

Risk estimates

Risk estimates are obtained using **R-INLA**, <http://www.r-inla.org>

Settings:

Spatial model: Besag et al. (1991)

Spatio-temporal model: Bernardinelli et al. (1995)

- Besag J, York J, Mollie A (1991). “Bayesian image restoration with applications in spatial statistics (with discussion).” *Annals of the Institute of Statistical Mathematics*, 43, 1-59
- Bernardinelli L, Clayton DG, Pascutto C, Montomoli C, Ghislandi M, Songini M (1995). “Bayesian analysis of space-time variation in disease risk.” *Statistics in Medicine*, 14, 2433-2443
- Rue H, Martino S, Chopin N (2009). “Approximate Bayesian inference for latent Gaussian models by using integrated nested Laplace approximations.” *Journal of the Royal Statistical Society, Series B*, 71(2), 319-392
- Lindgren F, Rue H (2015). “Bayesian Spatial Modelling with R-INLA.” *Journal of Statistical Software*, 63(19), 1-25

Detection of clusters

Detection of clusters is done using the **SaTScan** software. Users need to download SaTScan from <http://www.satscan.org>. Then, they need to install it and place the SaTScanBatch64 executable in the SpatialEpiApp/SpatialEpiApp/ss folder which is located in the R library path.

Settings:

Maximum population: 50%

Monte Carlo simulations: 999

- Kulldorff M (1997). “A spatial scan statistic.” *Communications in Statistics - Theory and Methods*, 26(1), 1481-1496.
- Kulldorff M (2006a). SaTScan(TM) v. 7.0. Software for the spatial and space-time scan statistics. URL <http://www.satscan.org>.