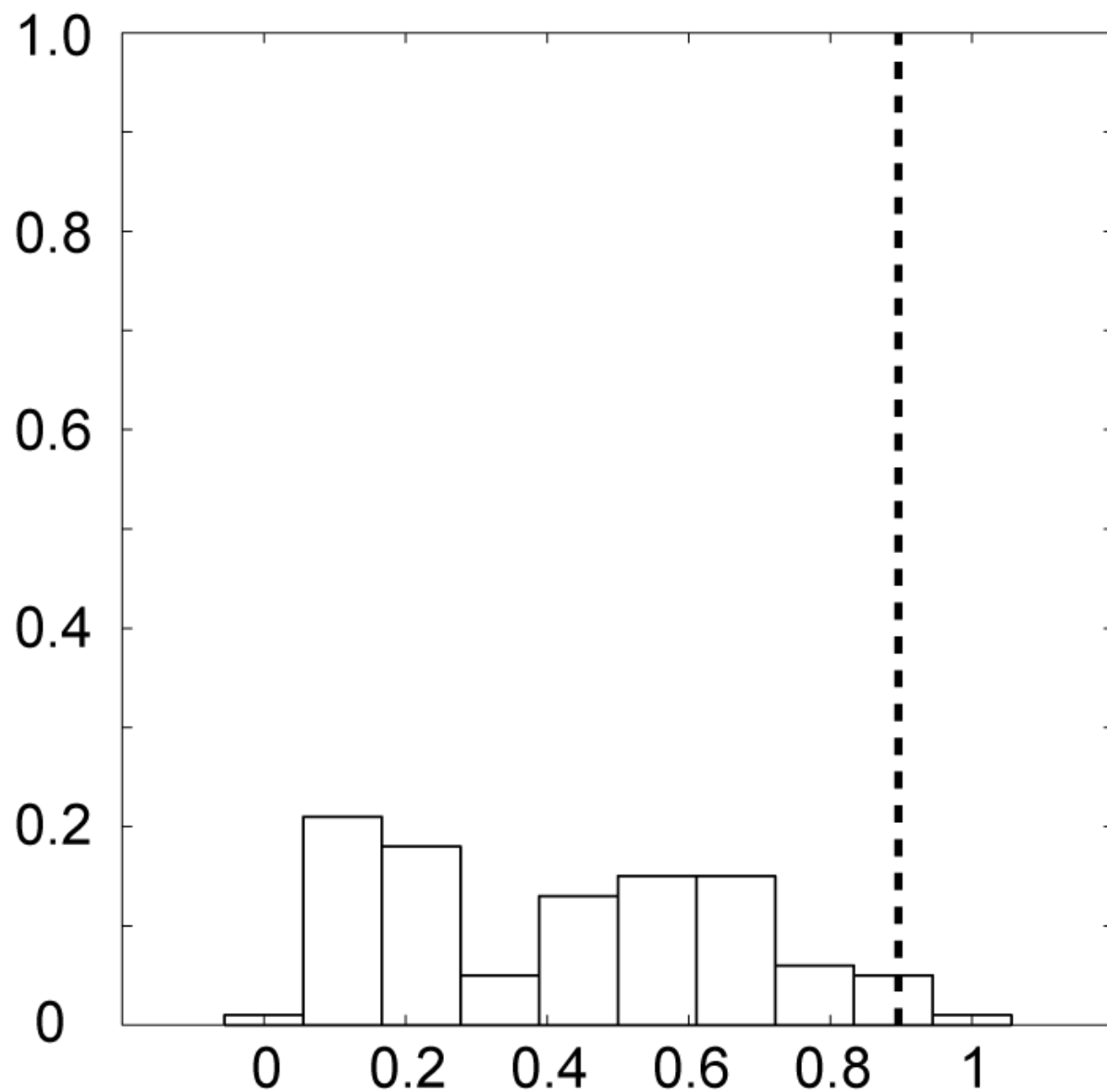


(a few simple thoughts on)  
Handling data uncertainties in evaluations

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Fraction of  
perturbed catalogs



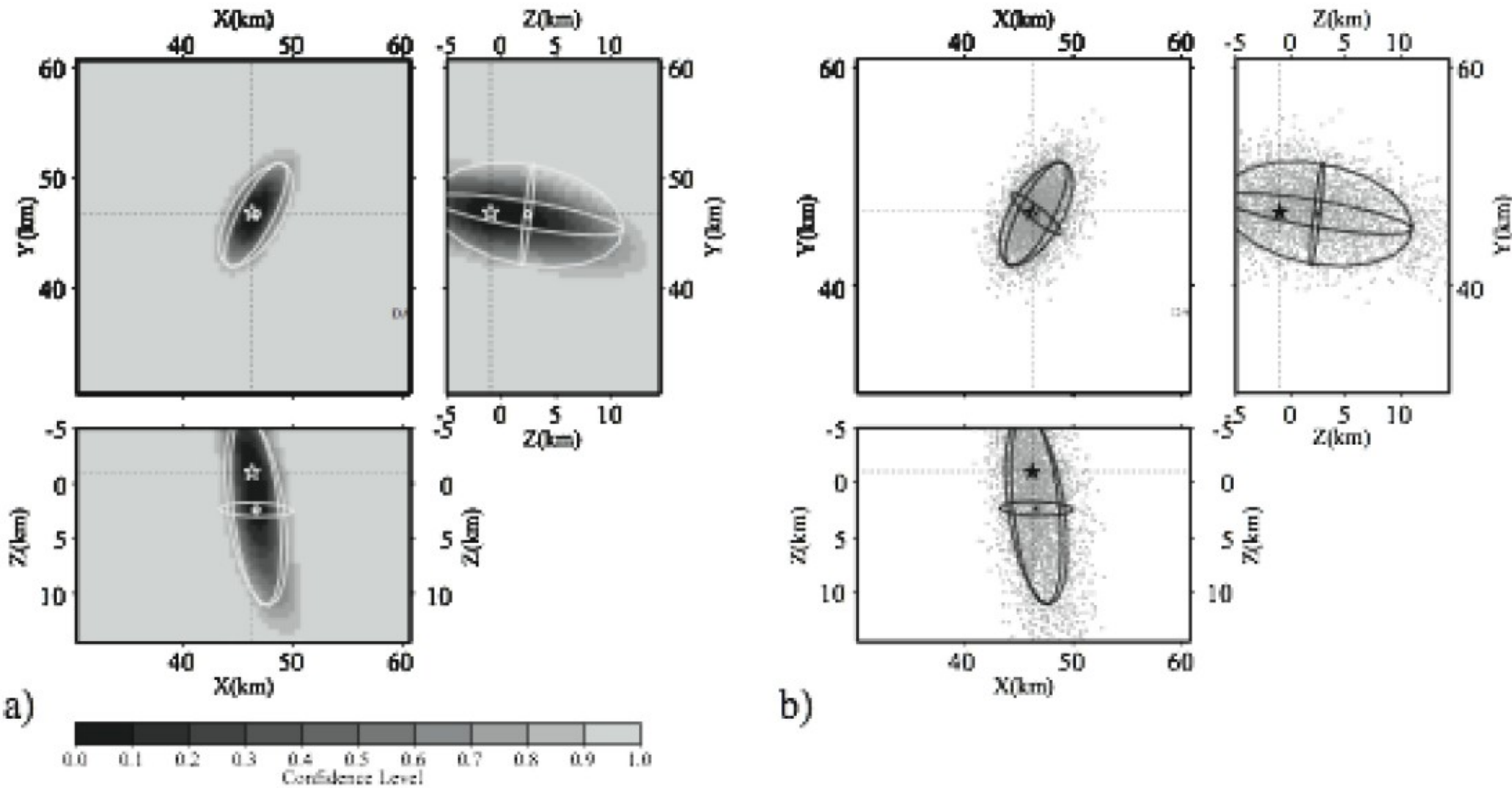
L-test p-value

**Table 6.** Results of comparison tests for each pair of models for the combined region and both years. For each cell, the row header indicates the reference model and the column header indicates the alternative model. In each cell we report the rate-corrected average information gain per earthquake and its confidence interval for the observed catalogue (first line), the  $p$ -value of the  $T$ -test (second line), the  $p$ -value of the  $W$ -test (third line), the mean rate-corrected average information gain with its standard deviation (fourth line) and the mean confidence interval with its standard deviation (fifth line). Note that the values on the fourth and fifth lines correspond to the perturbed catalogues.

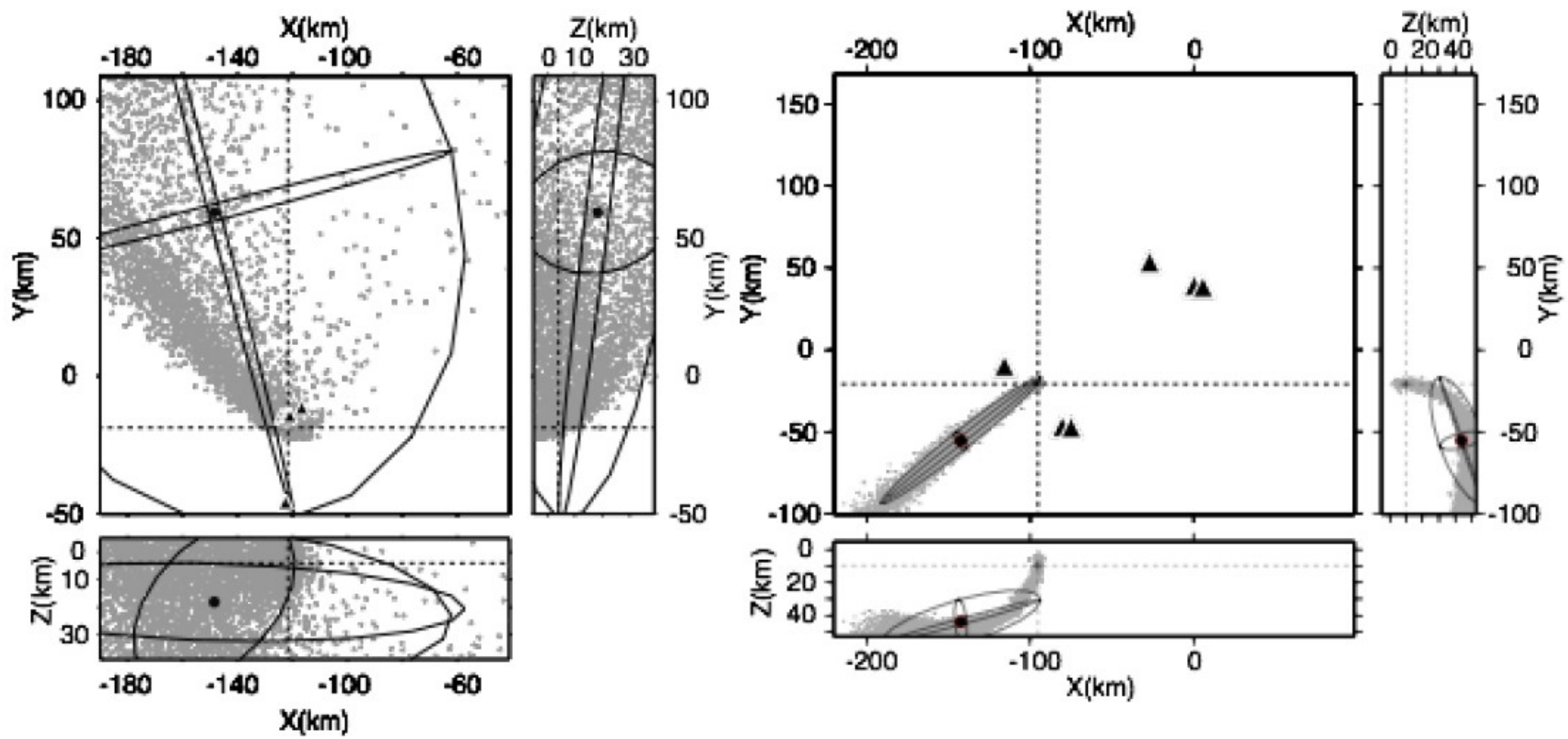
Comparison tests combined 2009–2010			
Model	DBM	KJSS	TripleS
DBM	n/a	$0.191 \pm 0.0781$ $P_T = 3.88e - 05$ $P_W = 2.54e - 07$ $0.174 \pm 0.0317$ conf. Int. $0.0834 \pm 0.00427$	$-0.124 \pm 0.193$ $P_T = 0.146$ $P_W = 1.19e - 05$ $0.557 \pm 1.41$ conf. Int. $1.16 \pm 2.14$

$$\sigma_{M_0} = 0.2 \times M_0$$

$$\sigma_{\text{lat/lon}} = 30 \text{ km}$$



**Figure 3.1.2.** Probabilistic location uncertainties of a relatively well-constrained earthquake location displayed as a) confidence regions and b) density scatterplots. Maximum likelihood hypocenter locations are marked with by stars; expectation hypocenter locations are marked by circles. Error ellipsoid corresponds to the 68% confidence ellipsoid as computed from the samples of the location pdf. Modified from Husen et al. (2003).



**Figure 3.1.3.** Density scatterplots of two poorly-constrained earthquake locations recorded by the Swiss Digital Seismic Network. Maximum likelihood hypocenter locations are marked by the intersection of dashed lines. Black circles mark expectation hypocenter locations. Error ellipsoid corresponds to the 68% confidence ellipsoid as computed from the samples of the location pdf. Black triangles denote station locations. Note that for these location pdf the error ellipsoid does not present an adequate representation of the location uncertainties. Modified from *Husen et al. (2003)*.

# What are the differences?

