

**ANEXO 1: Tabela Radiação Solar**  
As localidades estão em ordem crescente de Latitude

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Macapá	0.03	50.05	5.05
São Gabriel Da Cachoeira	0.13	67.08	4.86
Pari Cachoeira	0.17	69.93	4.46
Santa Izabel Do Rio Negro	0.42	65	4.36
Cupixi	0.62	51.78	4.67
Iauarete	0.62	69.2	4.17
Porto Platon	0.7	51.42	4.82
Soure	0.72	48.55	5.25
Barcelos	0.98	62.92	4.79
Tracuateua	1.07	46.83	4.97
Belém	1.47	48.45	5.05
Breves	1.67	50.48	5.11
Turiação	1.72	44.4	4.85
Obidos	1.9	55.5	5.15
Porto De Moz	1.9	52.23	4.98
Monte Alegre	2	54.07	5.15
Cameta	2.25	49.5	5.30
Taperinha	2.42	54.33	4.79
Tirios	2.48	55.98	4.67
Fonte Boa	2.53	66.02	4.53
São Luiz	2.53	44.28	4.91
Parintins	2.63	56.73	4.96
Belterra	2.75	55.08	4.89
Boa Vista	2.82	60.65	4.95
Acarau	2.88	40.13	5.63
Parnaíba	2.92	41.6	5.69
Itacoatiara	3.13	58.43	4.25
Altamira	3.2	52.75	4.19
Tefe	3.37	64.7	4.68
Sobral	3.7	40.35	5.32
Chapadinha	3.72	43.42	5.32
Tucuruí	3.72	49.72	4.78
Ze Doca	3.72	45.57	4.93
Fortaleza	3.77	38.6	5.56
Diapoque	3.82	51.83	4.52
Aerop. Fernando de Noronha	3.83	32.42	5.53
Codajás	3.83	62.08	4.92
Bacabal	4.08	44.75	4.90
Coari	4.08	63.13	4.64
Itaituba	4.27	55.58	4.95
Piripiri	4.27	41.78	5.63
Guaramiranga	4.28	39	4.69
Benjamin Constant	4.38	70.03	4.42
Aracati	4.57	37.77	5.82
Jaguaruana	4.83	37.8	5.69

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Caxias	4.87	43.35	5.37
Carauari	4.95	66.9	4.26
Teresina	5.08	42.82	5.49
Macau	5.1	36.62	5.47
Morada Nova	5.1	38.38	5.67
Crateus	5.18	40.67	5.40
Mossoro	5.18	37.33	5.50
Quixeramobim	5.2	39.3	5.49
Maraba	5.35	49.15	4.53
Barra Do Corda	5.5	45.27	4.84
Imperatriz	5.53	47.48	4.89
Apodi	5.65	37.8	5.72
Ceara Mirim	5.65	35.42	5.50
Natal	5.77	35.2	5.66
Grajaú	5.8	46.45	4.81
Sao Felix Do Piauí	5.8	42.17	5.55
Manicoré	5.82	61.3	4.59
Colinas	5.97	44.23	4.89
Tauá	6.02	40.42	5.25
Florânia	6.12	36.82	5.44
Iguatu	6.37	39.3	5.63
Cruzeta	6.43	36.58	5.63
Sao Felix Do Xingu	6.63	51.97	4.44
Eirunepe	6.67	69.87	4.28
Floriano	6.77	43.03	5.42
Sao Gonçalo	6.78	38.2	5.99
Patos	7.02	37.27	5.83
Campos Sales	7.07	40.38	5.35
Picos	7.07	41.48	5.49
João Pessoa	7.1	34.87	5.50
Juazeiro Do Norte	7.2	39.32	5.50
Campina Grande	7.22	35.88	5.09
Urucui	7.23	44.55	5.32
Labrea	7.25	64.83	4.29
Barbalha	7.32	39.3	5.43
Carolina	7.33	47.47	5.04
Alto Tapajós	7.35	57.52	4.59
<b>Média Latitude entre 0-7.5°</b>			<b>5.07</b>
Balsas	7.5	46.17	4.93
Humaita	7.52	63.03	4.59
Cruzeiro Do Sul	7.63	72.67	4.29
Nazare Da Mata	7.73	35.25	5.23
Surubim	7.83	35.77	5.33
Morro Dos Cavalhos	7.85	41.9	5.56
Triunfo	7.85	38.13	5.47
Monteiro	7.88	37.12	5.34
Ouricuri	7.9	40.05	5.41
Olinda	8.02	34.85	5.48
Curado	8.05	34.92	5.31

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Paulistana	8.13	41.3	5.40
Tarauaca	8.17	70.77	4.27
Conceicao De Araguaia	8.25	49.2	4.96
Caruaru	8.28	35.97	5.09
Sao Joao Do Piaui	8.37	42.3	5.47
Arco Verde	8.42	37.08	5.47
Cabrobo	8.52	39.3	5.45
Floresta	8.6	38.57	5.52
Porto Velho	8.77	63.92	4.56
Garanhuns	8.88	36.48	5.18
Pedro Alfonso	8.97	48.18	5.05
Bom Jesus	9.07	44.35	5.49
Petrolandia	9.07	38.32	5.57
Sena Madueira	9.07	68.67	4.65
Alto Parnaiba	9.12	45.93	4.86
Caracol	9.17	43.33	5.47
Porto Das Pedras	9.18	35.33	5.28
Agua Branca	9.27	37.93	4.97
Paulo Alfonso	9.35	38.25	5.38
Petrolina	9.38	40.5	5.37
Palmeira Dos Indios	9.42	36.67	5.05
Maceio	9.67	35.72	5.37
Pao De Acucar	9.77	37.45	5.16
Rio Branco	9.97	67.8	4.47
<b>Média Latitude entre 7.5° - 10.0°</b>			<b>5.16</b>
Coruripe	10.15	36.17	5.15
Propria	10.2	36.87	5.12
Monte Santo	10.43	39.33	5.01
Senho Do Bom Fim	10.47	40.18	4.63
Porto Nacional	10.52	48.72	5.03
Aracaju	10.92	37.05	5.47
Ibipetuba	11.02	44.52	5.32
Barra Do Rio Grande	11.08	43.17	5.46
Cipo	11.08	38.52	4.89
Jacobina	11.18	40.52	4.84
Itaibaninha	11.28	37.82	4.94
Irece	11.3	41.87	5.52
Morro Do Chapeu	11.55	41.15	4.53
Serrinha	11.65	39.02	4.86
Peixi	12.02	48.53	5.05
Algoinhas	12.13	38.43	4.69
Barreiras	12.15	45	5.35
Gleba Celeste	12.2	56.5	4.80
Taguatinga	12.4	46.43	4.94
Sao Gonzalo Dos Campos	12.43	38.93	5.00
Itaberaba	12.55	40.43	4.71
Parana	12.55	47.85	5.13
Lencois	12.57	41.55	4.58
Cruz Das Almas	12.67	39.1	4.92

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Salvador (Ondina)	13	38.52	5.27
Utiariti	13.03	58.28	4.90
Bom Jesus Da Lapa	13.27	43.42	5.53
Correntina	13.33	44.77	5.18
Jaguaquara	13.53	39.98	4.43
Ituacu	13.82	41.3	4.80
Caetite	14.07	42.48	5.26
Posse	14.1	46.37	5.00
Carinhanha	14.3	43.77	5.24
Diamantino	14.4	56.48	4.88
Ilheus	14.78	39.05	5.14
Espinosa	14.83	43.25	5.32
Vitoria Da Conquista	14.85	40.85	4.66
Formoso	14.93	46.25	4.61
<b>Média Latitude entre 10.0° - 15.0°</b>			<b>5.00</b>
Mocambinho	15.05	44.02	5.28
Monte Azul	15.08	42.75	5.27
Januaria	15.5	44.35	5.32
Formosa	15.53	47.33	4.88
Cuiaba	15.55	56.12	5.09
Coxipo Da Ponte	15.6	56.1	5.03
Sangradouro	15.63	53.83	4.91
Canavieiras	15.67	38.95	4.74
Brasilia	15.78	47.93	4.93
Janauba	15.78	43.3	5.06
Aragarcas	15.9	50.4	5.06
Arinos	15.9	46.05	4.96
Goiás	15.92	50.13	4.82
Pedra Azul	16	41.28	4.75
Caceres	16.05	57.68	4.74
Salinas	16.17	42.25	4.69
Guaratinga	16.57	39.55	4.47
Goiania	16.68	49.28	5.00
Montes Claros	16.72	43.22	5.22
Aracuai	16.87	42.05	4.96
Pirapora	17.35	44.95	5.26
Paracatu	17.52	46.87	4.95
Mineiros	17.57	52.55	4.86
Iparneri	17.72	49.17	4.99
Caravelas	17.73	39.25	4.84
Itamarandiba	17.85	42.85	4.87
Teofilo Otoni	17.85	41.52	4.66
Rio Verde	17.92	50.92	5.01
Catalao	18.18	47.95	5.03
Diamantina	18.25	43.6	4.87
Coxim	18.5	54.77	4.86
Patos De Minas	18.6	46.52	5.06
Capinópolis	18.68	49.57	5.07
Governador Valadares	18.85	41.93	4.59

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Monte Alegre De Minas	18.87	48.87	4.99
Sao Gabriel Da Palha	19.02	40.57	4.42
Conceicao Do Mato Dentro	19.03	43.43	4.62
Corumba	19.08	57.65	5.08
Pompeu	19.22	45	4.90
Linhares	19.4	40.07	4.71
Sao Mateus	19.4	40.07	4.63
Sete Lagoas	19.47	44.25	5.24
Aimores	19.48	41.07	5.00
Acesita	19.52	42.62	4.69
Araxa	19.6	46.9	4.96
Itabira	19.62	43.22	4.60
Lagoa Santa	19.62	43.88	4.84
Paranaíba	19.7	51.18	5.08
Caratinga	19.77	42.15	4.74
Uberaba	19.77	47.93	5.23
Aracruz	19.82	40.25	4.53
Joao Monlevade	19.83	43.12	4.43
Florestal	19.87	44.42	4.80
Instituto Agronomico	19.9	43.92	4.74
Belo Horizonte	19.93	43.93	4.35
Bambui	20	45.98	4.84
<b>Média Latitude entre 15.0° - 20.0°</b>			<b>4.88</b>
Ibirité	20.02	44.05	4.80
Venda Nova	20.32	41.17	4.31
Vitoria	20.32	40.33	4.88
Votuporanga	20.42	49.98	5.11
Campo Grande	20.45	54.62	4.93
Aquidauana	20.47	55.8	4.99
Caparaó	20.52	41.87	4.80
Barretos	20.55	48.57	5.07
Franca	20.55	47.43	4.98
Oliveira	20.68	44.82	5.00
Colina	20.72	48.55	5.16
Vicosa	20.75	42.85	4.75
Alegre	20.77	41.55	4.67
Tres Lagoas	20.78	51.7	5.01
Cachoeiro Do Itapemirim	20.85	41.1	4.75
Caxambu	21.05	44.95	4.69
Catanduva	21.13	48.97	5.08
Aracatuba	21.2	50.43	5.11
Itaperuna	21.2	41.88	4.80
Lavras Experimental	21.23	45	5.08
Barbacena	21.25	43.77	4.60
Cataguases	21.38	42.68	4.57
Santos Dumont	21.45	43.55	4.35
Sao Simon	21.48	47.72	4.97
Água Limpa	21.55	43.1	4.50
Cooperativa Agric. De Co	21.58	46.88	4.53

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Sao Fidelis	21.65	41.25	4.76
Lins	21.67	49.42	5.02
Machado	21.67	45.92	4.53
Campos	21.75	41.33	4.82
Juiz De Fora	21.77	43.33	4.16
Pocos De Caldas	21.78	46.57	4.74
Cambuquira	21.85	45.3	4.75
S. Maria Madalena	21.95	42.02	4.30
Sao Carlos	22.02	47.88	4.91
Sao Carlos	22.02	47.88	4.70
Cordeiro	22.03	42.37	4.50
Sao Lourenco	22.1	45.02	4.70
Presidente Prudente	22.12	51.38	4.93
Ivinherna	22.22	49.17	5.06
Monte Alegre Do Sul	22.23	44.65	4.88
Nova Friburgo	22.28	42.53	4.30
Ouro Fino	22.28	46.55	4.91
Usina Junqueira	22.28	46.55	4.91
Agua Clara	22.3	54	4.93
Bauru	22.32	49.07	5.05
Campo Da Fe	22.33	45.08	4.58
Macaé	22.35	41.8	4.84
Passa Quaty	22.38	44.97	4.74
Vassouras	22.4	43.67	4.62
Barrerinha	22.45	44.83	4.33
Teresopolis	22.45	42.93	4.26
Pirai	22.47	43.88	4.37
Resende	22.48	44.47	4.49
Volta Redonda	22.48	44.08	4.17
Dourados	22.5	54.17	4.81
Pinheiral	22.52	44	4.47
Ponta Pora	22.53	55.62	4.79
Piracicaba	22.72	47.63	4.79
Campos Do Jordó	22.73	45.58	4.40
Sao Bento	22.73	43.3	4.25
Ecologia Agricola	22.77	43.68	4.58
Observatorio Km. 47	22.77	43.68	4.68
Penha Rio	22.82	43.22	4.65
Niteroi	22.87	43.08	4.54
Campinas	22.88	47.08	4.90
Rio: Praca 15 De Novembr	22.9	43.17	4.64
Servicio Geographico	22.9	48.18	4.38
Pidamonnangaba	22.92	45.42	4.13
Santa Cruz: Rio	22.92	43.67	4.57
Ilha Guaiba	22.93	44	4.51
Jardim Botanico	22.97	43.22	4.10
Tremembe	22.97	45.55	4.40
Alcalis	22.98	42.03	4.84
Tiete	23	43.72	4.90

<i>Localidade</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Média Anual (kWh/m<sup>2</sup>.dia)</i>
Angra Dos Reis	23.02	44.32	4.30
Taubate	23.02	45.57	4.45
Avare	23.1	48.92	4.88
Jacarezinho	23.15	49.97	4.87
Sao Jose Dos Campos	23.22	45.85	4.45
Londrina	23.32	51.15	4.81
Fazenda Ipanema	23.42	47.58	4.81
Maringa	23.42	51.95	4.76
Ubatuba	23.43	45.1	4.16
Mirante De Santana	23.5	46.62	4.45
Sao Paulo	23.5	46.62	3.96
Sao Paulo	23.5	46.62	3.96
Itapetininga	23.58	48.05	4.72
Vila Deodoro	23.58	46.6	4.16
Sao Bernardo Do Campo	23.72	46.53	4.21
Piacaguera	23.83	46.37	3.87
Santos	23.93	46.33	4.13
Itapeva	23.95	48.88	4.63
Campo Mourau	24.05	52.37	4.73
Guaira	24.08	54.25	4.73
Jaguariaiva	24.25	49.7	4.70
Iguape	24.38	47.55	4.03
Toledo	24.73	53.73	4.80
Castro	24.78	50	4.31
Cananeia	25.02	47.93	3.97
<b>Média Latitude entre 20.0° - 25.0°</b>			<b>4.63</b>
Ponta Grossa	25.1	50.17	4.58
Colombo	25.33	49.23	4.39
Curitiba	25.33	49.23	3.72
Guarapuava	25.4	51.47	4.47
Campo Largo	25.47	49.43	4.12
Irati	25.47	50.63	4.28
Paranagua	25.52	48.52	4.01
Foz De Iguacu	25.55	54.57	4.61
Sao Mateus Do Sul	25.87	50.38	4.60
Rio Negro	26.1	49.8	4.11
Porto Uniao	26.22	51.07	4.10
Sao Francisco Do Sul	26.25	48.65	4.10
Palmas	26.48	51.98	4.33
Sao Miguel Do Oeste	26.73	53.58	4.68
Xancere	26.85	52.4	4.60
Indiaial	26.9	49.22	4.15
Blumenau	26.92	49.05	3.92
Camboriu	27	48.63	3.92
Chapeco	27.12	52.62	4.78
Irai	27.18	53.23	4.59
Campos Novos	27.4	51.2	4.66
Lages	27.8	50.32	4.31
Passo Fundo	28.27	52.42	4.62

Panambi	28.28	53.48	4.63
Sao Joaquim	28.3	49.92	3.96
Sao Luiz Goncaga	28.4	55.02	4.46
Lagoa Vermelma	28.42	51.58	4.44
Laguna	28.48	48.78	4.34
Cruz Alta	28.63	53.6	4.61
Bom Jesus	28.67	50.43	4.30
Bento Concolves	29.17	51.42	4.51
Caxias Do Sul	29.17	51.2	4.27
Torres	29.33	49.72	4.37
Santa Maria	29.7	53.7	4.65
Uruguaiana	29.75	57.08	4.75
Alegrete	29.77	55.78	4.76
Porto Alegre	30.02	51.22	4.45
Encruzilhada Do Sul	30.55	52.52	4.43
Santana Do Livramento	30.88	55.52	4.48
Bage	31.33	54.1	4.38
Rio Grande	32.02	52.08	4.45
Santa Vitoria Do Palmar	33.52	53.35	4.47
<b>Média Latitude Brasil</b>			<b>4.91</b>