

Supplementary Material 1

Title: **Spatial analysis of birth defects in Brazil based on the human development index (HDI): an ecological study**
Journal Community Genetics

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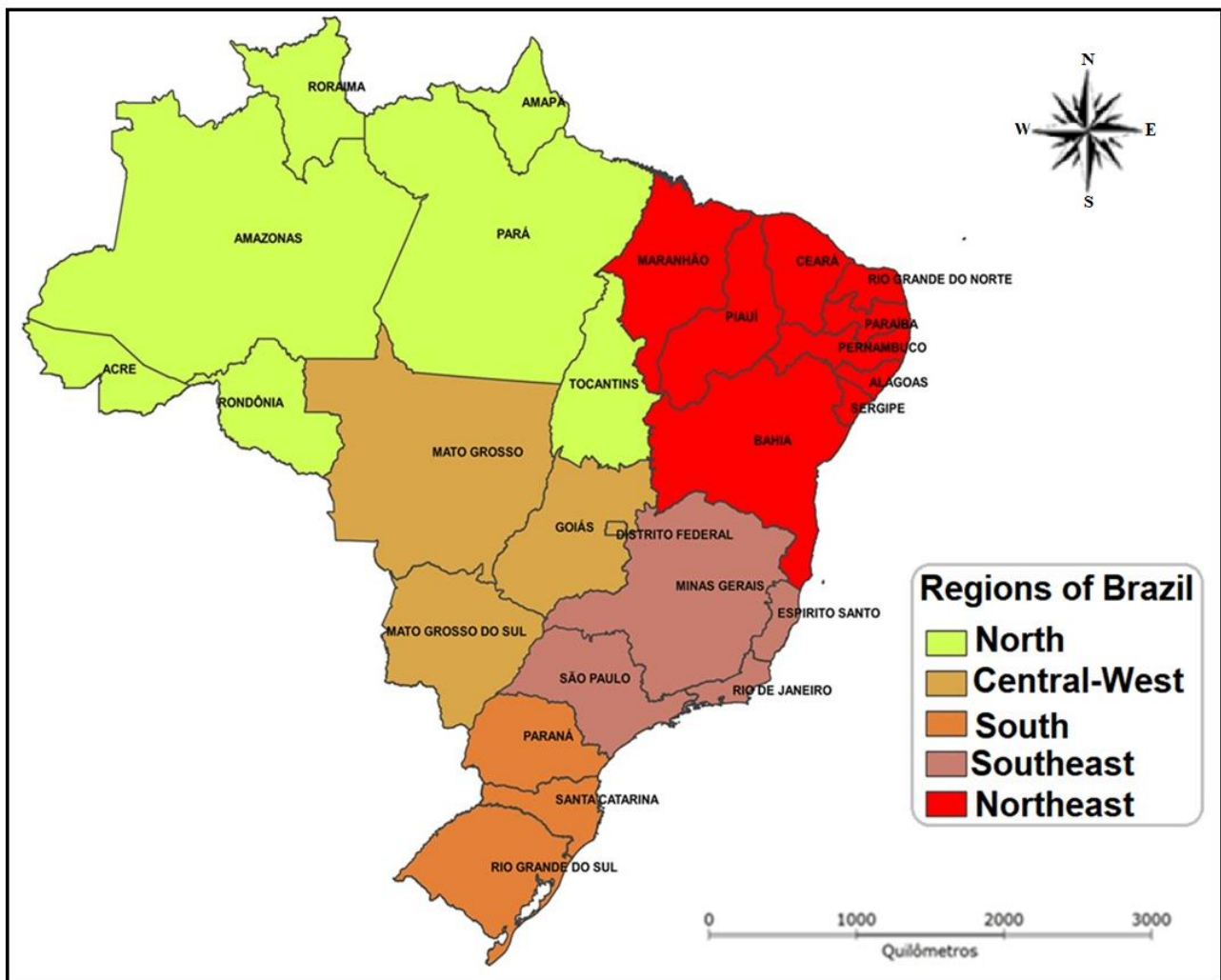
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The map follows the geographic division of Brazil, including states and regions cited in the study.

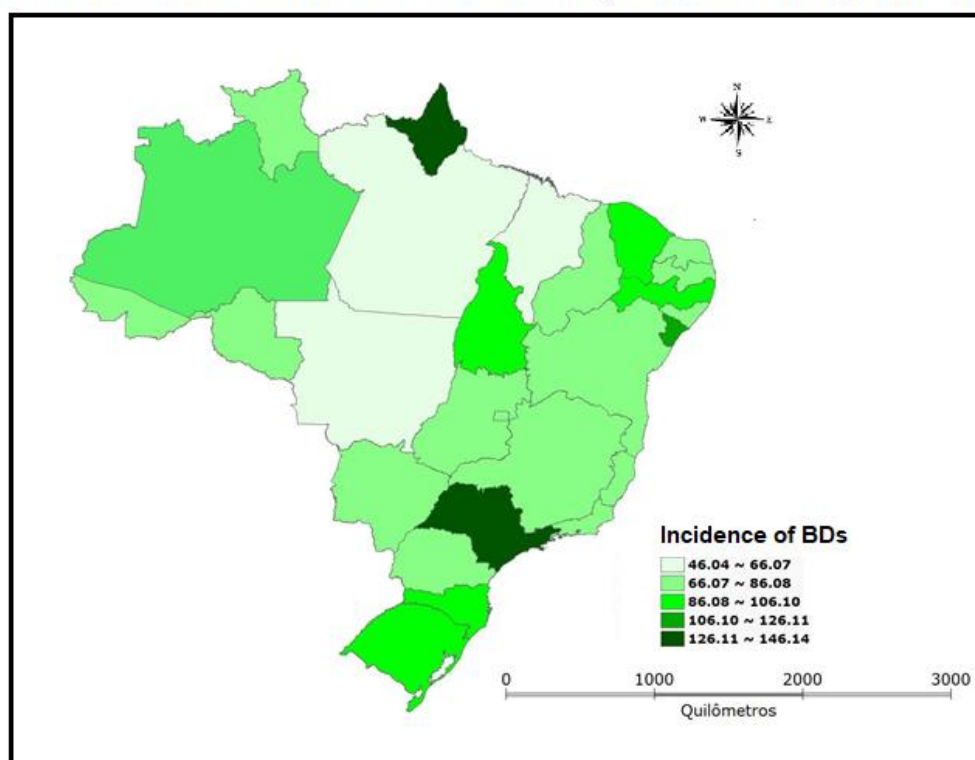


Rates of birth defects (x10,000 live births) per regions and states of Brazil, from 2017 to 2020 and HDI (2000 and 2010)

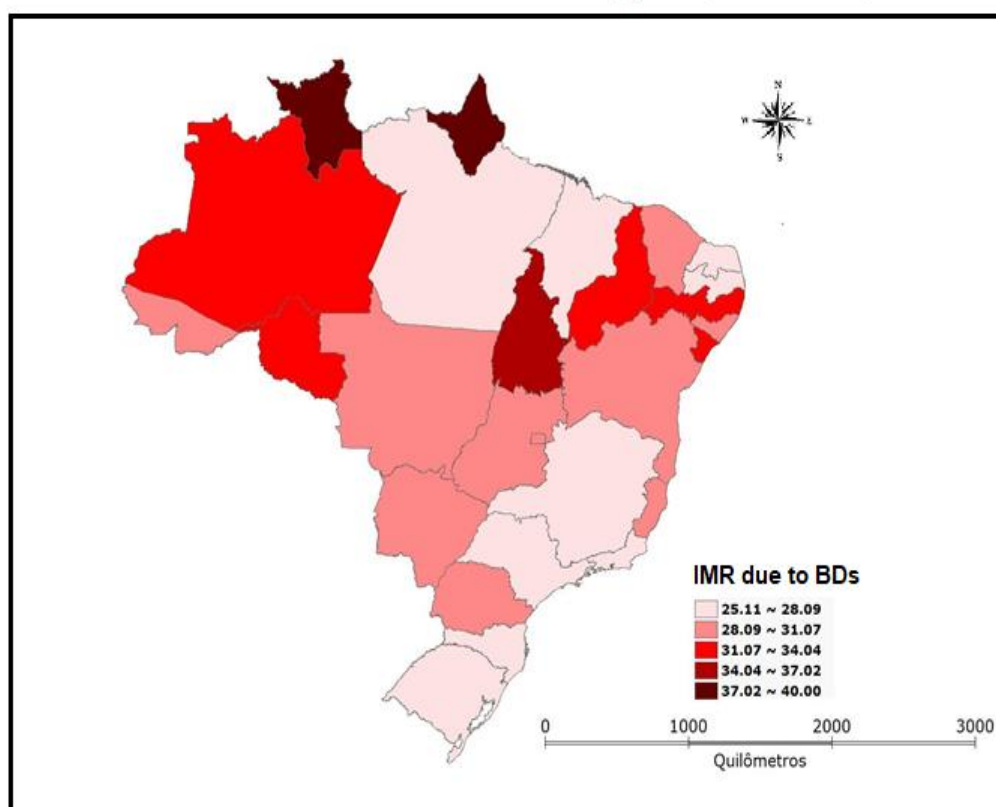
Region	States	LB with BDs				IMR-BDs				HDI
		2017	2018	2019	2020	2017	2018	2019	2020	2010
Central-West	Distrito Federal	59.46	71.50	86.04	80.75	35.00	32.81	21.92	29.90	0.824
Central-West	Goiás	66.45	78.08	77.41	80.67	28.10	29.84	36.42	27.61	0.735
Central-West	Mato Grosso	63.38	63.26	54.03	52.60	32.13	30.86	31.09	28.93	0.725
Central-West	Mato Grosso do Sul	66.82	66.18	72.32	62.01	27.49	32.30	28.61	25.43	0.729
North	Acre	79.47	92.49	92.14	65.98	21.40	31.43	30.10	31.32	0.663
North	Amapá	66.24	144.35	207.74	166.19	35.07	40.97	37.77	39.14	0.708
North	Amazonas	49.57	47.51	51.27	48.52	31.51	31.63	36.46	32.44	0.674
North	Pará	50.40	54.86	54.43	56.89	28.99	26.65	28.19	23.84	0.646
North	Rondônia	80.35	84.72	79.18	70.95	33.81	36.31	29.23	30.24	0.690
North	Roraima	58.79	63.70	72.50	70.92	40.90	50.21	40.36	28.51	0.707
North	Tocantins	92.64	80.85	105.12	76.69	33.29	39.25	38.86	26.97	0.699
Northeast	Alagoas	73.26	76.96	89.75	77.17	27.40	27.43	30.92	26.69	0.631
Northeast	Bahia	66.98	73.25	76.55	74.69	26.31	32.00	32.19	27.92	0.660
Northeast	Ceará	90.77	95.37	103.42	101.11	30.13	28.14	30.11	24.95	0.682
Northeast	Maranhão	50.89	39.18	45.01	49.11	26.55	24.07	25.59	24.27	0.639
Northeast	Paraíba	90.45	83.22	84.75	63.50	28.53	23.92	31.20	25.76	0.658
Northeast	Pernambuco	97.18	92.40	96.96	99.64	32.30	30.37	33.14	28.88	0.673
Northeast	Piauí	65.91	77.59	74.27	74.08	33.16	28.09	34.42	34.05	0.646
Northeast	Rio Grande do Norte	86.11	82.73	77.22	81.59	32.24	23.70	23.39	28.04	0.684
Northeast	Sergipe	120.18	117.64	110.41	114.85	25.98	34.45	36.70	33.35	0.665
South	Paraná	71.84	70.42	72.26	65.91	28.03	27.59	30.69	27.01	0.749
South	Rio Grande do Sul	90.63	96.32	92.42	96.76	26.07	27.49	28.98	23.02	0.746
South	Santa Catarina	86.95	81.62	85.28	90.49	27.66	26.00	26.11	26.67	0.774
Southeast	Espírito Santo	76.82	80.39	89.21	84.46	28.65	28.03	29.49	26.60	0.740
Southeast	Minas Gerais	74.69	73.85	74.82	69.66	28.36	27.31	28.34	26.06	0.731
Southeast	Rio de Janeiro	68.09	71.25	67.84	70.61	27.19	26.26	28.90	26.38	0.761
Southeast	São Paulo	135.13	136.91	124.21	124.39	25.61	26.68	26.51	23.89	0.783

Note: Live Births = LB; birth defects = BDs; Infant Mortality Rate due to Birth Defects = IMR-BDs; Human Development Index = HDI

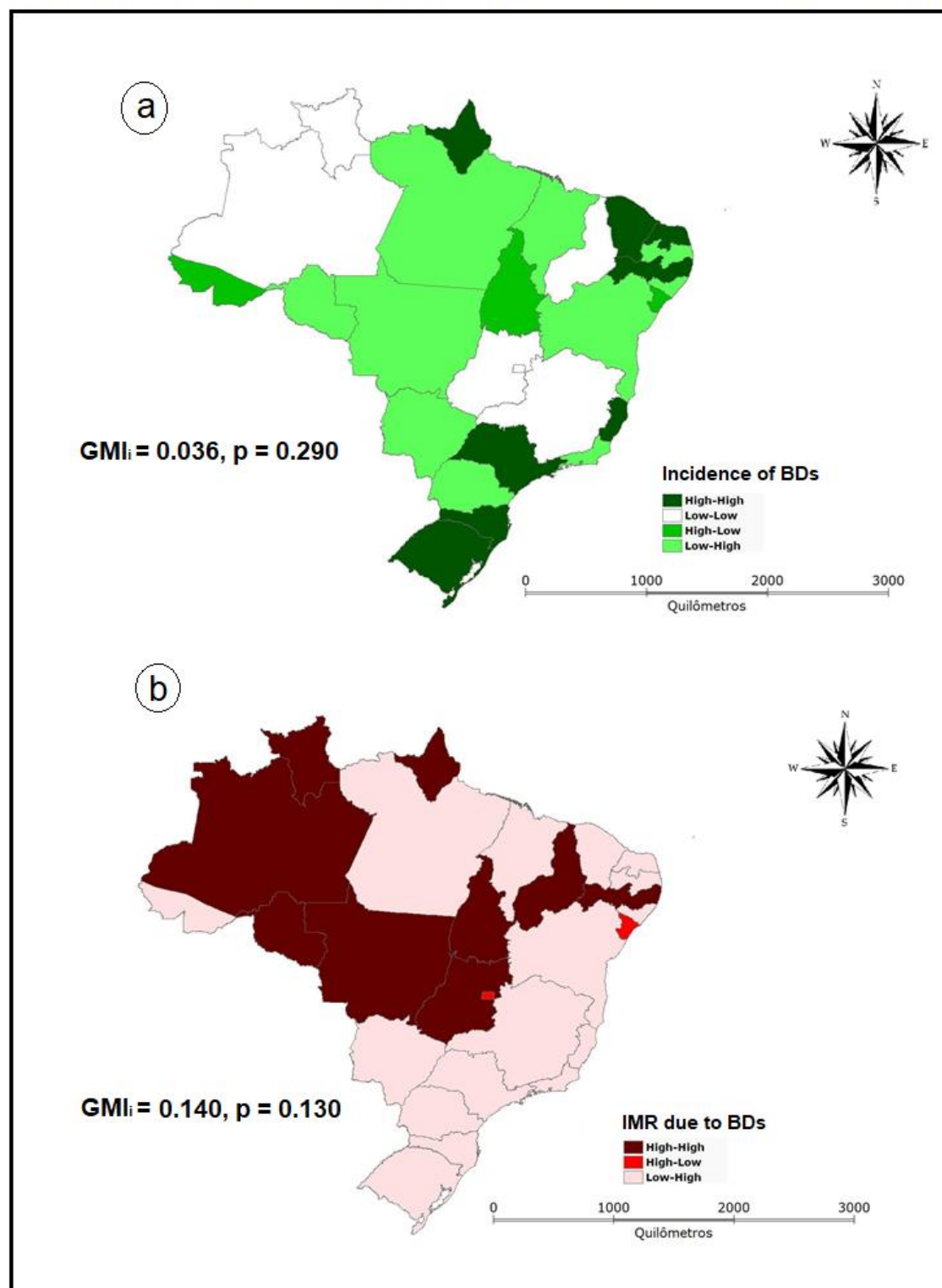
Distribution of the incidence of BDs in the states of Brasil, per 10,000 live births, from 2017 to 2020



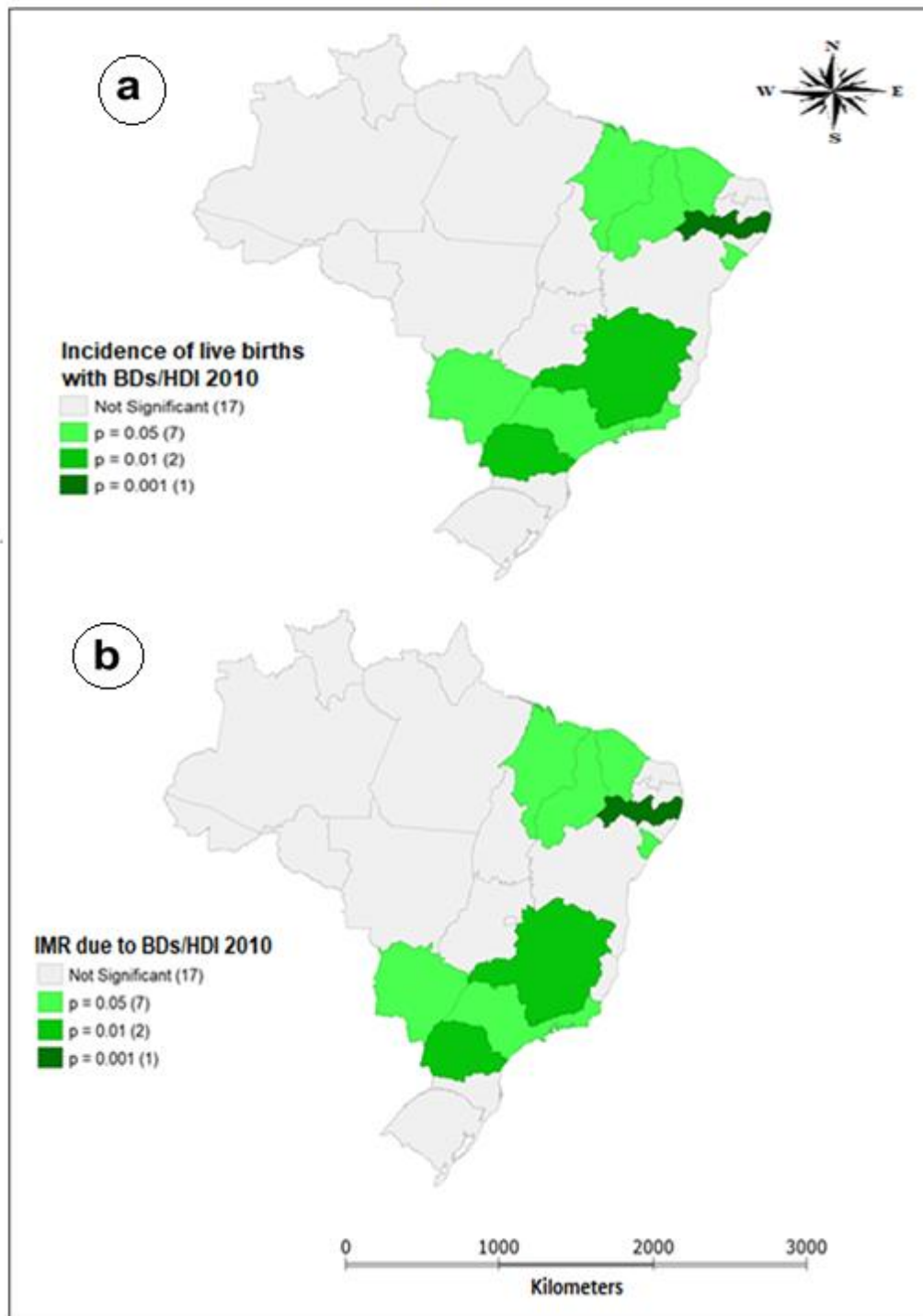
Distributions of IMR due to BDs in the states of Brazil, per 10,000 live births, 2017 to 2020



- (a) BlxMap of the distribution of the incidence of BDs in the states, per 10,000 live births, 2017 to 2020;
 (b) BlxMap of the distribution of IMR due to BDs in the states, per 10,000 live births, 2017 to 2020.



Local Indicators of Spatial Association–LISA



- (a) Statistical Significance for the Incidence of BDs vs. HDI-2010;
(b) Statistical Significance for the IMR due to BDs vs. HDI-2010