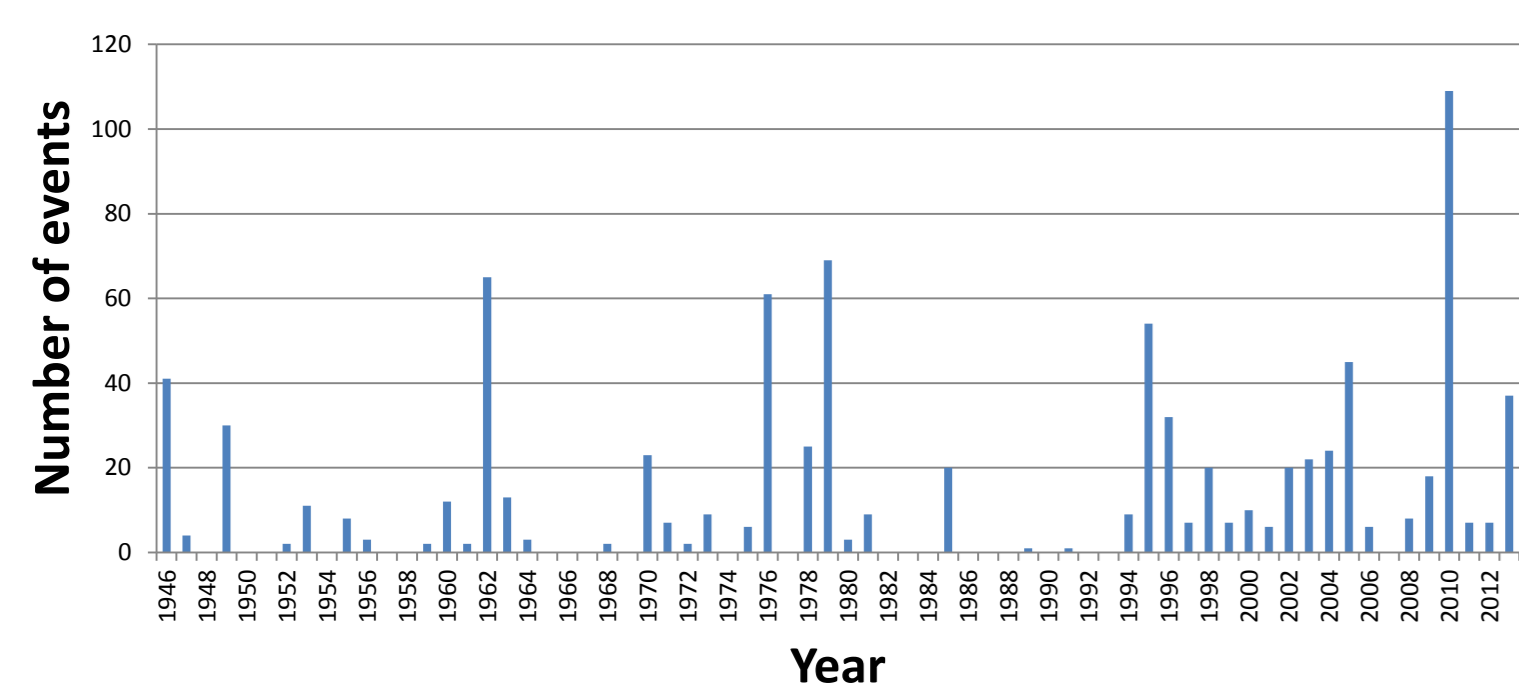
(for the last 20 years, from 1993) - \*using 2012 exchange rate from world bank

|                  | TOTAL            | Average for Year | Maximum for Year            | Average for Event | Maximum for Event | % of communes | Most affected Municipality |
|------------------|------------------|------------------|-----------------------------|-------------------|-------------------|---------------|----------------------------|
| Events           | 448              | 22.4             | 109 (2010)                  | n.a.              | n.a.              | 39            | Balldren i Ri (14)         |
| Mortality        | 21               | 1.05             | 9 (1995)                    | 0.05              | 5                 | 1.6           | Bushtricë (5)              |
| Houses affected  | 800/<br>22,720   | 40/<br>1,136     | 539 (1995)/<br>9,672 (2010) | 1.8/<br>50.7      | 300/<br>7,000     | 11/<br>21.1   | Gur i Zi (300)             |
| Agriculture (Ha) | 148,380          | 7,419            | 43,739 (2010)               | 331               | 20,000            | 16.3          | Levan (7,000)              |
| Economic Losses* | 7,400<br>mln LEK | 370 mln LEK      | 4,040 mln LEK<br>(2010)     | 16.5 mln LEK      | 1,100 mln LEK     | 17.6          | Dajç (1,000mln LEK)        |

## Temporal trend

## Seasonal trend

## Mortality



### Reference period 1946-2013.

- increasing with a maximum in 2010 (110 events)
- In the last 20 years at least one flood occurred every year in the country with an average of nearly 23 events per year.

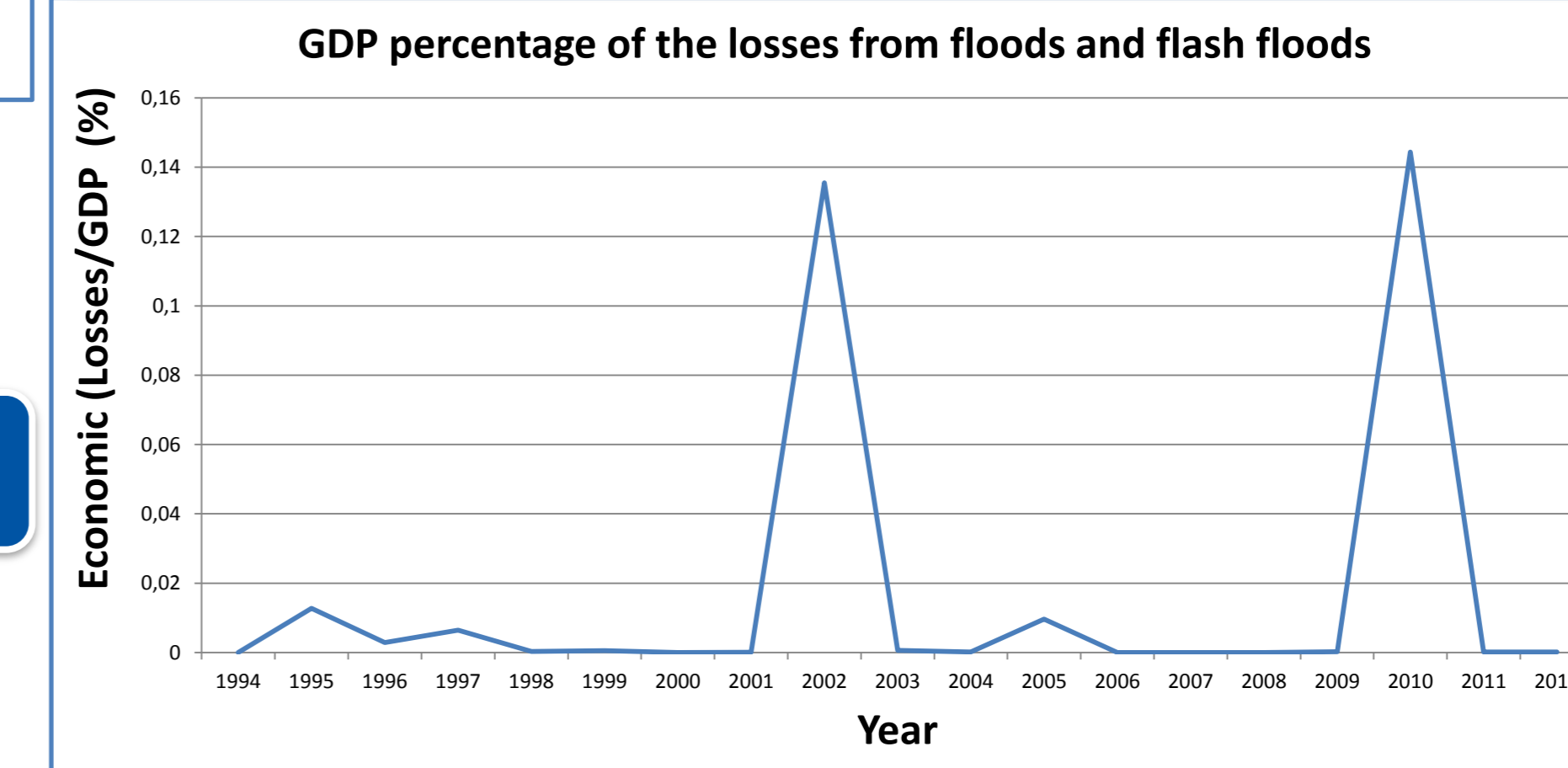
### Reference period 1946-2013.

The highest number of floods are recorded in autumn and winter, reaching the peak in November with more than 200 records.

### Number of deaths caused by floods and flash floods (only years with at least one person death are reported).

Though mortality is decreasing in the last 20 years, floods are still continuing to cause deaths at an average rate of more than one person per year with a maximum of 9 persons killed in 1995.

## Economic losses



### Fraction of GDP for registered economic losses over the last 20 years.

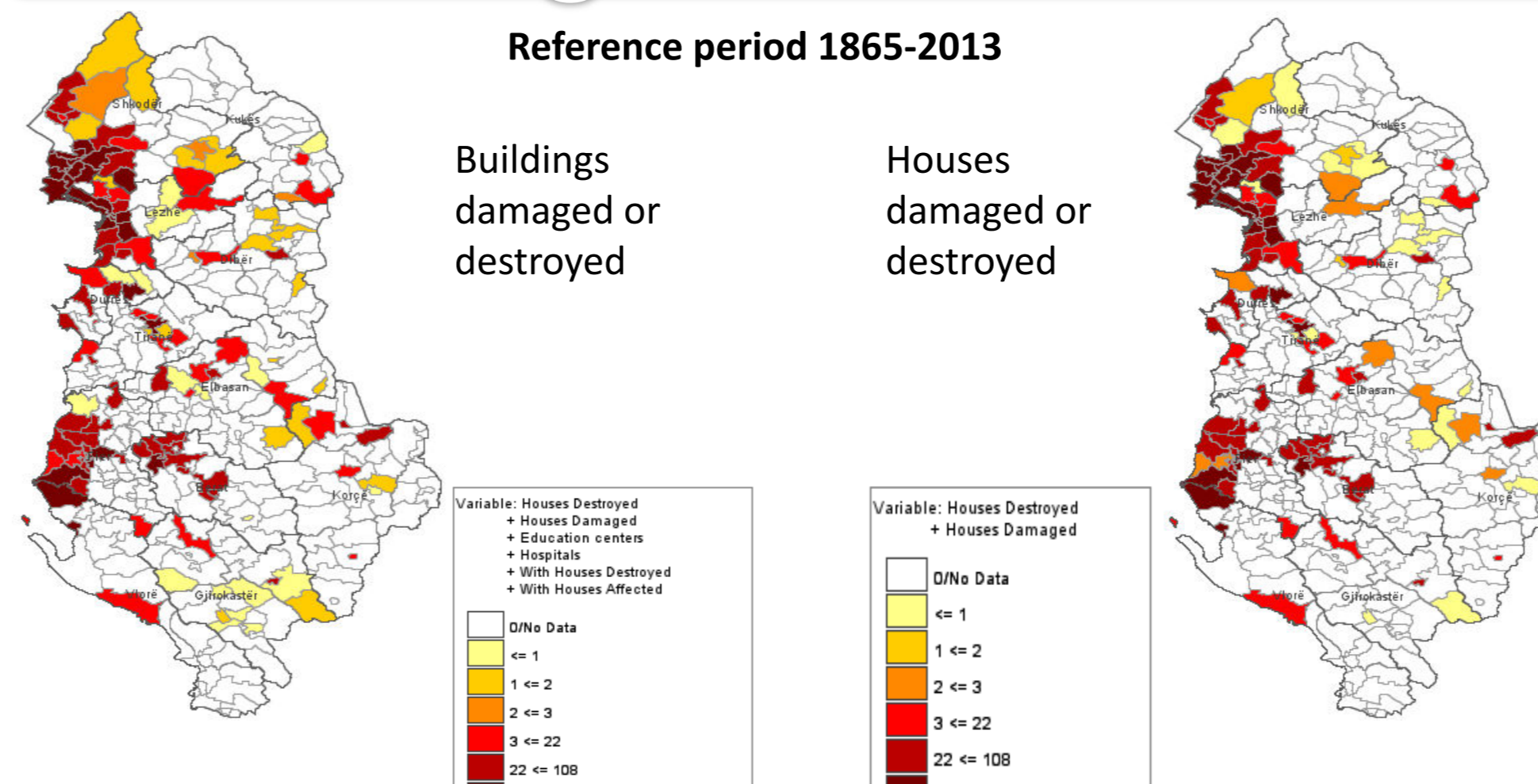
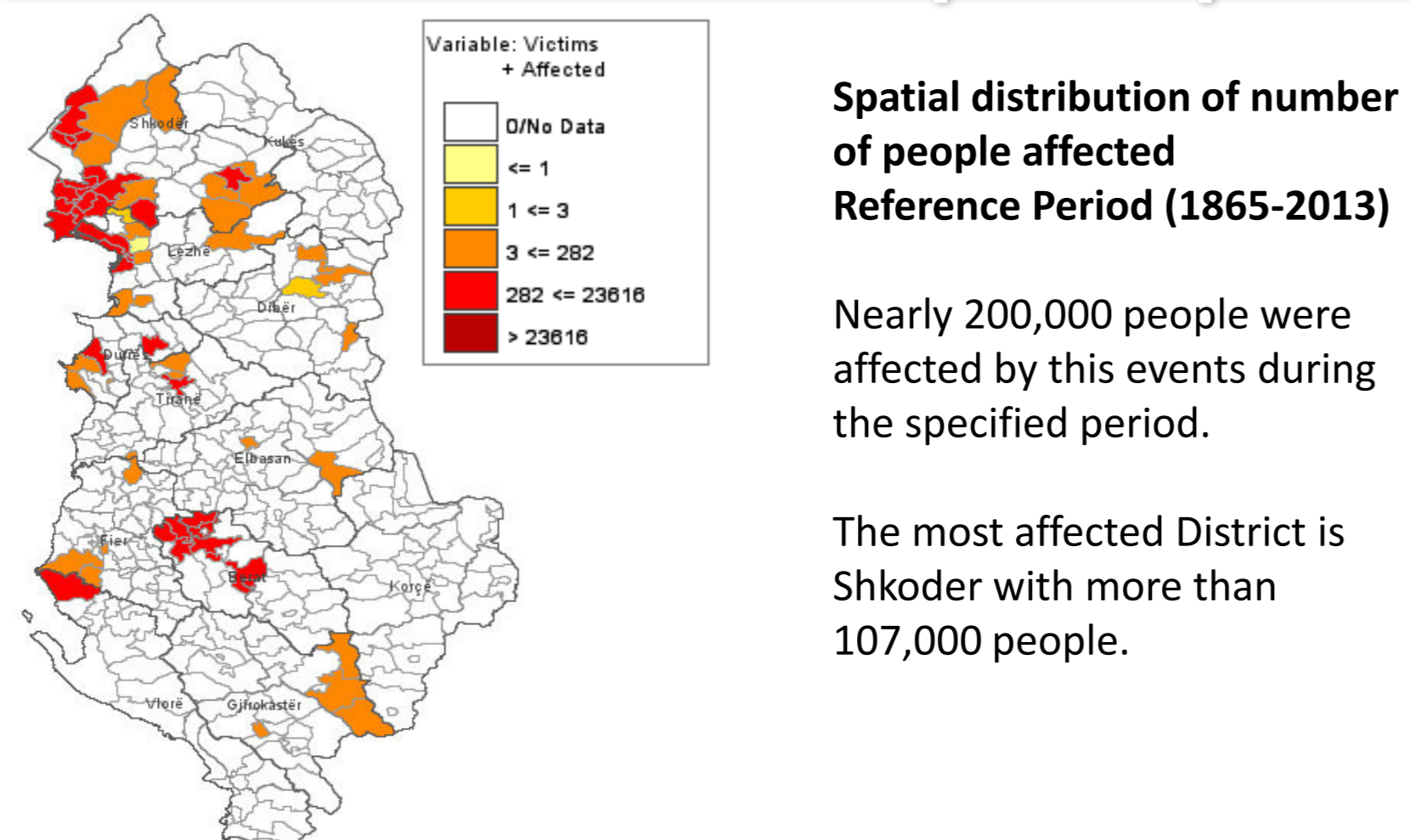
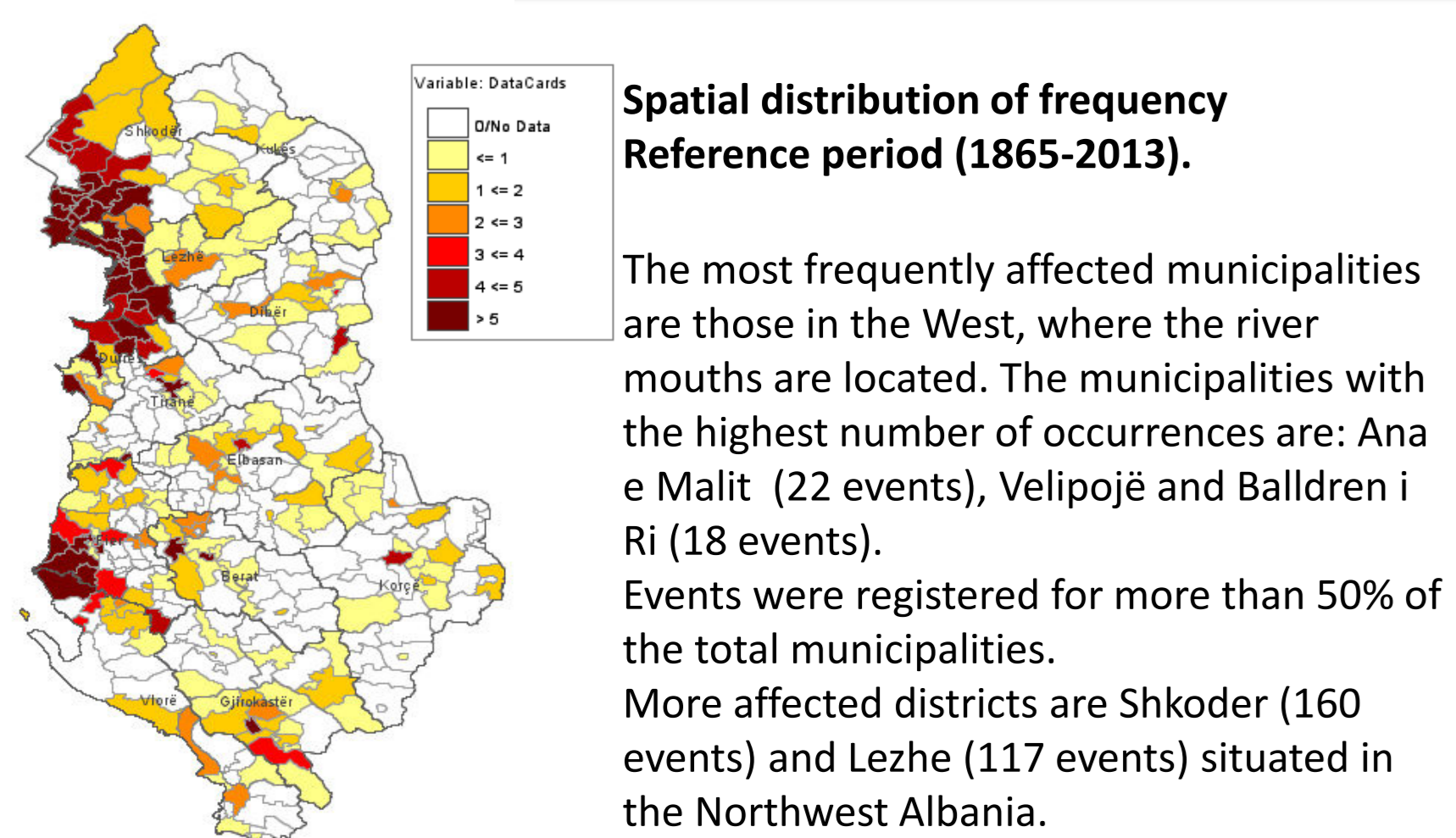
There are two main peaks in 2002 and in 2010 in which the losses reaches nearly 0.15 % of the GDP of the country.

More than 17% of the communes of Albania have registered economic losses in the last 20 years.

## Frequency of occurrence

## Effects on people

## Buildings and houses



## References

- Toto E., Massabò M., 2014. Historical collection of disaster loss data in Albania
- DesInventar User Manual
- De Groeve, T., Poljansek, K and D. Ehrlich , 2013. Recording Disaster Losses-Recommendations for an European Approach. JRC Scientific and Policy Reports

