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Supplementary Materials for

Artificially lit surface of Earth at night increasing in radiance and extent

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- fig. S1. Normalized cumulative radiance distribution for Afghanistan through Ghana.
- fig. S2. Normalized cumulative radiance distribution for Greece through Paraguay.
- fig. S3. Normalized cumulative radiance distribution for Peru through Zimbabwe.
- fig. S4. Lit area (2014) and radiance change (2012–2016) in Afghanistan, Albania, Algeria, Andorra, Antigua and Barbuda, Argentina, and Armenia.
- fig. S5. Lit area (2014) and radiance change (2012–2016) in Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Barbados, Belarus, and Belgium.
- fig. S6. Lit area (2014) and radiance change (2012–2016) in Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, and Brunei.
- fig. S7. Lit area (2014) and radiance change (2012–2016) in Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, and Chad.
- fig. S8. Lit area (2014) and radiance change (2012–2016) in Chile, China, Colombia, Comoros, Republic of the Congo, Democratic Republic of the Congo, Costa Rica, and Côte d'Ivoire.
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- fig. S11. Lit area (2014) and radiance change (2012–2016) in Fiji, Finland, France, Gabon, Gaza Strip, Georgia, Germany, and Ghana.
- fig. S12. Lit area (2014) and radiance change (2012–2016) in Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, and Honduras.

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- fig. S17. Lit area (2014) and radiance change (2012–2016) in Marshall Islands, Mauritania, Mauritius, Mexico, Moldova, Monaco, Mongolia, and Montenegro.
- fig. S18. Lit area (2014) and radiance change (2012–2016) in Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, and New Zealand.
- fig. S19. Lit area (2014) and radiance change (2012–2016) in Nicaragua, Niger, Nigeria, North Korea, Norway, Oman, Pakistan, and Panama.
- fig. S20. Lit area (2014) and radiance change (2012–2016) in Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, and Romania.
- fig. S21. Lit area (2014) and radiance change (2012–2016) in Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, and Serbia and Montenegro.
- fig. S22. Lit area (2014) and radiance change (2012–2016) in Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, and South Africa.
- fig. S23. Lit area (2014) and radiance change (2012–2016) in South Korea, South Sudan, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Sudan.
- fig. S24. Lit area (2014) and radiance change (2012–2016) in Suriname, Swaziland, Sweden, Switzerland, Syria, Taiwan, Tajikistan, and Tanzania.
- fig. S25. Lit area (2014) and radiance change (2012–2016) in Thailand, The Bahamas, The Gambia, Togo, Trinidad and Tobago, Tunisia, Turkey, and Turkmenistan.
- fig. S26. Lit area (2014) and radiance change (2012–2016) in Uganda, Ukraine, United Arab Emirates, UK, the United States, Uruguay, Uzbekistan, and Vanuatu.
- fig. S27. Lit area (2014) and radiance change (2012–2016) in Vatican City, Venezuela, Vietnam, West Bank, Western Sahara, Yemen, Zambia, and Zimbabwe.
- fig. S28. Annual changes in lit area and total radiance.

Supplementary information

Figures S1-3 present the normalized cumulative radiance distribution for each country in 2012 (i.e. the integral of the data in Figure 3A divided by the national sum of lights). The values represent what fraction of the total light emission of the country (above the threshold of $5 \text{ nW cm}^{-2} \text{ sr}^{-1}$) comes from areas with radiances below the value (in $\text{nW cm}^{-2} \text{ sr}^{-1}$) given in the top row. Table entries are colored in order to allow visual inspection of the data.

Figures S4-S27 are similar to Figure 3A,C from the main paper, but for each individual country with at least one pixel with radiance larger than $5 \text{ nW cm}^{-2} \text{ sr}^{-1}$ in 2014. The left panels show the area lit in 2014 in each of the given radiance bins. The right panels show the mean change in radiance from 2012 to 2016.

Figure S28 is similar to Figure 1 from the main paper, but showing the change in total radiance instead of the change in the radiance of stable lights (i.e. including unstable and transient lights, including fires).

Country	6.1	7.5	9.2	11	14	17	21	26	32	39	48	58	72	88	108	132	162	199	244	300
Afghanistan	0.07	0.14	0.22	0.31	0.41	0.51	0.58	0.63	0.67	0.71	0.75	0.79	0.83	0.88	0.95	0.98	1.00	1.00	1.00	1.00
Albania	0.06	0.11	0.17	0.24	0.31	0.38	0.47	0.55	0.63	0.71	0.78	0.86	0.91	0.95	0.97	0.98	0.99	1.00	1.00	1.00
Algeria	0.03	0.07	0.11	0.15	0.20	0.25	0.31	0.37	0.43	0.50	0.58	0.66	0.73	0.81	0.87	0.92	0.96	0.98	0.99	1.00
Andorra	0.03	0.08	0.14	0.18	0.27	0.33	0.42	0.49	0.60	0.62	0.70	0.77	0.82	0.87	0.93	1.00	1.00	1.00	1.00	1.00
Angola	0.03	0.06	0.11	0.15	0.20	0.26	0.34	0.42	0.53	0.64	0.75	0.87	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00
Antigua and Barbuda	0.11	0.23	0.35	0.52	0.60	0.70	0.79	0.89	0.94	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Argentina	0.02	0.04	0.07	0.09	0.13	0.16	0.21	0.26	0.32	0.38	0.47	0.57	0.70	0.83	0.92	0.97	0.99	0.99	1.00	1.00
Armenia	0.05	0.11	0.20	0.32	0.45	0.56	0.67	0.74	0.79	0.81	0.85	0.89	0.93	0.97	0.99	0.99	1.00	1.00	1.00	1.00
Australia	0.04	0.09	0.16	0.24	0.33	0.44	0.54	0.63	0.72	0.80	0.86	0.91	0.94	0.96	0.97	0.99	0.99	1.00	1.00	1.00
Austria	0.08	0.17	0.26	0.36	0.45	0.53	0.62	0.71	0.79	0.86	0.90	0.94	0.96	0.98	0.99	0.99	0.99	1.00	1.00	1.00
Azerbaijan	0.08	0.16	0.25	0.34	0.43	0.52	0.59	0.66	0.75	0.81	0.85	0.90	0.93	0.95	0.97	0.98	0.99	0.99	1.00	1.00
Bahrain	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.12	0.17	0.24	0.33	0.45	0.57	0.68	0.81	0.93	0.99	1.00	1.00
Bangladesh	0.12	0.24	0.35	0.48	0.61	0.73	0.82	0.89	0.93	0.95	0.96	0.97	0.98	0.98	0.99	0.99	1.00	1.00	1.00	1.00
Barbados	0.07	0.16	0.28	0.37	0.53	0.70	0.82	0.90	0.95	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Belarus	0.05	0.12	0.19	0.27	0.36	0.46	0.57	0.68	0.78	0.87	0.92	0.95	0.96	0.98	0.99	0.99	1.00	1.00	1.00	1.00
Belgium	0.08	0.16	0.25	0.34	0.43	0.53	0.61	0.69	0.75	0.81	0.86	0.90	0.94	0.97	0.98	0.99	1.00	1.00	1.00	1.00
Belize	0.08	0.16	0.23	0.34	0.43	0.56	0.65	0.74	0.79	0.85	0.88	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Benin	0.16	0.37	0.54	0.67	0.77	0.83	0.85	0.88	0.92	0.94	0.95	0.96	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Bhutan	0.16	0.26	0.40	0.55	0.65	0.71	0.75	0.81	0.86	0.94	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bolivia	0.02	0.05	0.07	0.11	0.15	0.19	0.24	0.30	0.37	0.46	0.56	0.68	0.79	0.89	0.95	0.98	0.99	1.00	1.00	1.00
Bosnia and Herzegovina	0.08	0.17	0.26	0.35	0.44	0.54	0.62	0.70	0.78	0.84	0.90	0.94	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Botswana	0.07	0.15	0.24	0.34	0.45	0.56	0.65	0.75	0.84	0.91	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Brazil	0.03	0.07	0.11	0.16	0.21	0.28	0.35	0.44	0.53	0.63	0.73	0.81	0.89	0.95	0.98	0.99	1.00	1.00	1.00	1.00
Brunei Darussalam	0.08	0.14	0.24	0.36	0.44	0.53	0.64	0.72	0.81	0.85	0.86	0.87	0.89	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Bulgaria	0.06	0.13	0.20	0.28	0.37	0.45	0.54	0.64	0.74	0.84	0.92	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Burkina Faso	0.08	0.15	0.23	0.31	0.39	0.51	0.62	0.76	0.86	0.94	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Burundi	0.30	0.56	0.73	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cabo Verde	0.07	0.13	0.22	0.31	0.44	0.56	0.70	0.81	0.89	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cambodia	0.08	0.11	0.18	0.28	0.35	0.39	0.54	0.69	0.86	0.95	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cameroon	0.07	0.14	0.22	0.32	0.48	0.61	0.70	0.76	0.81	0.88	0.92	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Canada	0.03	0.06	0.10	0.14	0.19	0.25	0.32	0.40	0.50	0.60	0.70	0.80	0.88	0.94	0.97	0.99	0.99	1.00	1.00	1.00
Chad	0.05	0.10	0.16	0.24	0.33	0.42	0.54	0.67	0.75	0.80	0.86	0.92	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Chile	0.03	0.06	0.09	0.12	0.16	0.21	0.26	0.32	0.40	0.49	0.59	0.73	0.87	0.96	0.99	1.00	1.00	1.00	1.00	1.00
China	0.05	0.11	0.17	0.24	0.32	0.42	0.52	0.62	0.73	0.83	0.91	0.95	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Colombia	0.04	0.08	0.12	0.16	0.21	0.26	0.32	0.37	0.44	0.52	0.62	0.77	0.89	0.96	0.99	0.99	1.00	1.00	1.00	1.00
Comoros	0.39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Costa Rica	0.05	0.11	0.17	0.23	0.31	0.39	0.49	0.61	0.73	0.85	0.93	0.98	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Croatia	0.06	0.13	0.20	0.27	0.35	0.42	0.50	0.58	0.66	0.72	0.78	0.84	0.91	0.95	0.98	1.00	1.00	1.00	1.00	1.00
Cuba	0.07	0.15	0.23	0.32	0.41	0.52	0.64	0.77	0.88	0.94	0.97	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Cyprus	0.05	0.11	0.18	0.25	0.33	0.42	0.52	0.64	0.76	0.86	0.94	0.96	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Czech Republic	0.06	0.13	0.21	0.28	0.36	0.45	0.55	0.64	0.74	0.82	0.90	0.94	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00
Dem. People's Republic of Korea	0.16	0.31	0.43	0.51	0.65	0.69	0.82	0.86	0.88	0.92	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Democratic Republic of Congo	0.05	0.11	0.17	0.24	0.32	0.40	0.51	0.66	0.78	0.90	0.97	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Democratic Republic of Timor-Leste	0.06	0.10	0.20	0.32	0.46	0.55	0.72	0.78	0.87	0.94	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Denmark	0.10	0.21	0.33	0.44	0.56	0.67	0.76	0.82	0.87	0.91	0.94	0.95	0.95	0.96	0.97	0.97	0.99	0.99	0.99	1.00
Djibouti	0.04	0.10	0.16	0.27	0.41	0.52	0.61	0.70	0.83	0.87	0.90	0.94	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dominica	0.16	0.28	0.42	0.54	0.69	0.87	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dominican Republic	0.04	0.08	0.13	0.19	0.24	0.31	0.39	0.48	0.59	0.71	0.85	0.95	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ecuador	0.05	0.09	0.14	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73	0.82	0.90	0.95	0.97	0.98	0.99	1.00	1.00	1.00
Egypt	0.05	0.10	0.16	0.22	0.29	0.36	0.43	0.50	0.56	0.63	0.69	0.75	0.82	0.88	0.93	0.96	0.98	0.99	1.00	1.00
El Salvador	0.07	0.15	0.23	0.32	0.42	0.53	0.65	0.78	0.89	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Equatorial Guinea	0.03	0.09	0.17	0.31	0.42	0.53	0.69	0.77	0.91	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Eritrea	0.07	0.17	0.30	0.40	0.51	0.60	0.74	0.86	0.92	0.94	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Estonia	0.04	0.09	0.15	0.21	0.27	0.35	0.44	0.53	0.63	0.73	0.81	0.87	0.92	0.95	0.97	0.99	1.00	1.00	1.00	1.00
Ethiopia	0.07	0.15	0.25	0.36	0.51	0.64	0.74	0.82	0.86	0.90	0.94	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00
Fiji	0.20	0.44	0.65	0.79	0.86	0.92	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Finland	0.12	0.26	0.44	0.60	0.73	0.78	0.86	0.94	1.00	1.00	1.00	1.00	1.							

Country	6.1	7.5	9.2	11	14	17	21	26	32	39	48	58	72	88	108	132	162	199	244	300
Greece	0.05	0.11	0.17	0.24	0.30	0.37	0.44	0.50	0.57	0.63	0.70	0.76	0.83	0.90	0.96	0.99	1.00	1.00	1.00	1.00
Grenada	0.20	0.46	0.73	0.85	0.93	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Guatemala	0.05	0.11	0.16	0.23	0.30	0.37	0.45	0.54	0.62	0.71	0.78	0.87	0.93	0.97	0.99	1.00	1.00	1.00	1.00	1.00
Guinea	0.22	0.47	0.69	0.83	0.85	0.89	0.93	0.96	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Guinea-Bissau	0.15	0.53	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Guyana	0.09	0.21	0.33	0.41	0.52	0.61	0.71	0.83	0.91	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Haiti	0.16	0.36	0.55	0.73	0.82	0.89	0.94	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Honduras	0.06	0.11	0.18	0.25	0.33	0.42	0.51	0.62	0.73	0.83	0.92	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hungary	0.07	0.14	0.21	0.29	0.38	0.47	0.57	0.67	0.76	0.83	0.90	0.95	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00
India	0.06	0.12	0.18	0.25	0.32	0.39	0.46	0.54	0.62	0.70	0.77	0.84	0.90	0.95	0.98	0.99	1.00	1.00	1.00	1.00
Indonesia	0.08	0.16	0.25	0.35	0.46	0.56	0.67	0.76	0.85	0.92	0.95	0.97	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.00
Iran	0.05	0.11	0.17	0.23	0.29	0.36	0.43	0.50	0.59	0.69	0.78	0.87	0.92	0.95	0.96	0.97	0.98	0.99	0.99	1.00
Iraq	0.04	0.08	0.13	0.18	0.23	0.28	0.33	0.39	0.46	0.53	0.62	0.70	0.78	0.85	0.90	0.94	0.96	0.98	0.99	1.00
Ireland	0.06	0.12	0.19	0.27	0.35	0.44	0.53	0.63	0.75	0.84	0.90	0.93	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00
Israel	0.02	0.04	0.07	0.10	0.14	0.19	0.24	0.30	0.36	0.43	0.50	0.58	0.68	0.80	0.89	0.95	0.97	0.99	0.99	1.00
Italy	0.05	0.10	0.16	0.23	0.30	0.38	0.46	0.55	0.63	0.72	0.80	0.87	0.92	0.96	0.98	0.99	1.00	1.00	1.00	1.00
Ivory Coast	0.05	0.12	0.18	0.26	0.34	0.44	0.57	0.70	0.82	0.91	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Jamaica	0.08	0.16	0.23	0.31	0.39	0.51	0.65	0.77	0.86	0.93	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Japan	0.06	0.12	0.19	0.27	0.36	0.46	0.56	0.65	0.74	0.82	0.88	0.92	0.95	0.97	0.98	0.99	0.99	1.00	1.00	1.00
Jordan	0.05	0.11	0.17	0.24	0.31	0.38	0.46	0.55	0.64	0.74	0.83	0.89	0.94	0.97	0.99	1.00	1.00	1.00	1.00	1.00
Kazakhstan	0.04	0.09	0.14	0.19	0.25	0.31	0.38	0.45	0.52	0.59	0.66	0.72	0.79	0.85	0.89	0.93	0.96	0.97	0.99	1.00
Kenya	0.08	0.17	0.27	0.36	0.47	0.59	0.70	0.82	0.88	0.92	0.95	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Kosovo	0.07	0.16	0.24	0.32	0.42	0.51	0.61	0.73	0.81	0.89	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kuwait	0.02	0.04	0.07	0.09	0.12	0.15	0.19	0.23	0.28	0.32	0.37	0.41	0.47	0.54	0.65	0.80	0.91	0.97	0.99	1.00
Kyrgyz Republic	0.11	0.22	0.36	0.47	0.57	0.67	0.75	0.82	0.89	0.92	0.94	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lao PDR	0.11	0.21	0.33	0.45	0.55	0.65	0.74	0.83	0.88	0.93	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Latvia	0.05	0.10	0.17	0.24	0.31	0.38	0.48	0.60	0.71	0.81	0.89	0.94	0.95	0.97	0.98	1.00	1.00	1.00	1.00	1.00
Lebanon	0.07	0.15	0.23	0.32	0.40	0.48	0.55	0.61	0.68	0.74	0.80	0.85	0.90	0.95	0.98	0.99	1.00	1.00	1.00	1.00
Lesotho	0.12	0.23	0.37	0.55	0.68	0.74	0.83	0.87	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Liberia	0.18	0.43	0.67	0.74	0.83	0.85	0.86	0.88	0.90	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Libya	0.04	0.09	0.13	0.18	0.24	0.30	0.36	0.42	0.49	0.57	0.64	0.71	0.78	0.85	0.92	0.96	0.98	0.99	1.00	1.00
Liechtenstein	0.23	0.33	0.56	0.71	0.79	0.89	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lithuania	0.05	0.11	0.17	0.23	0.30	0.39	0.49	0.59	0.68	0.77	0.85	0.91	0.95	0.98	0.99	1.00	1.00	1.00	1.00	1.00
Luxembourg	0.07	0.15	0.24	0.33	0.42	0.51	0.59	0.69	0.77	0.84	0.90	0.94	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Madagascar	0.16	0.35	0.54	0.69	0.81	0.87	0.93	0.95	0.98	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Malawi	0.11	0.22	0.35	0.52	0.71	0.88	0.94	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Malaysia	0.03	0.07	0.12	0.17	0.22	0.29	0.38	0.47	0.61	0.76	0.88	0.95	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Maldives	0.09	0.09	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mali	0.08	0.19	0.29	0.43	0.58	0.74	0.86	0.93	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Malta	0.02	0.04	0.07	0.10	0.14	0.20	0.27	0.36	0.47	0.59	0.74	0.83	0.89	0.94	0.96	0.96	0.98	1.00	1.00	1.00
Marshall Islands	0.00	0.00	0.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mauritania	0.09	0.17	0.26	0.38	0.50	0.56	0.66	0.72	0.84	0.90	0.93	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mauritius	0.10	0.19	0.28	0.38	0.48	0.58	0.68	0.76	0.82	0.83	0.86	0.90	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mexico	0.03	0.07	0.12	0.16	0.21	0.27	0.34	0.42	0.52	0.64	0.78	0.89	0.95	0.97	0.98	0.99	1.00	1.00	1.00	1.00
Monaco	0.04	0.12	0.25	0.38	0.53	0.60	0.67	0.71	0.71	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mongolia	0.06	0.12	0.20	0.27	0.35	0.42	0.47	0.54	0.60	0.68	0.75	0.84	0.92	0.97	0.98	0.99	0.99	1.00	1.00	1.00
Montenegro	0.05	0.11	0.17	0.23	0.30	0.37	0.45	0.54	0.64	0.74	0.79	0.84	0.90	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Morocco	0.03	0.05	0.09	0.12	0.16	0.21	0.26	0.32	0.39	0.48	0.58	0.71	0.84	0.94	0.98	0.99	1.00	1.00	1.00	1.00
Mozambique	0.06	0.13	0.22	0.31	0.42	0.54	0.64	0.74	0.81	0.87	0.92	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Myanmar	0.10	0.21	0.33	0.45	0.56	0.65	0.74	0.82	0.88	0.91	0.95	0.97	0.98	0.98	0.99	0.99	1.00	1.00	1.00	1.00
Namibia	0.05	0.11	0.19	0.28	0.38	0.48	0.61	0.76	0.86	0.93	0.96	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Nauru	0.11	0.41	0.53	0.73	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nepal	0.11	0.24	0.36	0.52	0.69	0.81	0.90	0.95	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Netherlands	0.04	0.09	0.15	0.22	0.29	0.36	0.44	0.52	0.60	0.67	0.72	0.76	0.80	0.83	0.86	0.89	0.92	0.94	0.97	1.00
New Zealand	0.06	0.14	0.24	0.34	0.45	0.56	0.65	0.74	0.81	0.87	0.92	0.94	0.96	0.98	0.98	0.99	0.99	1.00	1.00	1.00
Nicaragua	0.05	0.12	0.20	0.27	0.37	0.48	0.59	0.70	0.83	0.95	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Niger	0.07	0.14	0.23	0.36	0.51	0.63	0.75	0.82	0.84	0.85	0.89	0.89	0.90	0.91	0.93	0				

Country	6.1	7.5	9.2	11	14	17	21	26	32	39	48	58	72	88	108	132	162	199	244	300
Peru	0.03	0.07	0.12	0.17	0.23	0.31	0.39	0.49	0.60	0.73	0.85	0.94	0.98	0.99	1.00	1.00	1.00	1.00	1.00	
Philippines	0.06	0.13	0.22	0.30	0.40	0.52	0.62	0.72	0.81	0.87	0.93	0.97	0.99	0.99	1.00	1.00	1.00	1.00	1.00	
Poland	0.05	0.11	0.17	0.23	0.30	0.38	0.47	0.55	0.64	0.73	0.81	0.88	0.93	0.96	0.98	0.99	0.99	0.99	1.00	
Portugal	0.05	0.10	0.16	0.22	0.28	0.35	0.41	0.47	0.54	0.61	0.68	0.75	0.82	0.89	0.94	0.97	1.00	1.00	1.00	
Qatar	0.01	0.02	0.04	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.25	0.31	0.38	0.46	0.55	0.67	0.80	0.91	0.97	
Republic of Congo	0.05	0.13	0.20	0.29	0.38	0.50	0.59	0.67	0.78	0.89	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Republic of Korea	0.04	0.08	0.12	0.17	0.21	0.26	0.32	0.38	0.46	0.54	0.64	0.77	0.88	0.95	0.98	0.99	1.00	1.00	1.00	
Republic of Moldova	0.08	0.17	0.26	0.35	0.46	0.57	0.70	0.83	0.91	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Romania	0.05	0.11	0.16	0.23	0.29	0.36	0.44	0.52	0.61	0.72	0.82	0.90	0.95	0.97	0.99	0.99	1.00	1.00	1.00	
Russia	0.04	0.09	0.14	0.20	0.26	0.32	0.39	0.46	0.54	0.62	0.69	0.77	0.84	0.89	0.93	0.96	0.98	0.99	1.00	
Rwanda	0.07	0.16	0.29	0.38	0.48	0.57	0.71	0.81	0.86	0.90	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Samoa	0.41	0.59	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
San Marino	0.05	0.11	0.18	0.25	0.35	0.43	0.51	0.61	0.73	0.84	0.95	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
São Tomé and Príncipe	0.19	0.37	0.58	0.81	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Saudi Arabia	0.02	0.04	0.07	0.10	0.13	0.16	0.20	0.24	0.29	0.35	0.40	0.46	0.53	0.60	0.69	0.78	0.88	0.96	0.99	
Senegal	0.07	0.15	0.22	0.30	0.39	0.45	0.53	0.61	0.70	0.83	0.91	0.98	0.99	0.99	1.00	1.00	1.00	1.00	1.00	
Serbia	0.06	0.13	0.20	0.27	0.34	0.42	0.50	0.58	0.65	0.71	0.78	0.84	0.90	0.94	0.97	0.99	0.99	1.00	1.00	
Seychelles	0.08	0.21	0.31	0.40	0.49	0.62	0.76	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Sierra Leone	0.35	0.57	0.79	0.85	0.95	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Singapore	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.12	0.18	0.26	0.39	0.62	0.80	0.88	0.93	0.96	0.98	1.00	1.00	
Slovak Republic	0.06	0.12	0.19	0.27	0.35	0.45	0.54	0.64	0.74	0.82	0.89	0.93	0.96	0.98	1.00	1.00	1.00	1.00	1.00	
Slovenia	0.08	0.17	0.27	0.37	0.47	0.56	0.66	0.75	0.82	0.88	0.92	0.95	0.96	0.97	0.98	0.99	0.99	1.00	1.00	
Solomon Islands	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Somalia	0.15	0.31	0.49	0.65	0.76	0.85	0.94	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
South Africa	0.04	0.09	0.14	0.20	0.27	0.35	0.45	0.55	0.65	0.75	0.84	0.91	0.95	0.97	0.98	0.99	1.00	1.00	1.00	
South Sudan	0.13	0.19	0.27	0.36	0.50	0.60	0.67	0.77	0.82	0.89	0.90	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Spain	0.03	0.07	0.11	0.15	0.20	0.25	0.31	0.37	0.44	0.51	0.58	0.66	0.74	0.82	0.90	0.96	0.99	1.00	1.00	
Sri Lanka	0.24	0.40	0.52	0.63	0.68	0.72	0.74	0.76	0.78	0.79	0.82	0.84	0.85	0.88	1.00	1.00	1.00	1.00	1.00	
St Kitts and Nevis	0.09	0.17	0.23	0.36	0.43	0.59	0.71	0.88	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
St Lucia	0.13	0.28	0.45	0.59	0.68	0.77	0.88	0.92	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
St Vincent and The Grenadines	0.08	0.41	0.54	0.63	0.66	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
State of Palestine	0.05	0.10	0.16	0.23	0.30	0.36	0.44	0.52	0.60	0.68	0.75	0.82	0.87	0.91	0.96	0.98	0.99	1.00	1.00	
Sudan	0.06	0.13	0.20	0.27	0.35	0.43	0.52	0.60	0.67	0.76	0.83	0.89	0.93	0.95	0.96	0.98	0.99	1.00	1.00	
Suriname	0.08	0.14	0.20	0.27	0.34	0.42	0.49	0.58	0.71	0.84	0.89	0.93	0.95	0.99	1.00	1.00	1.00	1.00	1.00	
Swaziland	0.08	0.17	0.24	0.34	0.46	0.60	0.72	0.83	0.88	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Sweden	0.04	0.09	0.15	0.22	0.29	0.38	0.47	0.57	0.68	0.77	0.86	0.92	0.96	0.98	0.99	1.00	1.00	1.00	1.00	
Switzerland	0.09	0.19	0.29	0.40	0.50	0.61	0.71	0.79	0.87	0.92	0.95	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Syria	0.08	0.16	0.24	0.31	0.40	0.47	0.54	0.60	0.67	0.74	0.80	0.85	0.89	0.93	0.94	0.97	0.99	0.99	1.00	
Taiwan	0.04	0.09	0.14	0.21	0.27	0.35	0.44	0.52	0.61	0.68	0.77	0.86	0.93	0.97	0.99	1.00	1.00	1.00	1.00	
Tajikistan	0.07	0.14	0.20	0.27	0.34	0.43	0.55	0.71	0.80	0.86	0.91	0.95	0.98	0.98	1.00	1.00	1.00	1.00	1.00	
Thailand	0.08	0.17	0.26	0.35	0.45	0.54	0.64	0.74	0.82	0.89	0.93	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	
The Bahamas	0.03	0.06	0.09	0.12	0.17	0.23	0.29	0.38	0.48	0.61	0.75	0.91	0.98	1.00	1.00	1.00	1.00	1.00	1.00	
The Gambia	0.23	0.51	0.68	0.82	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Togo	0.09	0.17	0.24	0.35	0.52	0.72	0.83	0.91	0.96	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Trinidad and Tobago	0.04	0.08	0.13	0.19	0.24	0.30	0.36	0.43	0.51	0.59	0.67	0.77	0.88	0.93	0.96	0.97	0.99	0.99	1.00	
Tunisia	0.03	0.07	0.11	0.17	0.23	0.30	0.38	0.47	0.57	0.67	0.77	0.87	0.92	0.96	0.98	0.99	0.99	1.00	1.00	
Turkey	0.04	0.08	0.13	0.18	0.24	0.30	0.37	0.44	0.52	0.60	0.70	0.81	0.90	0.96	0.98	0.99	1.00	1.00	1.00	
Turkmenistan	0.05	0.10	0.16	0.22	0.29	0.36	0.43	0.49	0.54	0.59	0.65	0.71	0.76	0.81	0.86	0.90	0.93	0.96	0.98	
Uganda	0.13	0.26	0.35	0.46	0.64	0.70	0.76	0.77	0.89	0.97	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ukraine	0.07	0.15	0.24	0.34	0.43	0.53	0.62	0.71	0.79	0.85	0.90	0.93	0.95	0.96	0.97	0.98	0.99	1.00	1.00	
United Arab Emirates	0.02	0.03	0.06	0.08	0.11	0.15	0.20	0.25	0.31	0.37	0.45	0.53	0.62	0.71	0.79	0.87	0.94	0.97	0.99	
United Kingdom	0.04	0.09	0.15	0.21	0.29	0.38	0.49	0.59	0.69	0.77	0.84	0.90	0.94	0.97	0.98	0.99	1.00	1.00	1.00	
United Republic of Tanzania	0.15	0.30	0.43	0.53	0.62	0.71	0.79	0.86	0.92	0.96	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
United States of America	0.03	0.07	0.11	0.16	0.21	0.28	0.35	0.43	0.52	0.62	0.71	0.79	0.86	0.91	0.94	0.97	0.98	0.99	1.00	
Uruguay	0.02	0.05	0.09	0.14	0.19	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.90	0.96	0.98	0.99	1.00	1.00	1.00	
Uzbekistan	0.11	0.22	0.31	0.41	0.49	0.58	0.66	0.74	0.79	0.83	0.85	0.87	0.90	0.91	0.92	0.94	0.96	0.98	0.99	
Vanuatu	0.08	0.12	0.23	0.24	0.25	0.34	0.36	0.37	0.41	0.41	0.51	0.58	0.59	0.64	0.81	0.81	0.81	1.00	1.00	
Vatican City	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.71	1.00	1.00	1.00	1.00	1.00	1.00	
Venezuela	0.02	0.05	0.09	0.12	0.17	0.21	0.27	0.33	0.40	0.48	0.57	0.66	0.75	0.82	0.86	0.89	0.92	0.95	0.98	
Vietnam	0.04	0.09	0.14	0.20	0.25	0.31	0.37</td													

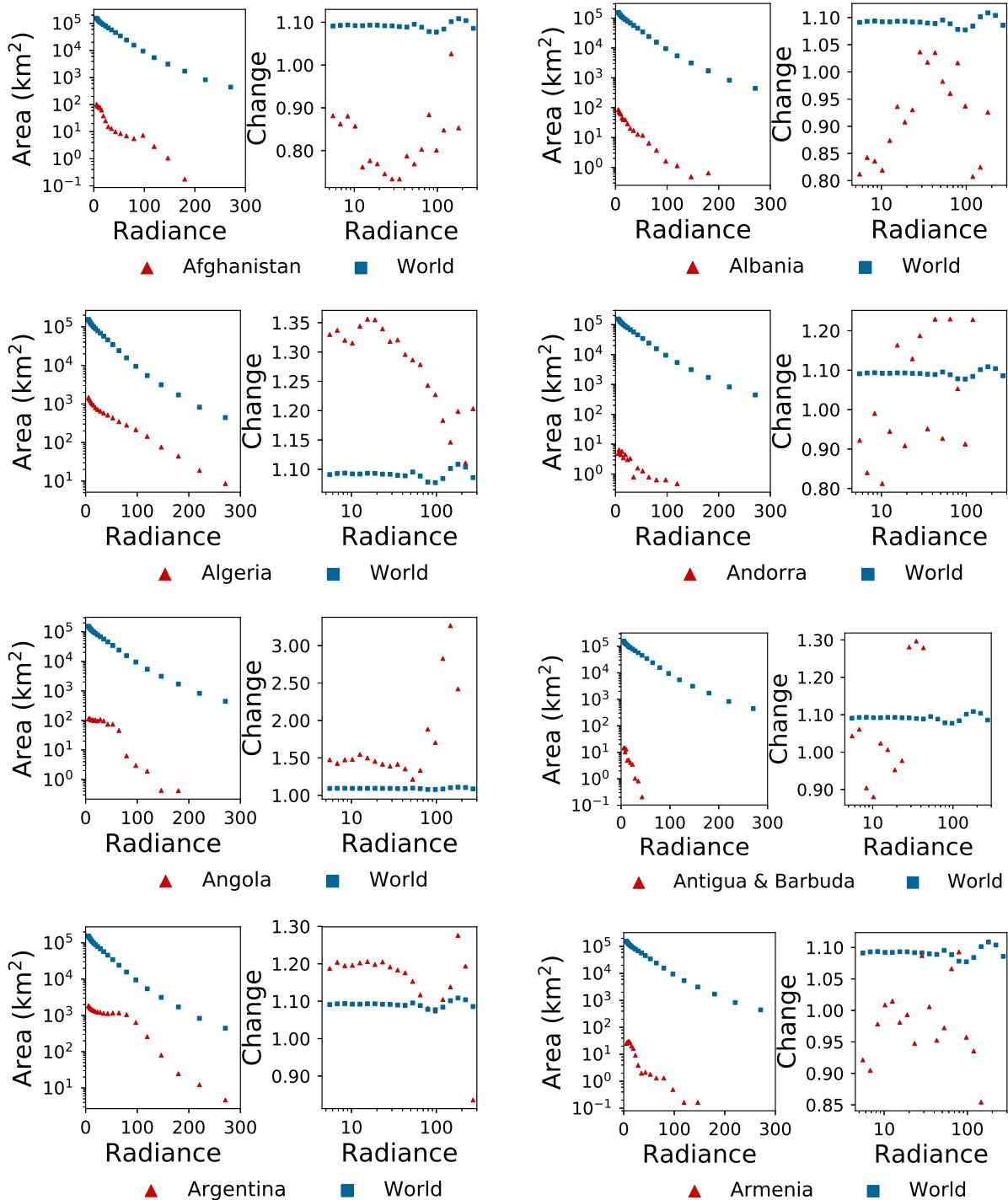


fig. S4. Lit area (2014) and radiance change (2012-2016) in Afghanistan, Albania, Algeria, Andorra, Antigua and Barbuda, Argentina and Armenia.

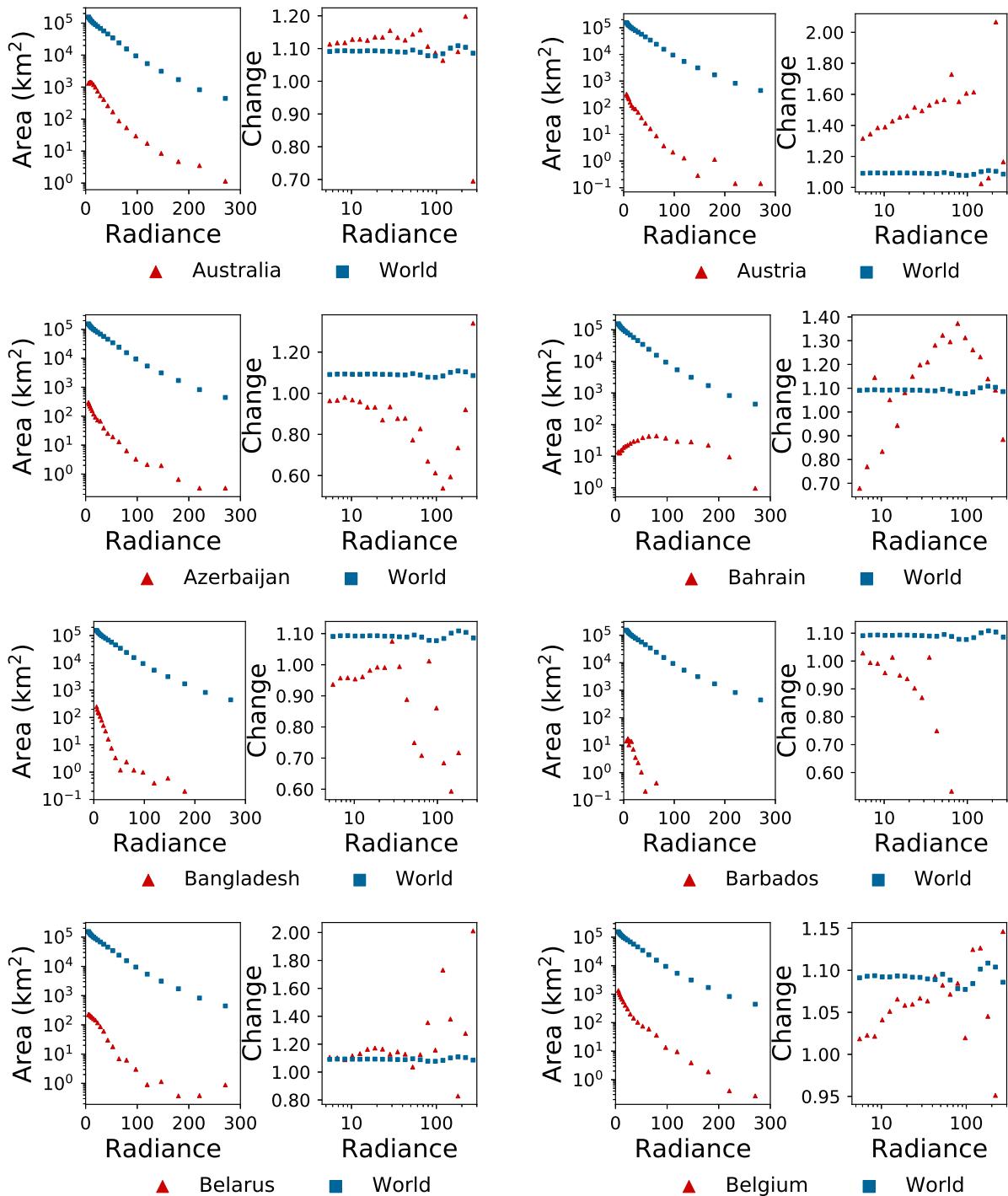


fig. S5. Lit area (2014) and radiance change (2012-2016) in Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Barbados, Belarus and Belgium.

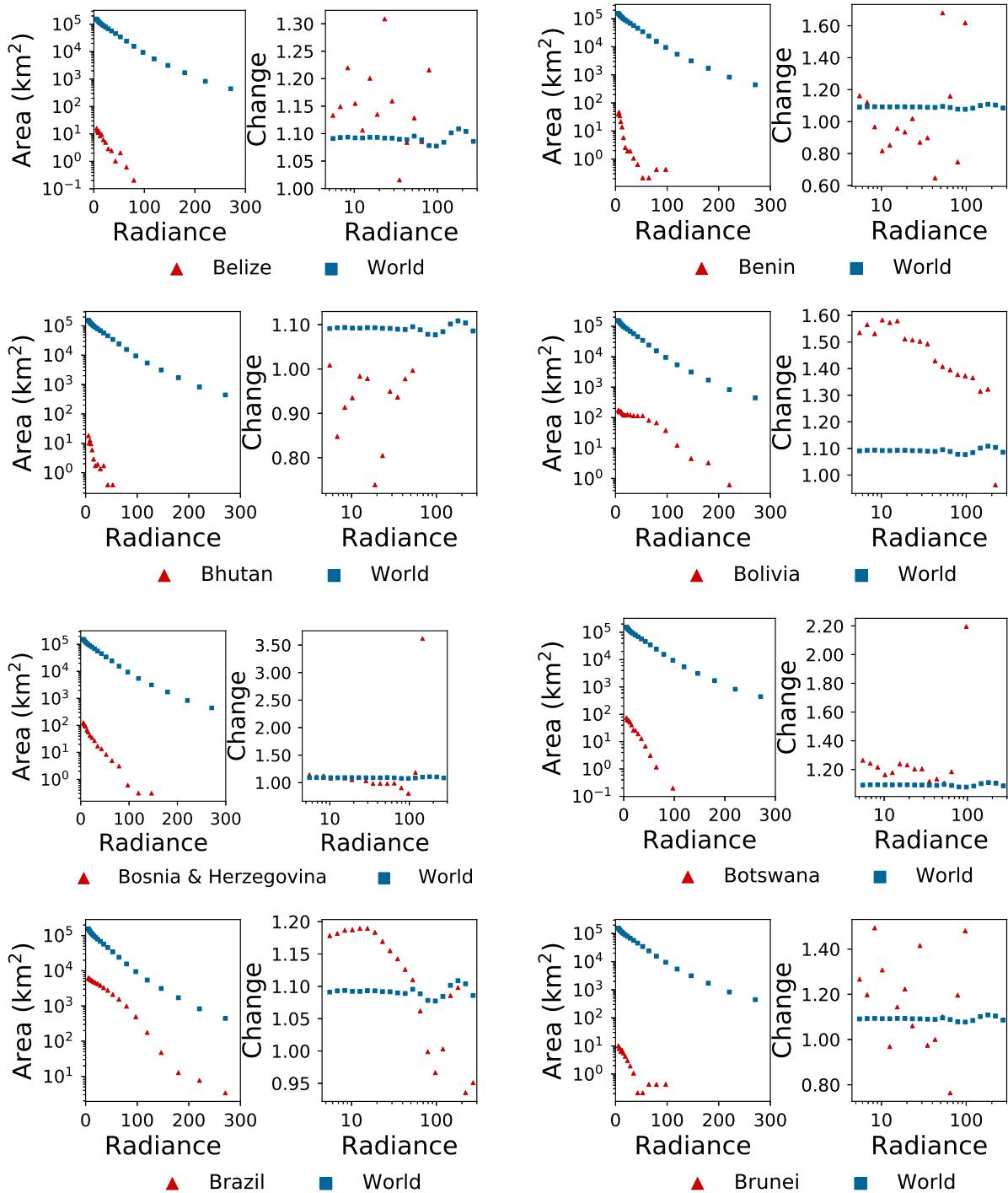


fig. S6. Lit area (2014) and radiance change (2012-2016) in Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil and Brunei.

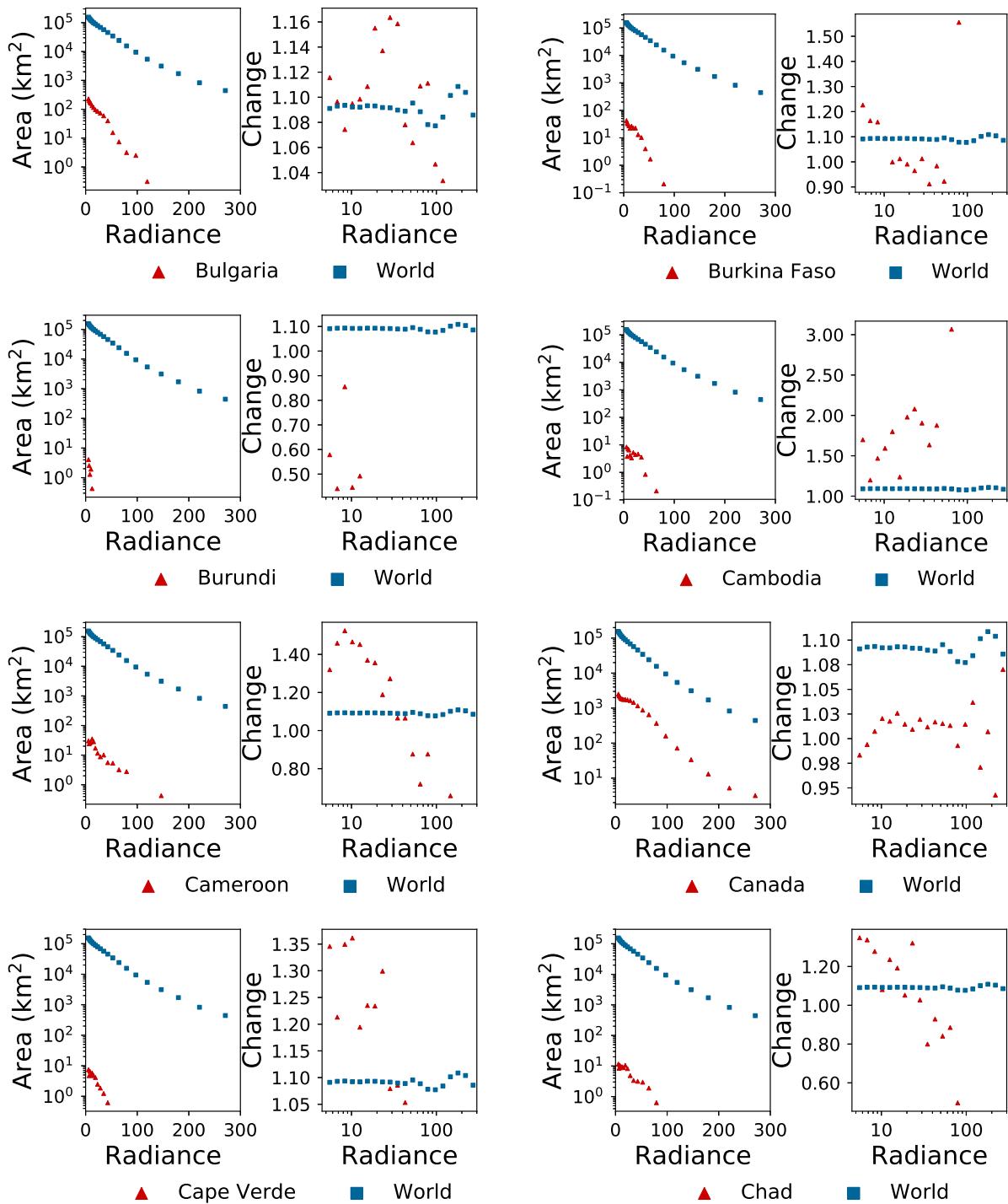


fig. S7. Lit area (2014) and radiance change (2012-2016) in Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde and Chad.

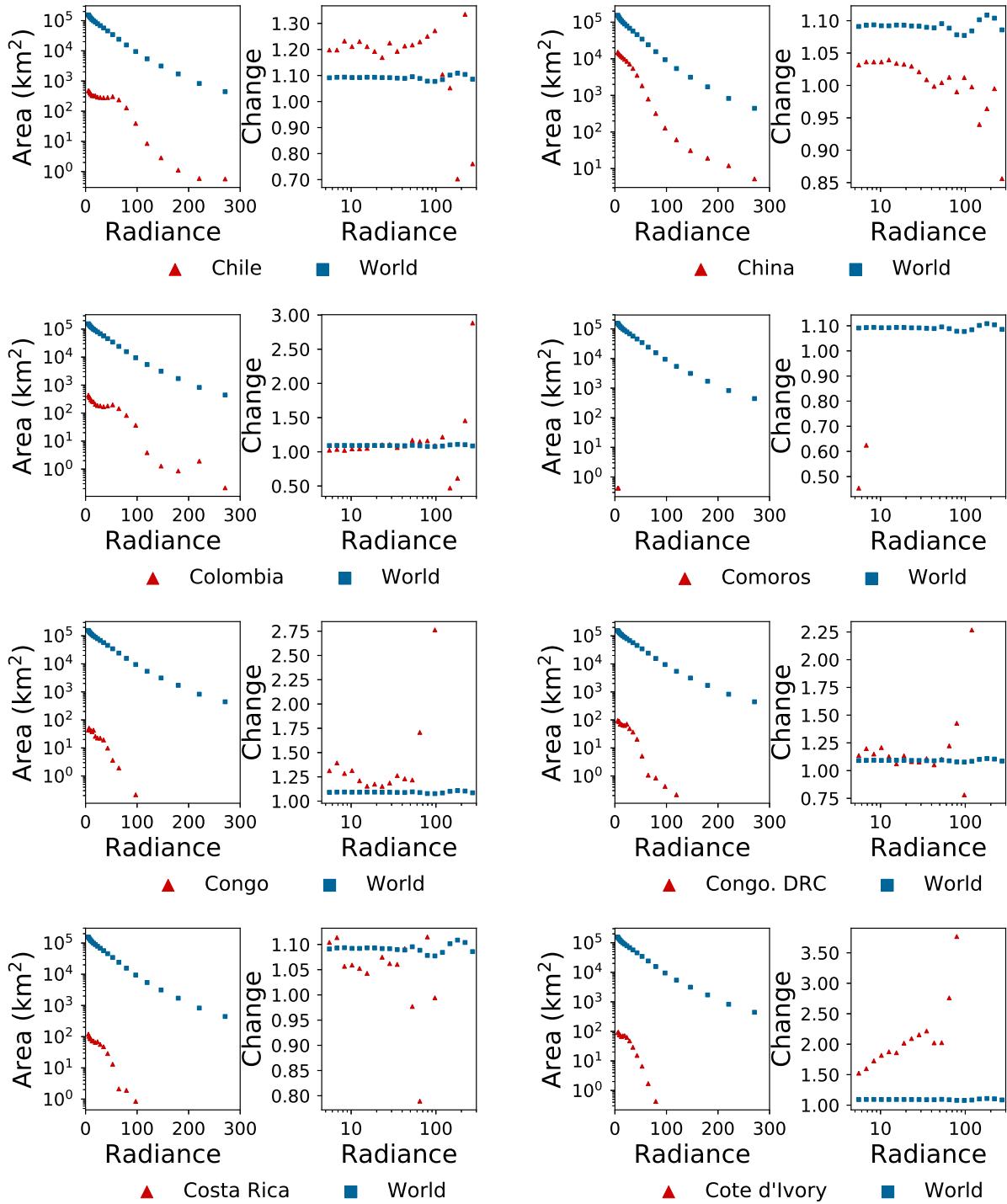


fig. S8. Lit area (2014) and radiance change (2012-2016) in Chile, China, Colombia, Comoros, Republic of the Congo, Democratic Republic of the Congo, Costa Rica, and Cote d'Ivory.

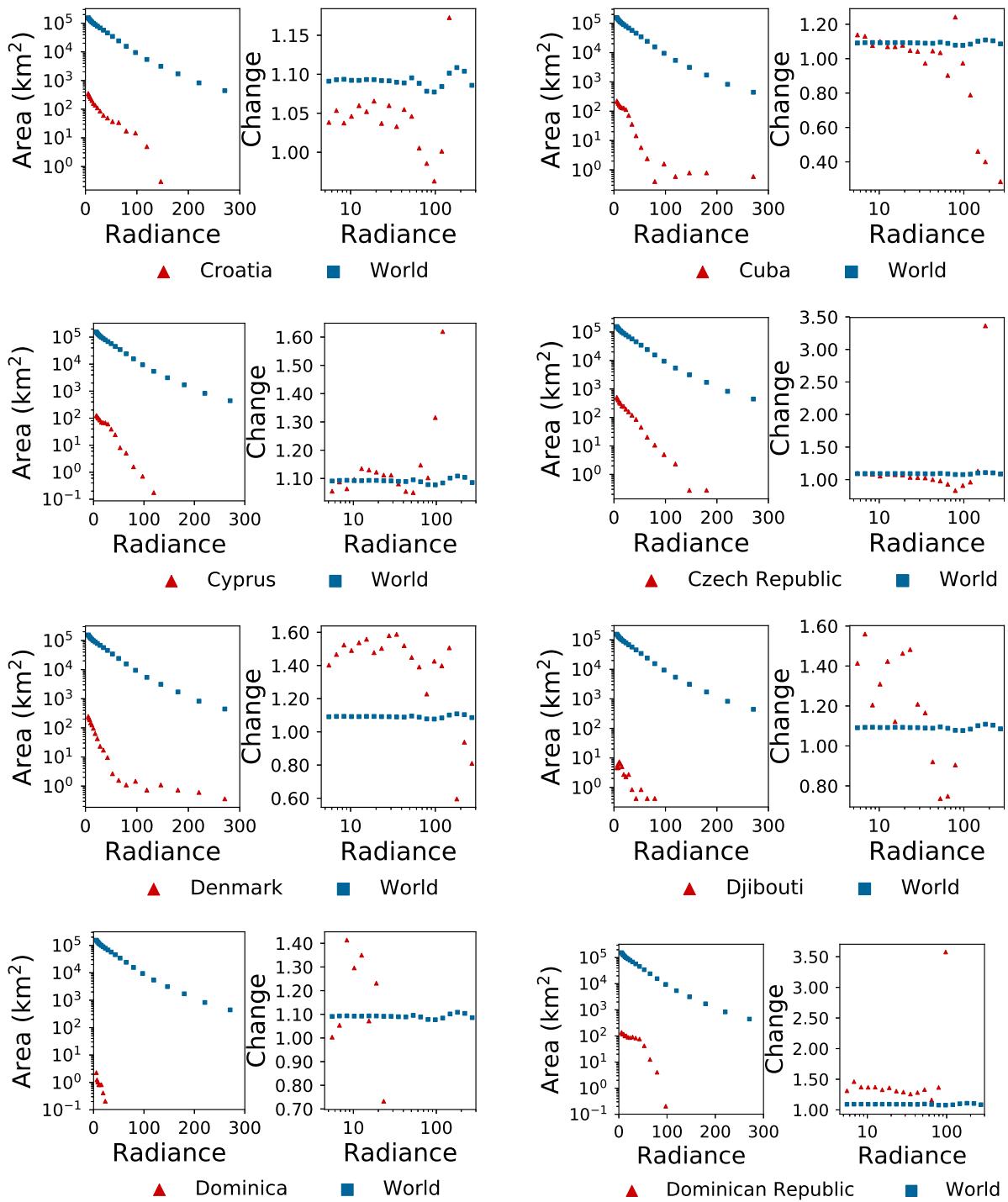


fig. S9. Lit area (2014) and radiance change (2012-2016) in Croatia, Cuba, Cyprus, Czech Republic, Denmark, Djibouti, Dominica, and Dominican Republic.

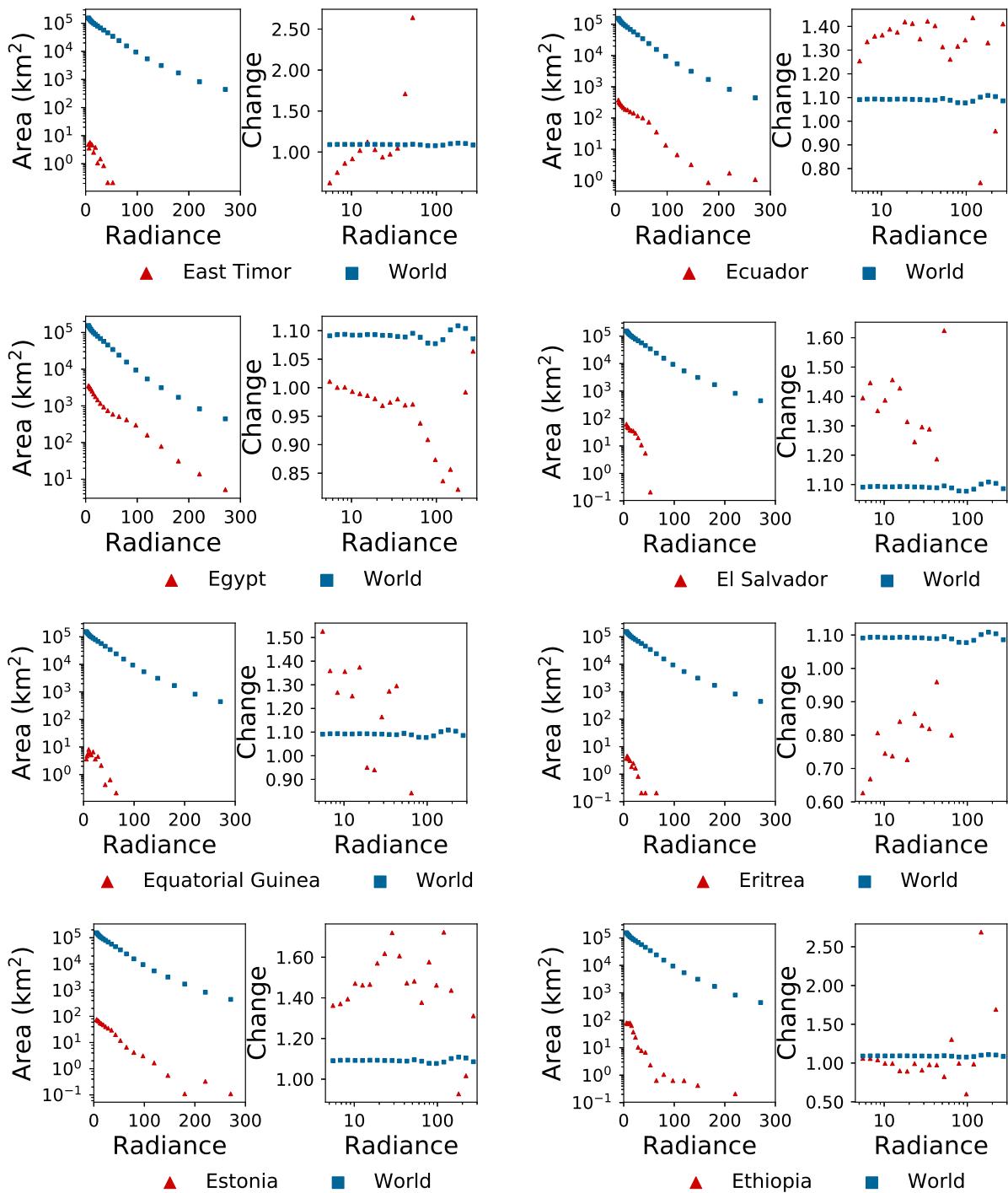


fig. S10. Lit area (2014) and radiance change (2012-2016) in East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, and Ethiopia.

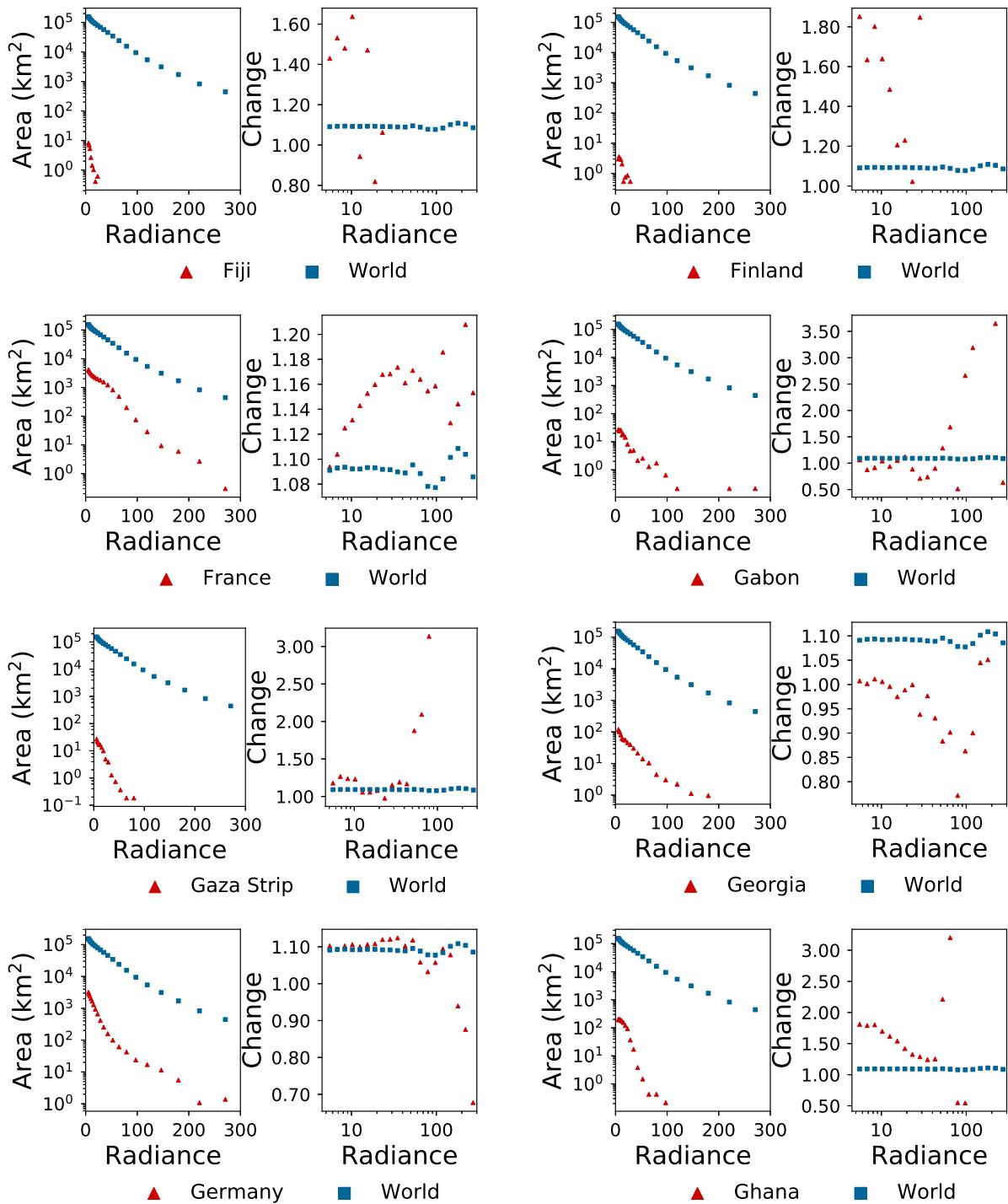


fig. S11. Lit area (2014) and radiance change (2012-2016) in Fiji, Finland, France, Gabon, Gaza Strip, Georgia, Germany, and Ghana.

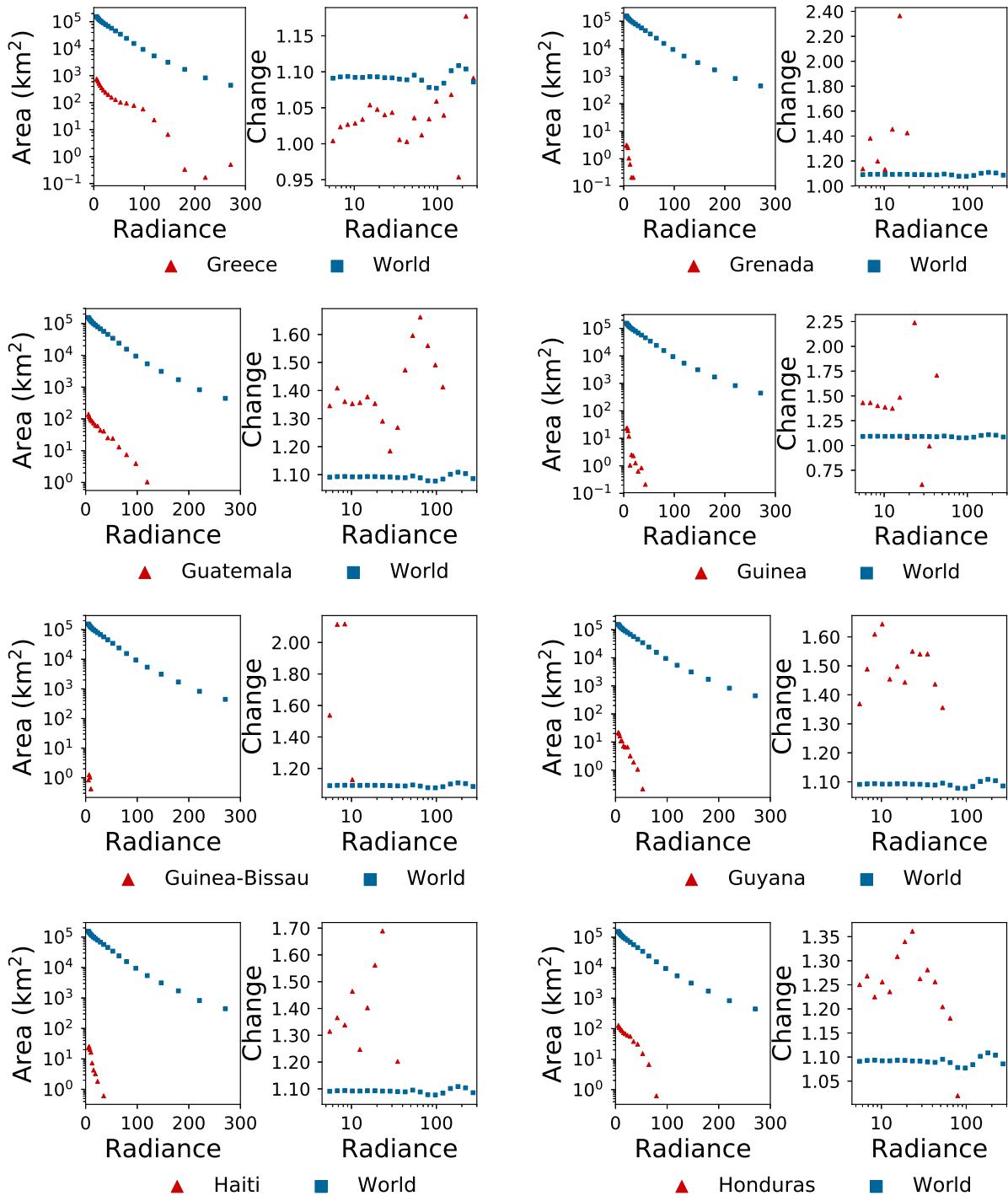


fig. S12. Lit area (2014) and radiance change (2012-2016) in Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, and Honduras.

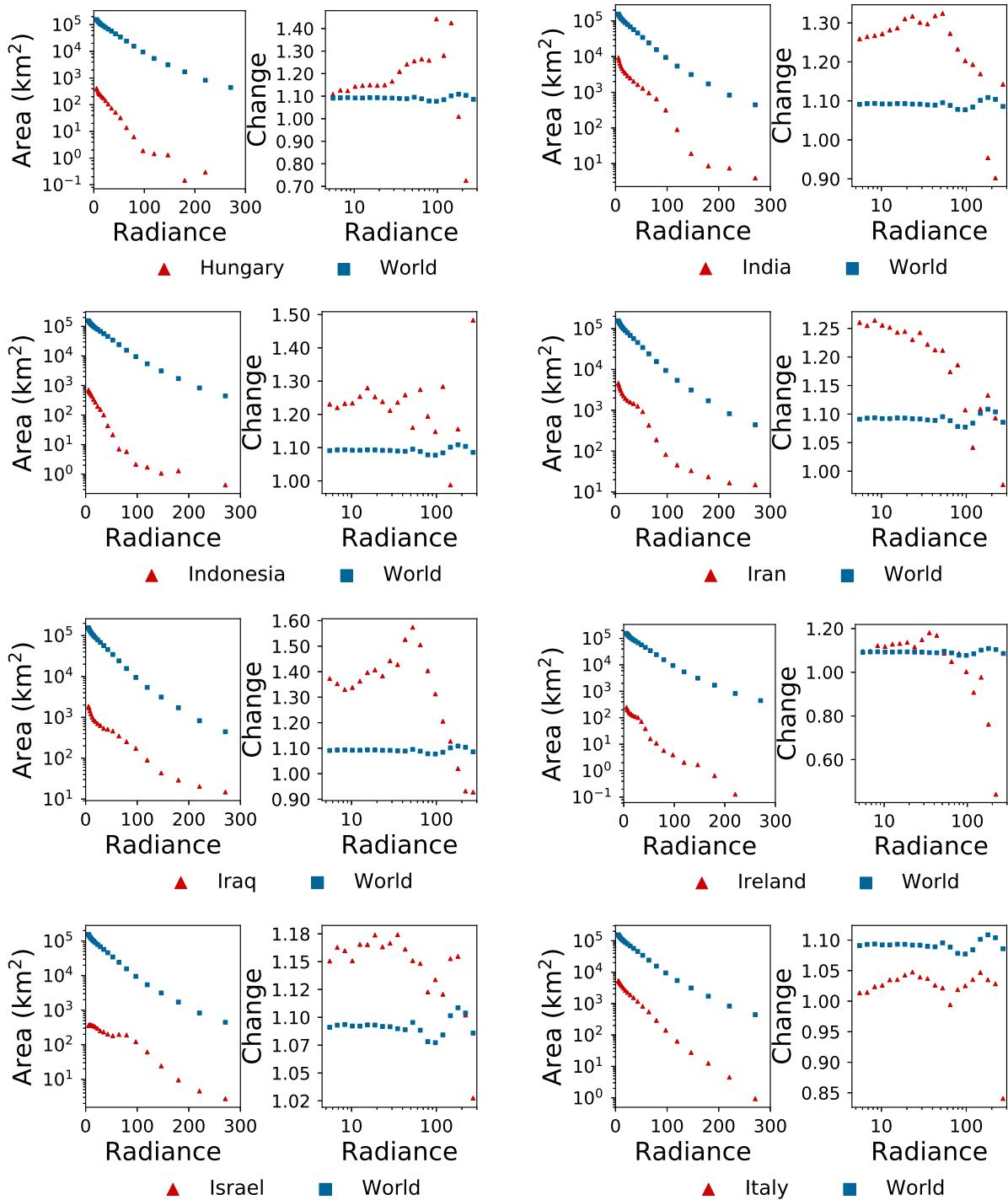


fig. S13. Lit area (2014) and radiance change (2012-2016) in Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel and Italy.

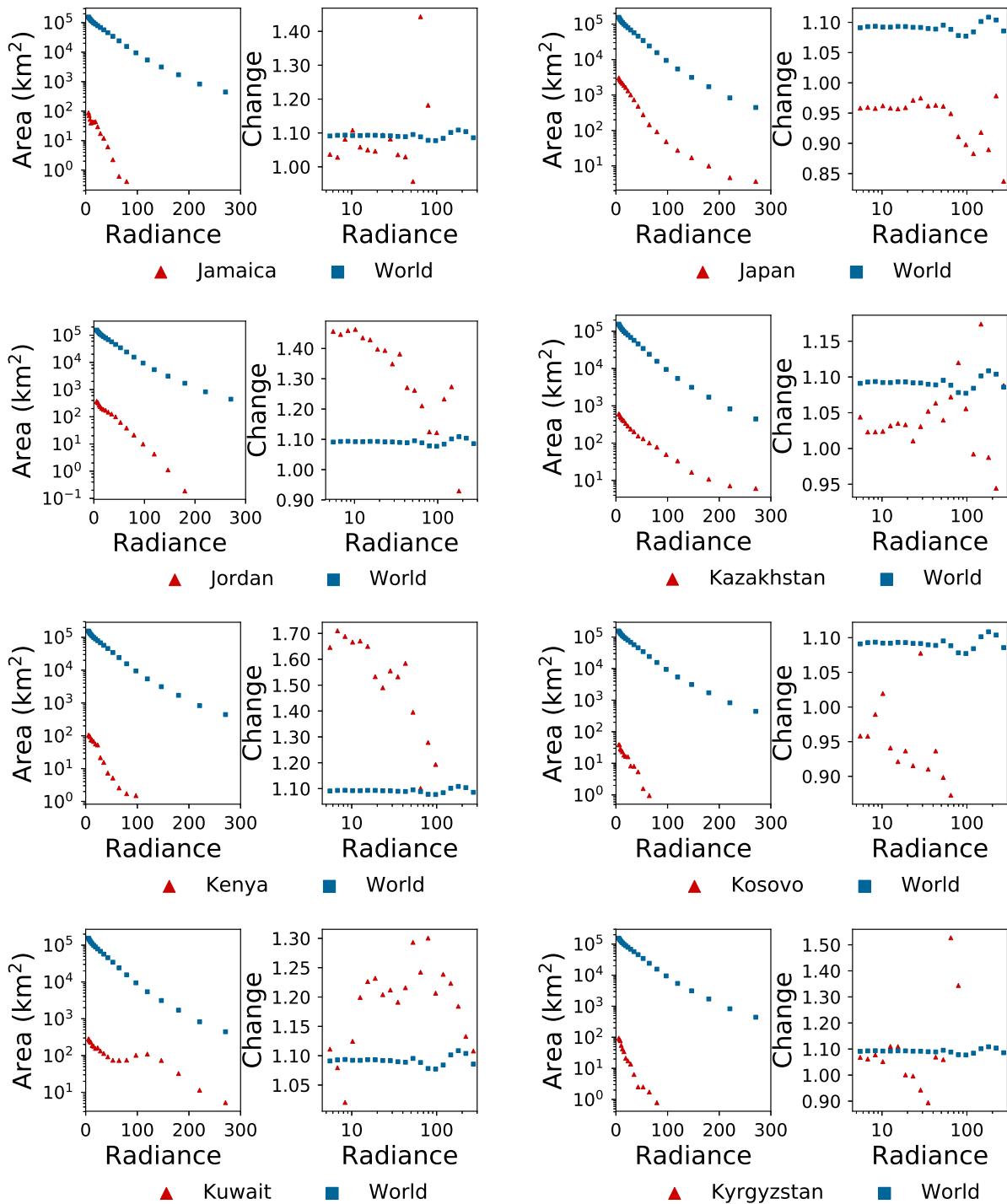


fig. S14. Lit area (2014) and radiance change (2012-2016) in Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kosovo, Kuwait and Kyrgyzstan.

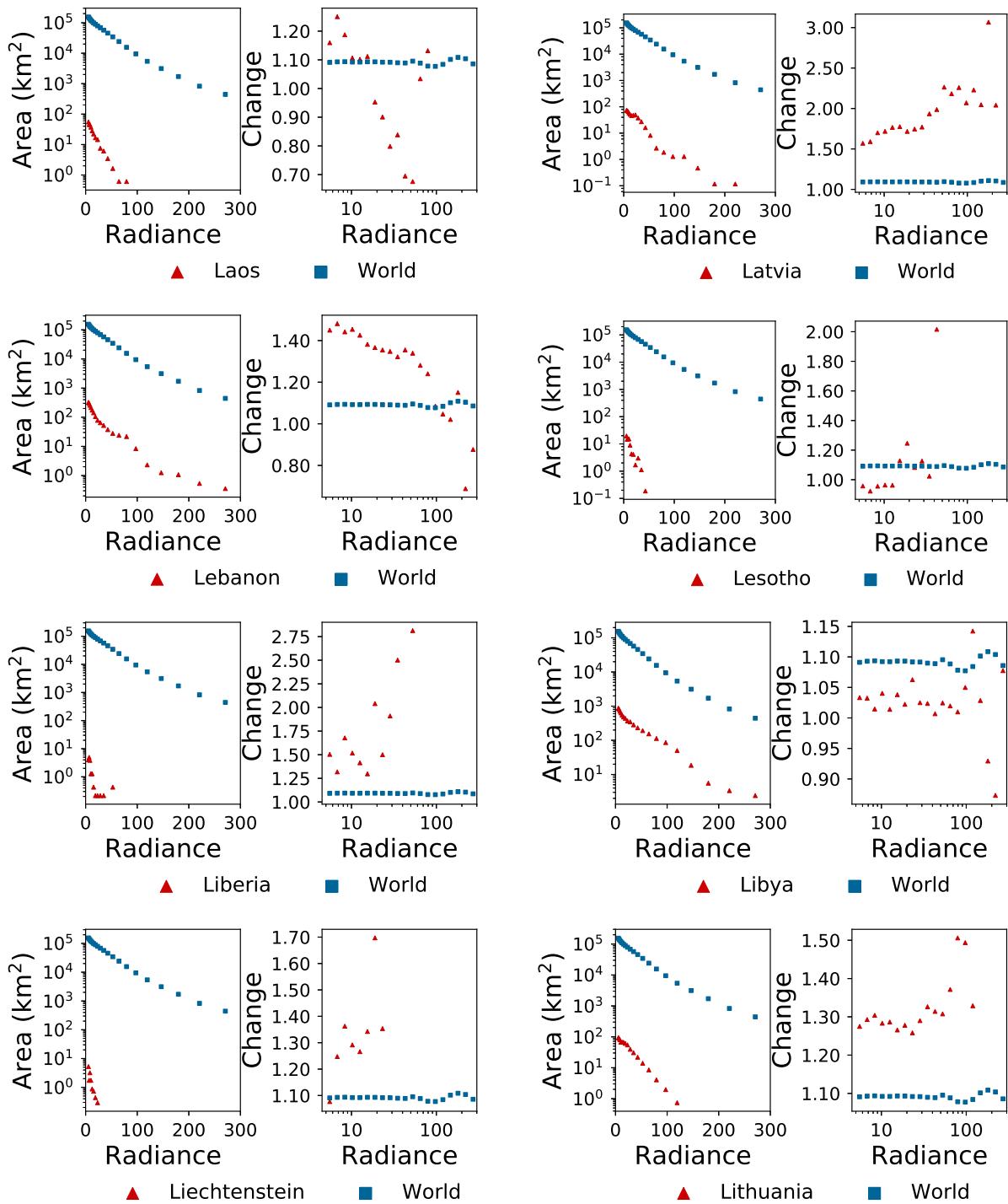


fig. S15. Lit area (2014) and radiance change (2012-2016) in Laos, Latvia, Lebanon, Lesotho, Liberia, Libya, Liechtenstein and Lithuania.

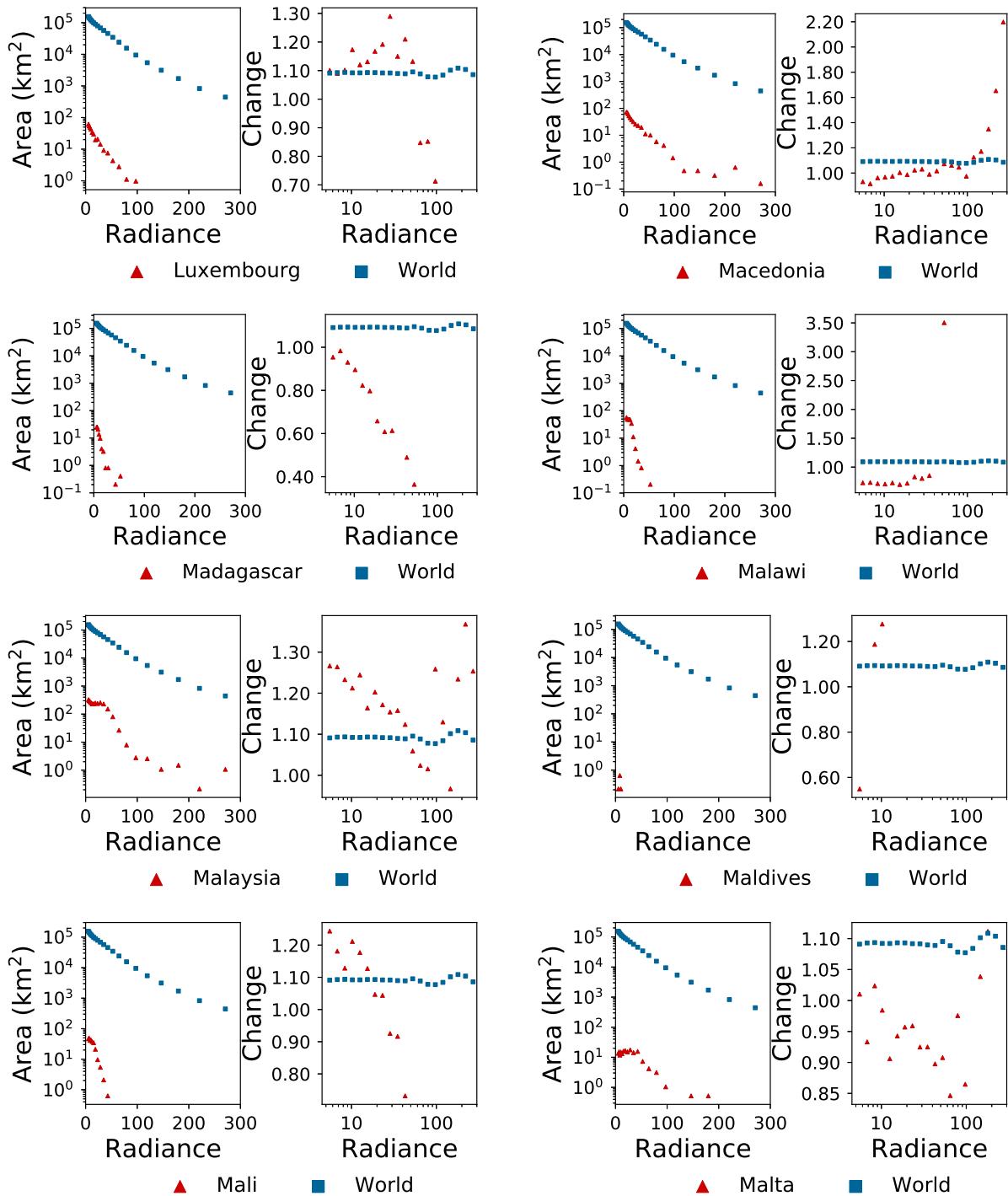


fig. S16. Lit area (2014) and radiance change (2012-2016) in Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali and Malta.

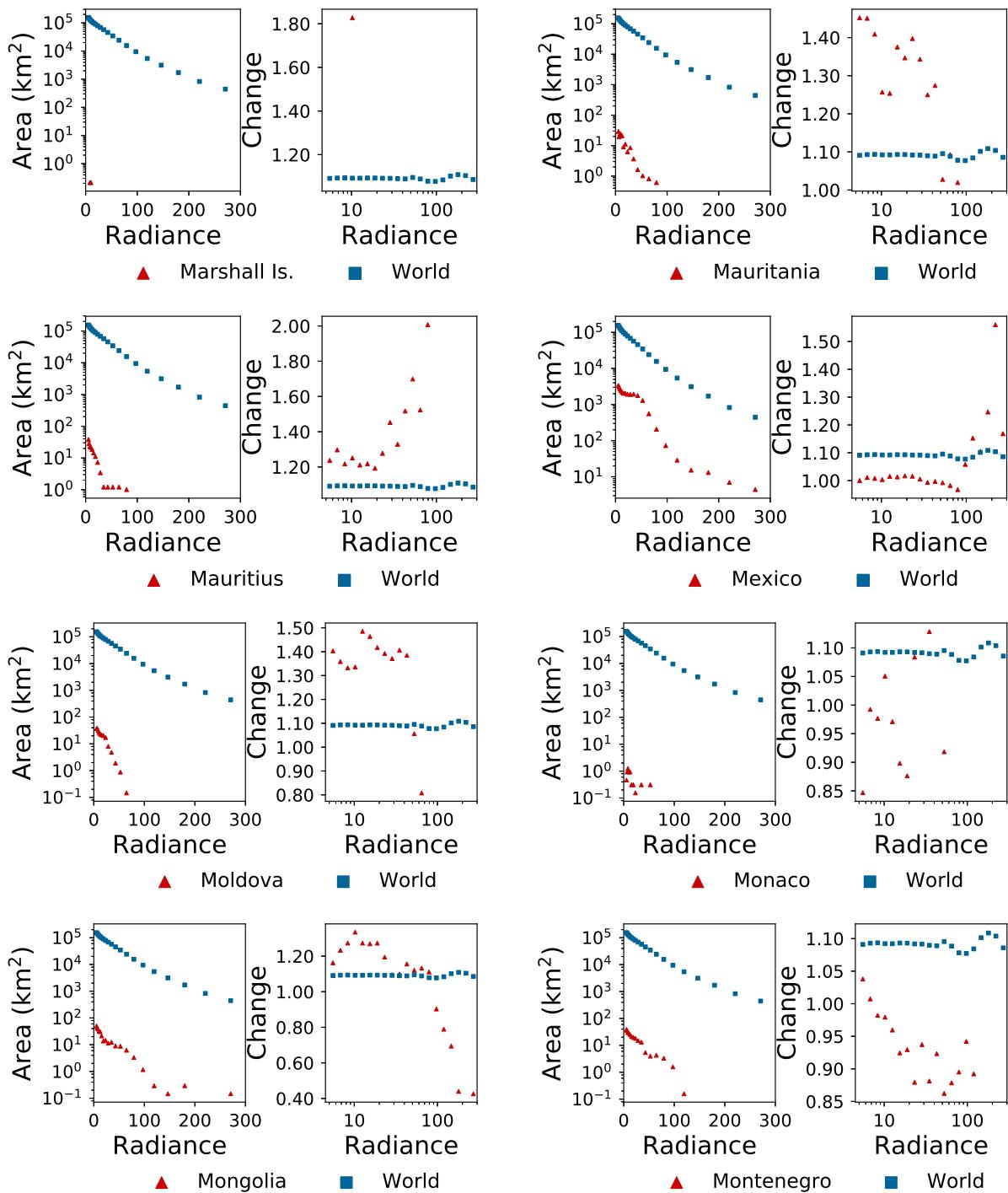


fig. S17. Lit area (2014) and radiance change (2012-2016) in Marshall Islands, Mauritania, Mauritius, Mexico, Moldova, Monaco, Mongolia and Montenegro.

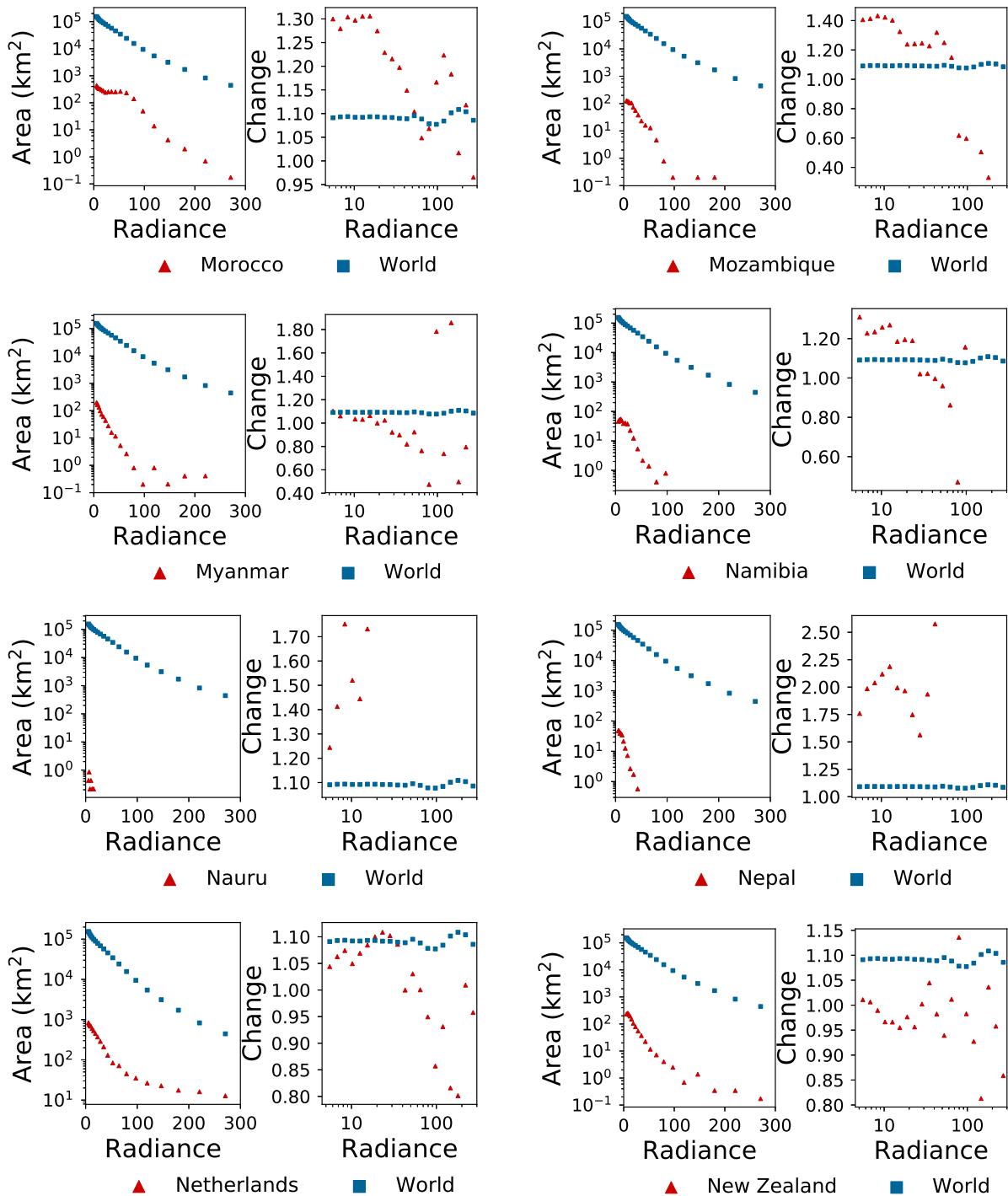


fig. S18. Lit area (2014) and radiance change (2012-2016) in Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, and New Zealand.

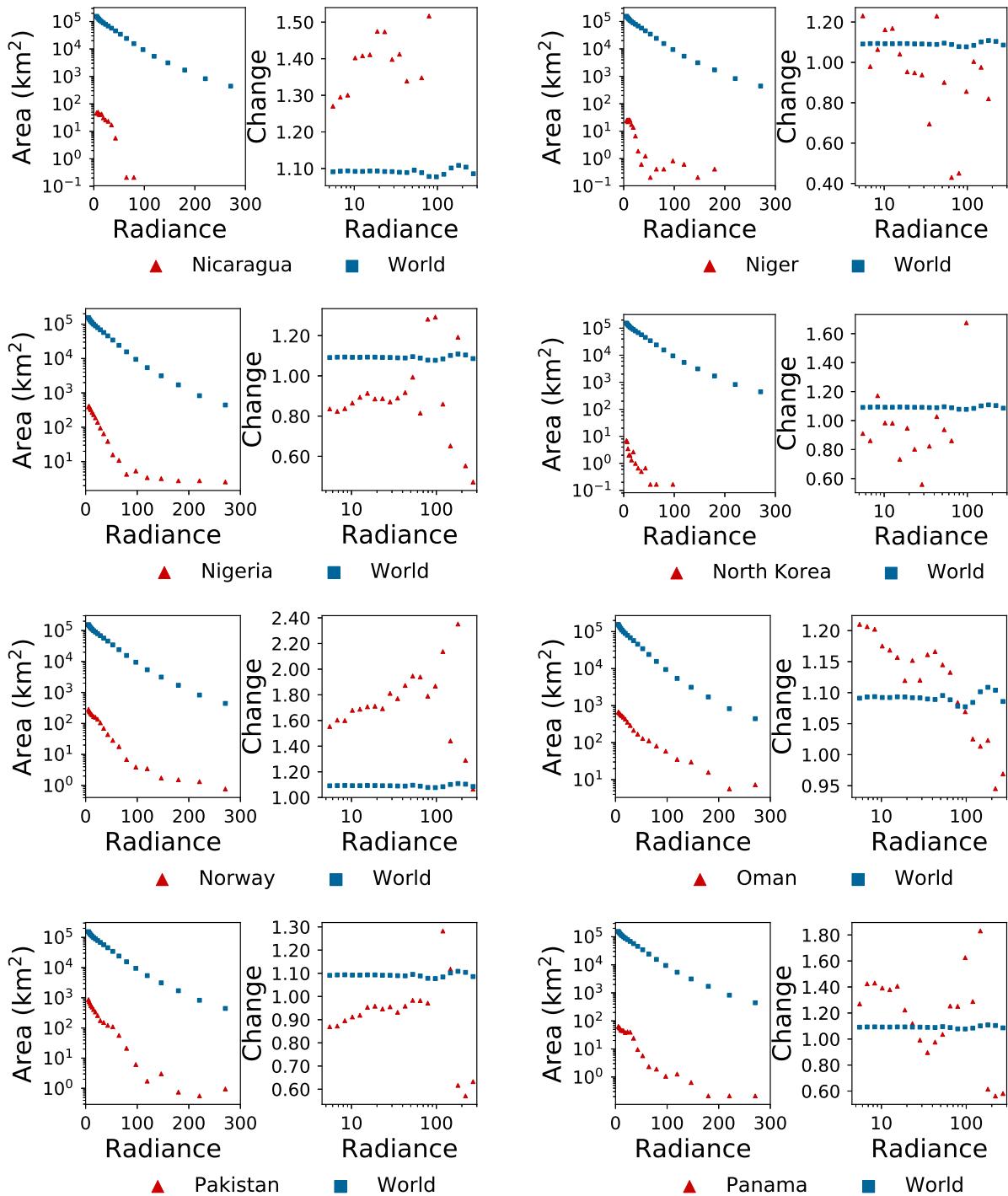


fig. S19. Lit area (2014) and radiance change (2012-2016) in Nicaragua, Niger, Nigeria, North Korea, Norway, Oman, Pakistan, and Panama.

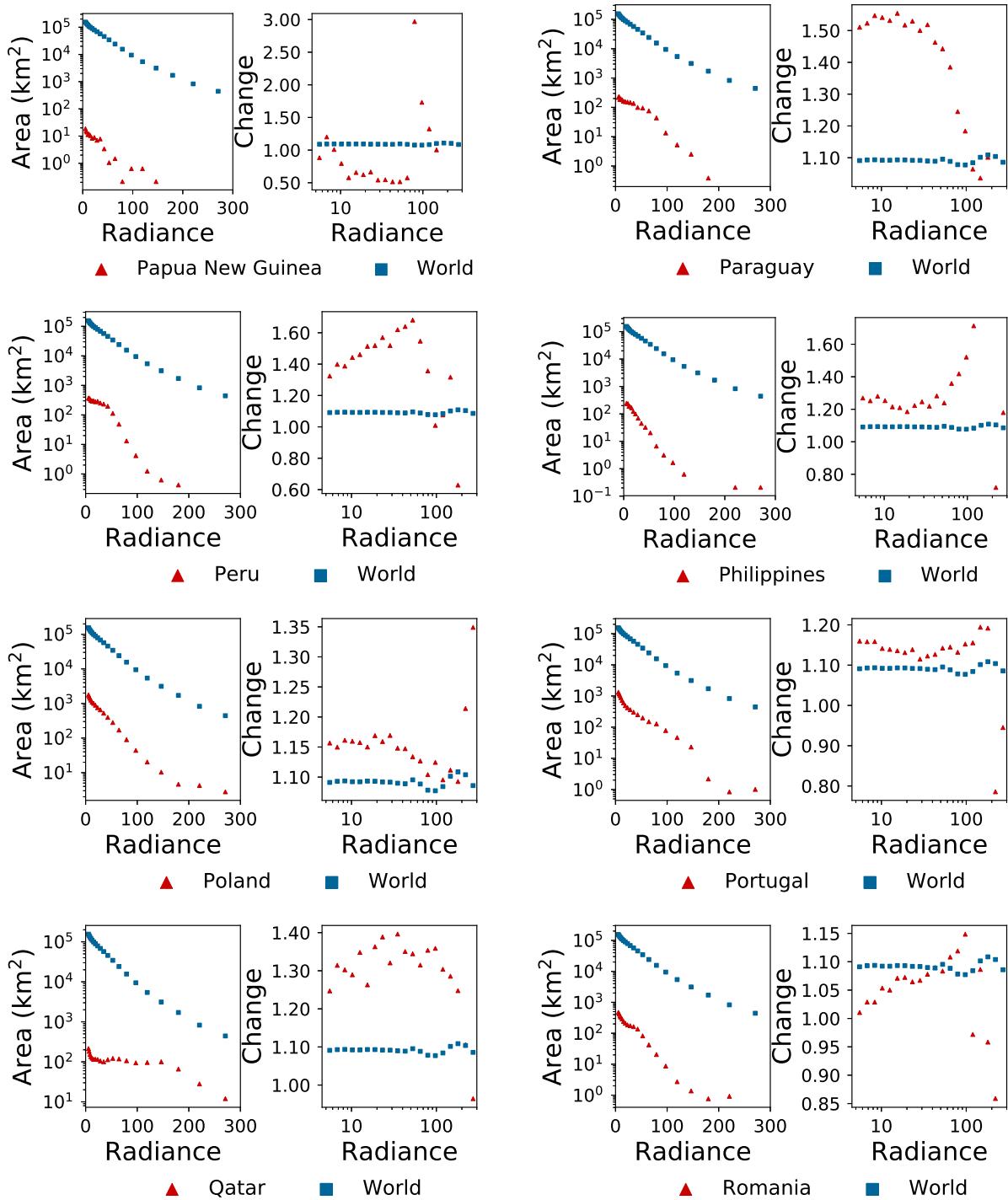


fig. S20. Lit area (2014) and radiance change (2012-2016) in Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, and Romania.

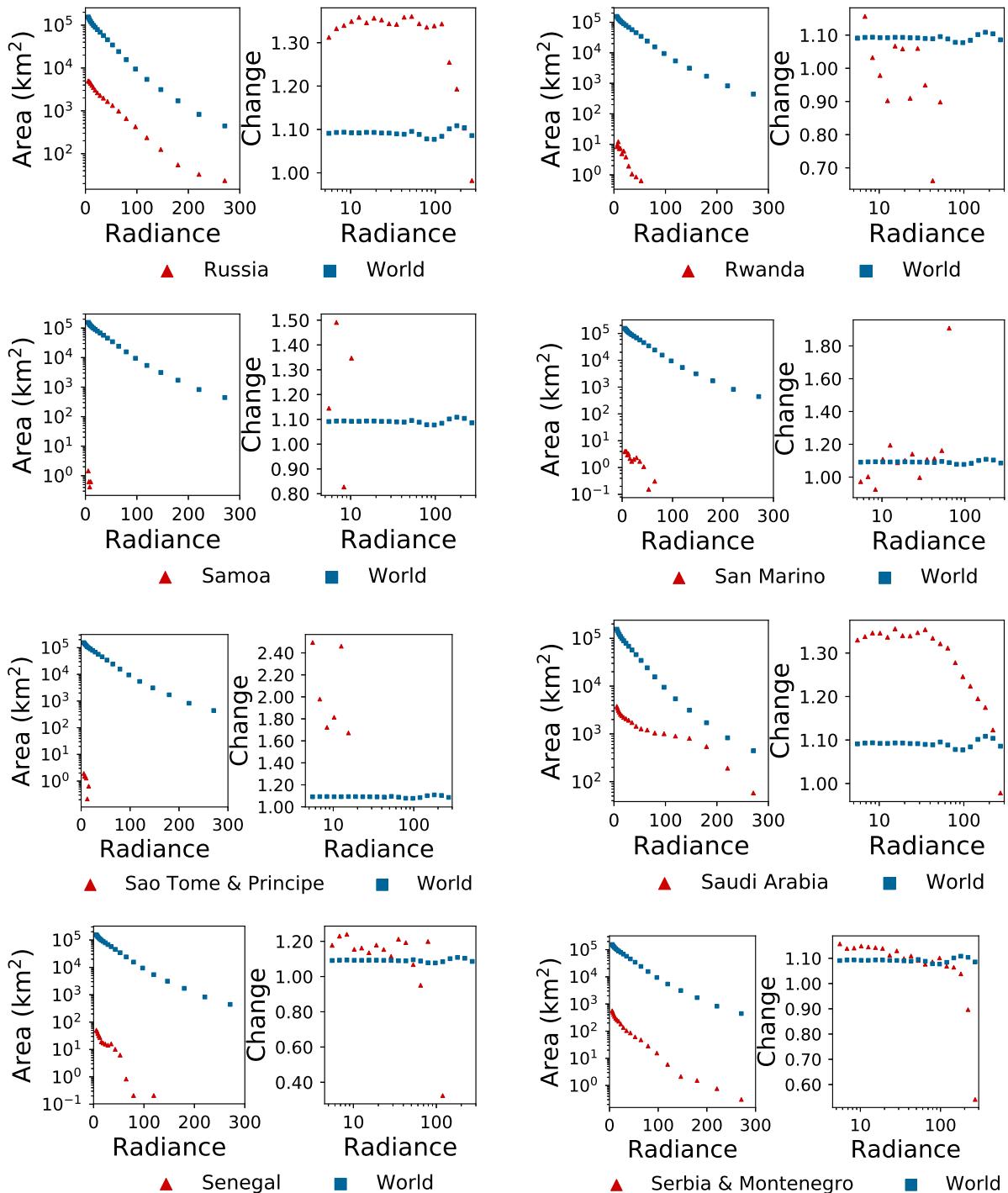


fig. S21. Lit area (2014) and radiance change (2012-2016) in Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, and Serbia and Montenegro.

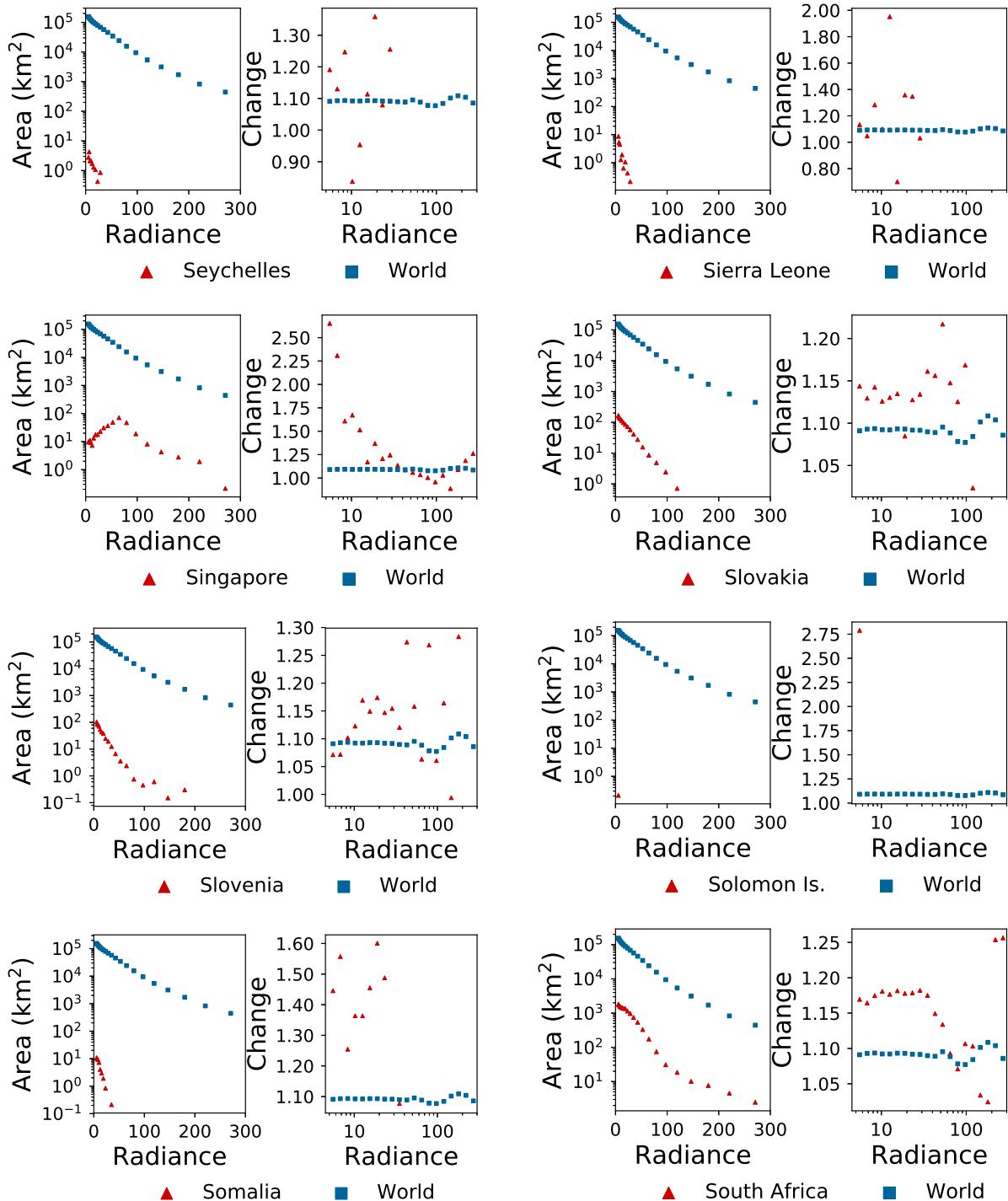


fig. S22. Lit area (2014) and radiance change (2012-2016) in Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, and South Africa.

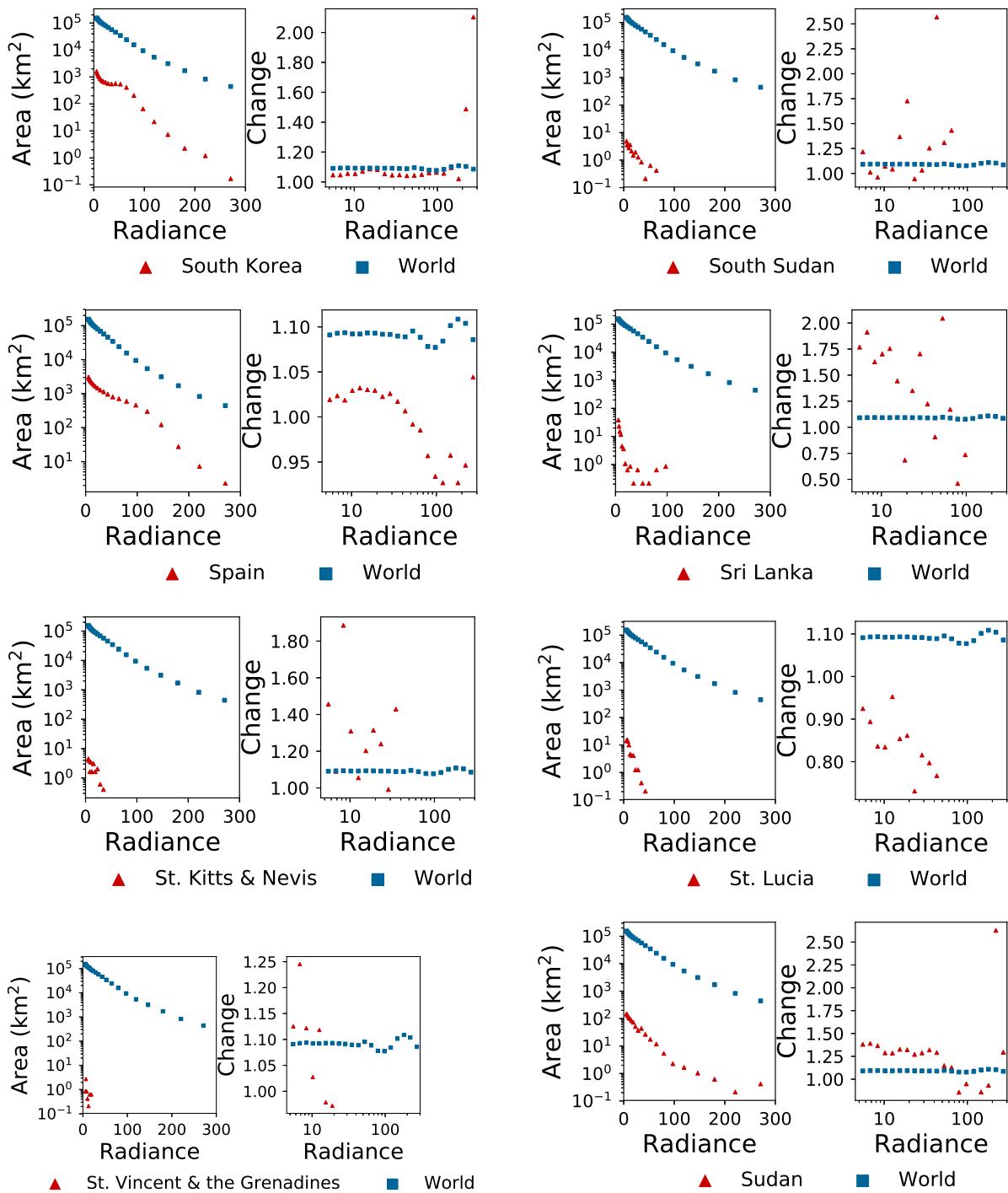


fig. S23. Lit area (2014) and radiance change (2012-2016) in South Korea, South Sudan, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Sudan.

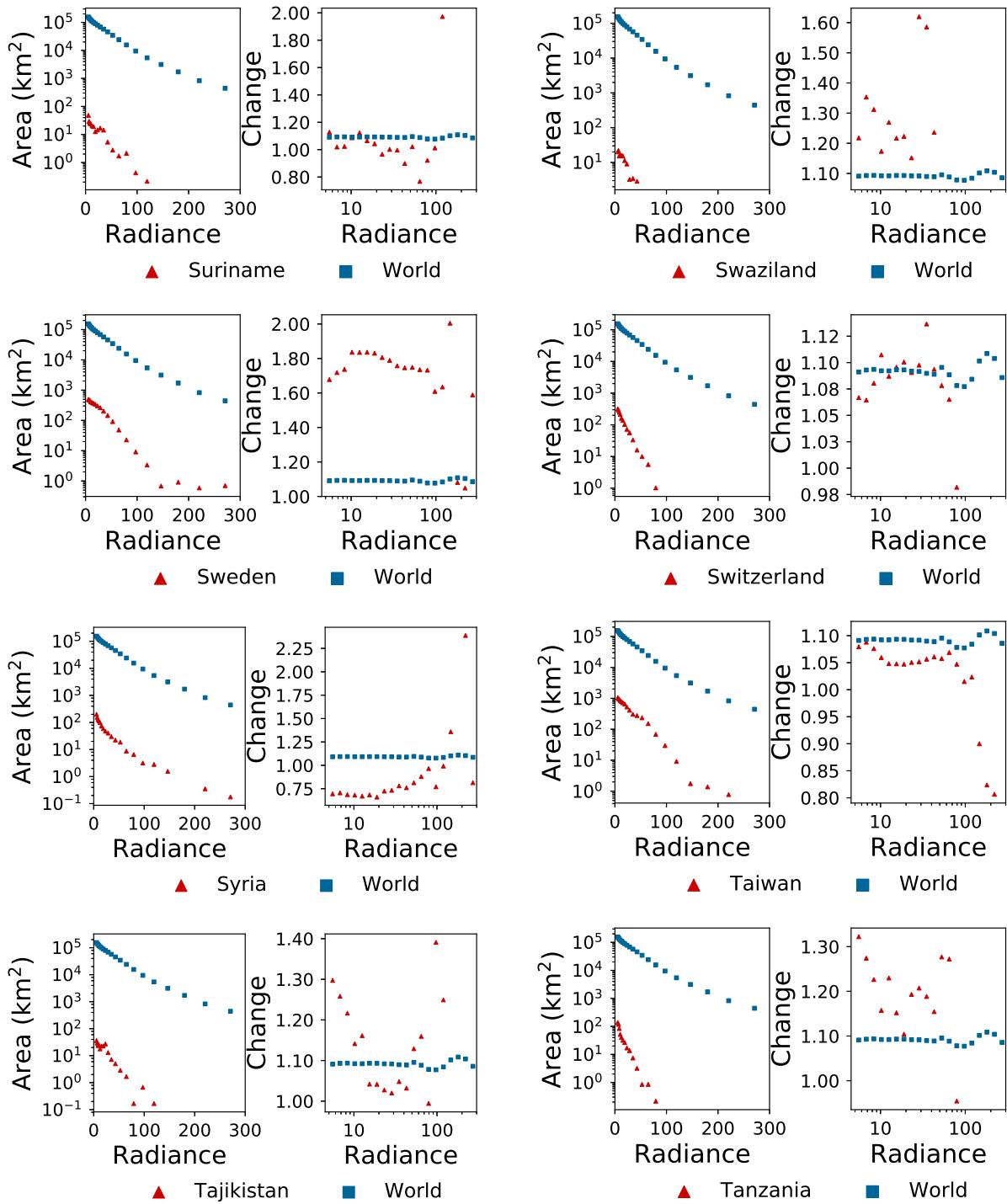


fig. S24. Lit area (2014) and radiance change (2012-2016) in Suriname, Swaziland, Sweden, Switzerland, Syria, Taiwan, Tajikistan, and Tanzania.

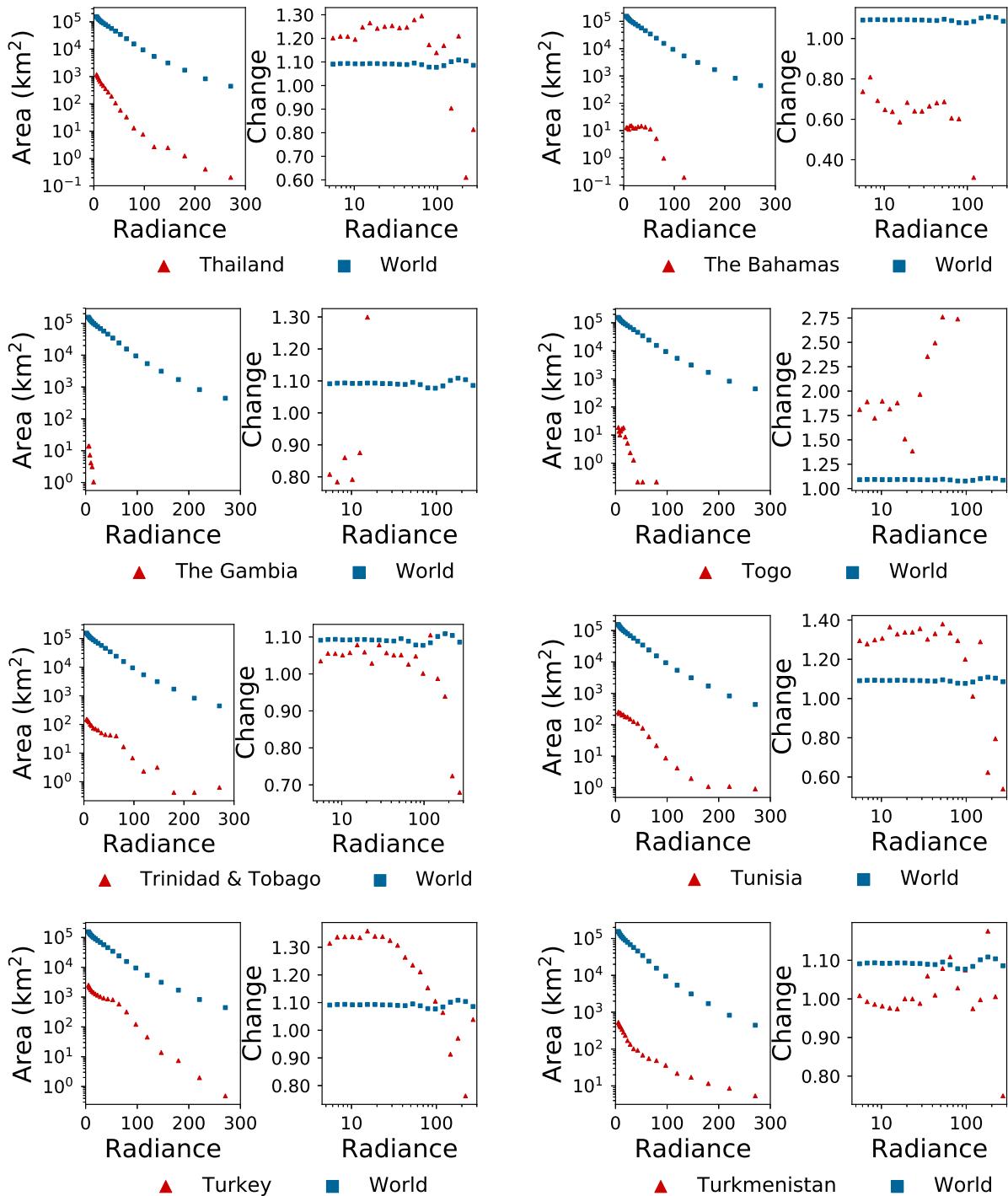


fig. S25. Lit area (2014) and radiance change (2012-2016) in Thailand, The Bahamas, The Gambia, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan.

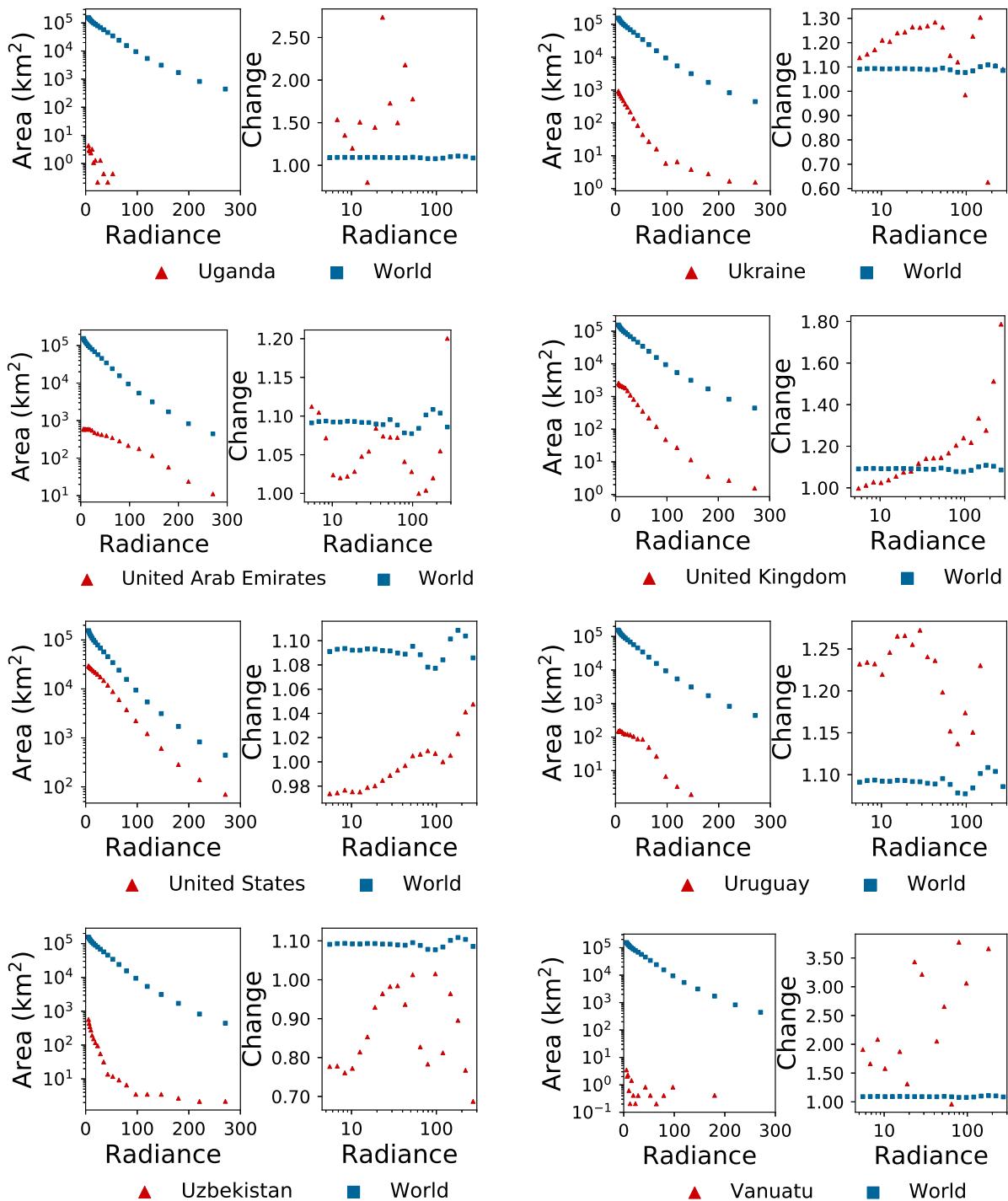


fig. S26. Lit area (2014) and radiance change (2012-2016) in Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, and Vanuatu.

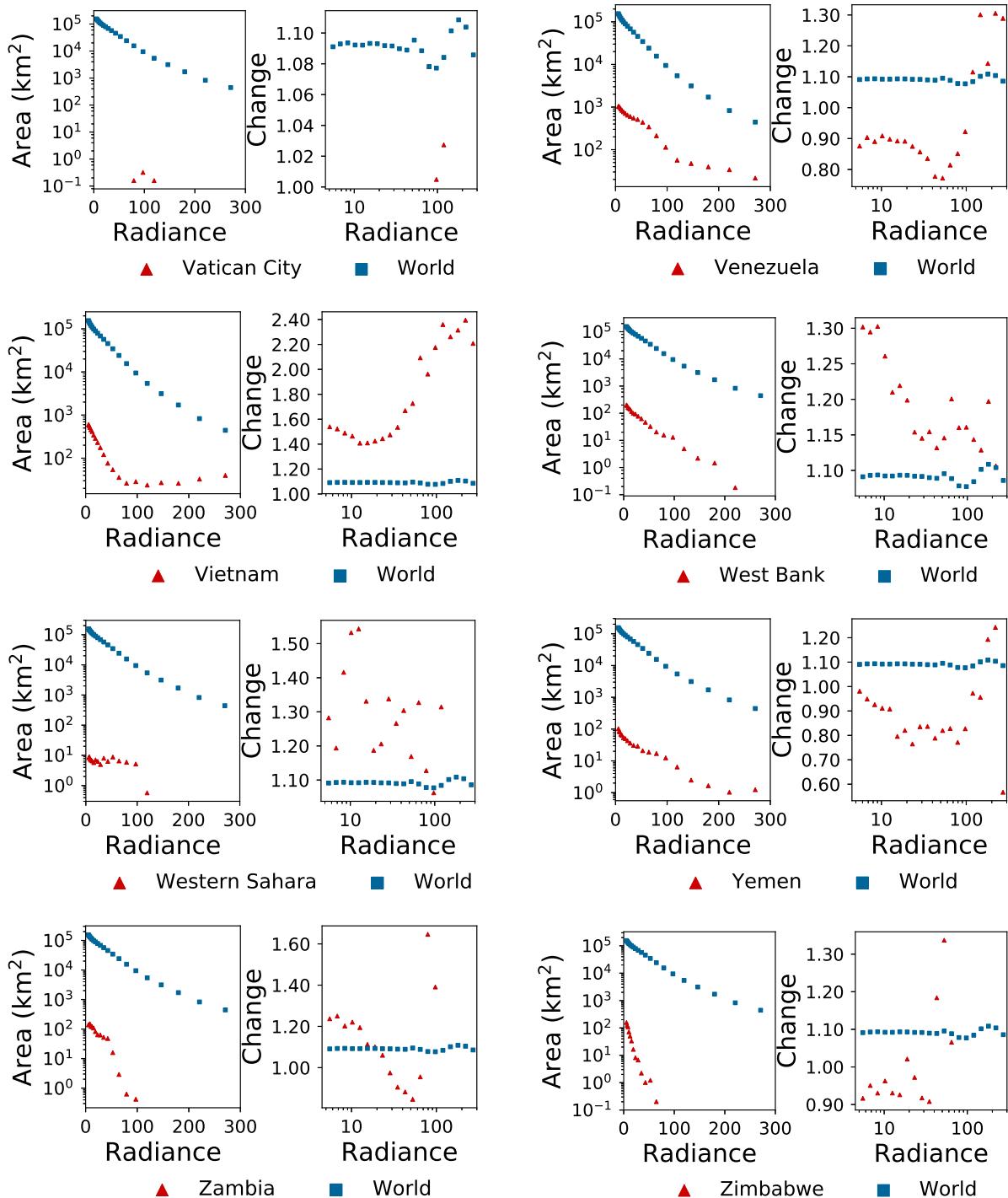


fig. S27. Lit area (2014) and radiance change (2012-2016) in Vatican City, Venezuela, Vietnam, West Bank, Western Sahara, Yemen, Zambia and Zimbabwe.

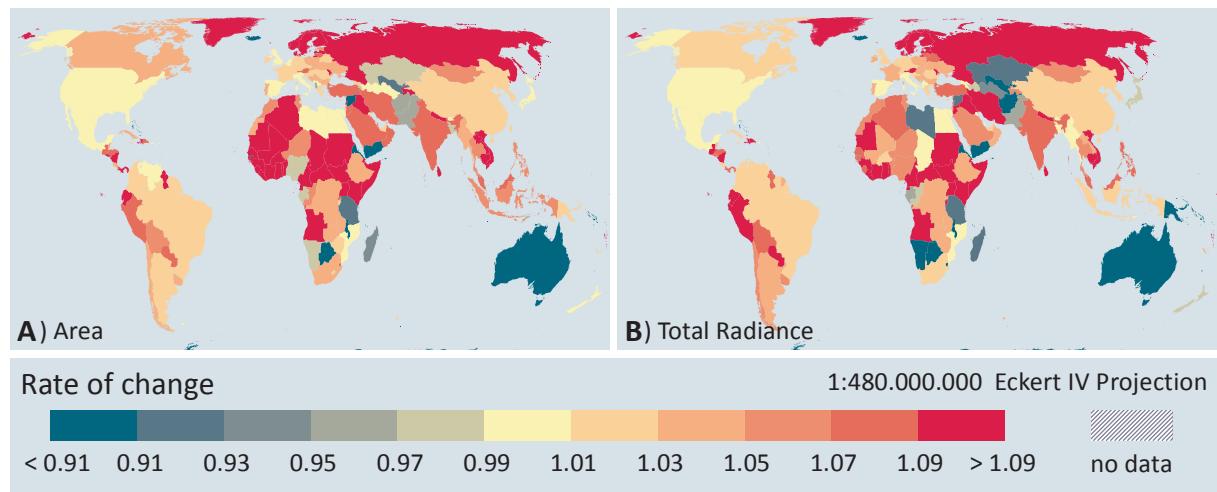


fig. S28. Annual changes in lit area and total radiance. (A), lit area; (B), total radiance. Changes are shown as an annual rate, i.e. $\sqrt[4]{A_{2016}/A_{2012}}$, where A_{2016} is the lit area observed in 2016. The difference to Figure 1 in the main paper is that here the change in total radiance is shown, rather than the change in stable lights.