Supplementary materials
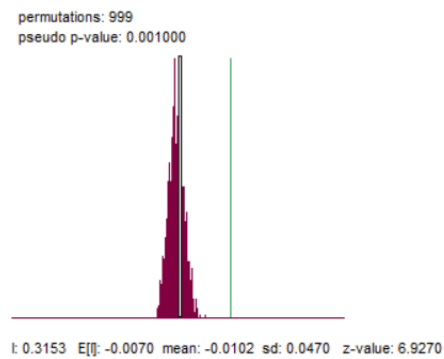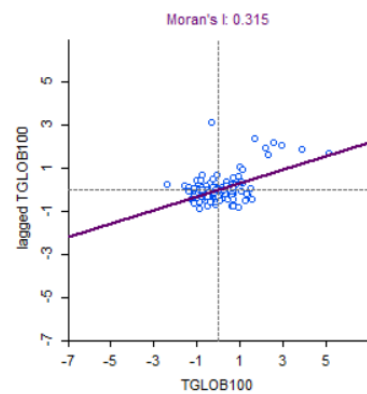
First-order contiguity matrix.
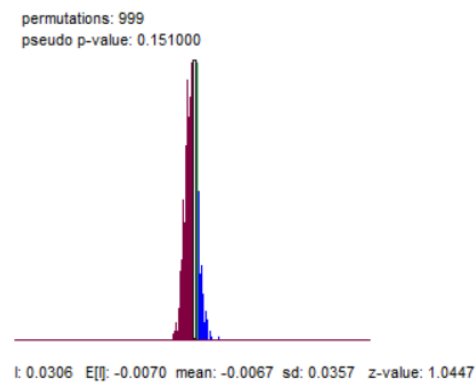
Second order contiguity matrix.

Inverse distance matrix.

Moran residuals with first-order contiguity matrix.

Moran residuals with second-order contiguity matrix.
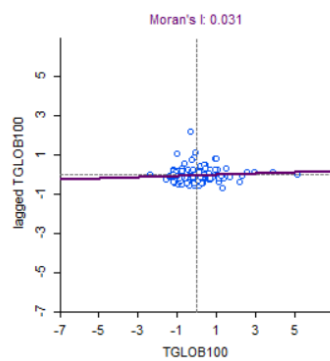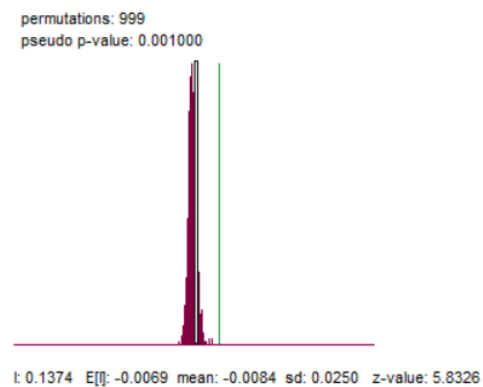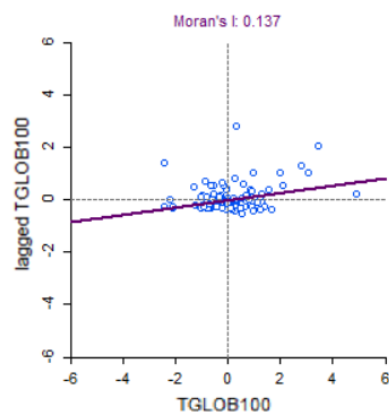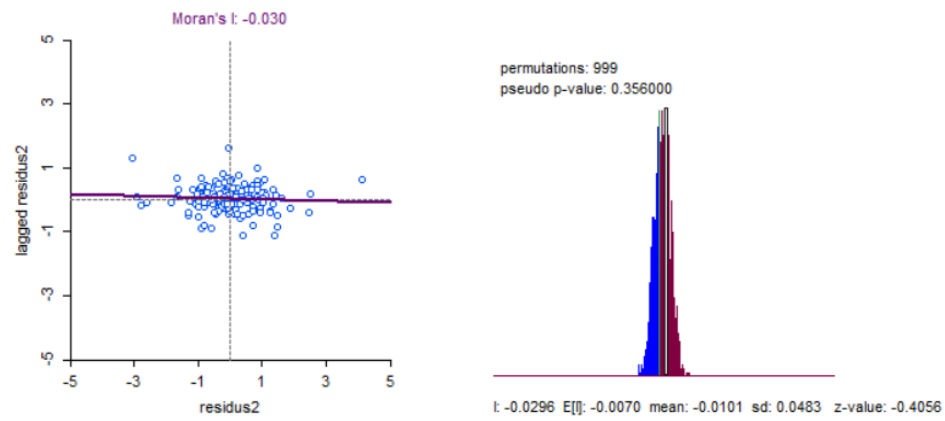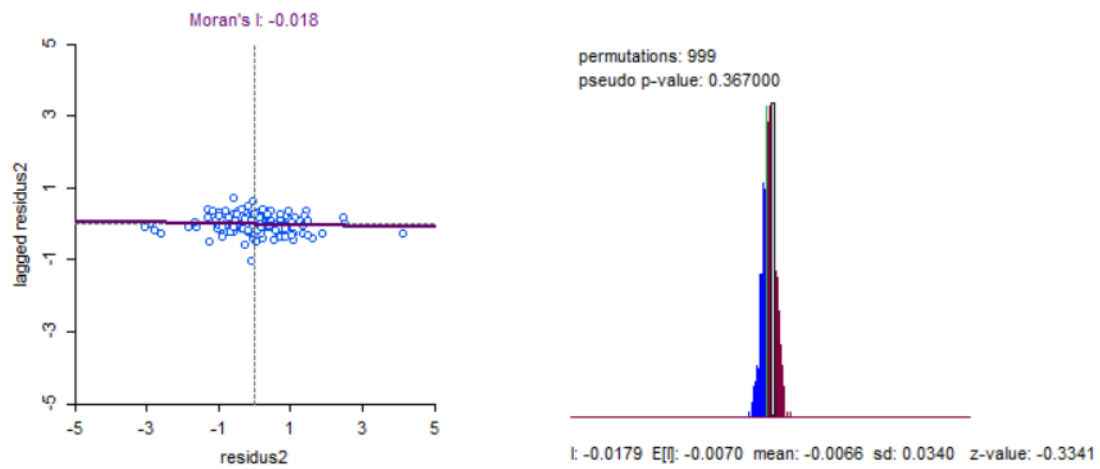
```
Call:
lm(formula = TBstd ~ idhl_std + tcom_std + hlmv_std + imm_std +
    scol_std, data = baseCovid_std)

Residuals:
    Min      1Q  Median      3Q     Max
-2.3583 -0.4349 -0.0402  0.4472  3.1699

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  8.543e-17  6.514e-02   0.000 1.000000
idhl_std    -3.191e-01  1.629e-01  -1.958 0.052190 .
tcom_std    -3.252e-01  8.947e-02  -3.635 0.000392 ***
hlmv_std     2.571e-01  1.080e-01   2.380 0.018667 *
imm_std      2.183e-01  1.059e-01   2.061 0.041172 *
scol_std    -1.229e-01  6.741e-02  -1.824 0.070373 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.7817 on 138 degrees of freedom
Multiple R-squared:  0.4103,    Adjusted R-squared:  0.389
F-statistic:  19.2 on 5 and 138 DF,  p-value: 1.786e-14
```

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DIAGNOSTICS FOR SPATIAL DEPENDENCE
FOR WEIGHT MATRIX : NIZZA_3
   (row-standardized weights)
TEST                          MI/DF        VALUE        PROB
Moran's I (error)            -0.0296      -0.1332       0.89405
Lagrange Multiplier (lag)       1          0.0084       0.92691
Robust LM (lag)                 1          1.7515       0.18569
Lagrange Multiplier (error)     1          0.3486       0.55492
Robust LM (error)               1          2.0916       0.14811
Lagrange Multiplier (SARMA)     2          2.1000       0.34993
============================== END OF REPORT ==================================
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Regression withGeoda, weightmatrix: first-order contiguity.