

Hazard risks and critical infrastructures

**(Case analysis – natural gas networks
of Italy and Romania)**

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Topics

Event tree for earthquake and land-slide risk assessment for Italy

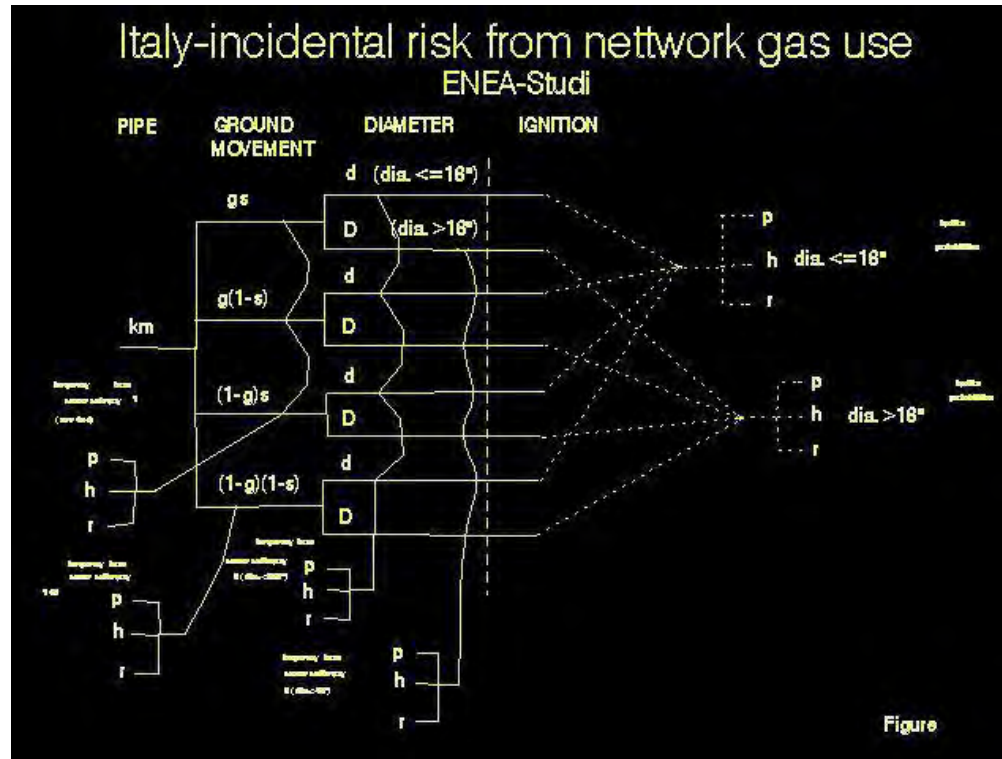
Italian gas network risk distribution

Event tree for hazard risk based on climatic parameters time series

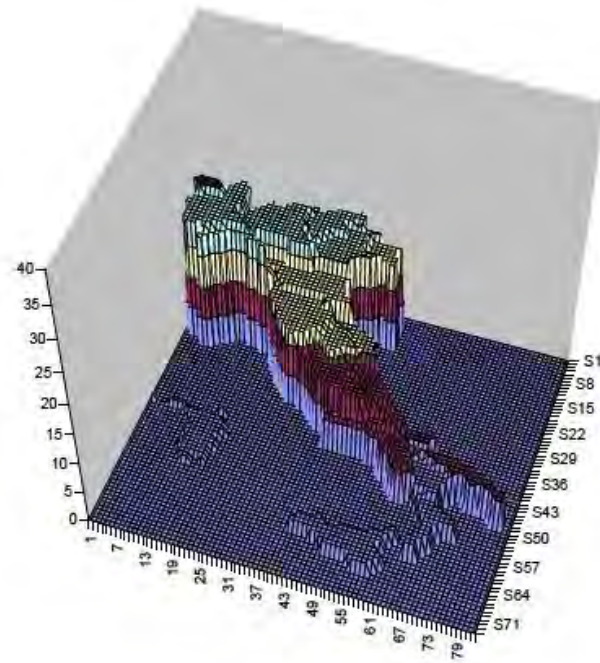
Romanian gas network risk distribution

Conclusions

Risk of earthquake, land slide and mechanical



Italian gas network risk regional disaggregation



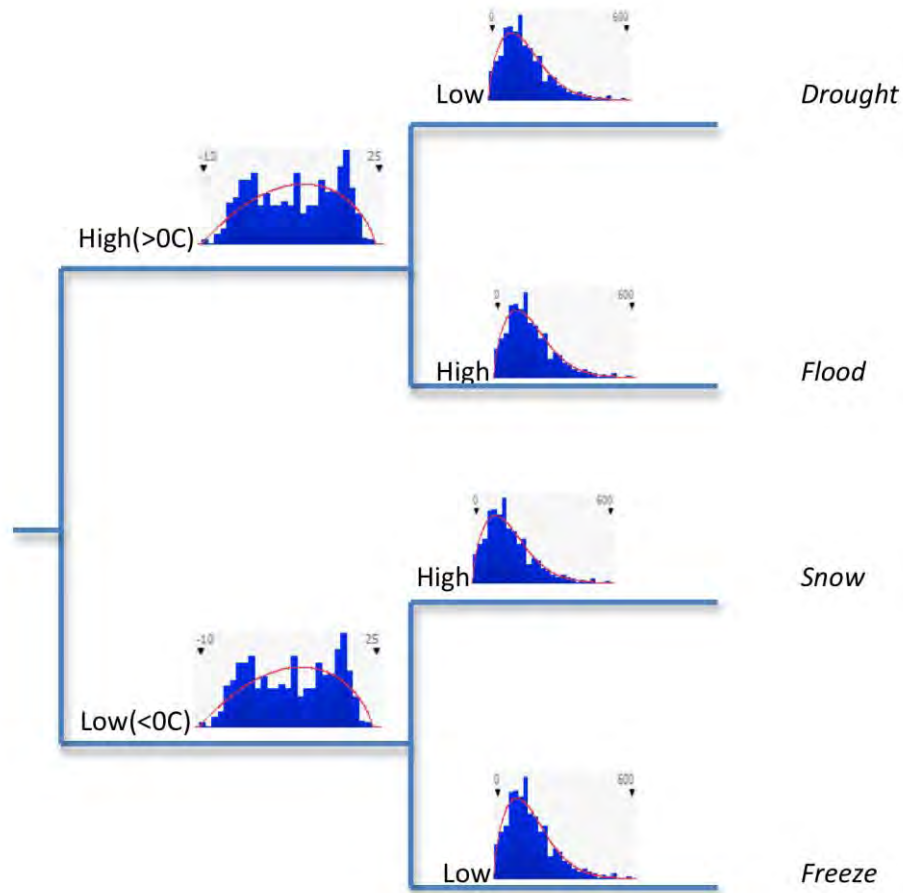
Event tree for hazard risks based on climate data Arges county Romania

Event tree for Climate change events

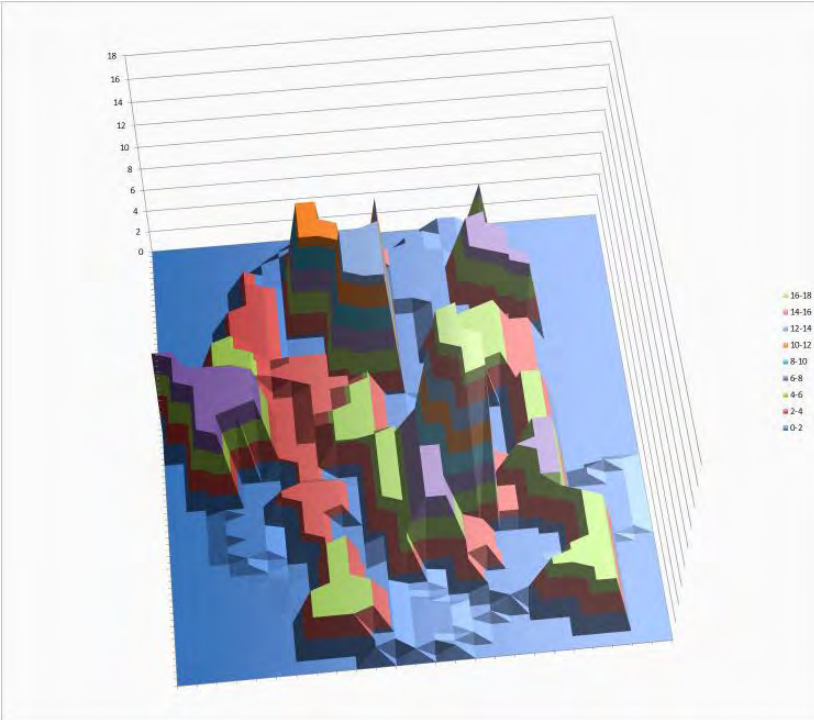
Temperature

Precipitations

Event type



Romanian natural gas network risk county disaggregation



Conclusions

Hazard risk assessment requires large amount of data dynamical series and spatial distributions

The impact on the energy infrastructures is substantial and can be assessed based on existing data

Insurance policies may be developed for network (distributed) risk

Coherent projects and international cooperation is necessary for the big data on climatic parameters and their use for critical networks risk assessment.

Thank you !

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