
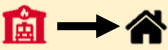




CONSTRUCTION OF THE GRAPH

Steps	Description	Conceptual representation
Typologies	Identify the relevant typologies of exposed elements (e.g. populations, fire stations, schools, bridges)	
Connections	Define the connections between typologies (e.g. fire stations provide recovery service to households)	
Rules	Define the rules between elements (e.g. associate each household to the closest fire station)	
Graph	Build the graph: all exposed elements are linked and establish a unique network	

ANALYSIS OF GRAPH PROPERTIES

- Degree
- Closeness
- Authority
- Hub
- Betweenness
- ...

- Better knowledge of the exposed system
- Identification of system centralities and vulnerability
- More informed DRR decision-making

IMPACT PROPAGATION WITHIN THE GRAPH

- Elements affected both directly and indirectly
- Services between elements affected

- Risk quantification
- Understanding of risk mechanisms
- Second-order and cascading effects
- More comprehensive catastrophic models

HAZARD