### 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 Mathemathics, 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>.