



Bologna, 26/01/2011

Kick-off meeting Endnotes

Each Research Unit is divided into several Working Groups that are responsible for specific task/deliverables. In particular, we have:

- **WG1 (J. Selva, ...)** for Bayesian fragility curves, Vulnerability and Risk assessment
- **WG2 (L. Faenza, ...)** PSHA
- **WG3 (L. Sandri, ...)** PVHA
- **WG4 (A. Grezio, ...)** PTHA
- **WG5 (R. Tonini, ...)** Software and Website

The overall structure of RUs and WGs can be found in *Fig. 1*. The division of the project's deliverables can be found in *Fig. 2-6*. Each WG is responsible in updating the WG webpage with Publications and Reports.

In the following, we report the main points raised during the meeting concerning the work of each WG.

WG1:

- definition of base grid (few meters) all over the Napoli municipality
- definition of 2/3 target areas
- evaluation of risk will be
 - n. of damaged buildings and monetary cost (direct damages, stable exposure)
 - n. of homeless people (direct damages, variable exposure)
 - n. di expected dead (direct & undirect damages, variable exposure)
- we should start with $dT=50$ yr, then to go down to 10 and 5 yr
- list of F.C. and intensity measures (PGA, PGV, etc.) to be defined in collaboration with all WGs

WG2:

- 2/3 source models to be defined (Cornel, ...)
- model of attenuation (how many?)

- model for site effects (waiting for Angela di Ruocco to give possible microzonation study)
- volcanic areas treated separately (C.F., Vesuvio, Ischia)
- probability map for shallow offshore earthquakes as input for WG4

WG3:

- model for pyr. flows to be defined
- probability map for pyroclastic flows as input for WG4

WG4:

- run-up is not enough, we need dyn. pressure or column height and velocity
- method to extend to inundation maps to be defined

WG5:

- fomatted html to be sent to WGs responsible
- base data to be organized in MySQL
- interchange files (metafiles) format to be defined (xml, ...)
- keep separated vulnerability & hazard interaction (in software)

DEADLINES:

Several deadlines have been defined to organize and finalize the project's results for the first year. In particular, we have:

March 2011 (month 4th):

- (WG1) def. grid and target areas
- (WG1) def. preliminary list of intensities
- (WG5) def. html for WGs

May 2011 (month 6th):

- (WG5) website structure

December 2011 (month 12th):

- (WG2) shakemap atlas
- (WG2) list of prior models
- (WG1) draft of ByMuR (general model)
- (WG5) draft of software
- (WG1) list of Fragility Curves

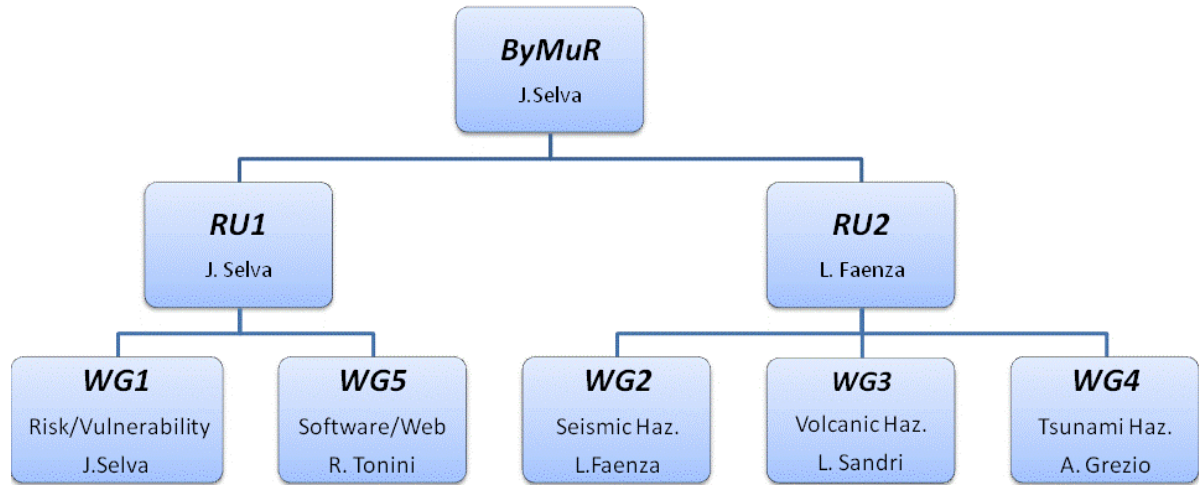


Figure 1: Overall structure of RUs and WGs

RESULTS OF THE PROJECT "ByMuR"	STARTING POINT	UR	YR 1	YR 2	YR 3
Methodological definition of the ByMuR model	TEMRAP, ARMONIA, Na.R.As.	1			
Analysis and comparison among natural risks (medium and long-term) for the city of Napoli	EXPLORIS, SPEED, Lirer <i>et al.</i> , 2010	1			
<p>Open-source software for the analysis and visualization of results</p> <p><i>Atlas of shakemaps</i> of the past earthquakes (historical and instrumental) for Napoli</p> <p>Bayesian <i>seismic, volcanic</i> and <i>tsunami</i> models</p> <p>Local map of <i>seismic, volcanic</i> and <i>tsunami</i> hazards and relative uncertainties</p>	<p>WG1: Bayesian Vulnerability & Risk <i>Responsible:</i> J. Selva <i>Participants:</i> A. di Ruocco, R. Tonini, A. Grezio</p> <ul style="list-style-type: none"> • Bayesian fragility curves • Risk assessment • Software • ... 				
Evaluation of the expected degree of damage and relative uncertainties resulting from <i>seismic, volcanic</i> and <i>tsunami</i> events	Zuccaro <i>et al.</i> , 2006; Marzocchi <i>et al.</i> , 2009; EXPLORIS, ...	1			

Figure 2: WG1 deliverables

WG2: Bayesian Seismic Hazard

Responsible: **L. Faenza**

Other participants: L. Sandri, S. Pierdominici, S. Hainzl, A. Michelini, W. Marzocchi

RESULTS OF THE PROJECT "ByMuR"

Methodological definition of the *ByMuR*

Analysis and comparison among natural hazards (medium and long-term) for the city of Naples

Open-source software for the analysis and visualization of results

- Development of the Atlas of seismic history for Naples
- Integration of different Earthquake Forecasting techniques + attenuation
- Integration of source and site approach
- *...

Atlas of shakemaps of the past earthquakes (historical and instrumental) for Napoli	CPTI, DBMI, Shakemap, ITACA, DISS	2	■		
Bayesian seismic, volcanic and tsunami hazard models	Selva & Sandri, in prep Marzocchi <i>et al.</i> , sub. Grezio <i>et al.</i> , 2009	1-2	■		
Local map of seismic, volcanic and tsunami hazards and relative uncertainties	MPSWG, 2004; Albarelo & d'Amico, 2008; Selva <i>et al.</i> , sub.	2		■	
Evaluation of the expected degree of damage and relative uncertainties resulting from seismic, volcanic and tsunami events	Zuccaro <i>et al.</i> , 2006; Marzocchi <i>et al.</i> , 2009; EXPLORIS, ...	1			■

Figure 3: WG2 deliverables

RESULTS OF THE PROJECT "ByMuR"	STARTING POINT	UR	YR 1	YR 2	YR 3
Methodological definition of the <i>ByMuR</i>	WG3: Bayesian Volcanic Hazard <i>Responsible: L. Sandri</i> <i>Other partecipants: J. Selva, W. Marzocchi</i>				
Analysis and comparison among natural hazards (medium and long-term) for the city of Naples	<ul style="list-style-type: none"> • Integration of the hazards of Neapolitan volcanoes • Volcanic hazards at Ischia • ... 				
Open-source software for the analysis and visualization of results					
<i>Atlas of shakemaps</i> of the past earthquakes (historical and instrumental) for Naples					
Bayesian seismic, volcanic and tsunami hazard models	Selva & Sandri, in prep Marzocchi <i>et al.</i> , sub. Grezio <i>et al.</i> , 2009	1-2			
Local map of seismic, volcanic and tsunami hazards and relative uncertainties	MPSWG, 2004; Albarelo & d'Amico, 2008; Selva <i>et al.</i> , sub.	2			
Evaluation of the expected degree of damage and relative uncertainties resulting from <i>seismic, volcanic and tsunami</i> events	Zuccaro <i>et al.</i> , 2006; Marzocchi <i>et al.</i> , 2009; EXPLORIS, ...	1			

Figure 4: WG3 deliverables

RESULTS OF THE PROJECT "ByMuR"	STARTING POINT	UR	YR 1	YR 2	YR 3
Methodological definition of the <i>ByMuR</i>	WG4: Bayesian Tsunami Hazard Responsible: A. Grezio Other participants: L. Sandri, J. Selva, R. Tonini, W. Marzocchi				
Analysis and comparison among natural hazards (medium and long-term) for the city of Naples	<ul style="list-style-type: none"> Integration of the different tsunami sources Interaction effects •... 				
Open-source software for the analysis and visualization of results					
Atlas of shakemaps of the past earthquakes (historical and instrumental) for Naples					
Bayesian seismic, volcanic and tsunami hazard models	Selva & Sandri, in prep Marzocchi <i>et al.</i> , sub. Grezio <i>et al.</i> , 2009	1-2			
Local map of seismic, volcanic and tsunami hazards and relative uncertainties	MPSWG, 2004; Albarelo & d'Amico, 2008; Selva <i>et al.</i> , sub.	2			
Evaluation of the expected degree of damage and relative uncertainties resulting from seismic, volcanic and tsunami events	Zuccaro <i>et al.</i> , 2006; Marzocchi <i>et al.</i> , 2009; EXPLORIS, ...	1			



Figure 5: WG4 deliverables

RESULTS OF THE PROJECT "ByMuR"	STARTING POINT	UR	YR 1	YR 2	YR 3
Methodological definition of the <i>ByMuR</i> model	TEMRAP, ARMONIA, Na.R.As.	1			
Analysis and comparison among natural risks (medium and long-term) for the city of Napoli	EXPLORIS, SPEED, Lirer <i>et al.</i> , 2010	1			
Open-source software for the analysis and visualization of results	Html, Python, php, Google tools	1			

Atlas of shakemaps of the past earthquakes (historical and instrumental) for Napoli

Bayesian seismic, volcanic and tsunami models

Local map of seismic, volcanic and tsunami hazards and relative uncertainties

Evaluation of the expected degree of relative uncertainties resulting from seismic, volcanic and tsunami events

WG5: Software Group & Website

Responsible: R. Tonini

Participants: J. Selva, L. Faenza, L. Sandri, A. Grezio

- Common platform
- coordination of modules
- upgrade of website
- ...



Figure 6: WG5 deliverables