

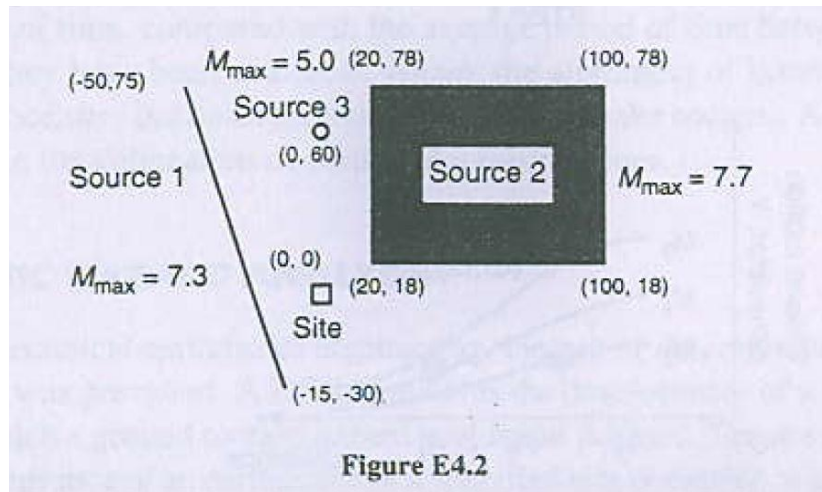
# SEISMOGRAPH

Verification Examples (C5)

**PSHA Tool:** Deaggregation

### Source and Attenuation Models

A comparison between the independent hand calculations and SG results is presented here. For detailed calculations and additional deaggregation for individual sources or GMPEs , see: Deaggregation.xlsx file.

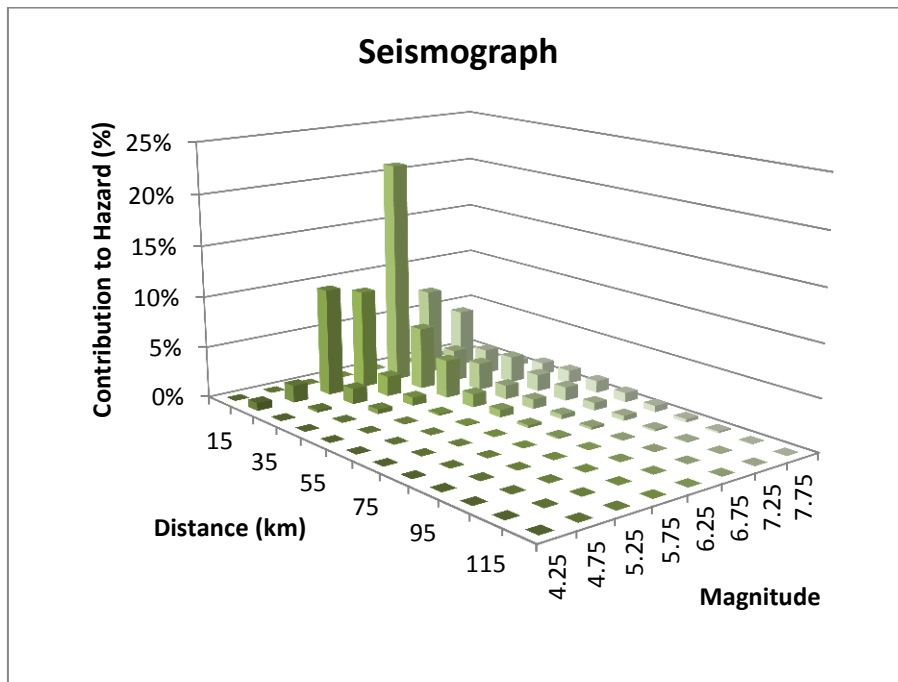
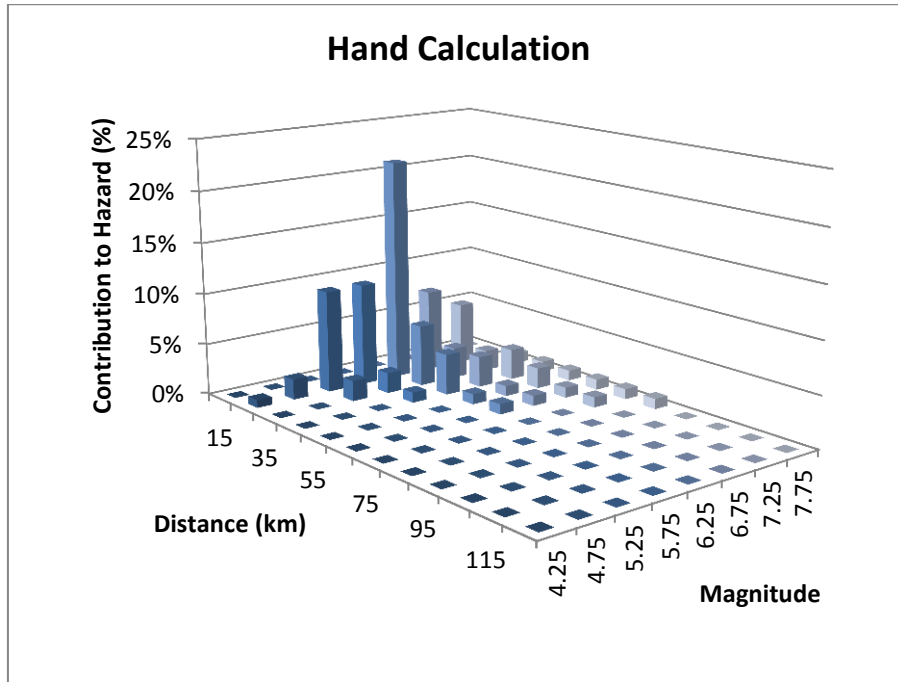


**Example 4.5** from the reference [1].

Model	Example 4.5		
Case 1	Single	Cornell (1979)	
Case 2	Multiple	$W_1 = 0.2$	Cornell (1979)
		$W_2 = 0.3$	Ambraseys (1975)
		$W_3 = 0.5$	Campbell (1989)
Case 3	Single (SA)	Ghasemi (2009)	
Case 4	Logic Tree	-	

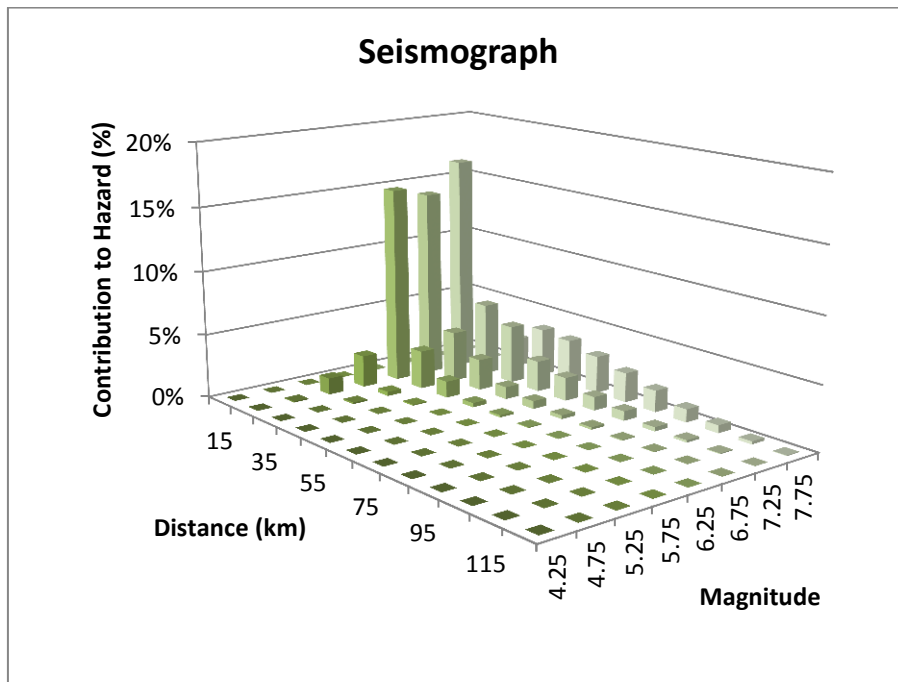
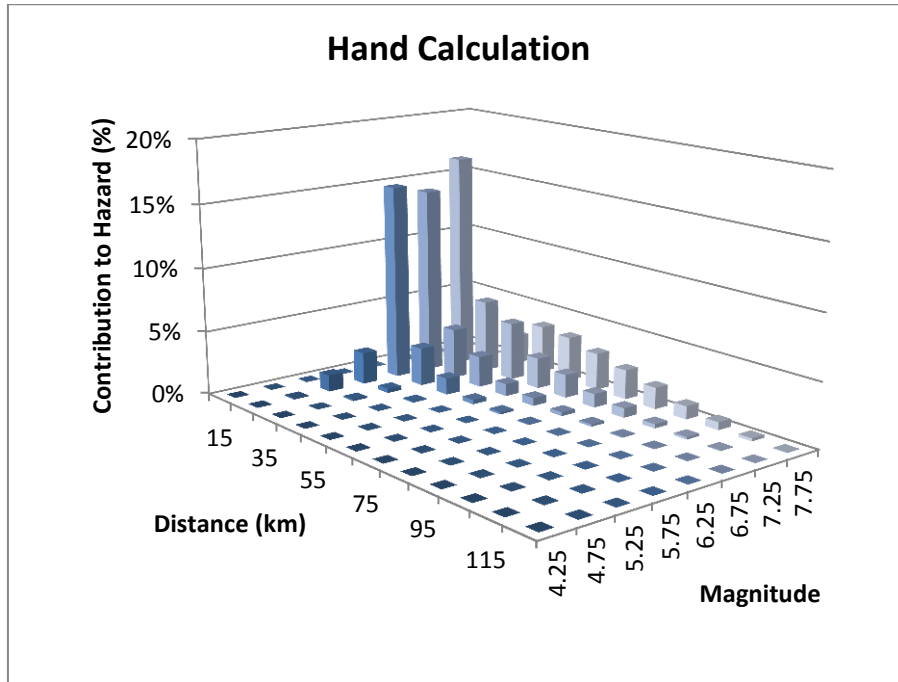
**Case 1 – Single GMPE (PGA)**

Deaggregation result for  $PGA \geq 0.26g$



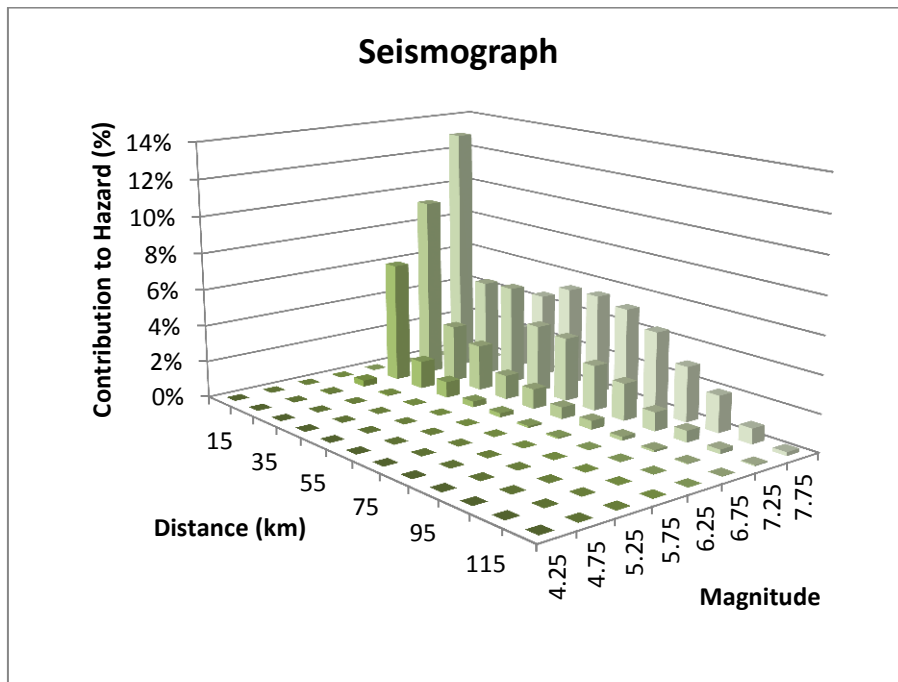
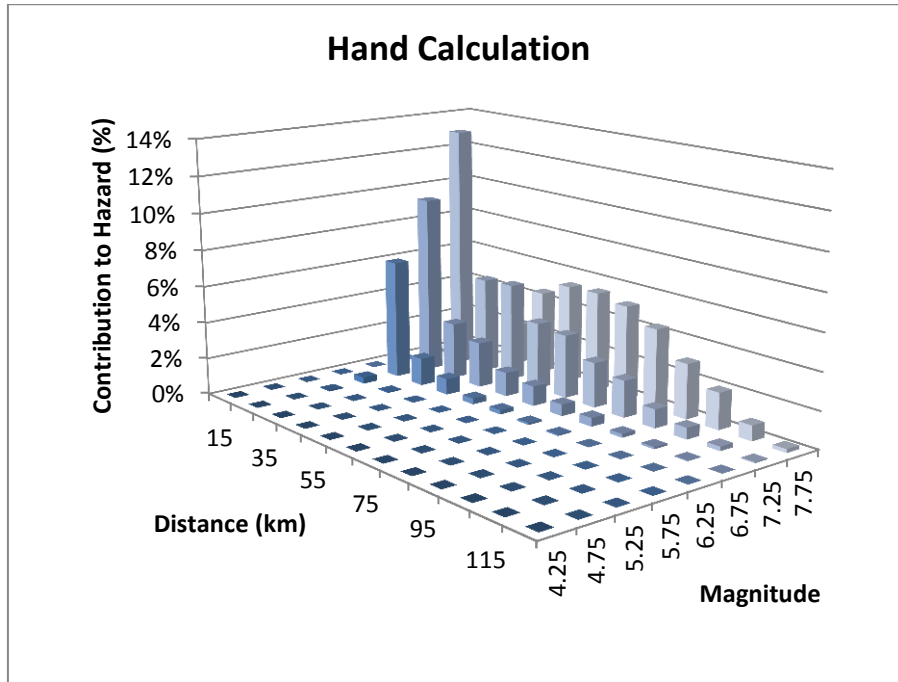
**Case 2 – Multiple GMPEs (PGA)**

Deaggregation result for  $PGA \geq 0.49g$

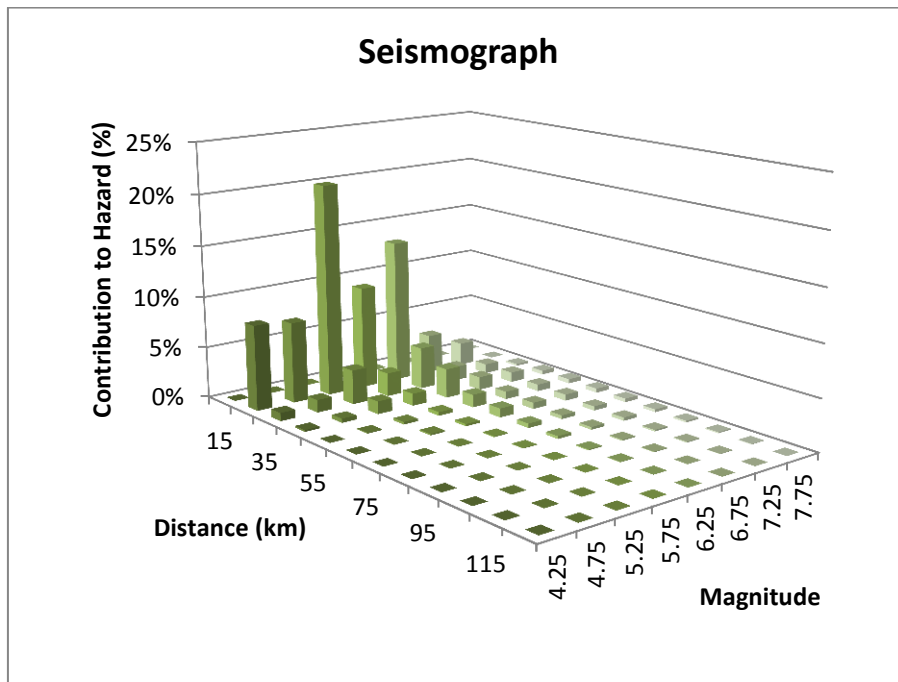
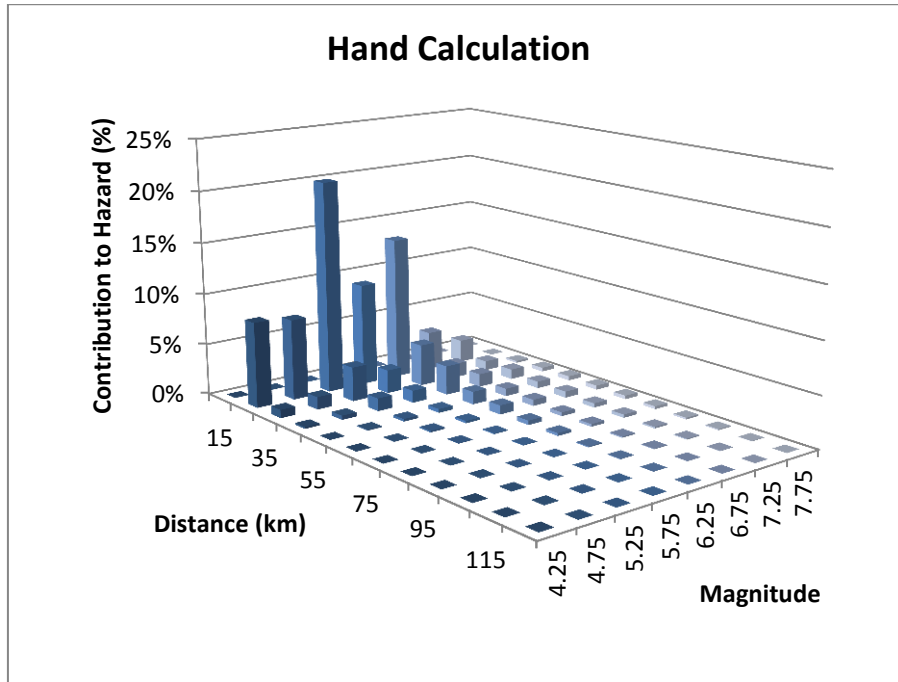


**Case 3 – Single GMPE (SA)**

Deaggregation result for  $SA_{(1.00 \text{ sec})} \geq 0.4g$

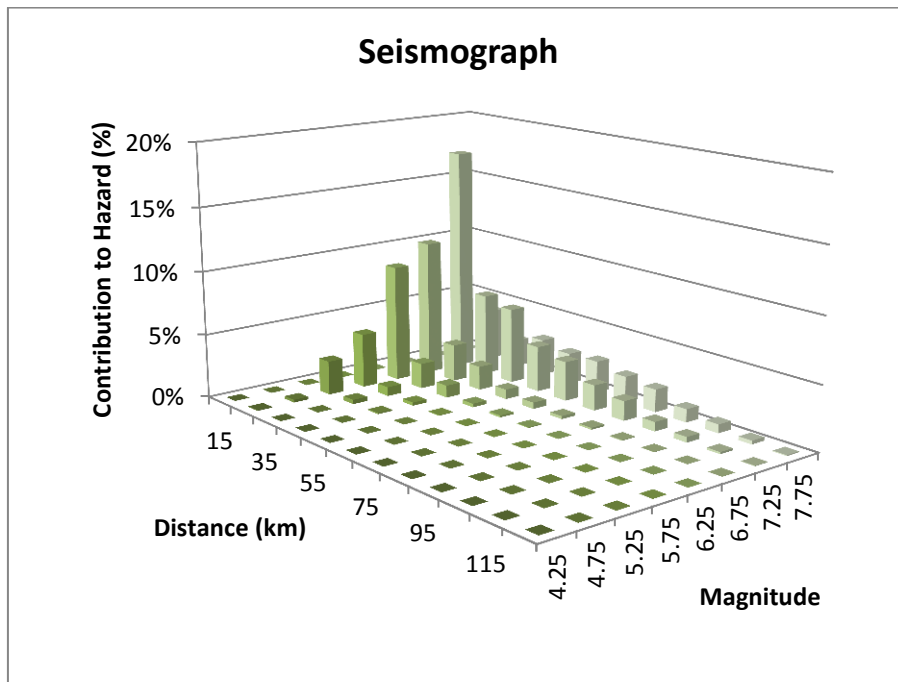
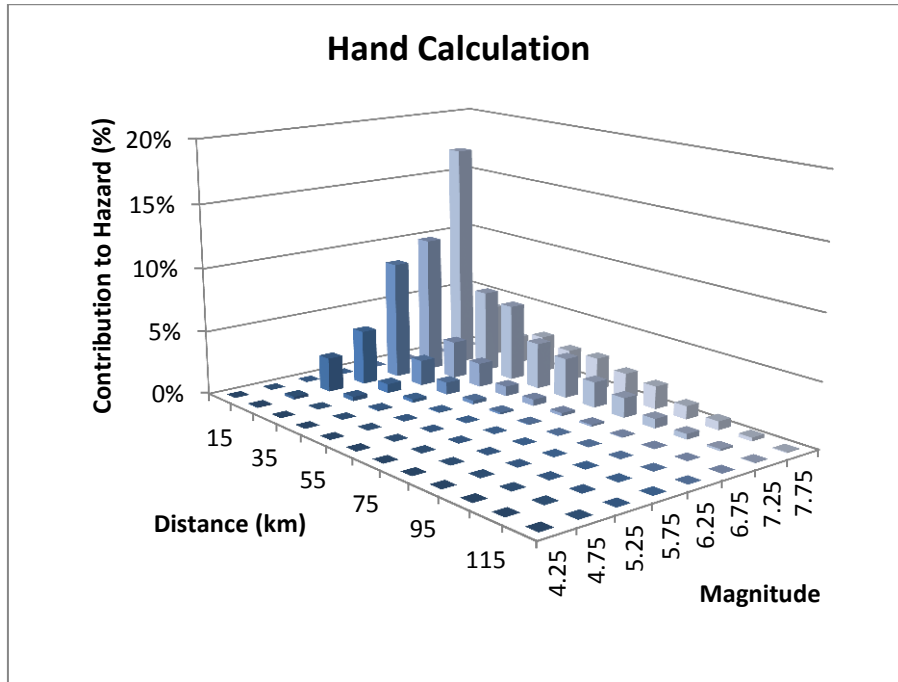


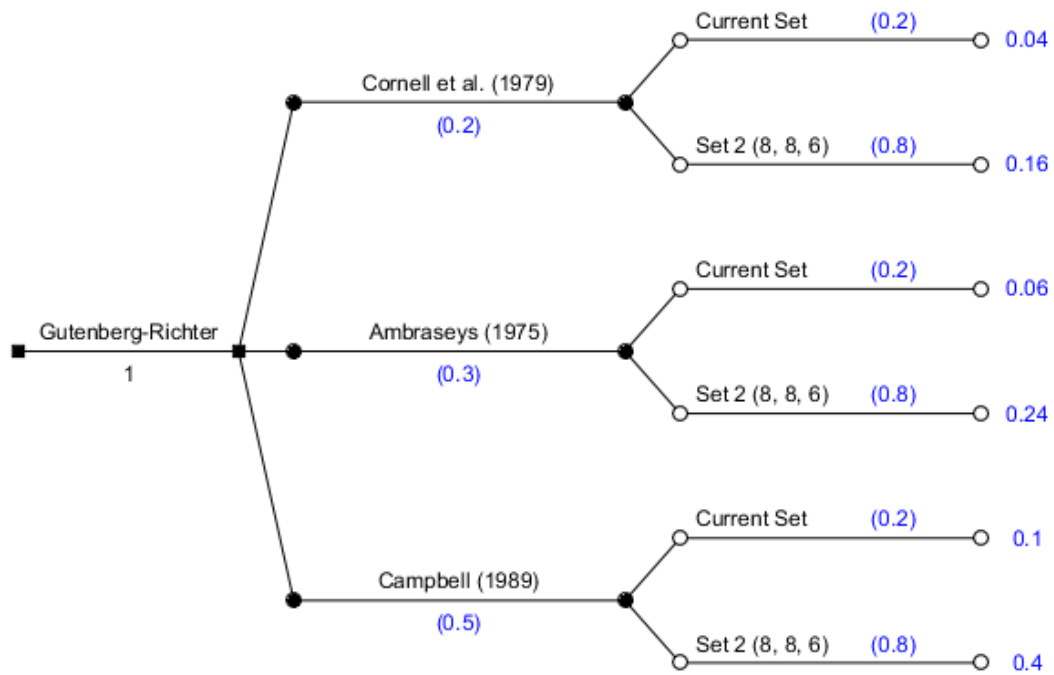
Deaggregation result for  $SA_{(0.05 \text{ sec})} \geq 0.25g$



### Case 4 – Logic Tree

Deaggregation result for  $PGA \geq 0.35g$





**Logic Tree Case:** Three attenuation models and two Magnitude sets have been used to build a simple logic tree for this example.



## REFERENCES

- [1] Kramer, S.L., 1996. Geotechnical Earthquake Engineering. Prentice-Hall, New Jersey.

**SEISMOGRAPH**

earthquake engineering software