

Informe TFM

El siguiente informe recoge,

por un lado, una **descripción de resultados gráficos**:

- *Mapa de Valencia* dividido por secciones censales por cada causa de mortalidad a estudio (total de 22 mapas). Representación gráfica de los riesgos relativos obtenidos como resultado de su cálculo mediante los siguientes modelos espaciales basados en la distribución de Leroux: LCAR1 + variable privación (como efecto aleatorio y con Random Walk de orden 1 (RW1)), LCAR1 espacial, LCAR2 RW1 y LCAR2 RW2.
- *Gráficos de dispersión* obtenidos a partir de análisis con modelos de suavización LOESS, Rango privación vs log(Riesgos relativos), para cada una de las causas de mortalidad a estudio (total de 22 figuras). Como finalidad, tratamos de estudiar de manera visual cómo cada modelo relaciona la variable privación con el riesgo relativo asociado a cada sección censal.

por otro lado, una **descripción de resultados numérica**:

- Tablas recopilatorias del valor medio de λ_1 y λ_2 , así como sus correspondientes intervalos de credibilidad del 95%, valores del estadístico DIC y el cociente de la varianza del Riesgo relativo obtenida a partir de los modelos de suavizado LOESS entre la varianza de la RME suavizada obtenida con los modelos bayesianos. Código estadístico de Spearman para EPOC y Enfermedad Hepática y Cirrosis.

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## Warning: package 'ggplot2' was built under R version 4.3.3
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Descripción gráfica de los resultados



Figure 1: Sida: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación

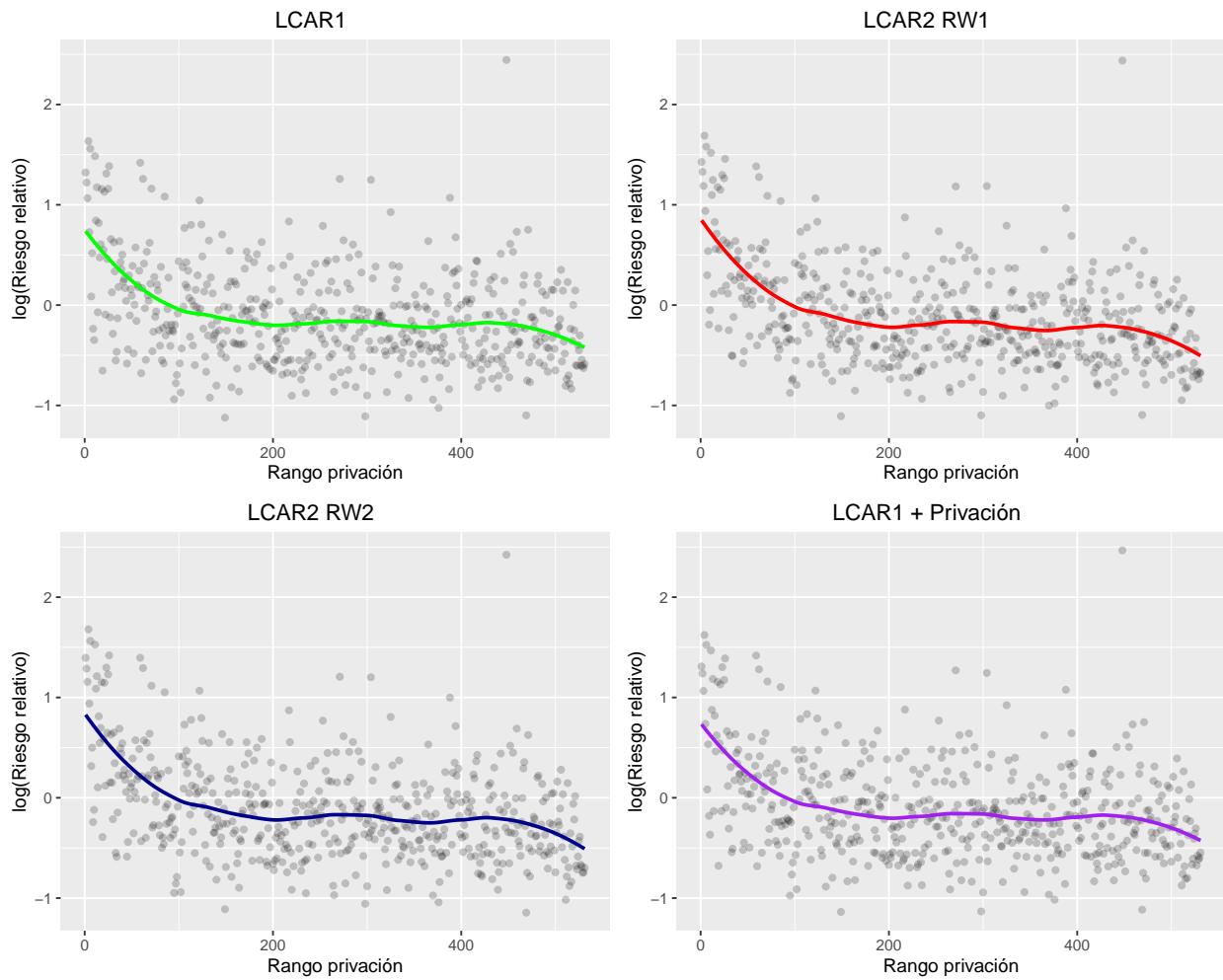


Figure 2: Sida: LOESS. Asociación con variable privación



Figure 3: Cáncer de estómago: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación

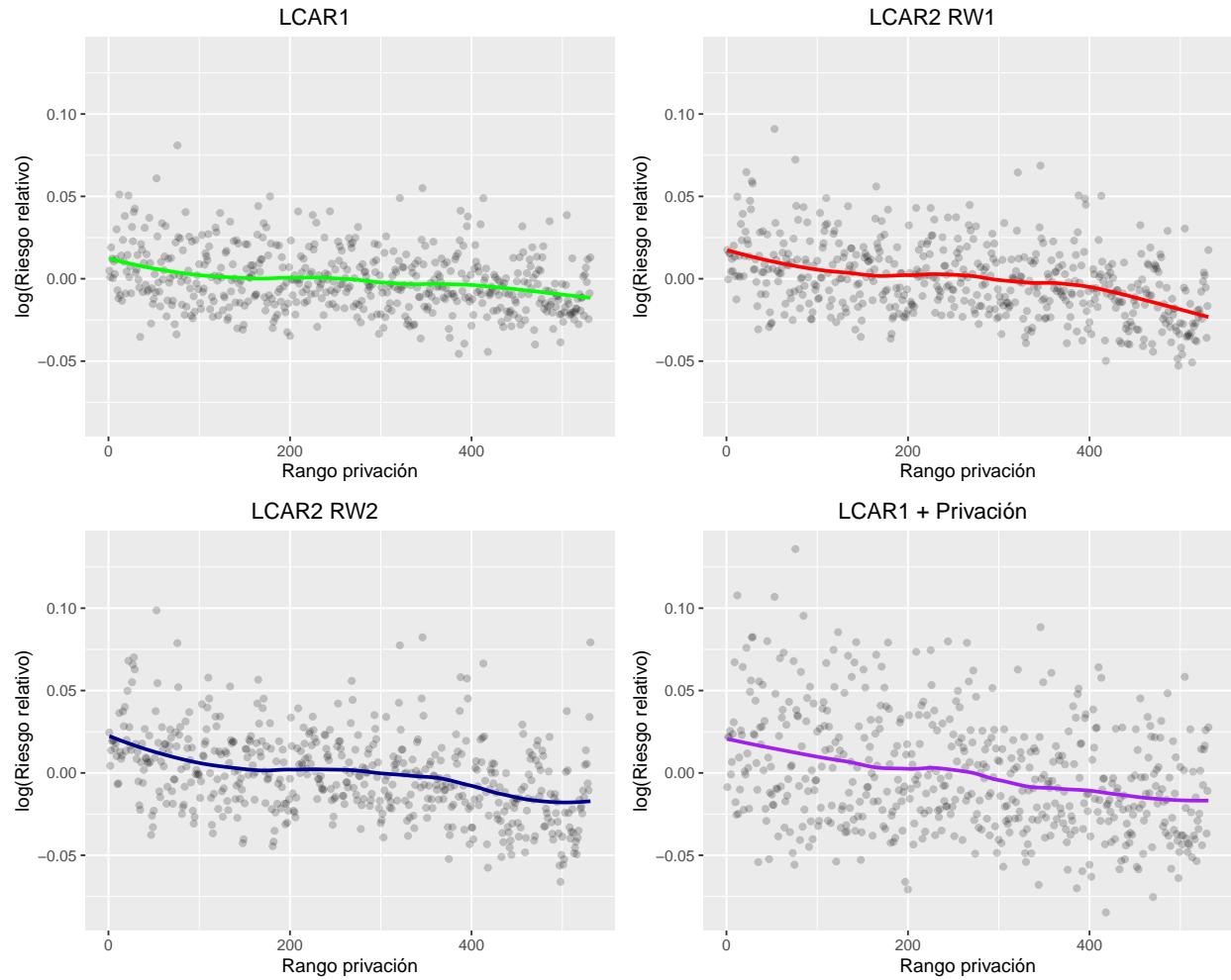


Figure 4: Cáncer estómago: LOESS. Asociación con variable privación



Figure 5: cancercolon: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación

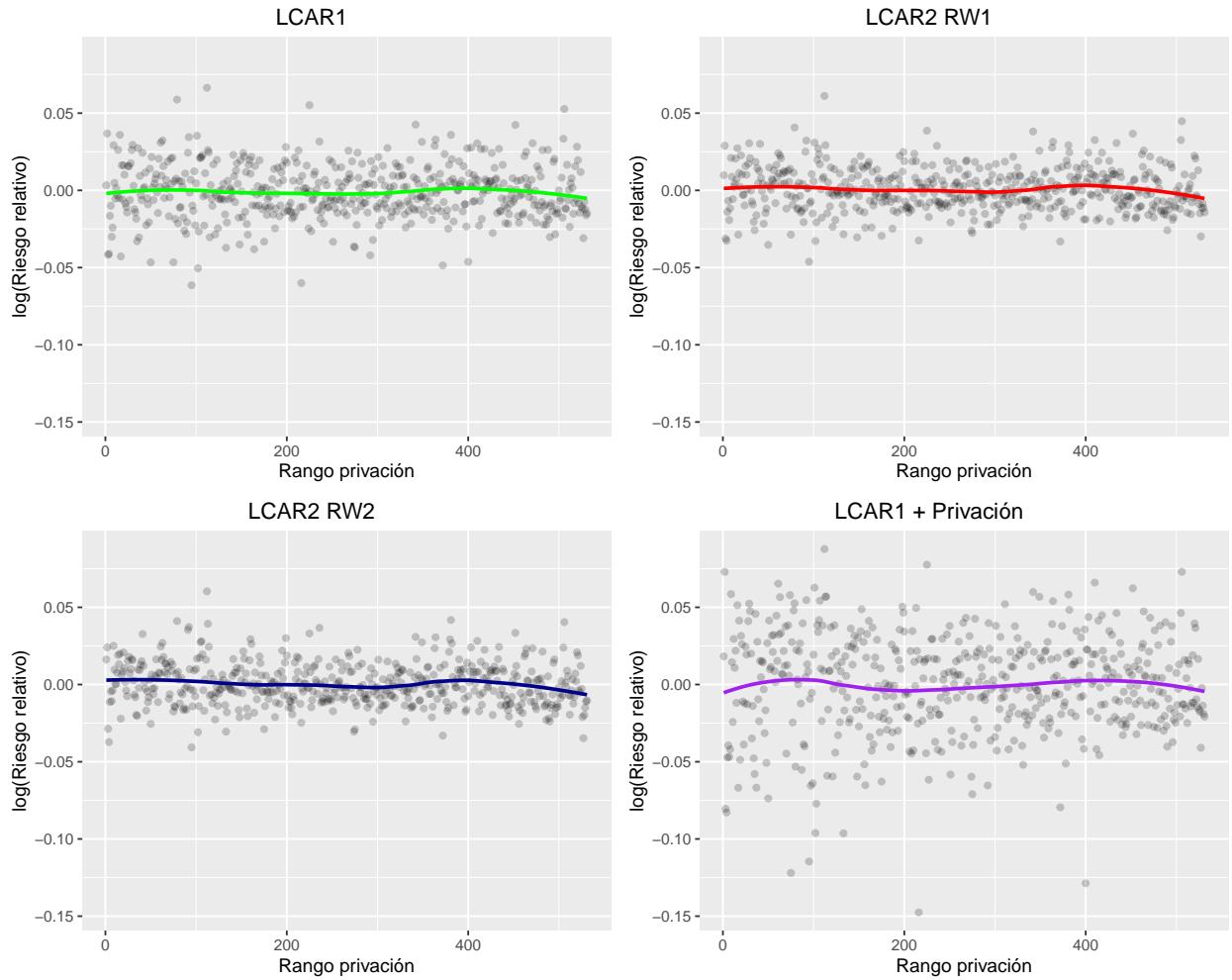


Figure 6: Cáncer colon: LOESS. Asociación con variable privación

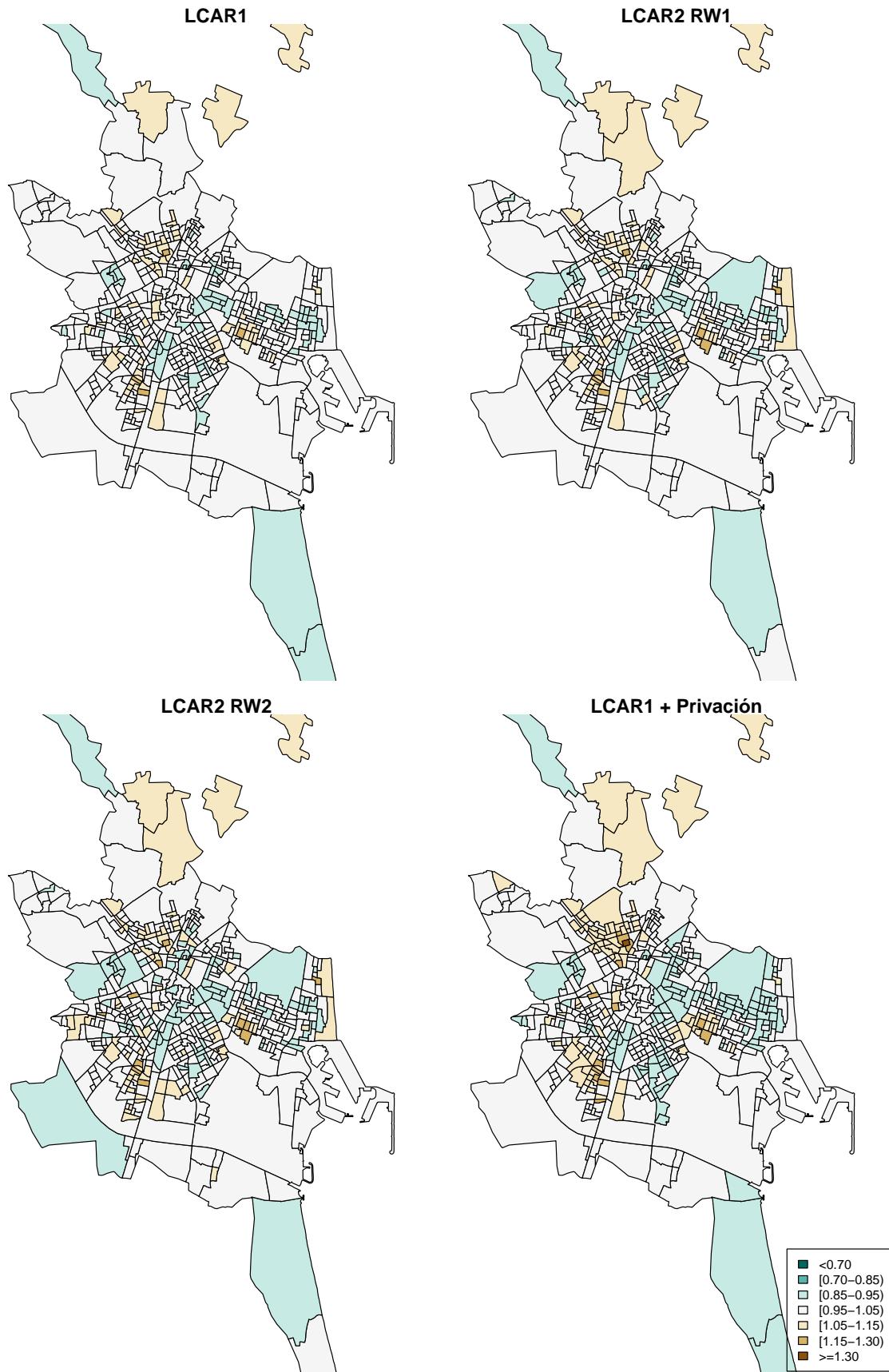


Figure 7: cancerrecto: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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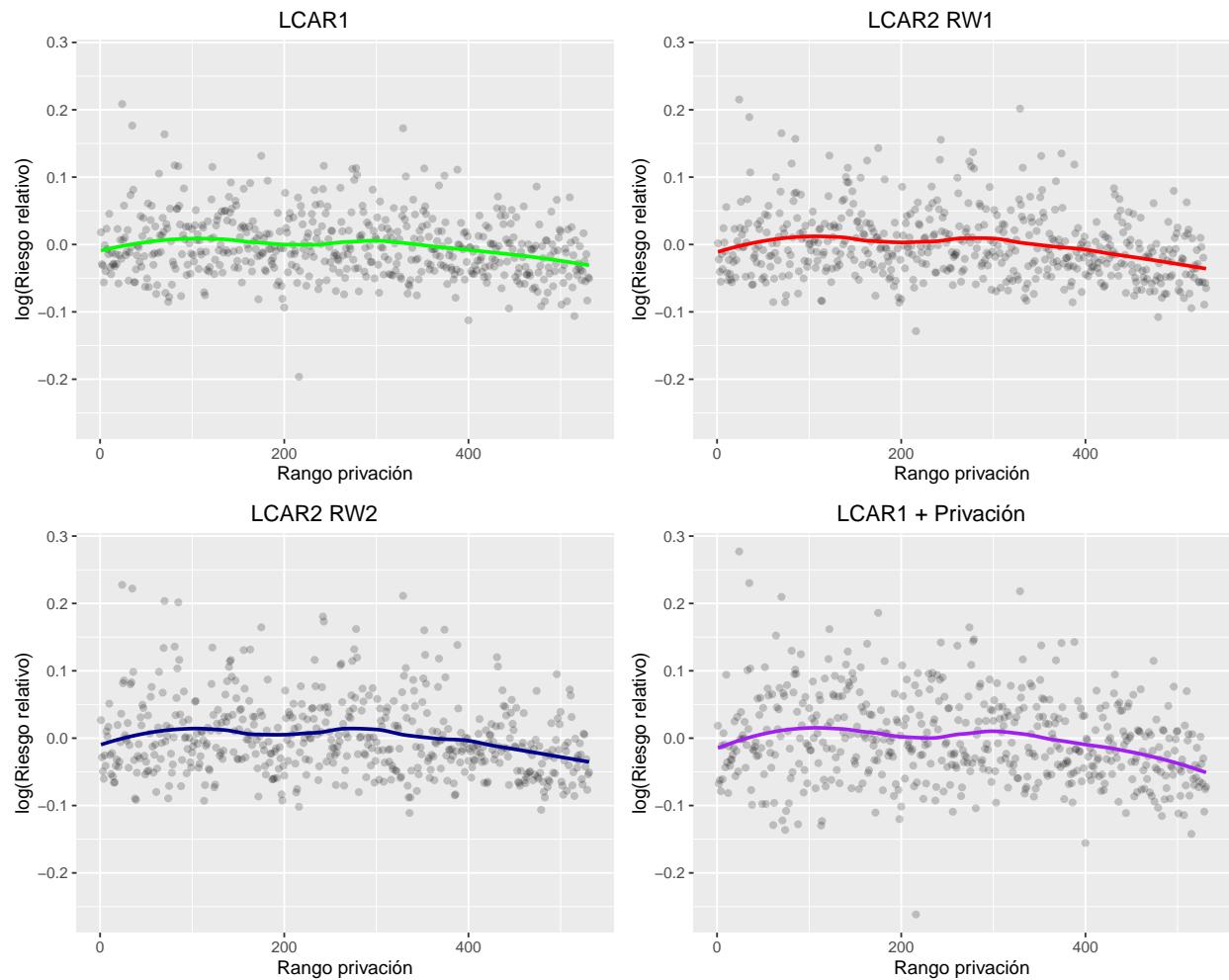


Figure 8: Cáncer de recto: LOESS. Asociación con variable privación



Figure 9: cancercolorectal: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
11

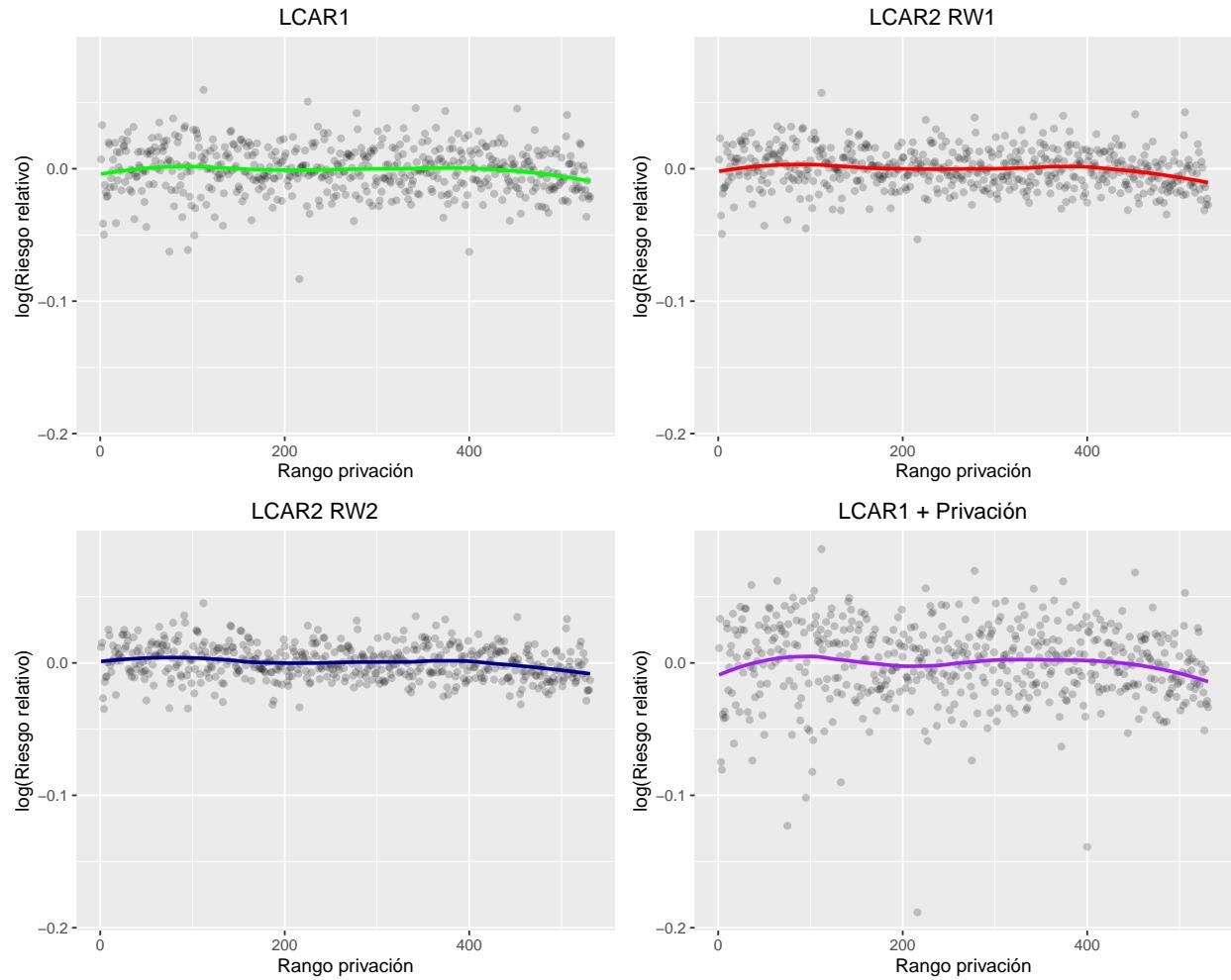


Figure 10: Cáncer colorectal: LOESS. Asociación con variable privación

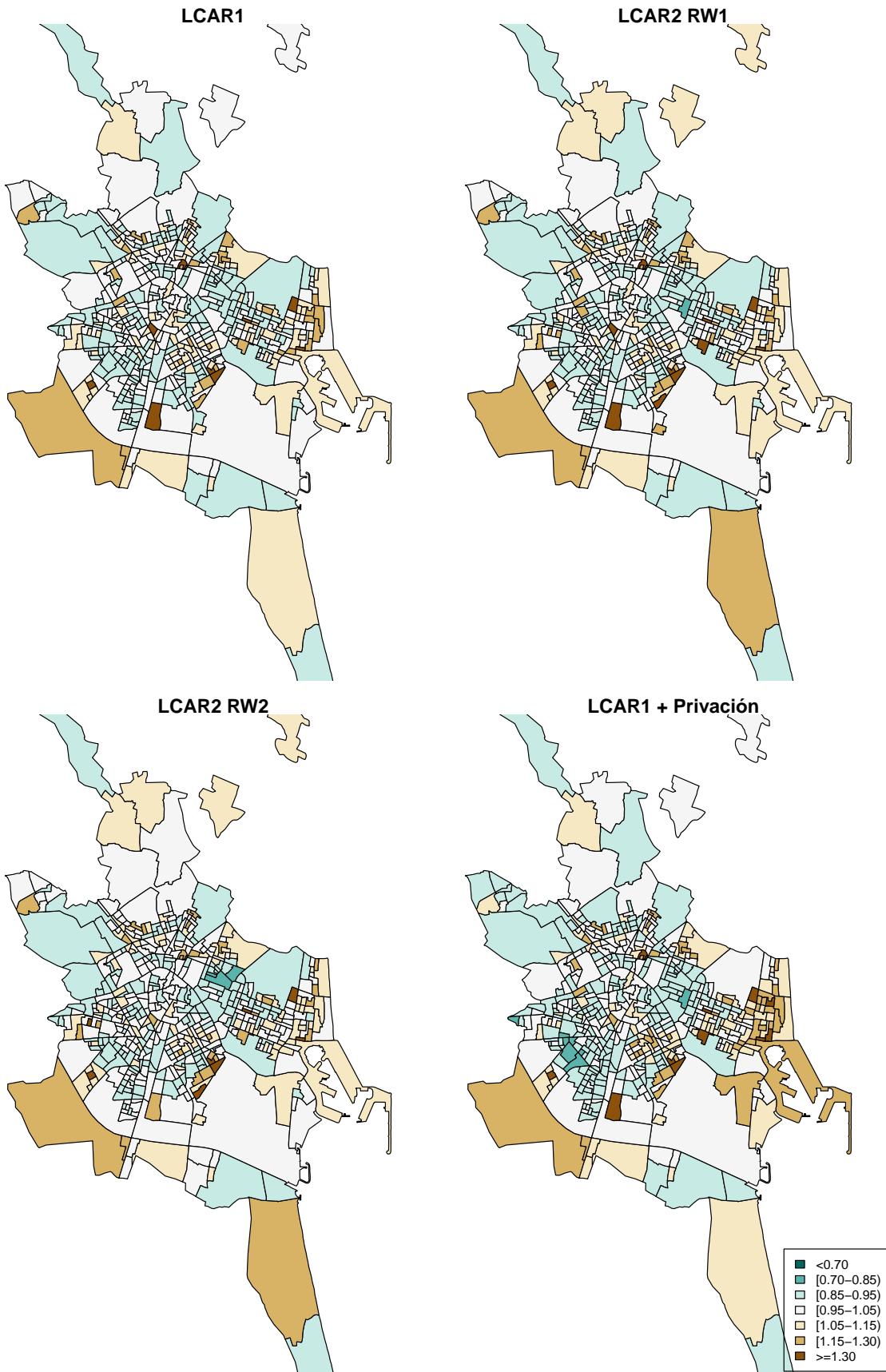


Figure 11: Cáncer de laringe: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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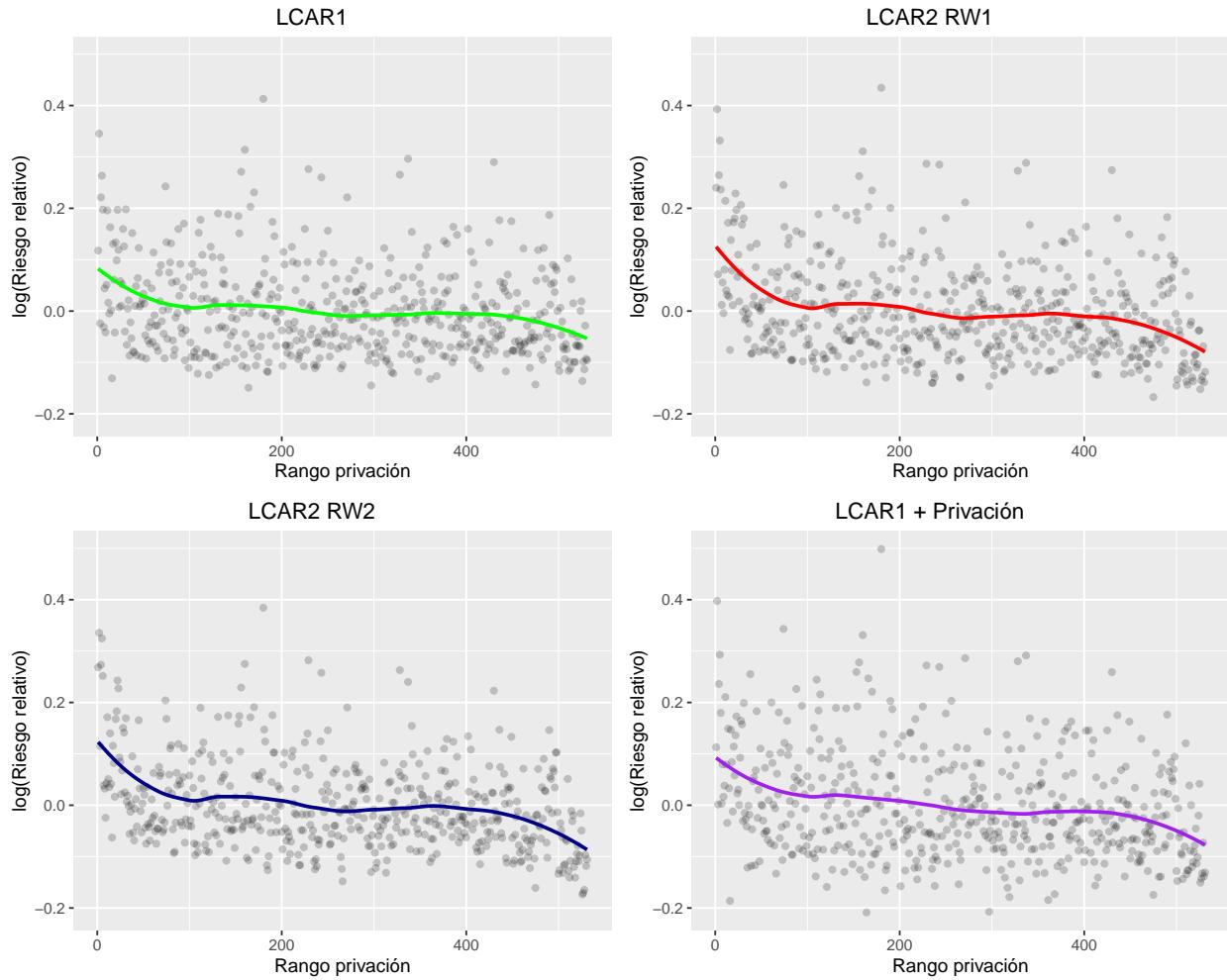


Figure 12: Cáncer de laringe: LOESS. Asociación con variable privación

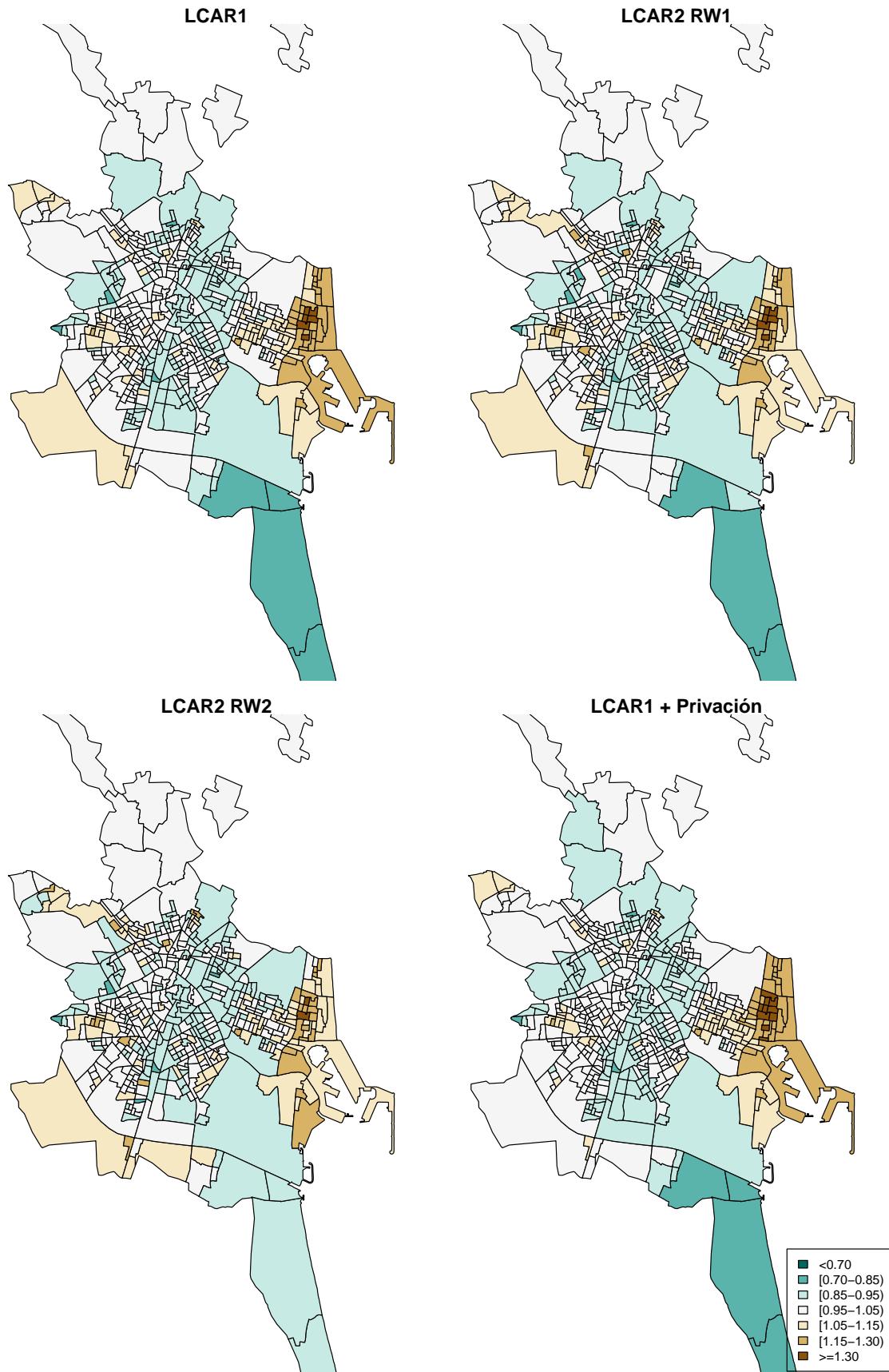


Figure 13: cancerpulmon: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
15

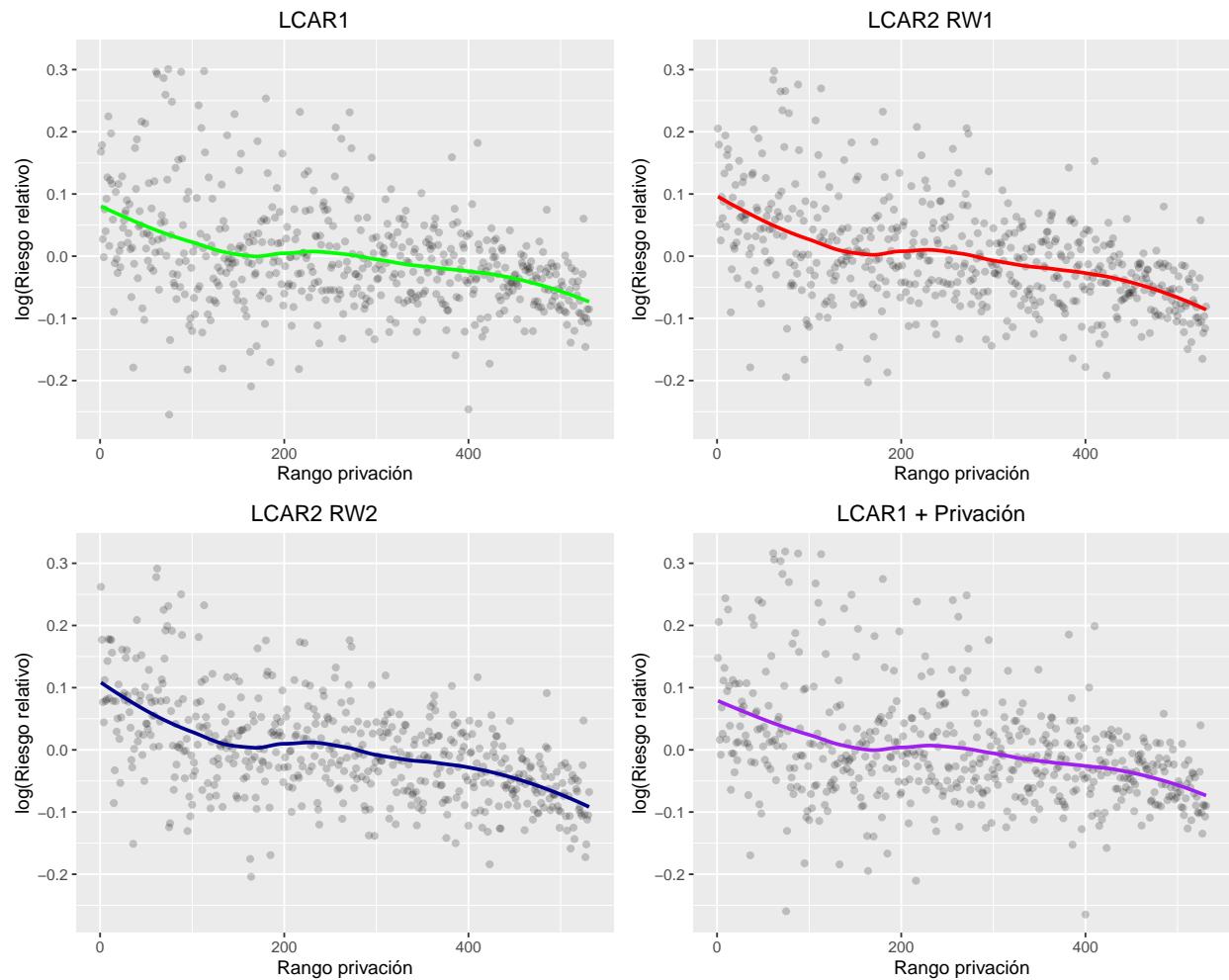


Figure 14: Cáncer de pulmón: LOESS. Asociación con variable privación



Figure 15: cancermama: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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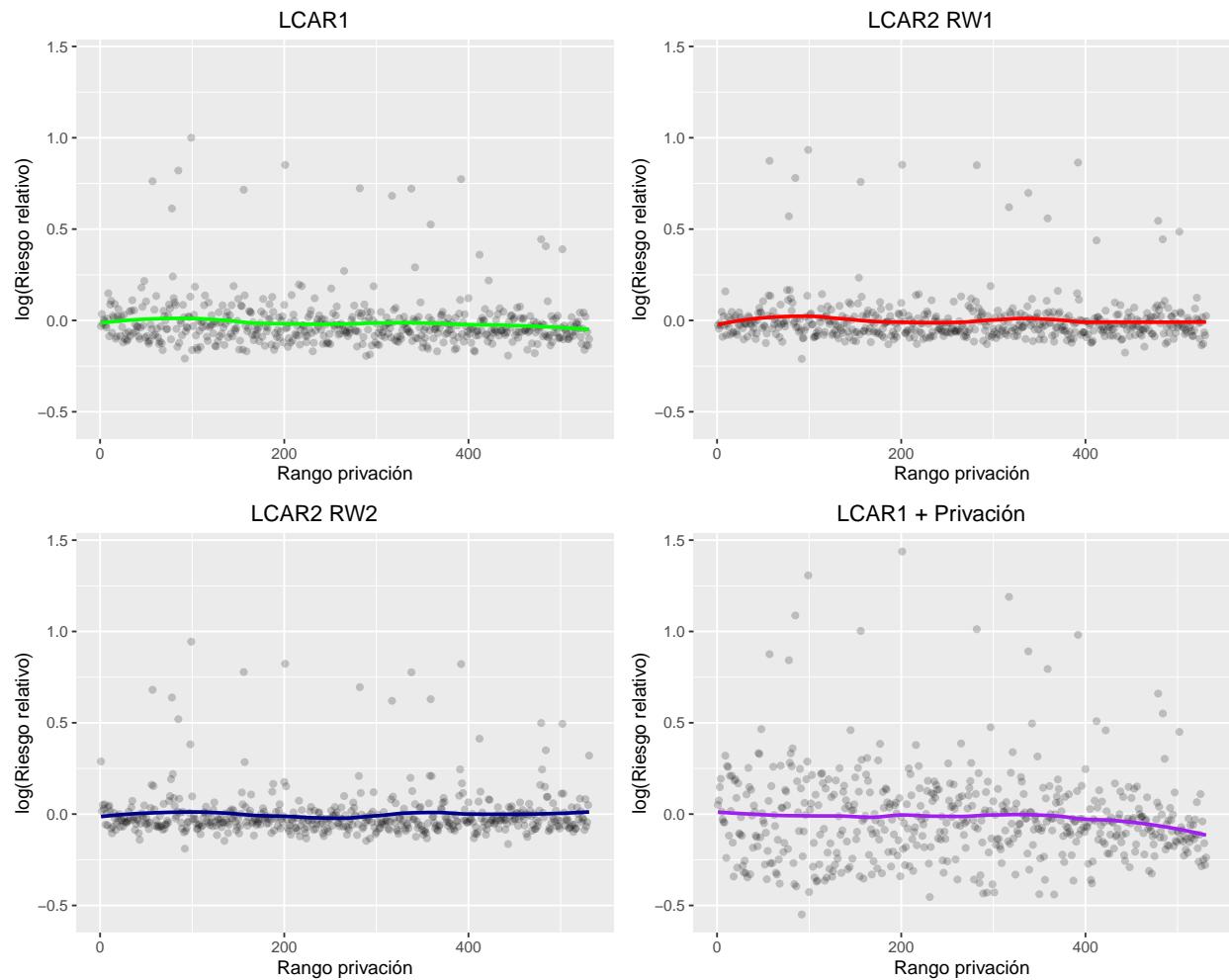


Figure 16: Cáncer de mama: LOESS. Asociación con variable privación



Figure 17: cancerprostata: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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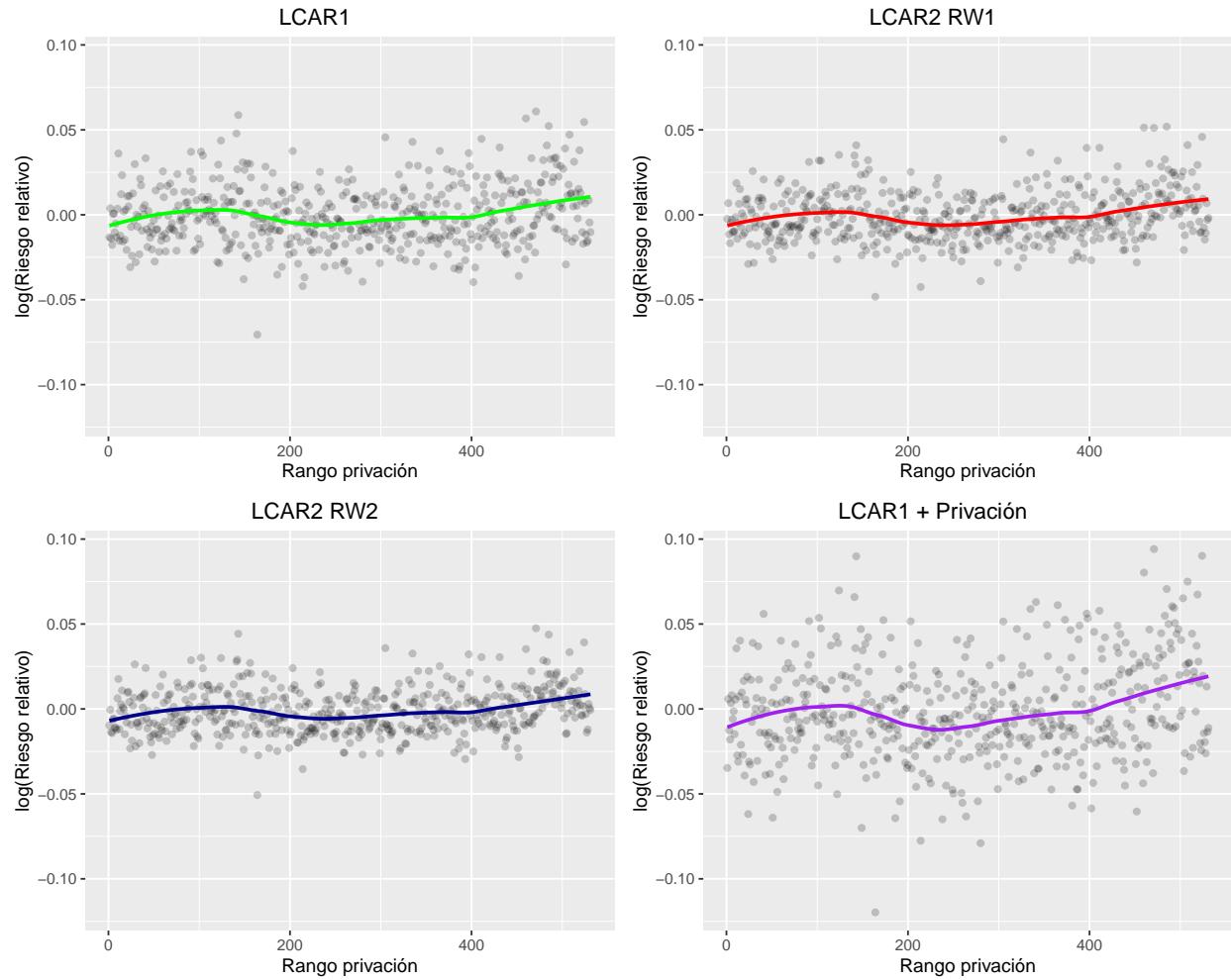


Figure 18: Cáncer de próstata: LOESS. Asociación con variable privación



Figure 19: canervejiga: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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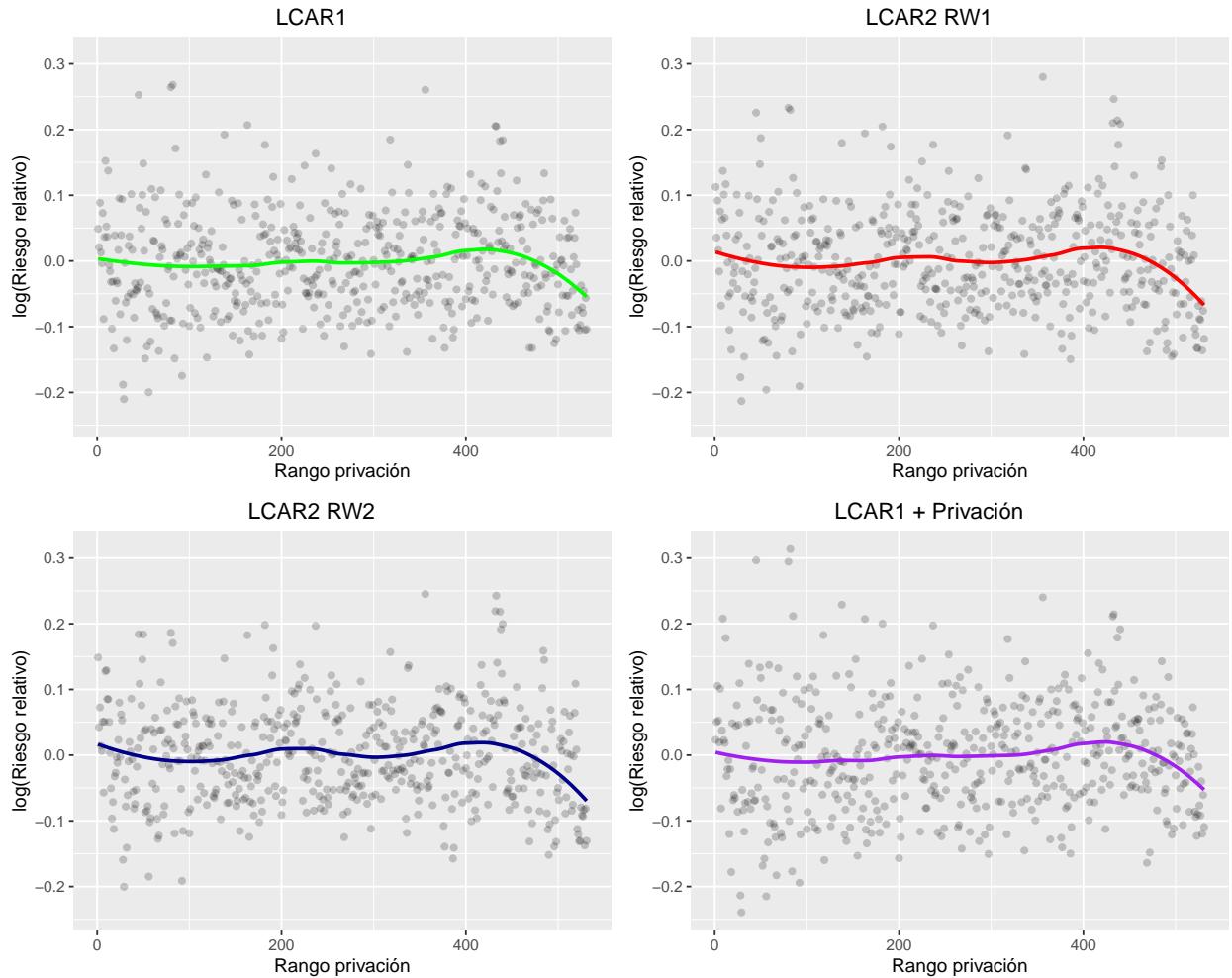


Figure 20: Cáncer de vejiga: LOESS. Asociación con variable privación

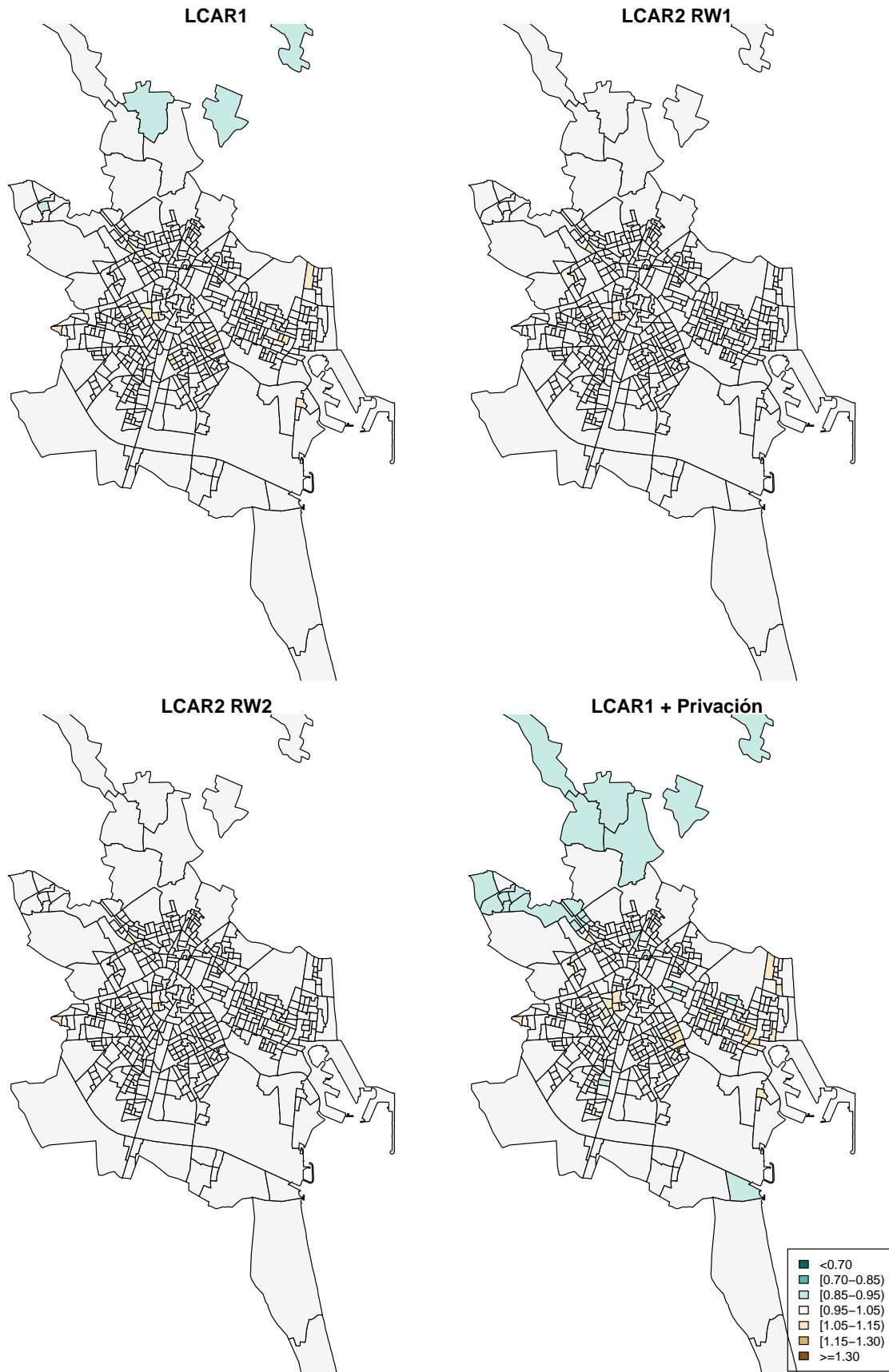


Figure 21: cancerhemato: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
23

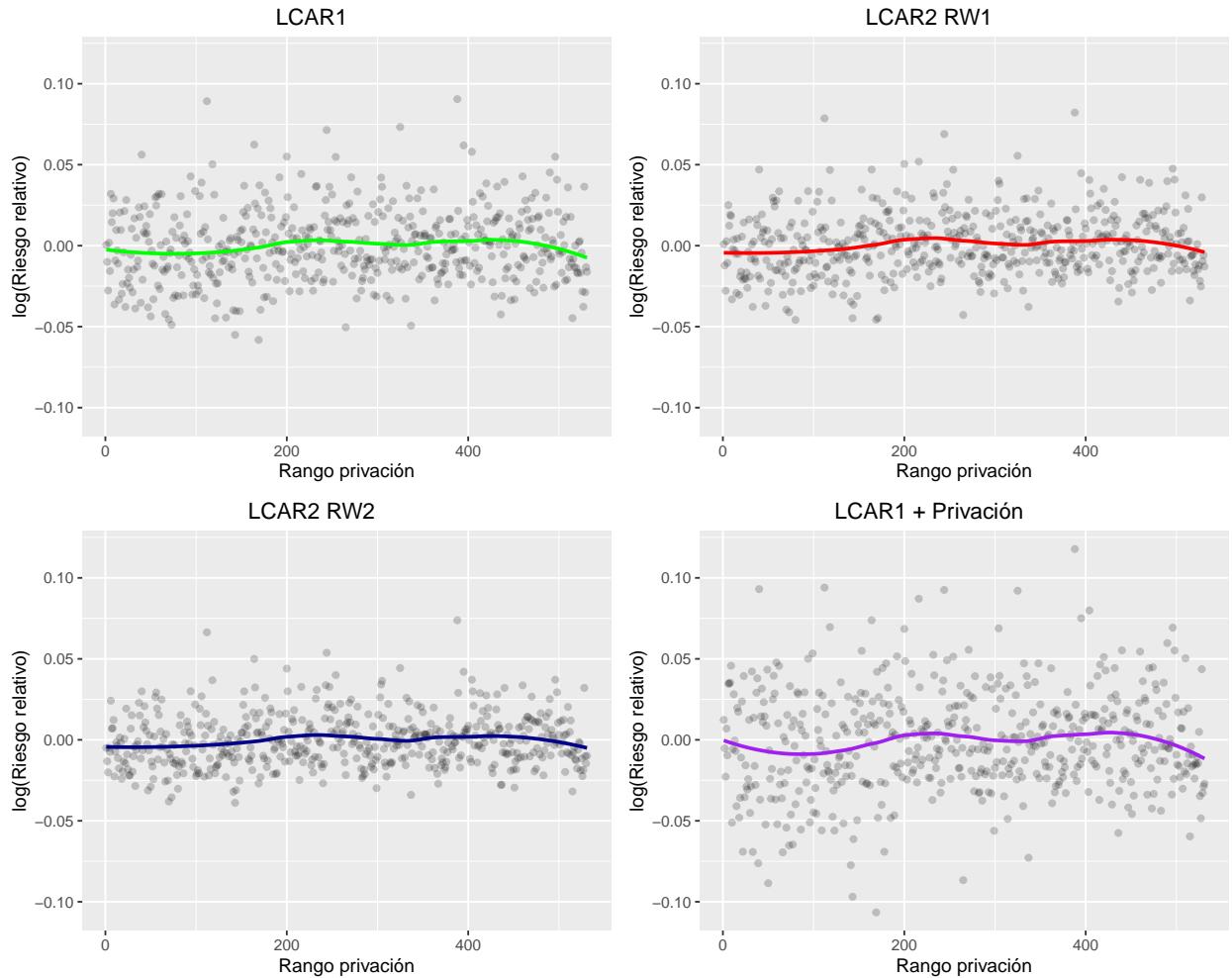


Figure 22: Cáncer de hemato: LOESS. Asociación con variable privación

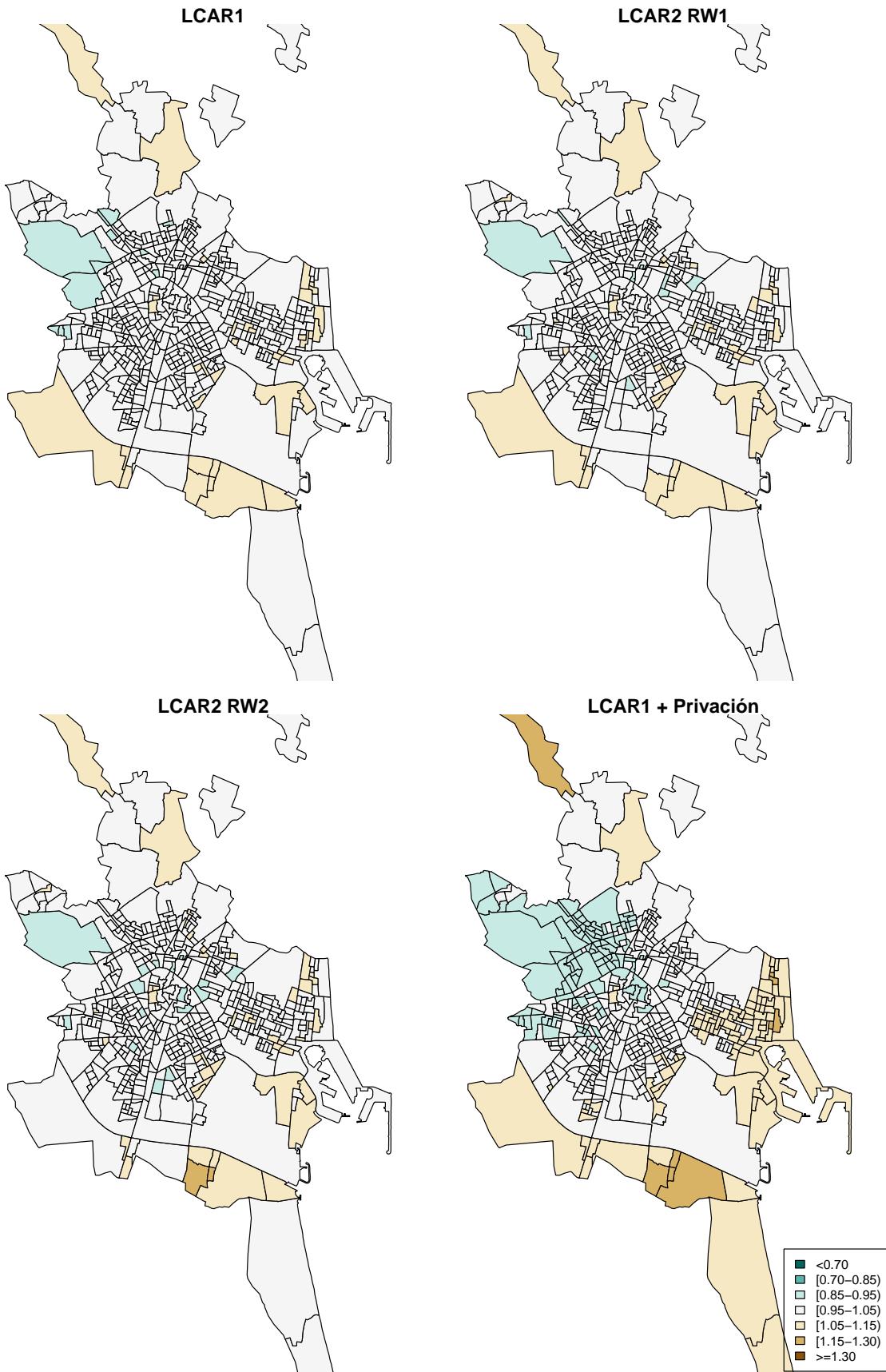


Figure 23: diabetes: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
25

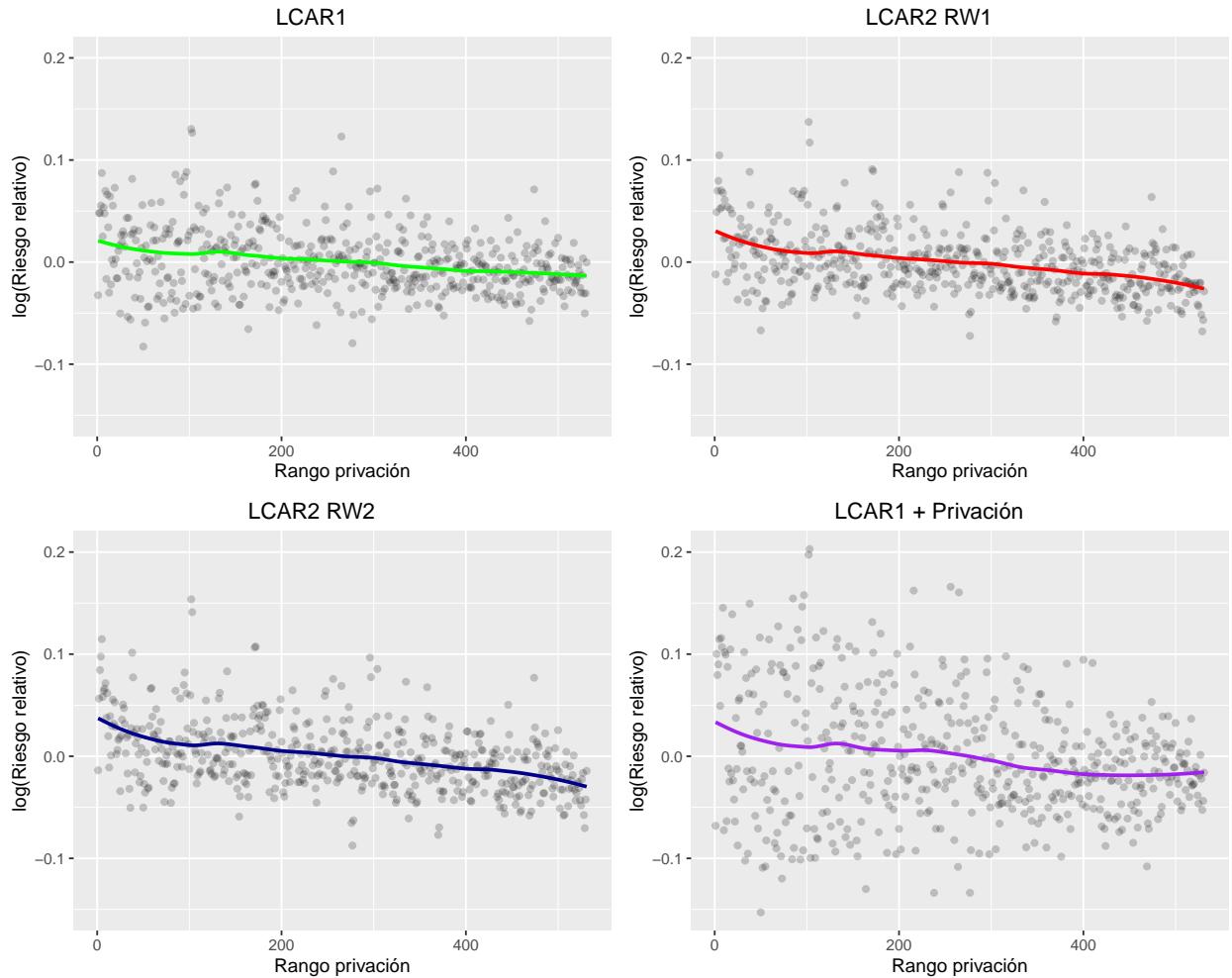


Figure 24: Diabetes: LOESS. Asociación con variable privación

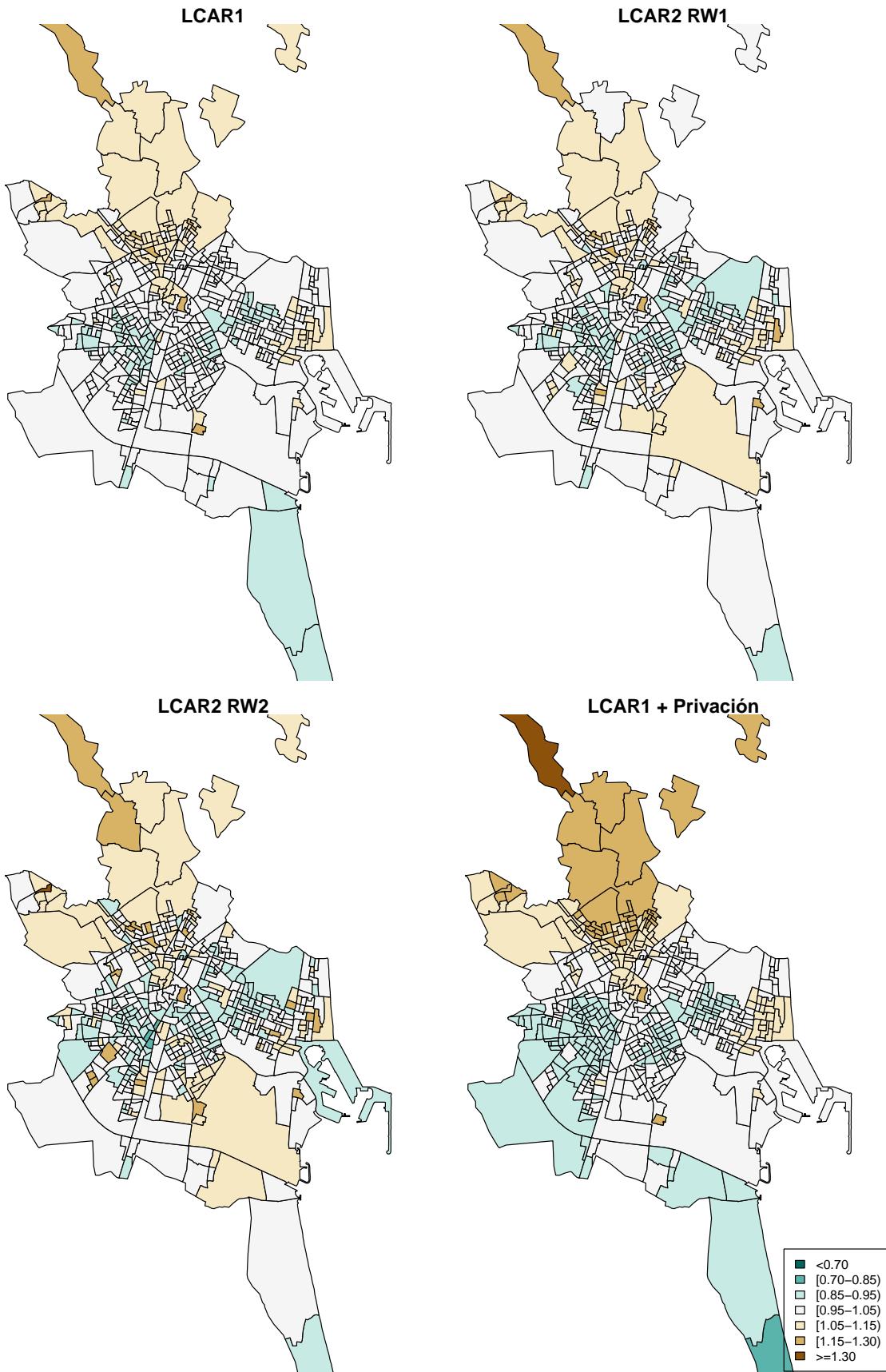


Figure 25: mentalesorgánicos: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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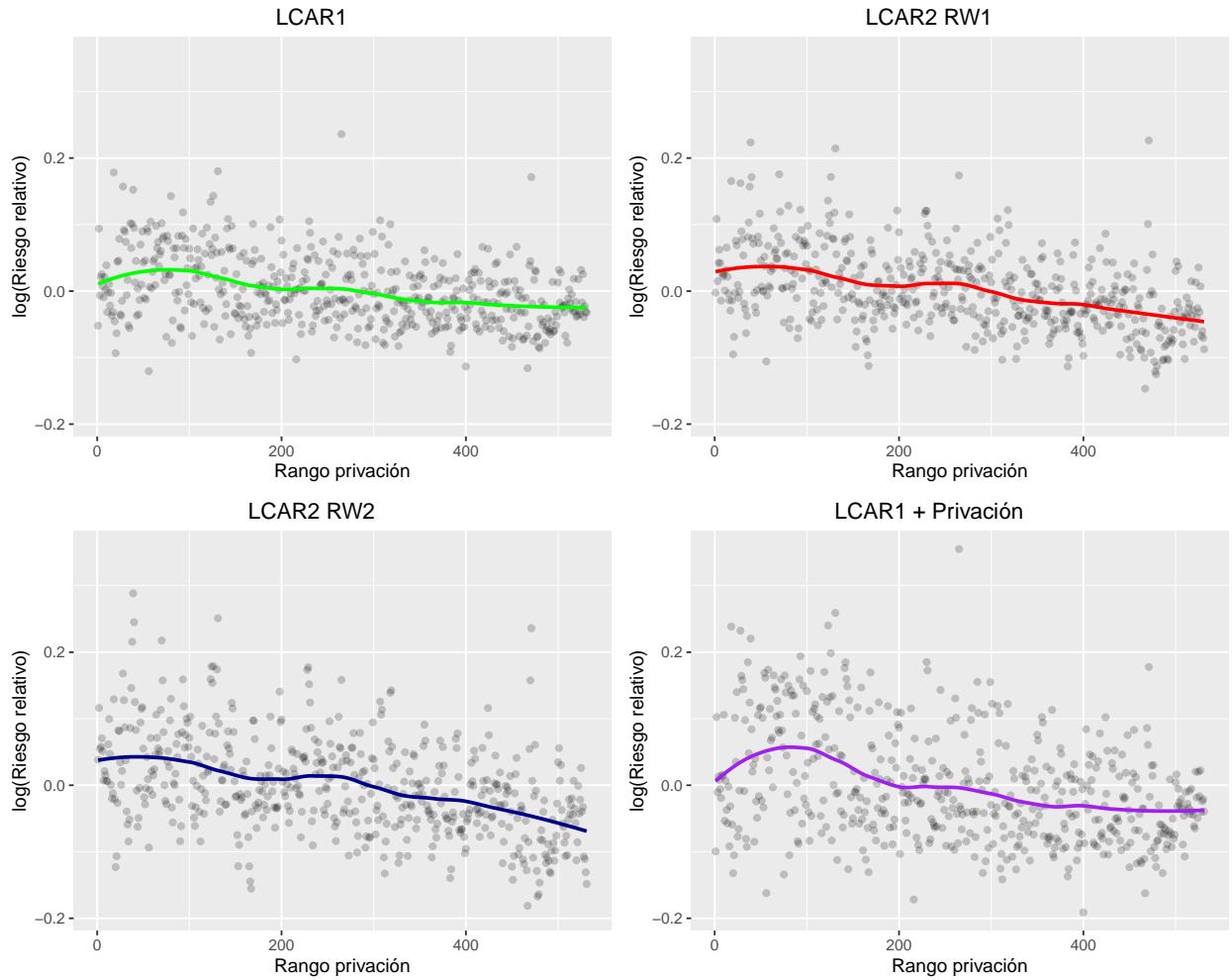


Figure 26: Ttos mentales orgánicos: LOESS. Asociación con variable privación

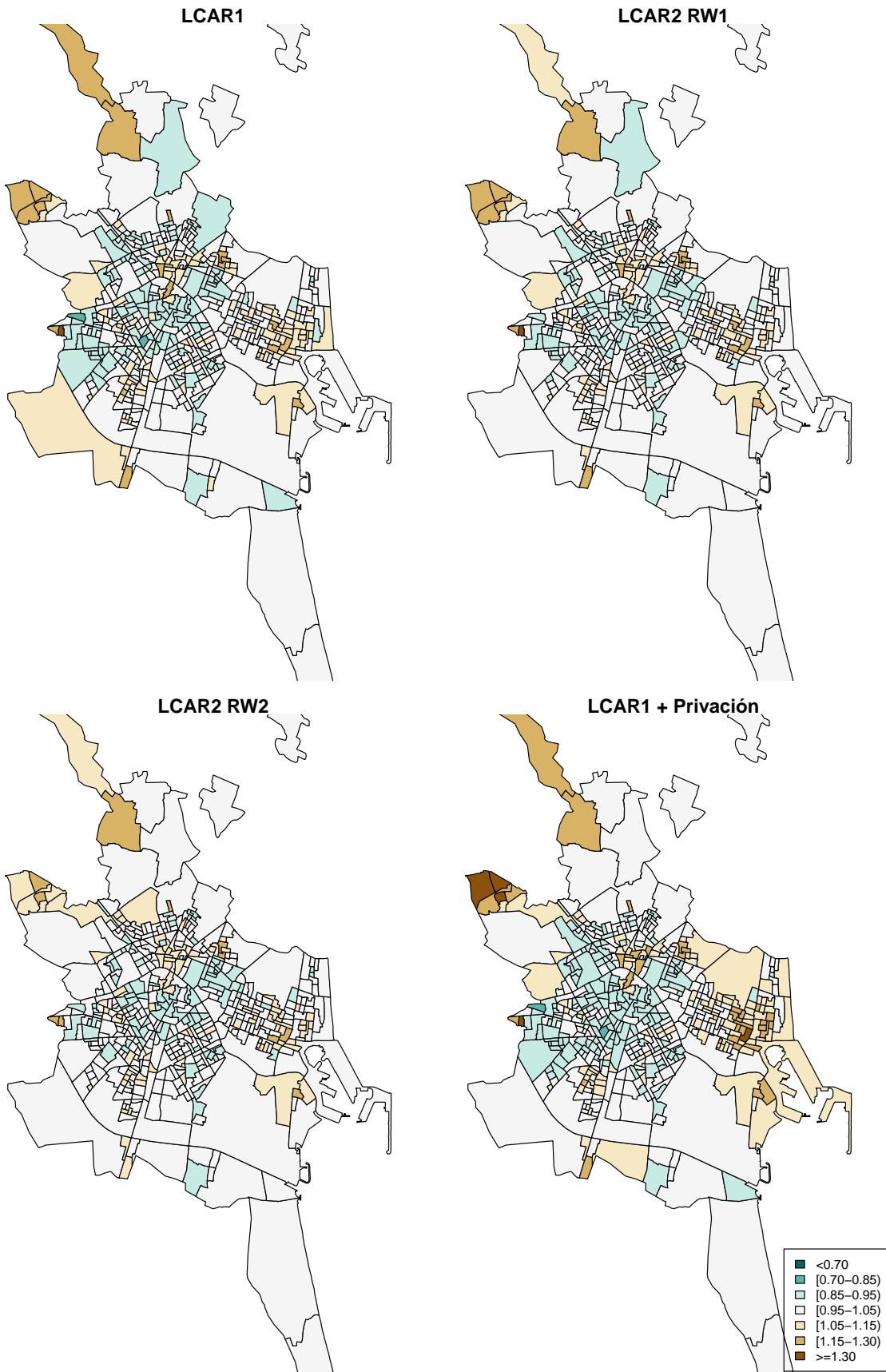


Figure 27: alzheimer: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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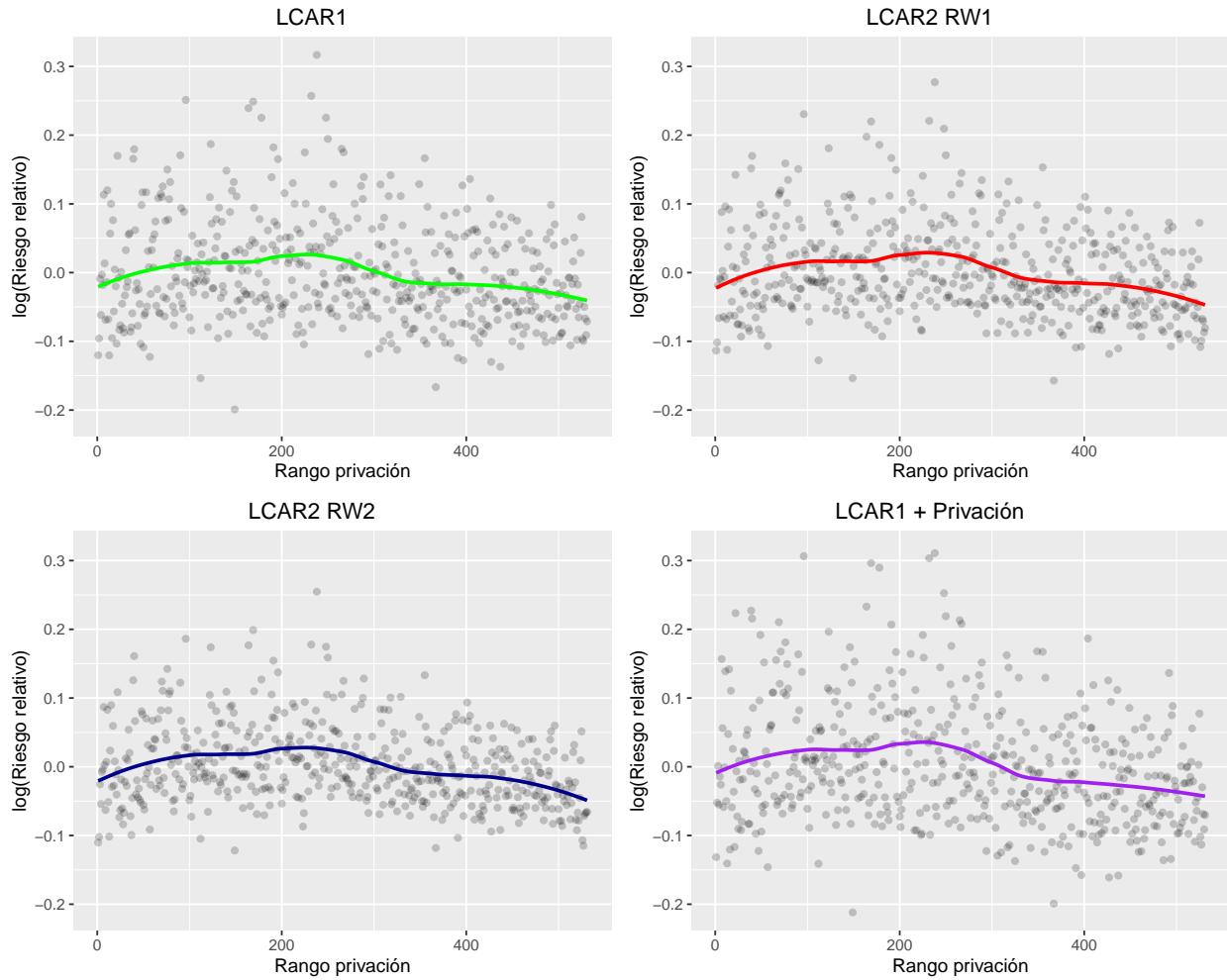


Figure 28: Alzheimer: LOESS. Asociación con variable privación

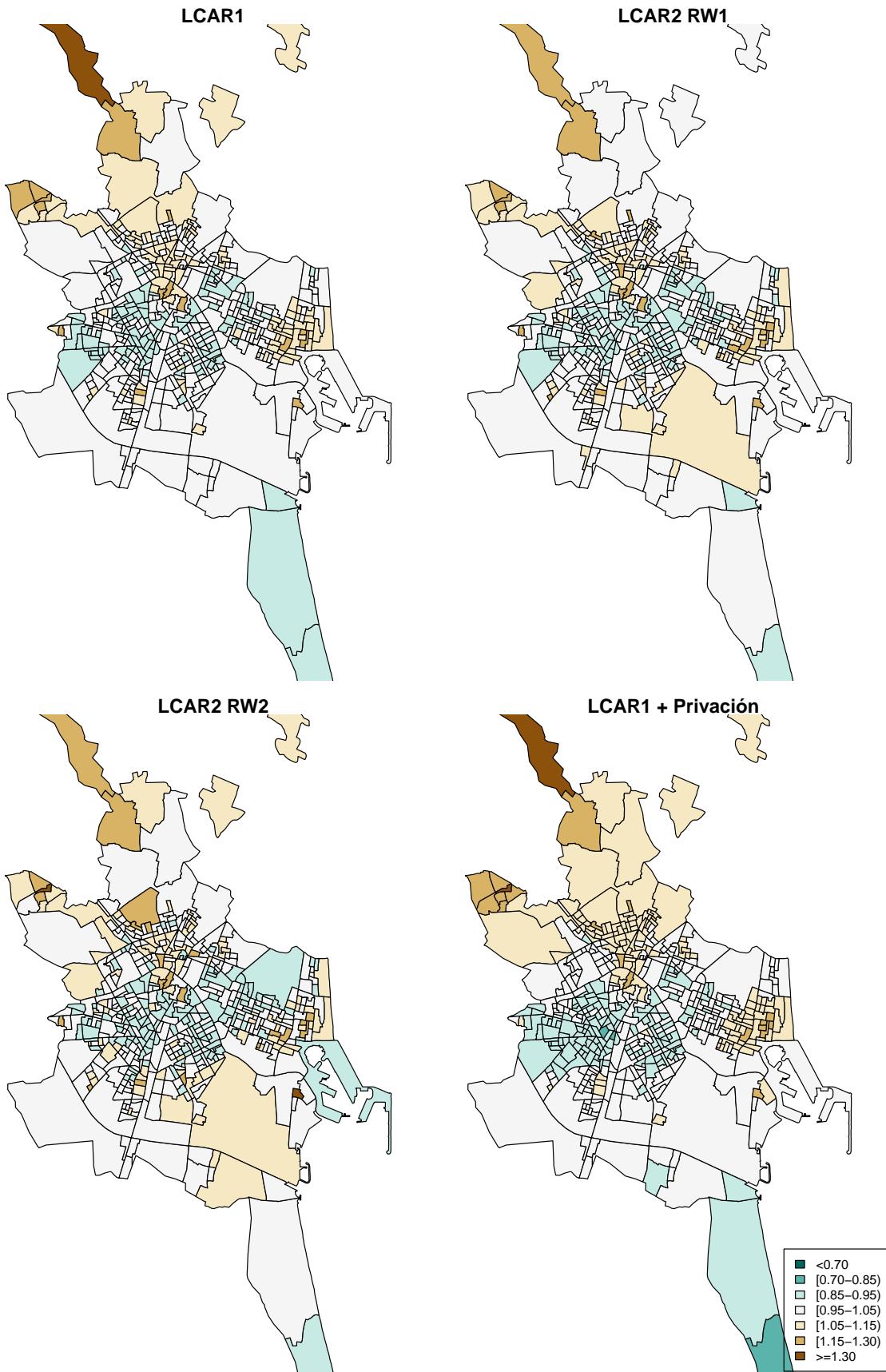


Figure 29: demencia: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
31

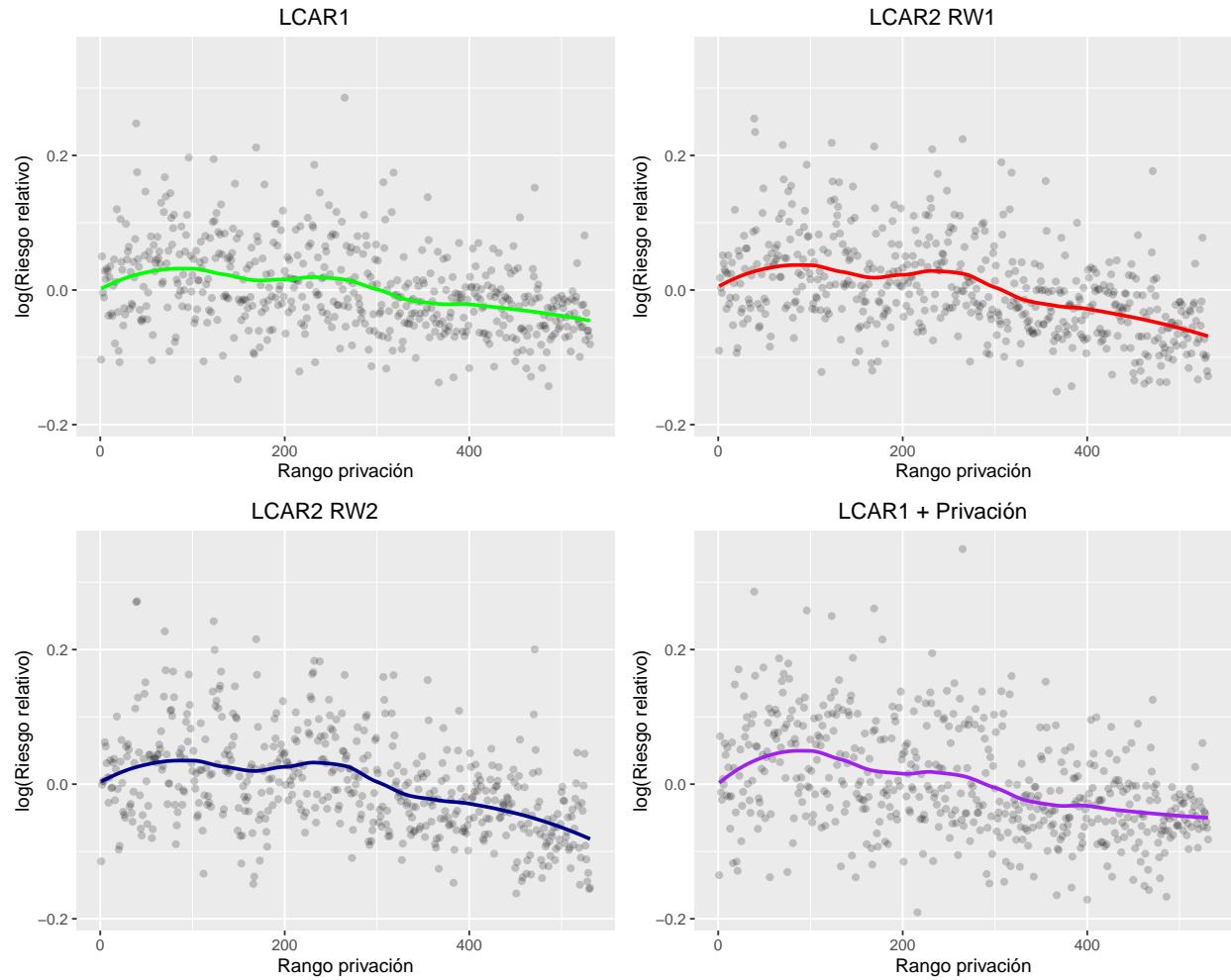


Figure 30: Demencia: LOESS. Asociación con variable privación



Figure 31: isquemica: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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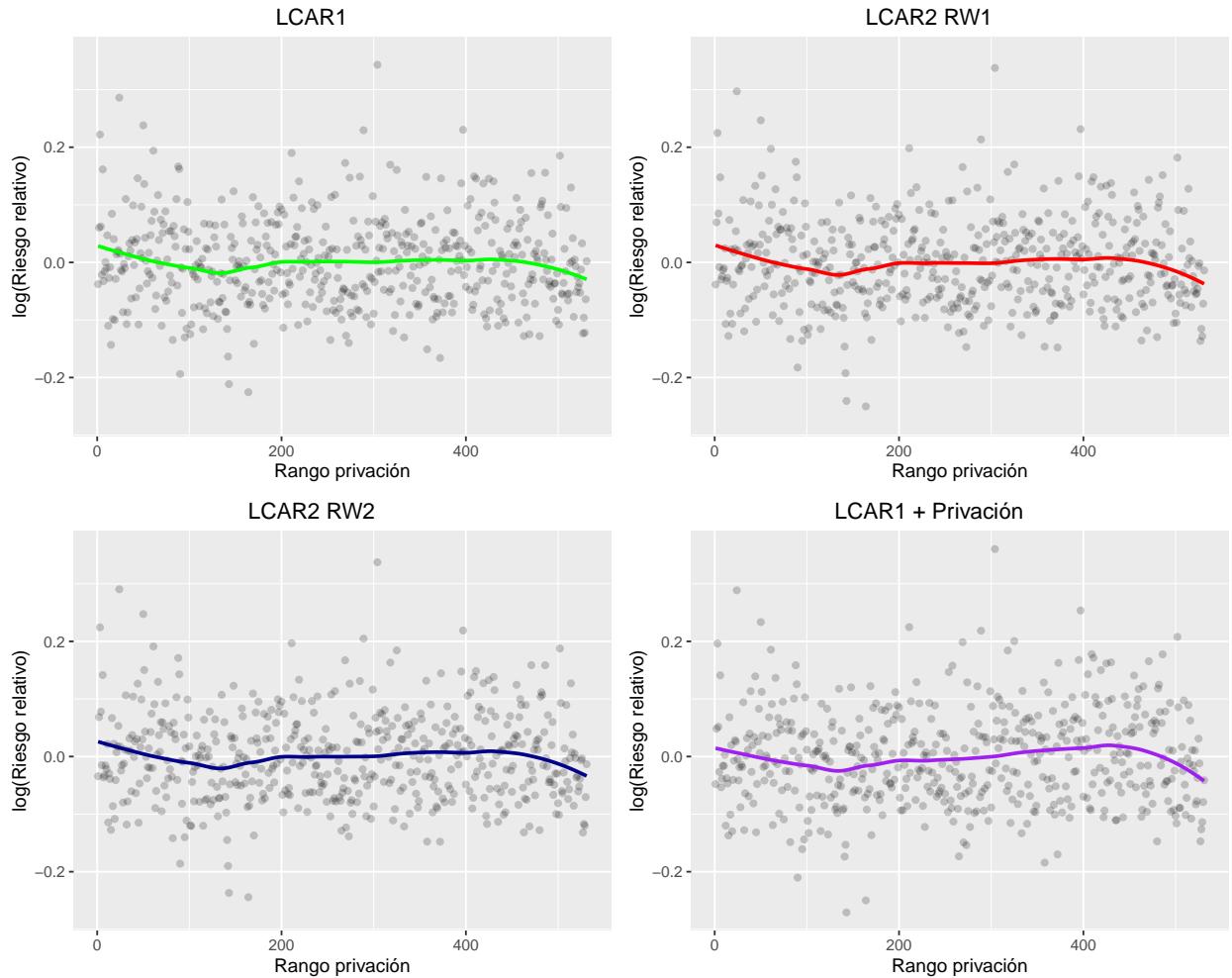


Figure 32: Isquémica del corazón: LOESS. Asociación con variable privación

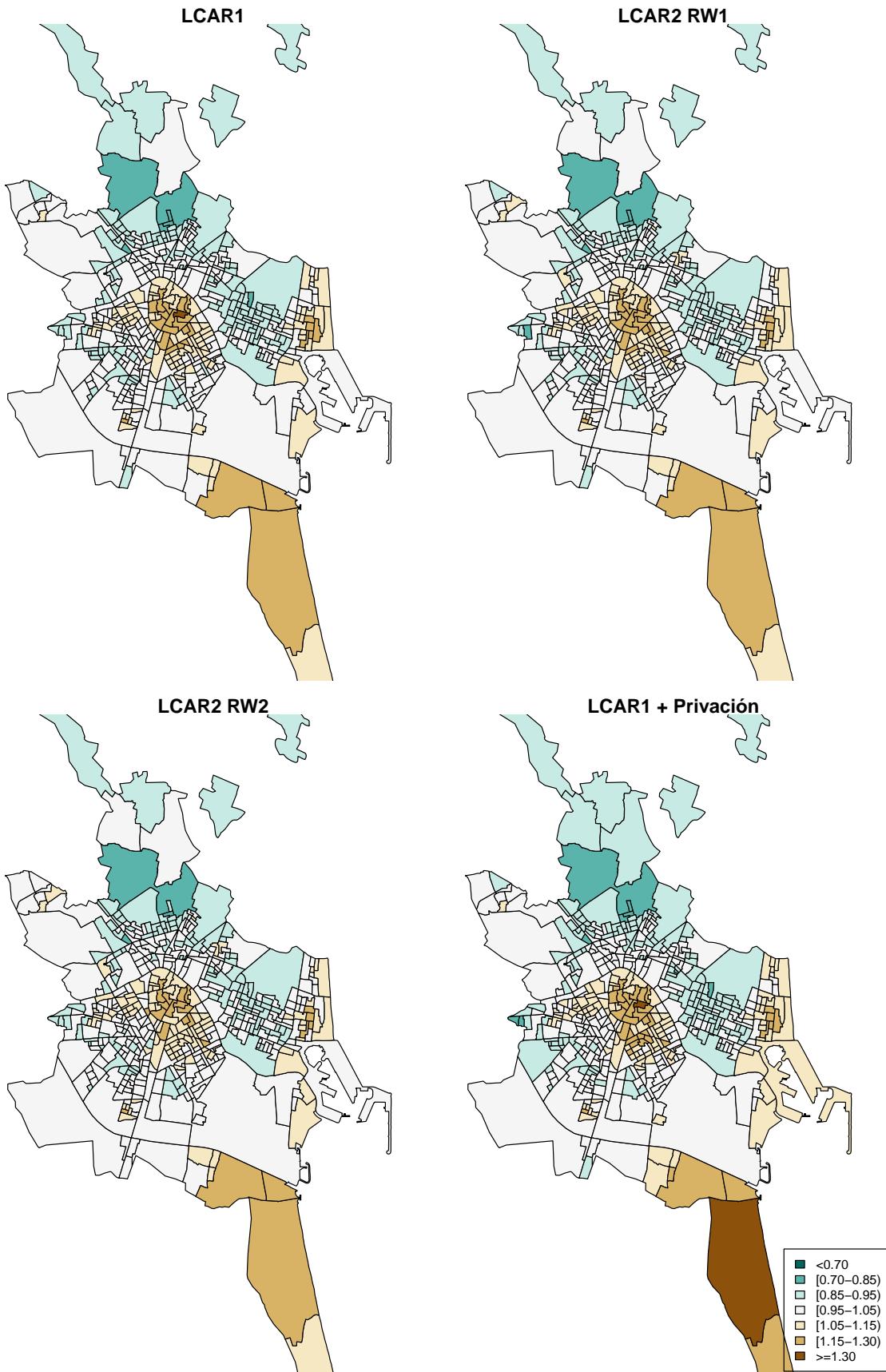


Figure 33: ictus: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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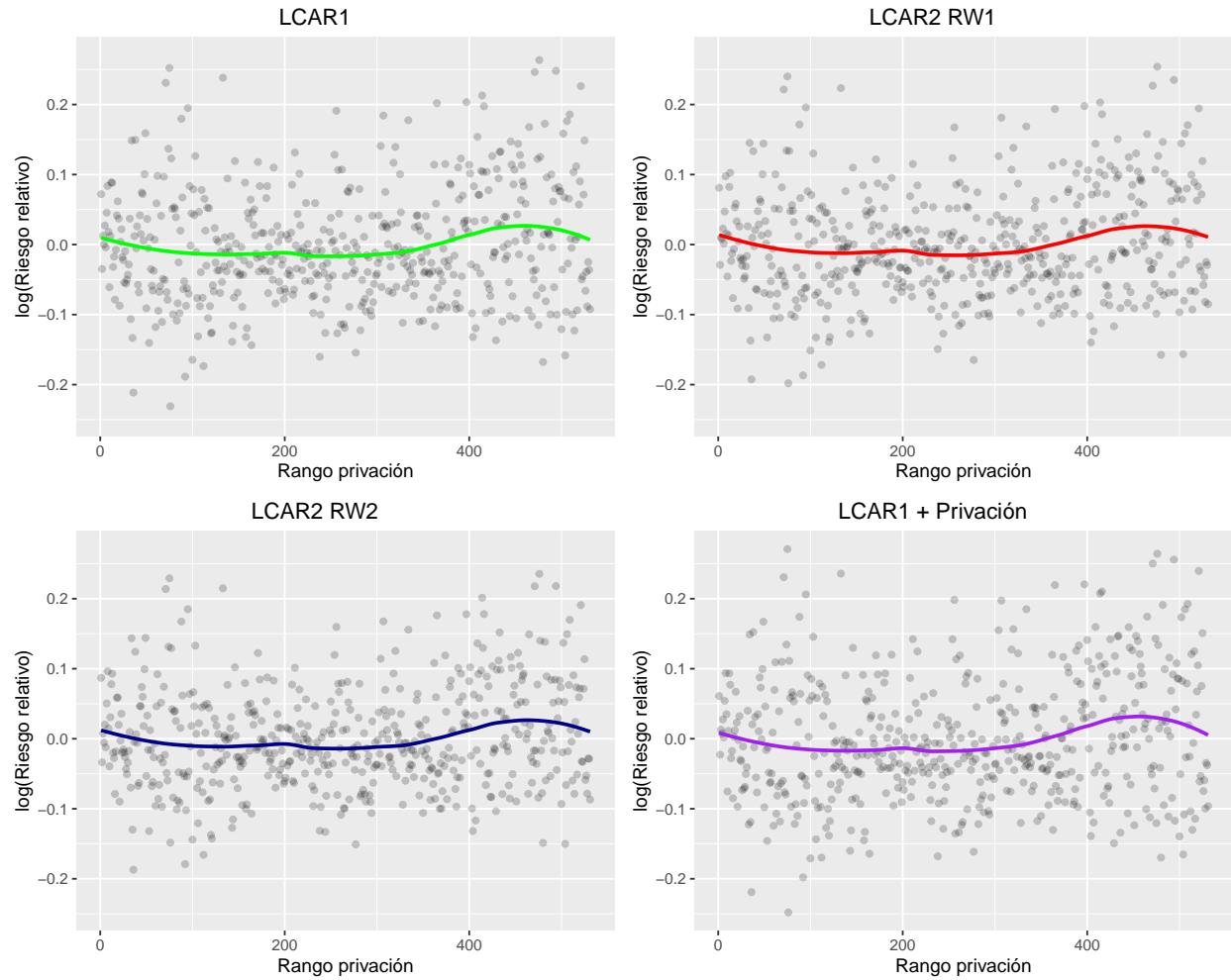


Figure 34: Ictus: LOESS. Asociación con variable privación

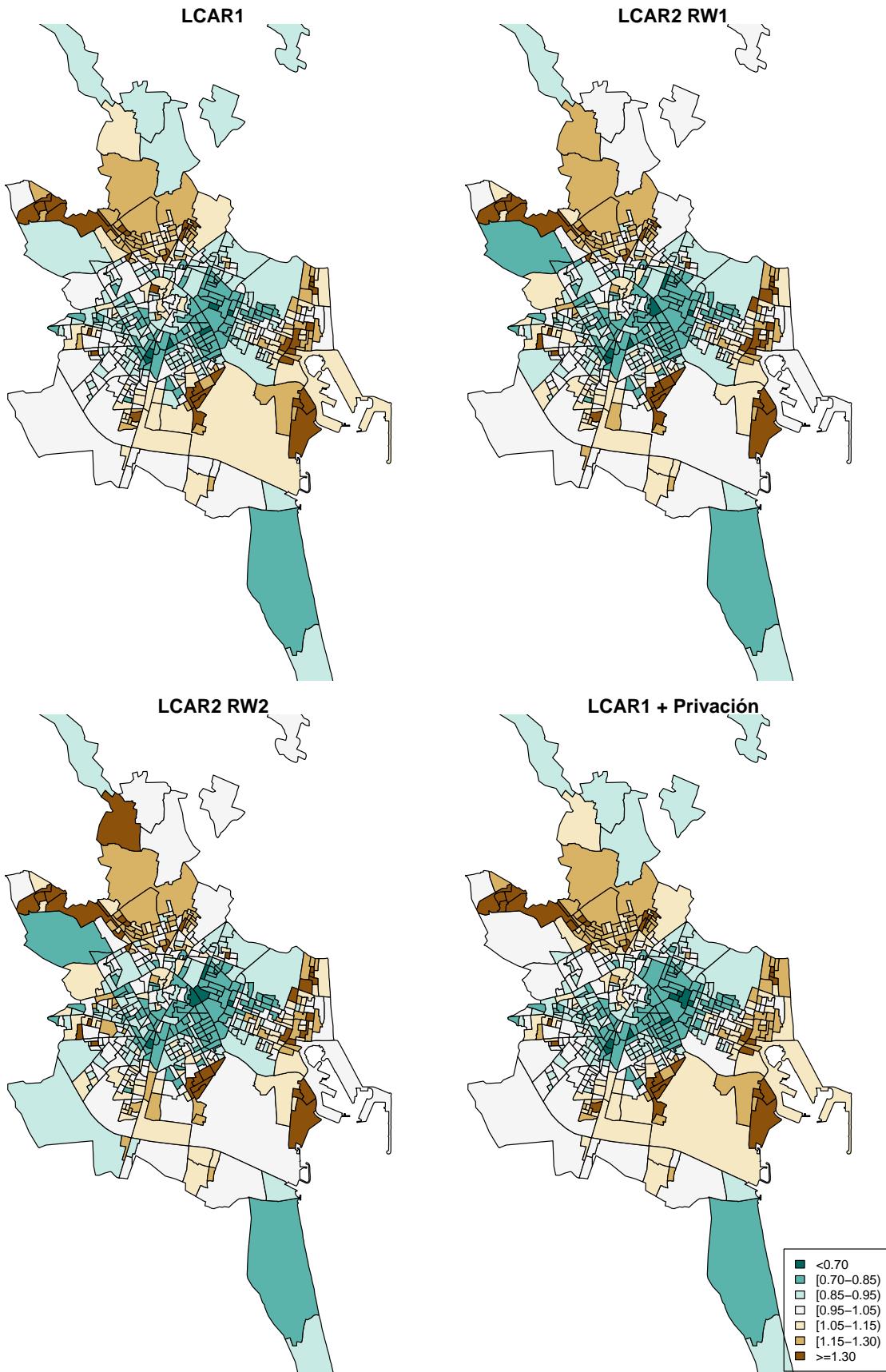


Figure 35: EPOC: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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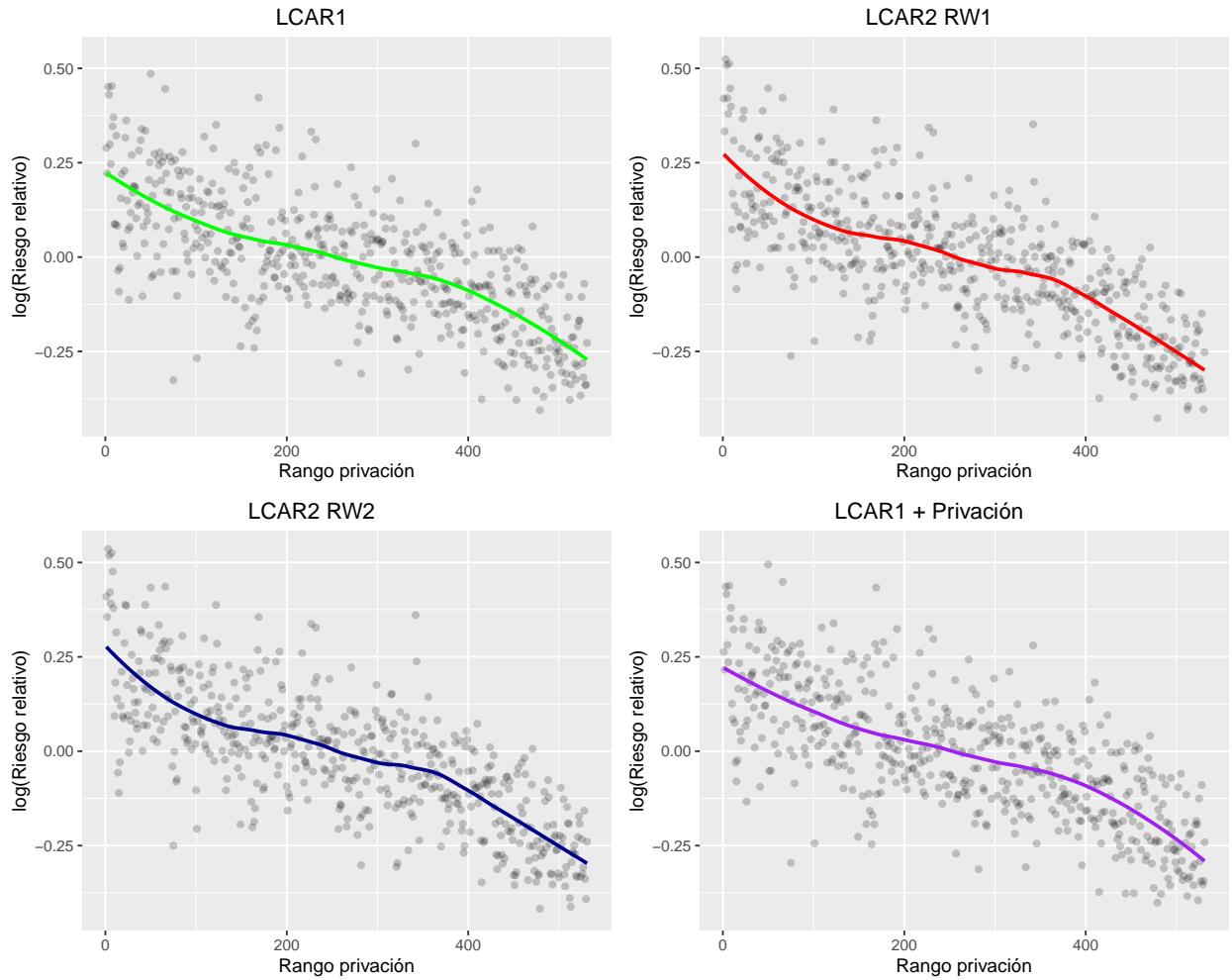


Figure 36: EPOC: LOESS. Asociación con variable privación

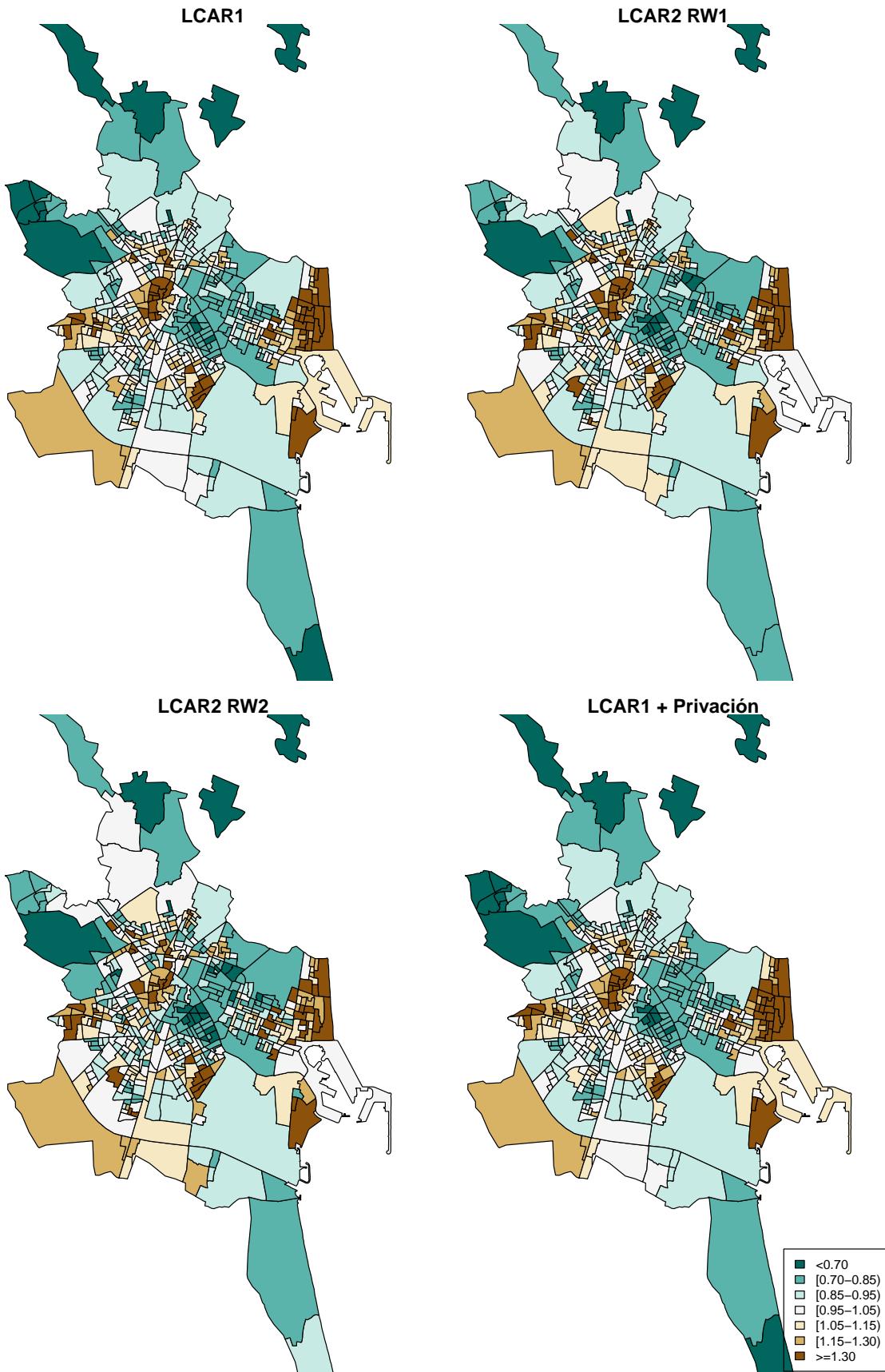


Figure 37: cirrosis: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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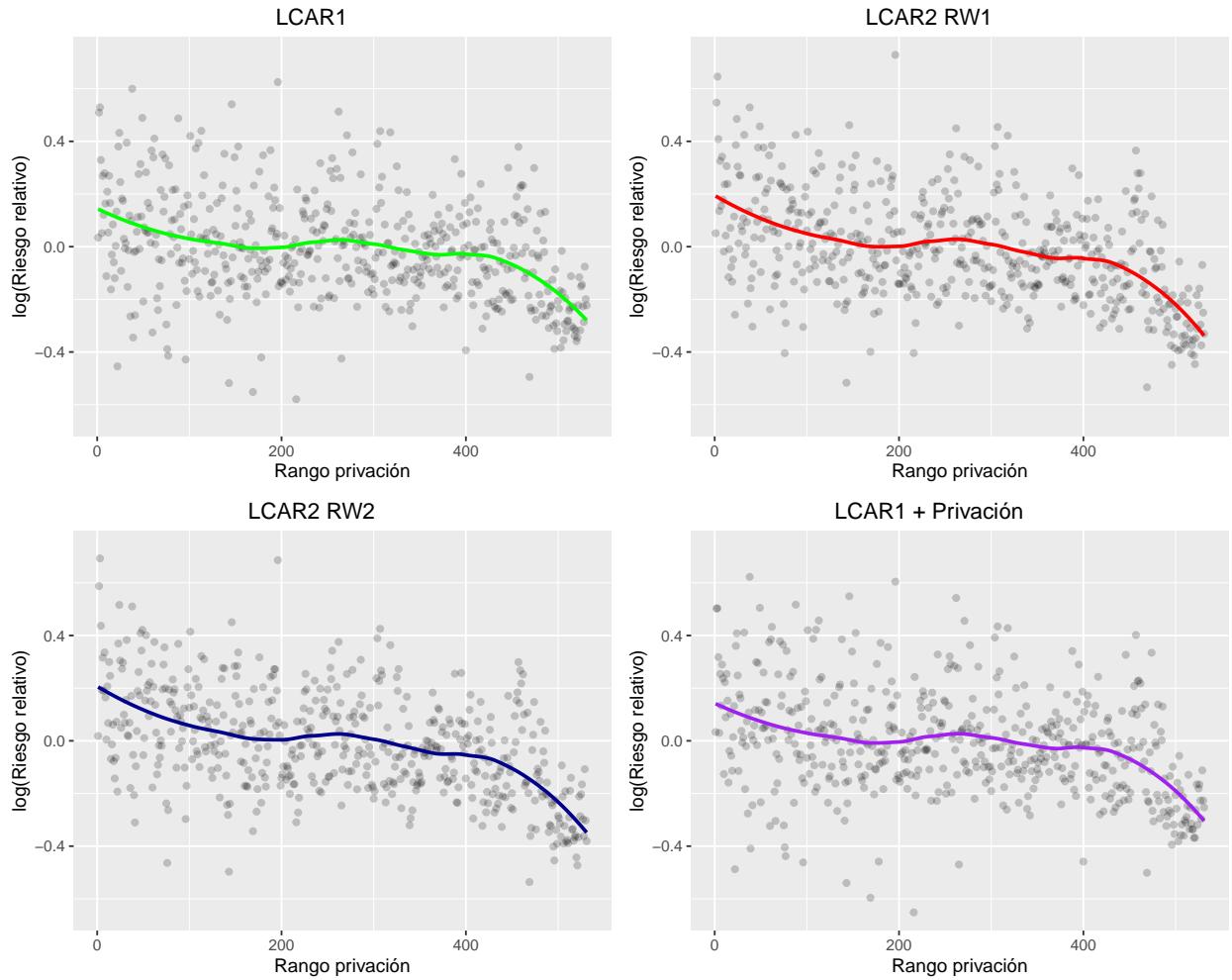


Figure 38: Cirrosis: LOESS. Asociación con variable privación



Figure 39: suicidios: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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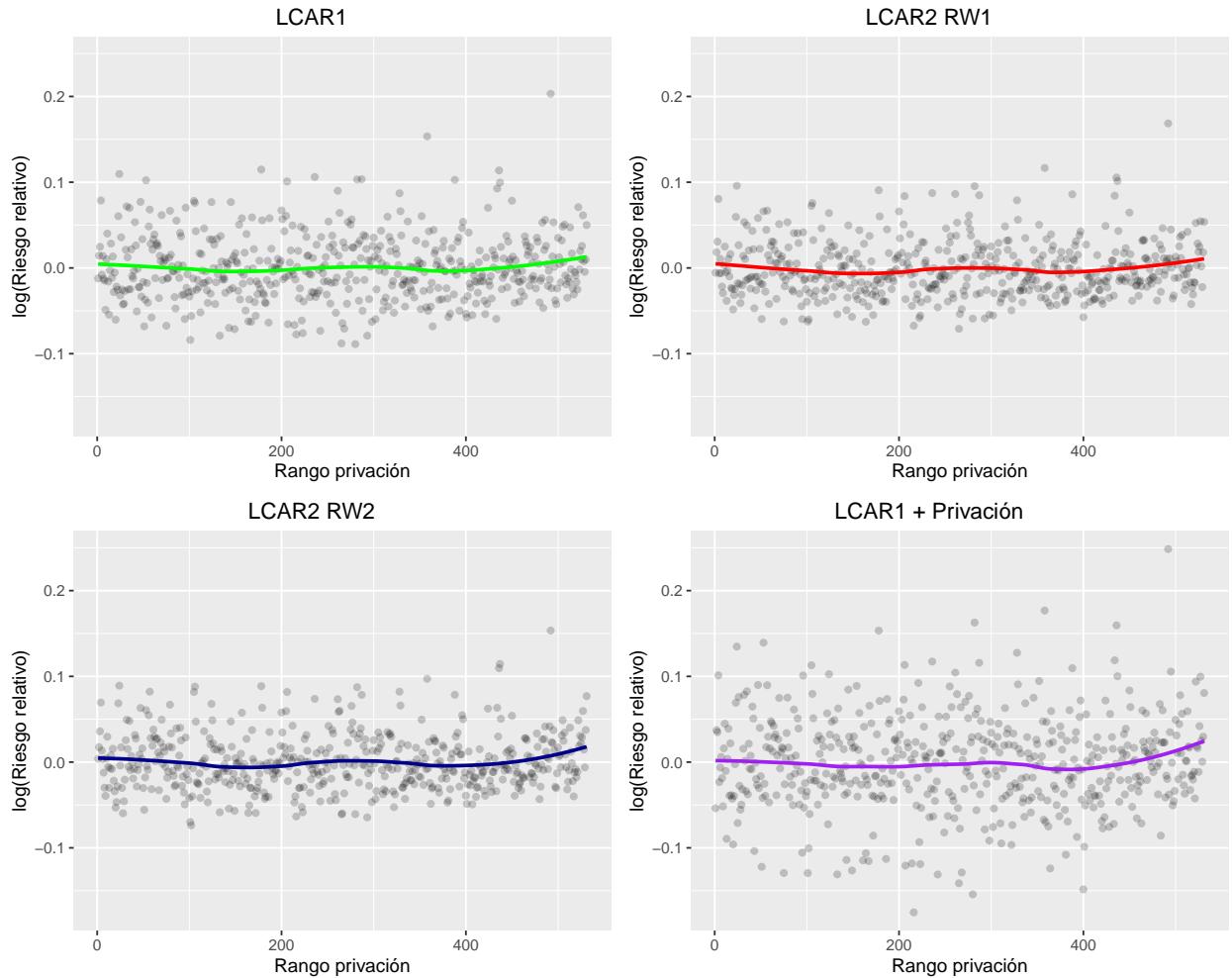


Figure 40: Suicidios: LOESS. Asociación con variable privación

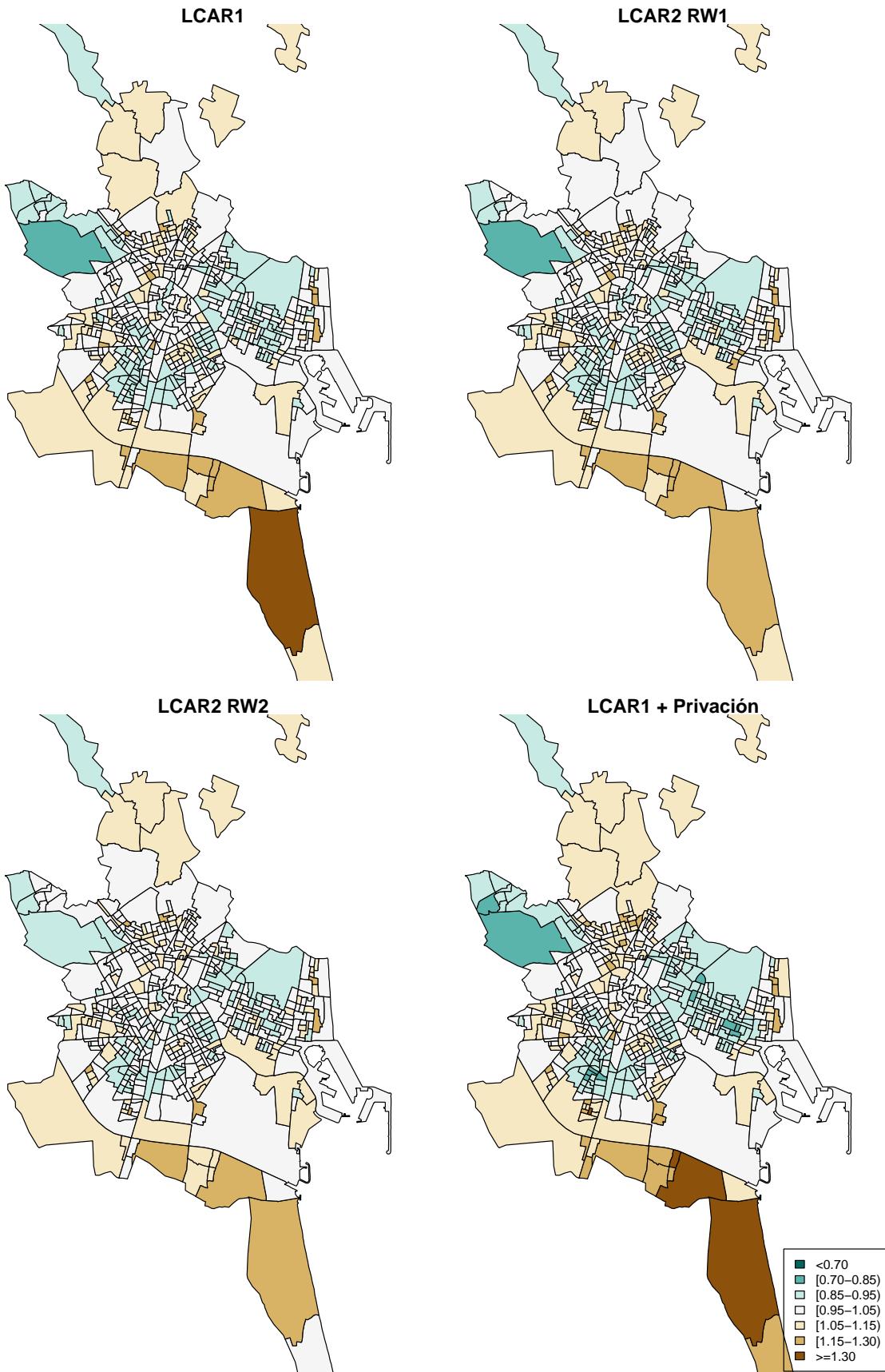


Figure 41: accidente trafico: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
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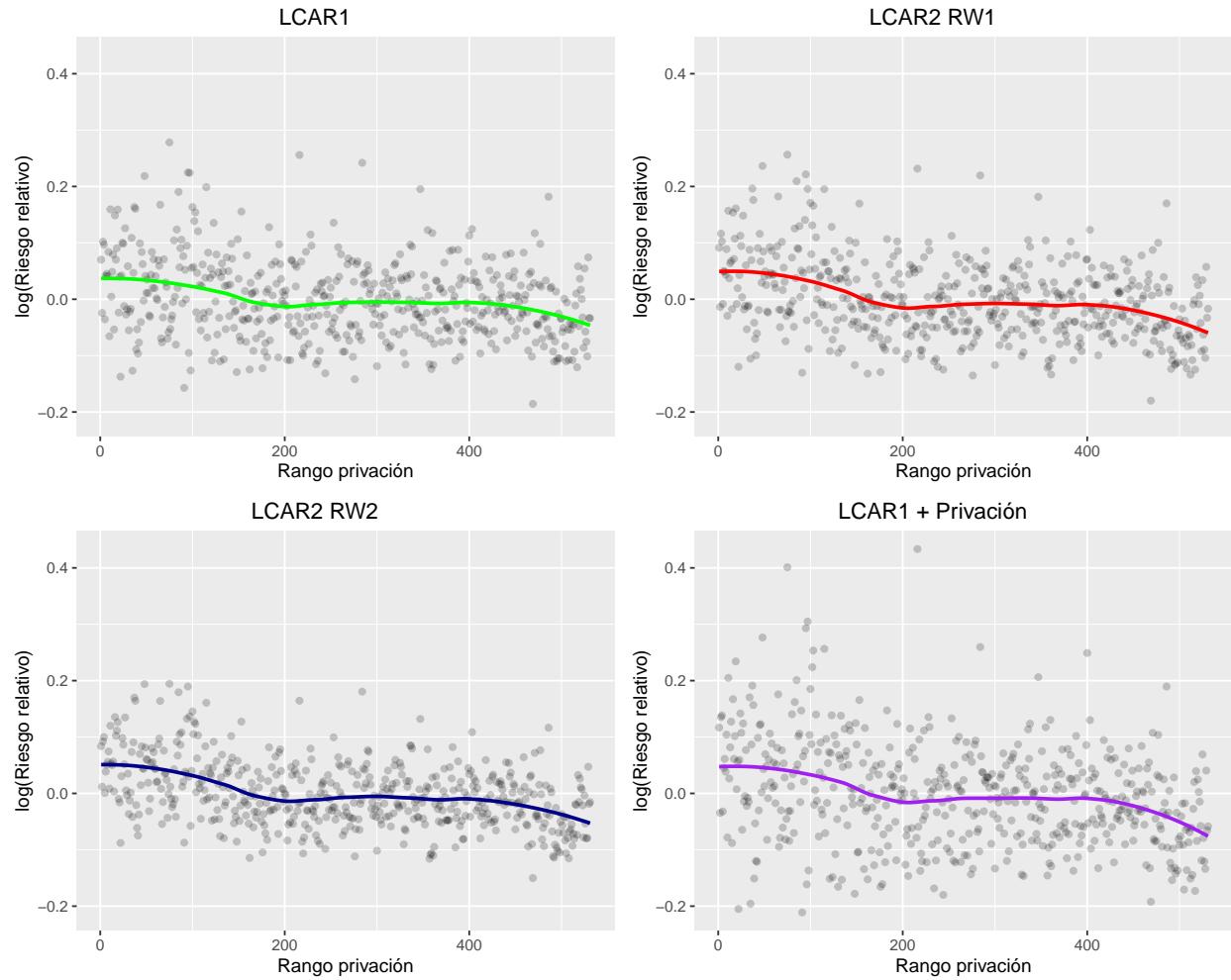


Figure 42: Accidentes de tráfico: LOESS. Asociación con variable privación

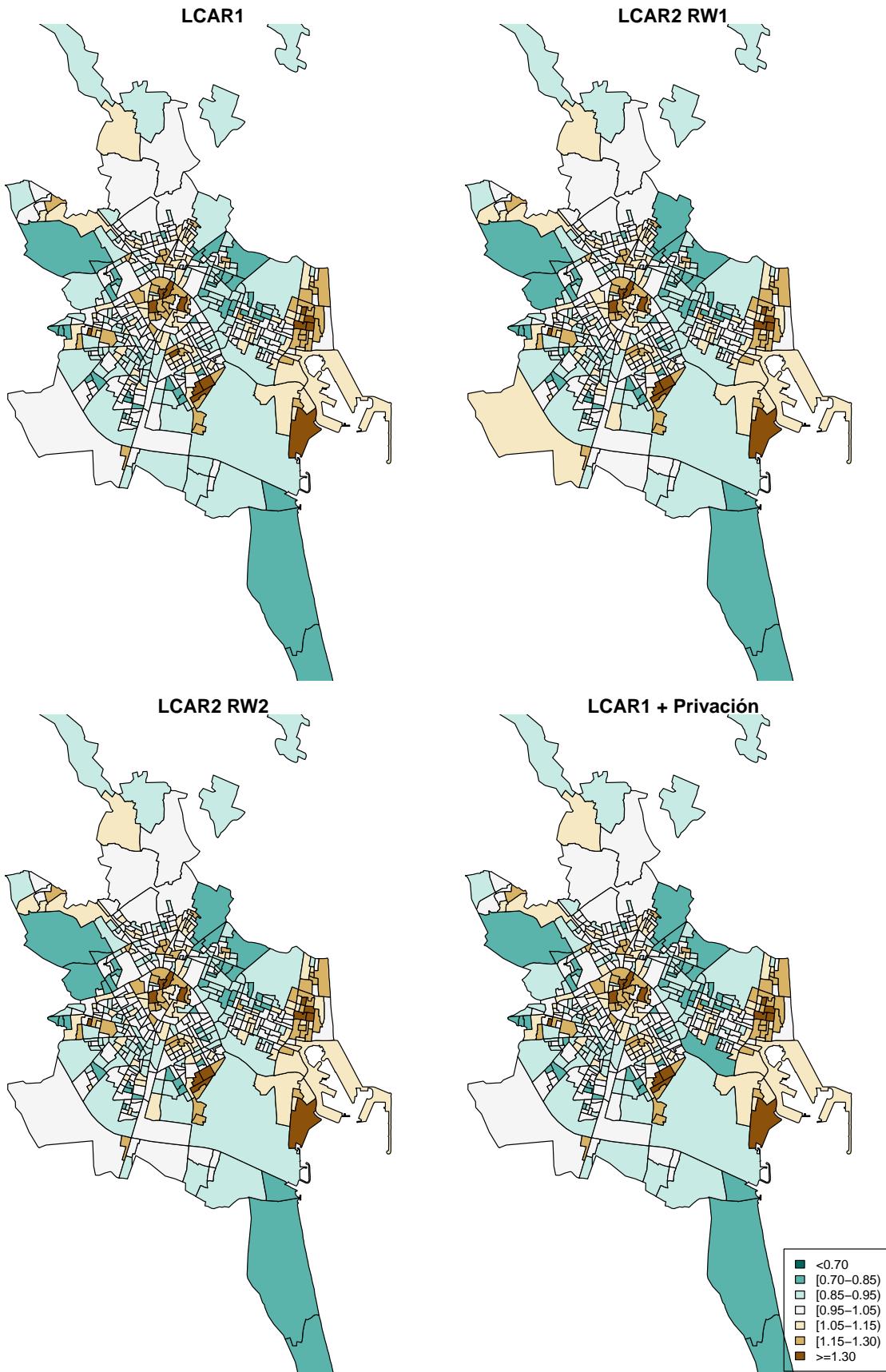


Figure 43: todas las causas: LCAR1 vs LCAR2 RW1 vs LCAR2 RW2 vs LCAR1 + Privación
45

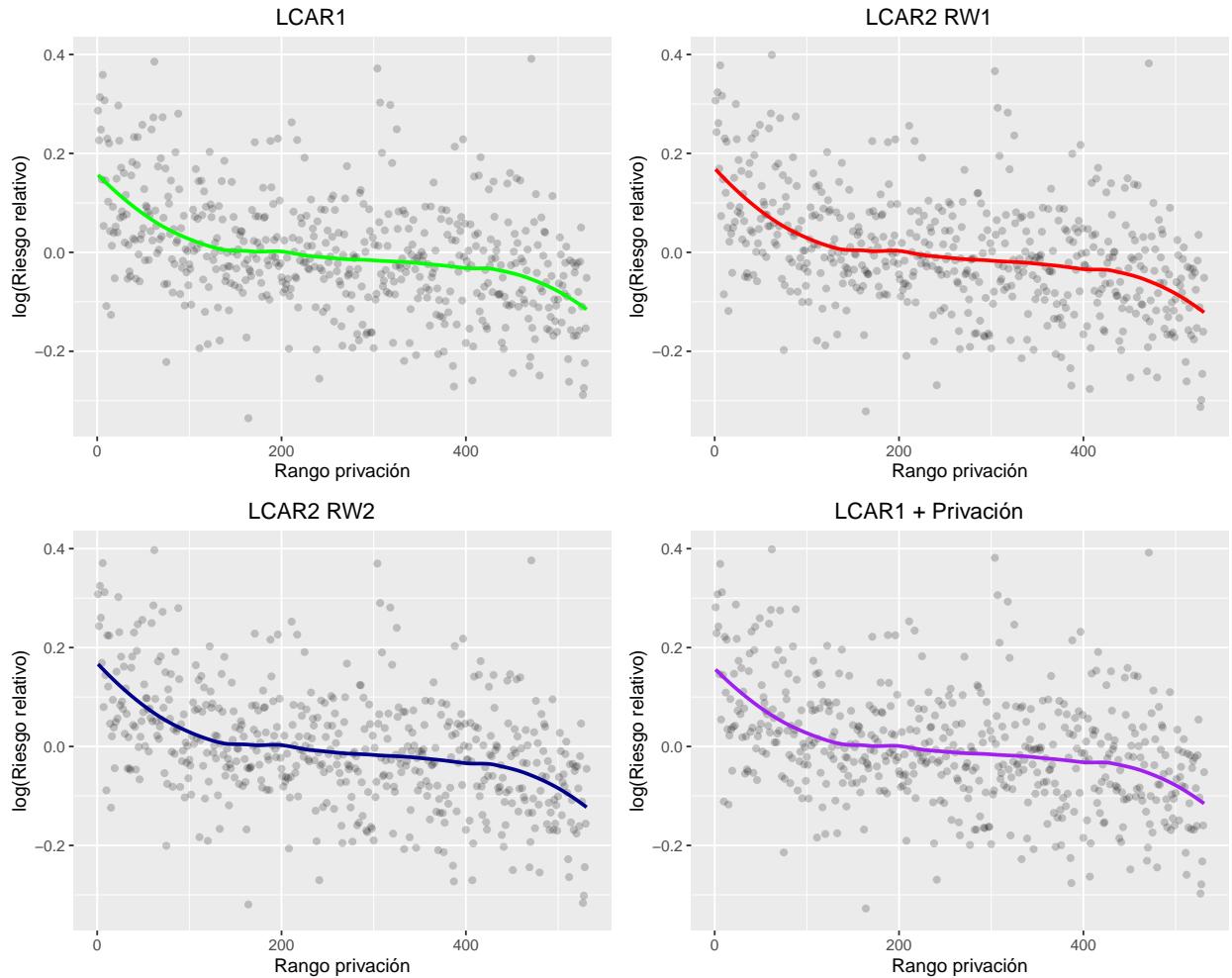


Figure 44: Todas las causas: LOESS. Asociación con variable privación

Table 1: Sida: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.386	0.278	0.49	0.293
IC.lambda.1	0.142-0.792	0.081-0.536	0.177-0.821	0.011-0.732
mean.lambda.2	-	0.479	0.197	-
IC.lambda.2	-	0.159-0.734	0.177-0.821	-
DIC	1660.52	1654.69	1655.79	1641.78
Coc.var	0.102	0.145	0.138	0.099

Table 2: Cáncer estómago: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.489	0.31	0.245	0.469
IC.lambda.1	0.02-0.966	0.01-0.85	0.013-0.815	0.019-0.973
mean.lambda.2	-	0.37	0.425	-
IC.lambda.2	-	0.014-0.893	0.013-0.815	-
DIC	1758.39	1757.49	1757.21	1750.91
Coc.var	0.075	0.166	0.155	0.097

Descripción numérica de los resultados

Table 3: Cáncer colon: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.441	0.346	0.312	0.505
IC.lambda.1	0.013-0.962	0.012-0.866	0.013-0.874	0.029-0.974
mean.lambda.2	-	0.314	0.351	-
IC.lambda.2	-	0.011-0.871	0.013-0.874	-
DIC	2183.6	2184.46	2185.31	2174.53
Coc.var	0.006	0.014	0.024	0.006

Table 4: Cáncer recto: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.585	0.439	0.39	0.565
IC.lambda.1	0.053-0.986	0.038-0.899	0.041-0.901	0.049-0.99
mean.lambda.2	-	0.304	0.333	-
IC.lambda.2	-	0.012-0.81	0.041-0.901	-
DIC	1478.2	1478.55	1477.64	1467.45
Coc.var	0.046	0.063	0.052	0.059

Table 5: Cáncer colorectal: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.524	0.369	0.321	0.522
IC.lambda.1	0.019-0.982	0.008-0.896	0.012-0.878	0.034-0.979
mean.lambda.2	-	0.317	0.36	-
IC.lambda.2	-	0.009-0.882	0.012-0.878	-
DIC	2342.9	2342.53	2343.16	2332.04
Coc.var	0.015	0.035	0.043	0.018

Table 6: Cáncer laringe: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.374	0.313	0.342	0.426
IC.lambda.1	0.01-0.936	0.01-0.832	0.015-0.861	0.024-0.961
mean.lambda.2	-	0.317	0.324	-
IC.lambda.2	-	0.009-0.827	0.015-0.861	-
DIC	1294.8	1293.97	1295.58	1283.16
Coc.var	0.058	0.116	0.147	0.078

Table 7: Cáncer pulmón: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.813	0.636	0.546	0.558
IC.lambda.1	0.466-0.993	0.268-0.929	0.078-0.917	0.038-0.98
mean.lambda.2	-	0.243	0.322	-
IC.lambda.2	-	0.013-0.633	0.078-0.917	-
DIC	2859.88	2863.51	2869.46	2838.03
Coc.var	0.138	0.208	0.277	0.127

Table 8: Cáncer mama: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.498	0.308	0.304	0.498
IC.lambda.1	0.025-0.98	0.013-0.808	0.016-0.834	0.032-0.975
mean.lambda.2	-	0.333	0.393	-
IC.lambda.2	-	0.013-0.837	0.016-0.834	-
DIC	132.773	133.653	133.528	124.497
Coc.var	0.006	0.004	0.003	0.005

Table 9: Cáncer próstata: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.559	0.402	0.372	0.536
IC.lambda.1	0.028-0.975	0.013-0.879	0.026-0.857	0.028-0.982
mean.lambda.2	-	0.282	0.289	-
IC.lambda.2	-	0.007-0.835	0.026-0.857	-
DIC	2111.9	2112.6	2112.7	2102.84
Coc.var	0.055	0.074	0.072	0.073

Table 10: Cáncer vejiga: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.514	0.373	0.324	0.486
IC.lambda.1	0.053-0.968	0.025-0.838	0.019-0.843	0.047-0.971
mean.lambda.2	-	0.322	0.334	-
IC.lambda.2	-	0.014-0.792	0.019-0.843	-
DIC	2038.8	2039.62	2041.26	2022.14
Coc.var	0.023	0.034	0.04	0.02

Table 11: Cáncer vejiga: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.495	0.371	0.342	0.51
IC.lambda.1	0.021-0.969	0.018-0.864	0.018-0.882	0.037-0.97
mean.lambda.2	-	0.283	0.313	-
IC.lambda.2	-	0.009-0.774	0.018-0.882	-
DIC	1939.36	1940.37	1941.6	1932.48
Coc.var	0.02	0.025	0.025	0.021

Table 12: Diabetes: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.522	0.335	0.307	0.54
IC.lambda.1	0.035-0.976	0.015-0.836	0.012-0.859	0.038-0.962
mean.lambda.2	-	0.369	0.376	-
IC.lambda.2	-	0.014-0.88	0.012-0.859	-
DIC	1964.62	1963.44	1963.38	1953.9
Coc.var	0.077	0.163	0.185	0.053

Table 13: Ttos mentales orgánicos: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.594	0.282	0.26	0.505
IC.lambda.1	0.063-0.977	0.015-0.806	0.018-0.763	0.019-0.973
mean.lambda.2	-	0.453	0.49	-
IC.lambda.2	-	0.026-0.89	0.018-0.763	-
DIC	1991.74	1990.57	1989.41	1977.55
Coc.var	0.128	0.179	0.179	0.143

Table 14: Alzheimer: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.455	0.409	0.41	0.411
IC.lambda.1	0.027-0.955	0.022-0.886	0.018-0.892	0.009-0.965
mean.lambda.2	-	0.244	0.268	-
IC.lambda.2	-	0.007-0.691	0.018-0.892	-
DIC	1801.49	1801.15	1801.64	1787.23
Coc.var	0.061	0.091	0.117	0.079

Table 15: Demencia: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.562	0.354	0.295	0.485
IC.lambda.1	0.047-0.98	0.028-0.841	0.015-0.792	0.019-0.977
mean.lambda.2	-	0.404	0.473	-
IC.lambda.2	-	0.021-0.854	0.015-0.792	-
DIC	2329.52	2329.33	2330	2308.8
Coc.var	0.13	0.197	0.2	0.16

Table 16: Isquémica del corazón: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.201	0.292	0.361	0.131
IC.lambda.1	0.005-0.7	0.014-0.763	0.01-0.889	0.001-0.715
mean.lambda.2	-	0.158	0.049	-
IC.lambda.2	-	0.004-0.537	0.01-0.889	-
DIC	3066.75	3066.08	3069.7	3031.59
Coc.var	0.015	0.021	0.018	0.025

Table 17: Ictus: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.776	0.691	0.708	0.635
IC.lambda.1	0.385-0.993	0.339-0.94	0.279-0.959	0.028-0.988
mean.lambda.2	-	0.132	0.11	-
IC.lambda.2	-	0.003-0.432	0.279-0.959	-
DIC	2659.2	2662	2664.17	2623.38
Coc.var	0.032	0.033	0.035	0.037

Table 18: Epoc: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.827	0.348	0.415	0.513
IC.lambda.1	0.553-0.994	0.117-0.721	0.126-0.748	0.038-0.981
mean.lambda.2	-	0.572	0.481	-
IC.lambda.2	-	0.21-0.834	0.126-0.748	-
DIC	2678.13	2666.94	2665.01	2649.21
Coc.var	0.454	0.533	0.535	0.48

Table 19: Cirrosis: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.764	0.484	0.51	0.568
IC.lambda.1	0.374-0.991	0.138-0.859	0.157-0.867	0.04-0.983
mean.lambda.2	-	0.373	0.341	-
IC.lambda.2	-	0.031-0.745	0.157-0.867	-
DIC	2127.43	2126.12	2126.26	2087.06
Coc.var	0.129	0.209	0.243	0.131

Table 20: Suicidios: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.415	0.331	0.338	0.472
IC.lambda.1	0.024-0.951	0.012-0.857	0.016-0.877	0.018-0.979
mean.lambda.2	-	0.315	0.344	-
IC.lambda.2	-	0.012-0.83	0.016-0.877	-
DIC	1568.59	1568.06	1568.24	1558.13
Coc.var	0.009	0.014	0.022	0.014

Table 21: Accidente de tráfico: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.423	0.395	0.36	0.47
IC.lambda.1	0.025-0.968	0.024-0.882	0.018-0.895	0.027-0.967
mean.lambda.2	-	0.28	0.31	-
IC.lambda.2	-	0.011-0.804	0.018-0.895	-
DIC	1664.03	1664.74	1666.63	1649.13
Coc.var	0.074	0.14	0.192	0.092

Table 22: Todas las causas: Lambdas, DIC, Cociente varianzas

Parámetros	LCAR1	LCAR2.RW1	LCAR2.RW2	LCAR1.PRIV
mean.lambda.1	0.624	0.508	0.717	0.203
IC.lambda.1	0.392-0.931	0.349-0.698	0.515-0.861	0.002-0.729
mean.lambda.2	-	0.41	0.182	-
IC.lambda.2	-	0.219-0.58	0.515-0.861	-
DIC	4416.64	4412.23	4407.34	4398.01
Coc.var	0.191	0.22	0.218	0.189