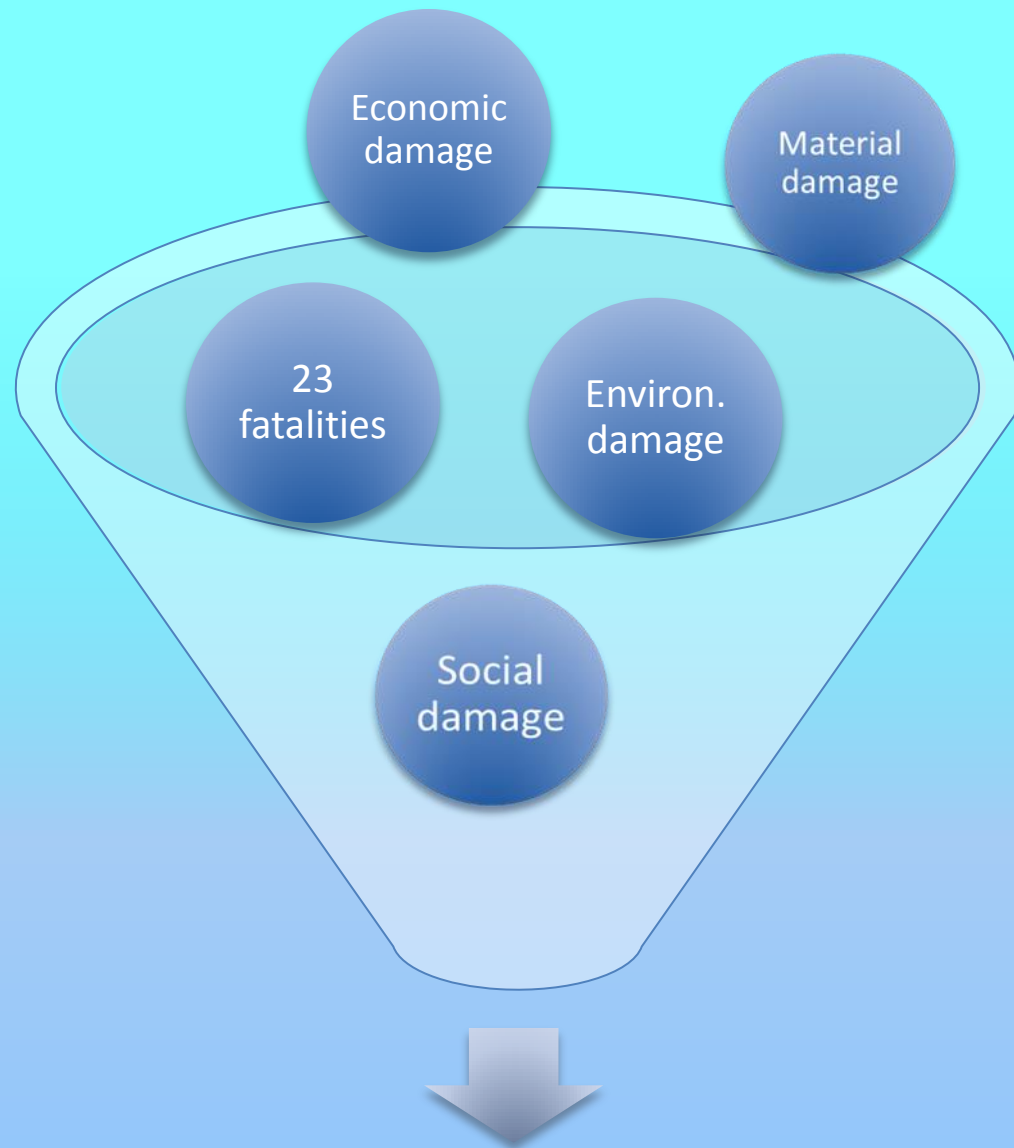


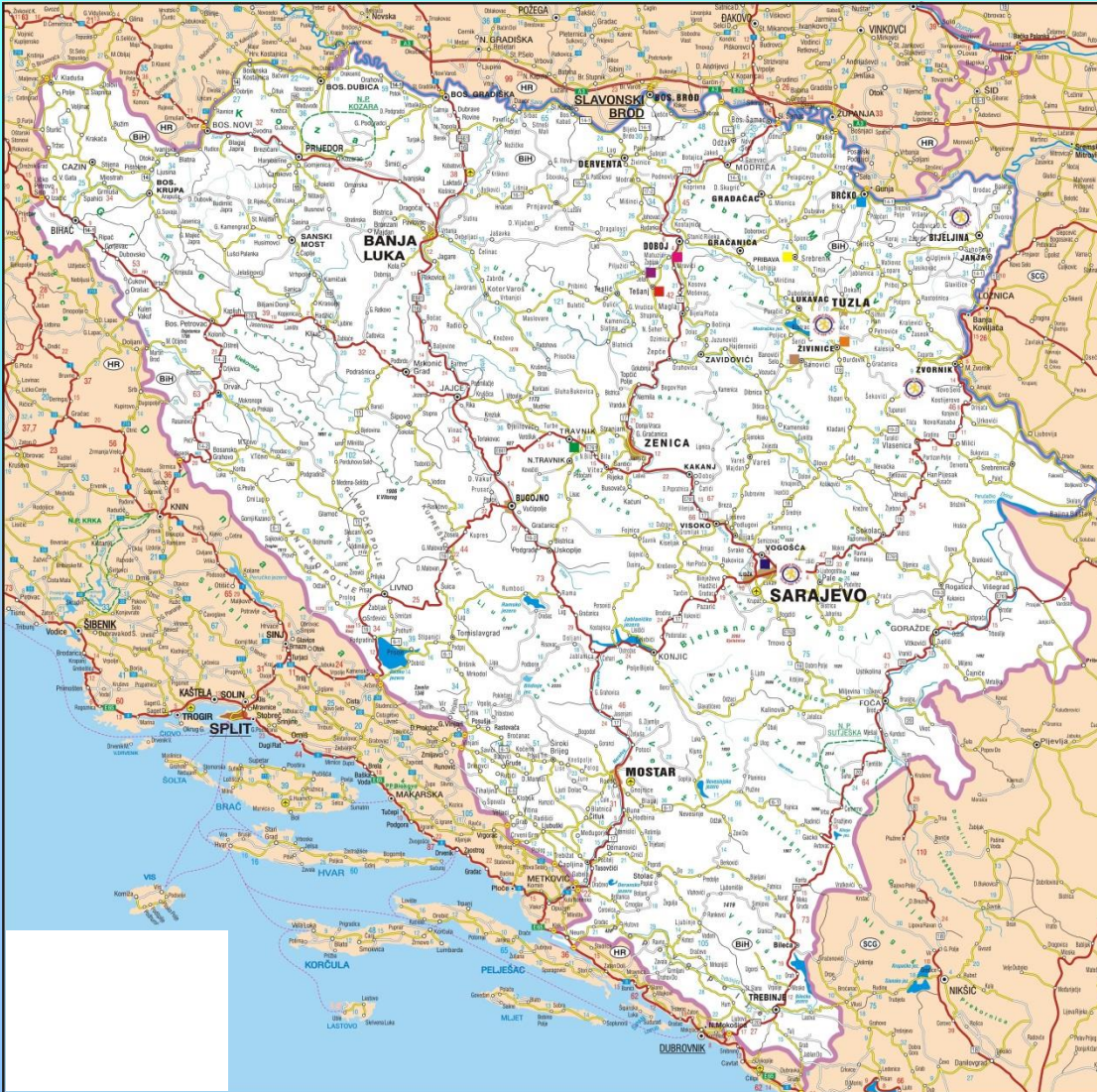
Road Infrastructure in Bosnia and Herzegovina in the Aftermath of the May 2014 Floods

June 2014



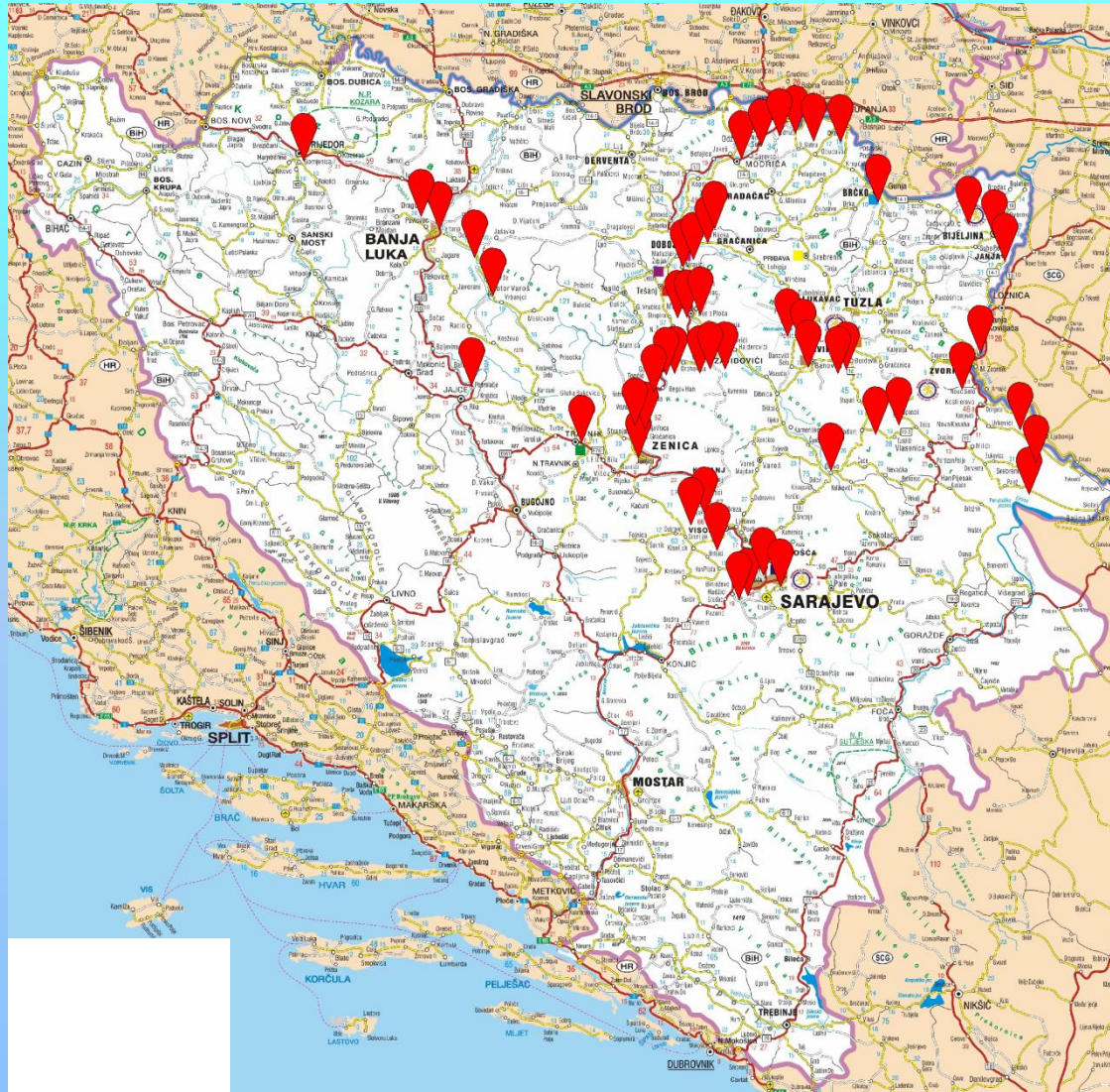
Global Aftermath of the May 2014 Floods

Road Infrastructure (km)

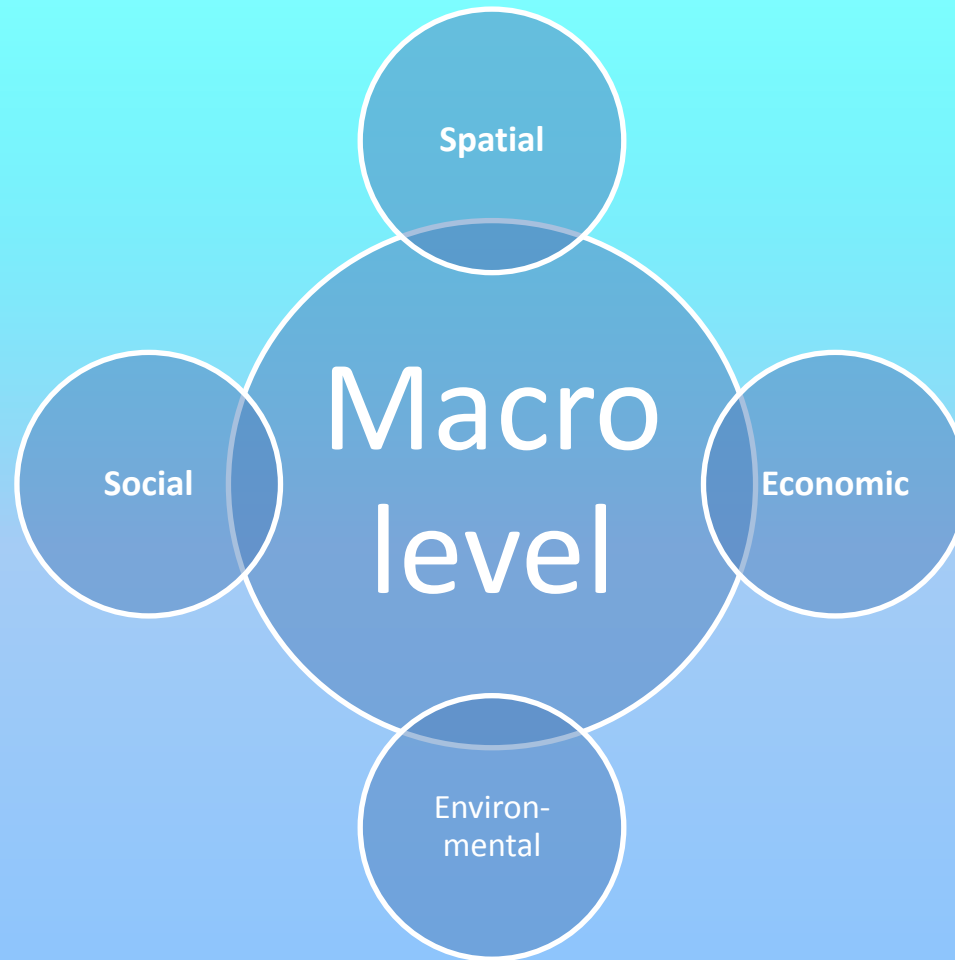


Category	Total
Motorway	95
Trunk roads	3,816
Regional roads	4,815
Local roads	15,000

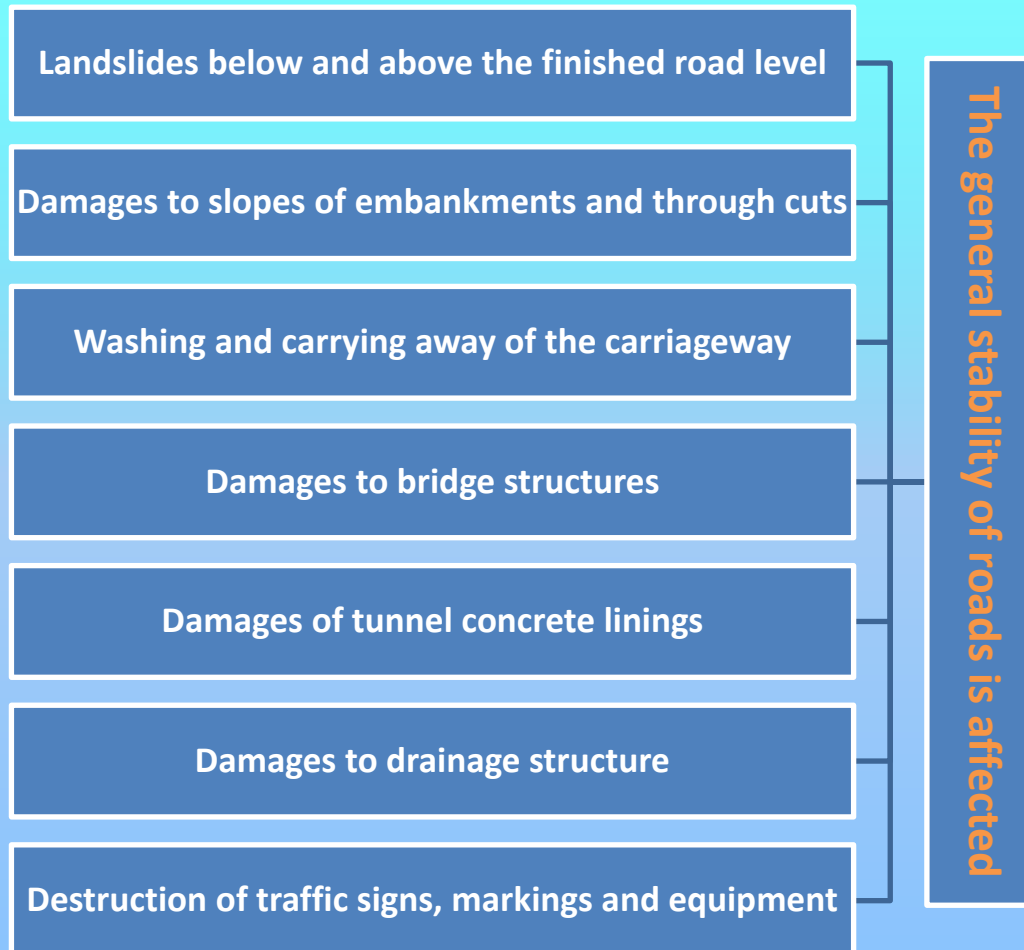
Spatial Distribution of Floods



Effects of Floods on Road Infrastructure – Macro Level



Effects of Floods on Road Infrastructure – Micro Level



Specific Examples



Site:

Nemila, M17, Topčič Polje, Lašva km 3+880

- Landslide from slope 20 meters above the finished road level,
- Earth material constantly falling on the carriageway.



Specific Examples



Site:

Kosova, M17, Karuše – Ozimica km 9+050-9+270

- Landslide approx. 300 meters above the finished road level,
- Movement of the entire hill,
- 200 meters of road totally destroyed.



Specific Examples



Site:

Topčič Polje, M17, Topčič Polje – Lašva km 1+600,

- Runoff of large quantities of water,
- Runoff of large quantities of silt,
- Water constantly covering the carriageway,
- Regional road R465 also covered.



Specific Examples



Site:

Priboj – Simin Han km 14+420 – 14+650

- Landslide below and above the finished road level,
- Total destruction of the road base,
- Mined area.



Specific Examples

Site:

M18, Priboj – Simin Han km 11+900 – 12+100

- Landslide below the finished road level,
- Carriageway collapsed,
- Mined area.



Specific Examples

Site:

M18, channel of the Drinjača River, Kladanj – Vlasenica, km 6+500 – 11+500

- Water caused damage to walls and embankment slopes below the finished road level,
- Individual areas,
- Approx. 500 meters in length.



Specific Examples

Site: M1.8, channel of the Drinjača River, Pelagićevo – Srebrenik km 16+210

- Leakage through tunnel lining,
- Tunnel tube deformation,
- Risk of the entire tunnel profile collapsing.



Specific Examples

Site: M17, channel of the Bosna River, Karuše – Ozimica, km 16+600 and 15+750

- **Damage to the road embankment,**
- **Erosion of the embankment and narrowing of the bank revetment,**
- **Risk of the entire road base collapsing.**



Specific Examples

Site: M4, Dobož – Oraštica km 11+312

- Damage to the bridge structure,
- Breaking of the abutment,
- Loss of a part of the linear bearing.



Damage estimates to the B&H roads from the May 2014 floods

Damage estimates were made in accordance with the methodology that is used by different EU agencies, UNDP, as well as international financial institutions like World Bank.

Category	Length (km)	Damaged roads (km)	Repair estimate costs (EUR)
Motorway	95	-	-
Trunk roads	3,816	82	89.000.000,00
Regional roads	4,815	180	63.000.000,00
Local roads	15,000	1000	105.000.000,00
Total			257.000.000,00

