

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
World		27679.00	27,679	27519.00	27,519	27993.00	27,993	29021.00	29,021	31313.00	31,313	33513.00	33,513	35411.00	35,411	38284.00	38,284	41525.00	41,525	44792.00	44,792	45031.00	45,031	48714.00	48,714	52493.00	52,493	57843.00	57,843	59992.00	59,992	57151.00	57,151	56489.00	56,489	59354.00	59,354	61138.00	61,138
North America		7137.89	8,397	6886.36	8,178	7011.89	8,221	7207.00	8,746	7448.92	8,980	8123.73	9,866	8489.44	10,320	9175.20	11,166	9265.98	11,451	9757.31	12,028	9459.04	11,711	9648.60	12,160	10132.25	12,765	10442.60	13,371	10388.50	13,527	10171.67	13,158	10212.63	13,292	10474.70	13,773	10136.89	13,429
Canada	High	750.71	1,028	735.44	1,009	791.24	1,064	823.59	1,190	791.24	1,255	945.04	1,390	1030.52	1,517	1073.63	1,548	1141.80	1,701	1236.78	1,807	1190.83	1,745	1168.22	1,792	1199.68	1,792	1242.27	1,915	1242.87	1,949	1193.74	1,850	1156.92	1,804	1109.33	1,807	1146.71	1,850
Greenland	High	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Mexico	Upper-middle	116.79	158	128.85	182	138.32	198	139.10	196	152.49	228	198.58	281	179.65	249	219.98	307	197.49	295	261.41	355	243.45	335	310.98	436	359.64	475	353.23	481	373.21	491	323.89	434	377.57	504	395.39	527		
United States	High	6270.38	7,455	6022.08	7,210	6082.33	7,209	6244.31	7,643	6418.89	7,809	6980.11	8,539	7279.27	8,915	7881.60	9,680	7926.69	9,848	8259.11	10,278	8024.75	10,019	8260.29	10,472	8621.59	10,941	8792.40	11,543	8604.73	11,216	8731.82	11,473	8987.80	11,913	8594.80	11,493		
Central America and Caribbean		18.08	25	19.58	28	25.58	34	20.84	35	14.43	22	21.08	32	26.33	40	18.68	28	31.99	50	36.45	56	33.28	55	23.92	39	32.07	55	29.51	55	34.45	59	34.34	63	31.88	54	48.11	88	36.73	67
Antigua and Barbuda	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Bahamas, The	High	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	1.25	4	0.50	1	0.25	3	2.13	3	3.00	3	0.00	0		
Barbados	High	1.00	1	1.00	1	2.00	3	1.33	2	3.50	4	1.83	3	0.50	1	3.00	4	1.00	1	1.75	2	1.00	2	0.83	2	1.33	2	0.33	1	0.00	0	0.00	0	2.50	3	0.50	1		
Belize	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.75	1	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1		
Costa Rica	Upper-middle	1.50	2	1.00	1	2.00	2	1.33	3	0.00	0	1.20	2	3.00	6	1.63	3	3.08	6	2.50	3	1.62	5	2.33	3	1.00	3	3.88	7	3.64	9	5.08	10	16.28	24	11.12	20		
Cuba	Upper-middle	5.67	6	5.67	9	12.50	15	2.77	6	5.35	8	10.79	14	9.33	14	7.63	11	15.82	25	15.86	22	17.45	26	8.00	14	15.09	27	5.20	13	11.93	20	16.64	28	3.60	8	9.81	22	7.32	16
Dominica	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0		
Dominican Republic	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.67	2	1.73	4	1.42	4	2.33	6	1.50	4	2.08	5	0.17	1		
El Salvador	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.50	1	0.00	0
Grenada	Upper-middle	0.00	0	1.00	1	1.00	1	0.00	0	0.77	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0		
Guatemala	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.67	1	0.00	0	0.00	0	0.50	1	0.00	0		
Haiti	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.50	2	0.33	1	1.00	1	0.00	0	0.00	0		
Honduras	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.50	1	0.50	2		
Jamaica	Upper-middle	0.83	2	0.75	2	2.50	5	2.17	3	0.00	0	2.17	4	1.67	4	0.17	1	3.50	7	4.92	9	1.96	4	2.25	5	3.00	5	2.83	5	2.00	3	2.00	3	2.83	5	2.83	5		
Nicaragua	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Panama	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.00	0	0.33	1	0.40	1	0.80	2	0.00	0				
Puerto Rico	High	9.08	14	9.67	13	5.58	8	11.90	20	4.58	9	5.08	9	11.83	15	4.75	7	8.58	11	9.09	17	9.33	15	9.50	13	9.56	15	14.08	22	10.39	16	7.12	12	12.33	19	10.64	22	8.17	15
Saint Kitts and Nevis	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Saint Lucia	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Saint Vincent and the Grenadines	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Trinidad and Tobago	High	0.00	0	0.00	0	0.00	0	1.00	1	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	2.33	3	1.42	2	0.33	1	1.00	1	2.00	2	2.00	3	1.50	2	2.00	2	1.17	2	5.13	6
South America		553.84	718	544.26	693	631.47	799	691.23	882	699.82	904	697.44	919	812.86	1,028	879.75	1,151	1025.72	1,325	1098.01	1,390	1088.74	1,421	1207.89	1,552	1243.72	1,624	1372.42	1,777	1515.34	2,024	1607.01	2,135	1639.42	2,195	1823.54	2,437	1800.48	2,361
Argentina	High	107.02	140	97.29	120	110.88	135	105.40	133	110.54	146	101.49	141	121.43	157	127.37	185	149.98	211	155.78	217	166.79	224	184.33	241	183.63	254	158.50	209	183.82	260	189.13	253	182.08	245	240.46	320	220.38	287
Bolivia	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.46	2	0.00	0	0.50	2	0.00	0	0.00	0	0.45	2		
Brazil	Upper-middle	302.84	397	306.61	394	350.20	444	399.95	517	427.37	546	440.78	567	481.80	611	510.77	659	589.12	752	661.57	837	627.75	824	715.81	924														

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(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018			
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count				
Ecuador	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	2.00	2	1.50	2	0.25	1	1.33	3	0.95	3	1.83	3	1.67	3	1.83	4	4.09	9	4.83	6	3.83	8	2.45	6	9.17	21	27.26	53	15.50	29		
Guyana	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Paraguay	Upper-middle	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.50	1	0.00	0	0.25	1	0.00	0	1.00	0	0.00	0	0.00	0	8.85	11	1.17	2
Peru	Upper-middle	1.00	1	1.00	1	0.58	2	1.58	4	1.38	3	2.00	3	2.58	6	3.18	7	0.96	3	4.83	8	5.17	9	2.08	4	5.17	13	4.46	7	10.03	15	7.73	15	14.53	20	10.85	20	12.52	21		
Suriname	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.50	1	0.00	0	0.00	0	0.25	1	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0		
Uruguay	High	6.42	11	6.75	14	13.00	20	10.00	16	4.53	8	7.48	16	5.58	8	11.66	19	10.88	20	18.23	32	15.67	24	15.00	23	15.46	27	13.79	23	23.34	41	25.41	35	25.59	41	38.21	55	23.53	34		
Venezuela	Upper-middle	45.08	60	34.17	50	44.42	57	53.97	62	39.33	56	37.85	53	40.06	56	47.19	70	72.41	100	44.20	57	37.67	55	41.07	55	37.38	50	46.97	70	34.55	59	40.68	63	35.73	58	40.21	62	25.27	45		
Europe		13939.61	15,291	13328.05	14,718	13584.30	14,805	13776.45	15,366	14735.18	16,575	15731.18	17,754	15906.60	17,783	16838.12	18,902	18180.04	20,443	18790.19	21,125	19166.01	21,582	20519.44	23,216	21478.98	24,366	22354.02	25,669	22834.76	26,432	22681.30	26,051	22312.35	25,838	22001.58	25,669	21748.06	25,479		
EU		11078.49	12,512	10241.74	11,706	10370.85	11,667	10647.73	12,286	11094.88	12,841	11802.20	13,723	12614.48	14,561	13272.57	15,421	14351.93	16,709	14632.42	17,055	14708.05	17,183	15636.86	18,430	16699.19	19,601	17129.18	20,432	17343.99	20,925	17130.83	20,607	16578.75	20,155	16280.03	19,935	15721.58	19,468		
Austria	High	193.56	248	200.65	264	177.22	236	207.15	276	228.97	308	256.44	357	283.30	395	279.84	412	340.44	498	319.12	459	331.15	484	343.77	503	416.19	601	420.67	625	428.09	641	429.97	667	452.92	723	474.66	727	452.22	726		
Belgium	High	273.20	367	254.19	342	247.02	339	250.27	360	297.99	403	306.03	425	326.96	443	343.40	481	402.40	555	366.11	529	367.98	532	363.82	529	370.35	552	379.57	555	366.72	566	356.54	560	371.11	578	356.04	565	318.31	528		
Bulgaria	Upper-middle	72.46	100	79.33	105	59.04	74	75.93	90	63.25	92	75.57	110	71.20	105	93.79	130	100.24	132	109.36	145	118.08	152	104.13	147	136.35	176	133.92	177	130.42	175	133.92	176	115.15	153	124.89	175	107.69	156		
Croatia	High	62.25	78	59.58	72	59.75	66	55.53	68	64.15	76	94.25	117	79.42	100	106.17	127	113.02	141	111.63	138	127.23	158	128.86	177	150.11	197	119.74	165	145.68	193	155.84	206	155.82	219	116.50	154	142.11	206		
Cyprus	High	12.50	18	15.67	23	9.50	15	12.25	21	21.42	34	18.50	25	21.05	35	31.17	50	28.59	47	33.83	53	41.46	61	31.45	54	29.08	45	39.67	63	28.17	45	41.96	62	28.37	40	31.37	53	27.16	45		
Czechia	High	200.65	267	172.15	238	198.73	253	228.93	299	214.64	276	203.91	282	252.95	330	350.48	471	325.77	426	302.11	428	373.67	515	364.54	489	409.60	547	478.98	634	476.27	648	570.65	735	469.13	657	410.59	602	382.12	599		
Denmark	High	117.82	151	119.39	158	126.83	163	136.41	184	129.52	182	125.78	183	122.68	184	117.59	180	116.56	175	117.41	187	139.09	218	134.28	201	143.42	224	133.72	219	157.13	248	159.50	256	157.44	247	176.16	292	140.48	237		
Estonia	High	14.17	18	15.83	21	17.83	22	17.25	21	20.83	28	28.25	33	23.92	29	50.25	60	34.17	41	41.45	48	40.62	50	37.38	46	35.04	42	32.32	38	43.94	55	24.69	32	28.77	41	39.61	54	29.85	41		
Finland	High	126.52	170	110.87	146	114.95	146	128.84	180	180.18	229	122.44	173	141.66	195	189.47	256	172.83	252	194.40	257	205.32	274	205.32	303	229.54	339	246.48	364	228.60	339	244.73	364	218.33	343	169.22	279				
France	High	2127.24	2,582	1895.57	2,379	2065.23	2,501	2022.21	2,592	2125.66	2,737	2175.47	2,818	2335.91	2,978	2386.93	3,125	2495.39	3,324	2550.26	3,445	2634.27	3,524	2711.29	3,714	2882.19	3,903	2843.33	3,938	2852.59	4,025	2765.36	3,919	2723.49	3,908	2627.60	3,841	2441.66	3,618		
Germany	High	1943.17	2,442	1569.80	2,046	1578.85	2,021	1630.48	2,189	1641.78	2,221	1749.28	2,342	1821.13	2,479	1883.52	2,592	2079.24	2,839	2034.05	2,789	2020.56	2,820	2289.09	3,152	2474.78	3,354	2587.96	3,582	2567.15	3,628	2600.30	3,636	2571.14	3,702	2518.00	3,656	2542.89	3,634		
Greece	High	221.64	272	198.69	242	239.60	281	251.68	313	283.22	355	292.97	359	297.49	374	294.18	383	328.32	415	348.28	453	300.11	475	349.51	475	349.51	475	353.44	476	313.29	450	326.77	474	276.82	422	266.26	414				
Hungary	High	249.63	318	238.11	299	236.61	288	219.12	286	224.78	310	208.73	293	236.30	336	224.23	317	273.62	353	272.84	356	247.83	322	291.22	376	297.36	404	308.64	417	284.58	384	303.14	404	280.57	440	275.85	390	308.47	422		
Ireland	High	92.30	130	74.78	115	71.16	103	76.49	120	79.12	123	90.58	153	113.00	178	97.71	170	112.28	192	123.71	207	122.28	200	150.13	235	126.34	192	123.95	214	99.51	189	98.61	177	122.62	216	109.47	198				
Italy	High	1124.69	1,395	1292.55	1,550	1244.40	1,491	1312.88	1,630	1362.82	1,686	1498.44	1,855	1553.93	1,953	1670.98	2,090	1756.92	2,212	1915.44	2,401	1770.97	2,244	1940.00	2,477	2097.57	2,696	2147.12	2,924	2221.15	2,924	2221.36	2,977	2071.07	2,800	2101.69	2,836	2021.94	2,800		
Latvia	High	14.17	15	11.50	13	12.00	13	12.17	15	9.92	7	15.25	16	7.50	8	34.67	37	16.82	20	14.33	15	15.01	16	25.00	29	21.47	23	21.67	23	24.25	27	31.25	33	27.33	27	17.37	20	15.83	18		
Lithuania	High	54.28	64	58.50	71	78.46	87	77.33	91	64.85	77	72.92	83	75.50	84	107.65	117	85.41	94	67.38	79	65.04	75	71.42	80	79.75	90	64.22	75	63.22	78	55.19	69	64.22	78	55.19	66	70.67	83	43.83	52
Luxembourg	High	1.50	2	2.50	3	1.50	2	1.53	4	3.17	6	1.17	3	3.54	6	3.33	8	8.10	13	11.82	22	17.92	30	27.00	40	39.09	66	41.47	69	30.45	62	27.79	60	44.53	77						
Malta	High	0.50	1	0.50	1	1.25	2	0.50	1	0.00	0	1.50	2	1.00	2	6.25	7	1.67	2	2.50	4	1.67	2	1.00	1	5.36	8	4.20	5	6.33	7	7.17	10	8.23	12	6.14	9				
Netherlands	High	343.13	458	298.93	396	290.14	377	336.51	476	276.30	413	373.42	509	358.92	514	345.92	497	376.40	533	376.25	549	338.61	529	345.97	522	388.49															

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count
Spain	High	941.97	1,133	878.31	1,076	917.02	1,096	941.55	1,205	1059.66	1,311	1062.60	1,332	1248.43	1,574	1279.90	1,631	1387.41	1,761	1390.24	1,810	1399.25	1,835	1430.43	1,916	1561.01	2,094	1632.21	2,228	1703.27	2,325	1484.75	2,076	1405.95	1,993	1427.56	2,037	1347.55	1,951
Sweden	High	221.03	301	232.63	295	248.17	317	243.33	329	269.84	360	302.58	404	340.86	442	292.33	403	298.37	421	311.38	450	328.46	474	295.78	445	300.03	450	329.77	502	366.80	566	370.74	573	378.79	601	387.59	624	389.47	623
United Kingdom	High	1761.53	2,200	1522.36	1,908	1349.17	1,719	1355.23	1,798	1371.17	1,855	1498.12	2,031	1616.12	2,193	1668.93	2,335	1712.53	2,383	1745.63	2,470	1821.11	2,549	1894.65	2,697	1827.73	2,632	1992.33	2,939	2010.11	3,041	1988.44	3,024	2019.89	3,131	2059.31	3,188	2036.21	3,211
Other Europe		2861.12	3,296	3086.31	3,517	3213.45	3,599	3128.73	3,658	3640.30	4,343	3928.98	4,703	3292.12	3,903	3565.55	4,237	3828.11	4,555	4157.77	4,926	4457.96	5,243	4882.58	5,768	4779.79	5,761	5224.85	6,435	5490.77	6,749	5550.47	6,707	5733.60	6,966	5721.55	7,004	6026.48	7,440
Albania	Upper-middle	0.00	0	0.00	0	2.00	2	1.50	2	0.50	1	0.00	0	0.00	0	0.83	2	2.00	2	0.50	1	2.87	5	8.00	9	7.00	8	12.67	16	10.42	15	7.92	9	4.25	5	7.28	10	12.27	20
Andorra	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Belarus	Upper-middle	82.04	97	70.58	81	62.98	76	63.83	74	63.08	72	76.85	86	73.07	86	70.31	86	63.67	81	74.08	92	78.87	93	78.43	93	75.43	88	66.58	86	70.08	88	78.30	99	89.53	107	72.67	95	71.25	90
Bosnia and Herzegovina	Upper-middle	4.67	7	0.83	2	1.33	2	1.67	4	1.17	2	4.67	9	8.33	10	12.50	14	6.92	12	6.67	10	13.75	19	10.57	17	11.31	17	14.37	23	17.87	29	20.42	33	14.51	29	23.03	35	26.68	37
Holy See (Vatican City)	na	0.00	0	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Iceland	High	1.42	3	4.50	6	4.17	5	3.34	6	3.92	7	3.25	6	3.50	4	5.00	7	7.13	14	5.16	10	11.62	21	6.17	9	7.17	12	3.95	8	9.67	15	3.70	10	11.90	23	3.33	6	7.08	13
Kosovo	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.25	8	3.00	4	11.83	14	7.83	11	7.53	11	12.62	21	12.45	21	10.00	15	7.98	15	16.23	26	14.72	24
Liechtenstein	High	0.40	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.00	0		
Moldova	Lower-middle	5.50	6	5.33	6	3.50	4	4.67	6	1.00	2	8.50	10	5.67	8	4.17	7	5.83	9	8.92	13	6.00	11	16.08	20	29.83	39	22.33	31	26.41	33	23.25	28	15.12	19	18.25	23	13.50	16
Monaco	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.00	0	1.00	1	0.00	0	0.25	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0		
Montenegro ^a	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.75	6	2.00	2	6.75	11	9.83	12	18.67	26	19.25	24	22.17	27	14.90	22	24.42	31	15.72	22	18.67	27	16.83	25
North Macedonia	Upper-middle	3.00	4	6.75	7	8.33	12	7.33	8	4.00	5	2.96	5	5.83	7	7.90	12	6.17	11	7.50	11	7.50	11	13.57	22	11.37	18	8.33	11	13.83	23	13.98	25	18.25	29	14.93	29	11.67	20
Norway	High	90.23	122	104.00	142	106.93	136	107.51	147	112.54	160	123.49	171	152.35	200	165.70	231	165.59	242	206.92	294	177.34	264	196.41	283	202.68	325	227.85	389	223.14	399	199.84	325	220.81	370	189.50	329	219.04	354
Russia	Upper-middle	1929.66	2,152	2034.56	2,246	2212.72	2,414	2173.81	2,455	2483.72	2,921	2628.14	3,073	1804.10	2,078	1955.37	2,214	2146.25	2,410	2228.68	2,517	2426.82	2,719	2435.40	2,721	2357.12	2,640	2423.04	2,742	2750.32	3,096	3017.27	3,404	3126.15	3,518	3059.16	3,508	3321.73	3,869
San Marino	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	2	0.00	0	0.00	0	0.83	2	0.00	0		
Serbia ^a	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	204.00	254	176.29	235	208.87	275	232.82	308	283.30	382	267.31	367	255.54	363	231.45	350	231.56	320	219.16	312	214.83	307	223.12	322
Serbia and Montenegro ^b	Lower-middle	57.58	68	66.17	82	85.75	101	70.85	92	88.43	114	101.47	131	124.30	159	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Switzerland	High	209.68	300	190.88	266	223.21	301	222.40	327	231.15	339	261.36	386	279.44	415	280.37	441	302.33	480	309.35	470	292.46	459	359.64	551	370.59	610	433.71	715	462.13	766	487.22	794	469.11	780	487.59	812	443.21	748
Turkey	Upper-middle	172.24	205	154.09	194	196.70	237	234.90	267	354.61	405	375.75	442	498.54	567	498.68	580	566.66	652	707.44	814	805.22	920	949.16	1,110	915.98	1,127	1241.61	1,528	1143.18	1,403	1005.20	1,244	1076.32	1,323	1058.38	1,332	1129.17	1,436
Ukraine	Lower-middle	304.69	365	448.60	522	305.57	351	236.91	304	296.19	362	342.37	427	337.00	418	354.98	440	371.04	460	383.69	464	381.04	475	499.35	599	496.72	583	479.75	589	504.42	614	426.42	517	444.78	543	536.87	629	516.22	619
Middle East		648.81	864	725.86	948	770.62	988	820.57	1,096	957.24	1,244	1062.78	1,371	1314.86	1,627	1352.30	1,679	1530.70	1,908	1591.75	2,029	1822.86	2,361	2418.55	3,119	2747.97	3,577	2929.81	3,938	3220.42	4,419	2963.01	4,073	3155.00	4,246	3461.36	4,611	3896.15	5,195
Armenia	Upper-middle	7.25	11	6.00	7	19.08	24	11.58	14	28.08	33	15.23	20	19.33	24	23.67	28	18.33	22	45.75	52	49.00	56	59.58	67	48.58	54	55.50	63	37.17	49	59.92	66	49.83	55	46.48	53	61.44	71
Azerbaijan	Upper-middle	10.75	13	15.33	18	17.00	21	14.75	16	16.67	21	20.39	23	28.17	34	26.00	34	34.50	42	45.78	60	54.67	72	51.46	69	58.83	73	50.33	72	64.32	88	89.79	111	89.83	123	112.97	149	114.86	149
Bahrain	High	5.67	8	3.25	5	3.00	3	3.50	4	3.17	4	5.25	8	4.25	6	3.50	5	8.00	2	1.00	2	10.50	16	1.92	6	9.17	15	4.20	6	5.38	10	4.20	6	2.33	4	6.31	5		
Gaza Strip ^c	Lower-middle	0.00	0	0.00	0	2.00	2	1.50	2	0.00	0	2.50	5	2.25	3	0.70	2	2.25	3	2.25	3	1.33	2	5.50	6	2.83	4	2.60	4	2.58	4	1.33	2	1.25	2	6.00	9	6.23	11
Georgia	Lower-middle	60.46	72	48.50	56	60.96	74	60.05	70	71.92	84	73.17	92	77.67	95	59.96	77	97.34	117	100.75	122	50.86	67	160.83	181</														

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018			
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Kuwait	High	38.50	49	37.42	48	30.92	41	27.92	36	20.58	33	21.23	32	23.67	34	17.42	29	26.42	40	17.42	30	29.50	42	25.75	39	24.67	36	39.42	60	44.95	69	33.08	55	40.92	72	38.44	78	45.23	75		
Lebanon	Upper-middle	10.00	10	12.50	16	8.33	10	16.08	23	12.20	15	10.53	16	17.08	23	15.58	21	14.92	25	18.17	27	19.91	32	31.65	46	31.63	48	27.34	48	33.15	51	24.76	42	29.58	50	50.02	73				
Oman	High	13.00	17	11.45	18	19.92	26	18.33	30	26.57	39	22.38	31	22.79	34	20.13	32	21.50	28	24.42	41	20.17	30	24.06	33	28.94	44	22.20	29	28.94	44	22.45	41	21.16	52	26.42	50				
Qatar	High	0.00	0	0.67	1	3.00	4	1.67	4	6.00	7	4.00	4	3.96	6	10.00	16	10.53	20	11.37	23	8.42	19	17.41	39	10.40	25	13.14	32	21.96	52	14.99	34	18.31	35	20.35	46	17.03	41		
Saudi Arabia	High	63.17	77	78.43	101	79.46	101	98.50	137	94.86	137	118.04	158	122.93	163	116.63	156	148.14	208	144.38	213	214.23	361	281.50	514	427.40	757	546.39	1,041	641.54	1,255	561.73	1,115	539.93	1,026	536.14	1,028	548.29	1,074		
Syria	Low	2.67	4	1.00	1	3.50	6	3.00	5	0.00	0	2.33	3	2.67	5	2.17	3	6.33	8	2.00	2	1.17	2	4.00	5	3.50	4	2.98	7	4.75	6	4.00	4	3.83	5	3.20	4	5.25	7		
United Arab Emirates	High	10.75	20	14.50	17	27.08	33	35.00	50	40.33	56	40.72	54	38.08	52	26.42	40	30.62	48	32.53	49	34.73	49	36.69	59	50.85	81	46.25	67	48.75	91	69.21	124	60.54	118	78.15	138	235.53	344		
West Bank ^c	Lower-middle	5.33	6	2.33	4	5.00	6	3.67	5	4.88	6	6.33	8	5.25	7	2.67	4	2.25	4	1.75	3	0.33	1	1.00	2	0.60	2	2.67	5	2.83	5	2.92	5	0.25	1	6.25	8	13.30	21		
Yemen	Low	0.00	0	3.75	5	1.50	2	1.00	1	1.50	2	2.83	3	3.00	3	0.50	1	4.95	10	3.53	6	3.92	6	8.29	16	6.04	8	6.04	15	9.67	18	7.58	10	7.89	20	10.77	23				
Africa		385.94	483	477.87	588	500.98	609	579.94	730	577.54	735	643.06	813	650.70	819	691.87	861	855.19	1,085	898.40	1,121	969.18	1,237	1,088.52	1,431	1,148.84	1,561	1,315.90	1,791	1,453.20	1,993	1,381.69	1,886	1,567.11	2,094	1,619.52	2,186	1,813.23	2,423		
Algeria	Upper-middle	26.58	35	36.54	53	52.42	66	50.13	68	49.58	69	78.47	110	99.23	124	98.13	120	127.38	159	118.69	156	164.82	212	178.83	232	194.23	243	223.98	283	265.73	329	282.75	351	303.91	382	323.88	418	379.81	470		
Angola	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	1.00	2	0.50	1		
Benin	Low	1.67	3	1.00	1	0.50	1	2.33	4	1.33	2	1.00	1	6.42	9	2.67	4	2.00	2	4.50	6	4.17	6	6.33	8	0.33	1	9.96	14	1.75	3	4.63	7	4.96	8	6.01	10	9.39	13		
Botswana	Upper-middle	7.83	9	5.42	7	7.50	8	3.25	5	6.00	7	4.00	6	5.00	8	3.00	3	8.83	10	4.83	8	5.20	9	8.50	13	9.17	16	10.00	20	12.99	23	11.10	21	10.16	20	9.45	17	3.79	10		
Burkina Faso	Low	1.44	2	0.00	0	1.50	2	0.50	1	0.00	0	1.79	5	0.70	2	1.00	1	4.92	9	3.08	6	7.00	9	13.17	17	11.85	18	7.83	11	5.50	8	10.83	14	12.42	15	11.75	14				
Burundi	Low	0.00	0	1.50	2	0.00	0	0.00	0	1.00	1	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.50	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Cabo Verde	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.17	1	0.50	1	1.00	1	0.00	0	0.00	0	0.33	2	0.00	0	0.00	0	1.58	6	0.33	1		
Cameroon	Lower-middle	3.00	3	2.25	4	3.25	5	5.50	8	8.75	12	9.67	12	6.50	12	8.96	14	9.79	13	13.42	17	17.03	26	17.03	26	17.50	27	24.46	34	24.33	32	19.11	27	18.85	28	38.20	53	29.95	46		
Central African Republic	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.50	1	0.25	1	0.60	2	0.00	0	0.00	0	2.33	4		
Chad	Low	1.25	2	0.50	1	0.00	0	0.33	1	0.00	0	0.00	0	1.33	2	0.00	0	0.00	0	2.00	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	1.00	1	1.00	1		
Comoros	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.11	1	0.00	0	0.33	1	0.17	1	0.20	1	0.00	0				
Congo, Democratic Republic of the	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	1.00	1	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.50	1	0.67	1	0.00	0	1.00	1	1.00	1	0.00	0		
Congo, Republic of the	Lower-middle	0.00	0	0.00	0	0.00	0	1.00	1	1.00	1	0.00	0	2.79	4	0.08	1	2.83	4	0.00	0	1.00	1	1.00	1	0.00	0	0.83	2	0.00	0	2.00	2	1.00	1	2.00	2	1.00	1	2.00	3
Côte d'Ivoire	Lower-middle	0.83	2	3.50	5	0.00	0	3.33	4	1.00	1	2.00	2	1.17	3	1.92	4	17.10	18	9.83	11	10.33	12	8.73	11	9.00	9	8.43	11	8.00	8	4.33	5	10.42	14	7.00	9				
Djibouti	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Egypt	Lower-middle	86.42	101	104.50	120	122.38	142	188.13	233	201.25	243	156.24	193	139.31	168	142.71	169	193.83	241	199.87	242	185.39	246	202.42	272	236.50	351	258.71	417	260.18	418	233.50	367	278.74	422	248.32	388	295.54	451		
Equatorial Guinea	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0				
Eritrea	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.50	2	0.50	1	0.00	0	0.00	0	0.00	0	1.50	2	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	1.67	2	1.25	2				
Eswatini	Lower-middle	0.33	1	1.00	2	1.00	2	0.33	1	3.00	3	1.08	3	0.25	1	0.00	0	0.33	1	1.00	2	3.58	9	1.58	3	1.58	4	2.00	4	0.75	2	0.06	1	0.00	0	1.33	3	0.79	3		
Ethiopia	Low	1.00	1	2.00	2	0.00	0	0.67	2	0.00	0	3.08	5	0.50	1	3.17	6	4.00	7	7.50	12	5.08	10	8.67	15	6.67	10	8.19	14	6.93	14	7.25	13	17.54	38	17.01	31				
Gabon	Upper-middle	0.50	1	1.50	2	0.50	1	1.00	1	0.67	2	1.00	1	0.33	1	1.00	1	2.13	4	1.00	1	2.33	4	1.08	3	2.83	4	0.75	2	1.00	2	0.58	2	2.23	4	2.50	4	0.67	1		
Gambia, The	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	1	0.00	0	0.00	0	2.40	4	0.00	0	0.00	0	0.00	0	0.10	1	0.00	0		
Ghana	Lower-middle	0.00	0</																																						

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018					
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count						
Guinea-Bissau	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.17	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Kenya	Lower-middle	2.00	3	3.58	6	1.58	3	1.25	2	1.50	2	0.00	0	0.00	0	0.77	3	4.58	7	2.00	2	3.53	6	6.25	8	8.19	12	4.76	9	5.42	9	10.42	13	2.24	4	12.74	20						
Lesotho	Lower-middle	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.25	1	0.50	1	0.25	1	0.42	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Liberia	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	1	0.00	0	0.54	1	0.25	1	0.00	0	0.00	0	0.00	0		
Libya	Upper-middle	1.50	2	0.00	0	0.50	1	1.75	3	1.00	1	2.00	3	1.83	2	0.58	2	2.83	5	2.67	4	4.00	4	1.63	4	3.29	8	0.92	3	2.03	7	5.50	17	5.25	10	1.25	4	4.29	11				
Madagascar	Low	0.00	0	0.00	0	0.00	0	0.50	1	1.50	2	2.50	3	0.79	2	1.33	2	1.92	6	1.33	2	0.00	0	1.63	4	3.29	8	0.92	3	2.03	7	5.50	17	5.25	10	1.25	4	4.29	11				
Malawi	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.00	0	0.50	1	0.00	0	0.00	0	1.25	2	0.00	0	0.00	0	0.67	2	0.38	1	0.88	3	1.21	2	1.33	3	0.96	3	0.96	3				
Mali	Low	0.00	0	0.00	0	0.00	0	2.00	2	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	1.70	3	0.50	1	0.00	0	1.67	3	1.50	2	1.50	2	1.33	2	1.00	2	0.50	1	0.50	1				
Mauritania	Lower-middle	1.33	2	0.83	2	0.67	2	1.50	2	2.42	5	1.71	5	2.25	6	2.17	4	0.00	0	0.00	0	0.00	0	0.50	1	1.00	1	0.50	1	1.00	1	0.00	0	1.25	2	1.00	1	0.75	1	0.75	1		
Mauritius	Upper-middle	2.13	4	4.17	6	3.83	5	1.50	2	0.00	0	1.00	2	4.00	5	0.50	1	5.83	7	7.33	9	4.90	6	2.00	2	5.67	9	4.83	6	1.58	3	3.00	3	3.75	7	7.33	8	4.92	6	4.92	6		
Morocco	Lower-middle	80.52	101	106.98	127	95.87	115	112.38	138	101.71	136	124.25	150	116.50	144	100.90	133	126.59	172	128.63	164	156.26	203	156.18	206	126.68	177	157.02	205	178.99	235	199.38	259	249.15	307	227.57	275	321.09	379				
Mozambique	Low	1.00	1	0.00	0	1.00	1	1.00	1	1.33	2	0.33	1	0.53	2	0.00	0	0.50	1	0.00	0	0.00	0	1.00	1	1.13	3	1.17	2	1.17	2	0.53	3	1.70	3	2.48	6	2.48	6				
Namibia	Upper-middle	0.50	1	0.00	0	0.00	0	1.00	1	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	2	1.75	3	2.88	4	1.46	3	2.17	4	2.13	4	2.50	3	2.00	3	2.00	3		
Niger	Low	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	1.00	1	1.00	1	1.33	2	1.33	3	0.00	0	0.25	1	0.00	0	0.50	1	1.67	4	0.83	2	2.50	4	1.00	2	2.42	6	2.42	6				
Nigeria	Lower-middle	16.67	22	18.25	20	18.50	22	14.58	19	12.50	14	20.25	23	20.08	24	17.67	22	30.92	39	39.17	44	39.00	44	62.67	71	61.83	70	55.71	66	86.45	104	70.85	86	71.72	93	84.74	112	99.05	138	99.05	138		
Rwanda	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	1.00	3	0.50	3	1.25	4	0.00	0	1.54	5	0.89	4	0.89	4		
São Tomé and Príncipe	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Senegal	Low	1.00	1	3.00	4	0.67	2	4.20	7	3.50	6	3.75	8	5.80	9	4.29	9	6.90	12	5.42	9	7.33	10	11.79	21	9.13	14	13.39	26	16.10	27	18.27	30	24.13	36	16.82	31	20.47	34	20.47	34		
Seychelles	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Sierra Leone	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	1.16	4	0.00	0	0.20	1	0.20	1		
Somalia	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
South Africa	Upper-middle	88.45	116	112.71	142	112.66	142	103.26	134	104.03	139	121.53	155	133.16	180	162.58	205	160.43	214	176.13	232	156.21	214	197.57	282	230.46	325	283.53	400	333.68	496	264.64	408	263.76	410	281.21	433	273.45	439	273.45	439		
South Sudan	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	1	0.25	1
Sudan	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.25	1	1.00	1	0.00	0	1.00	1	0.17	1	2.33	3	2.50	3	1.88	5	3.74	8	3.35	4	2.90	7	2.25	4	3.89	12	3.89	12				
Tanzania	Low	0.50	1	2.00	2	1.50	3	1.00	1	0.00	0	0.00	0	1.00	1	1.33	2	1.00	1	2.13	5	0.70	2	0.83	2	0.67	1	1.55	3	1.68	5	5.33	7	4.73	10	2.88	7	2.88	7				
Togo	Low	0.50	1	0.00	0	0.00	0	1.00	2	1.25	2	0.00	0	1.00	1	0.33	1	1.00	2	1.00	1	0.00	0	1.33	3	0.00	0	0.45	2	1.00	1	0.92	3	0.00	0	0.00	0	0.50	1	0.50	1		
Tunisia	Lower-middle	56.98	74	61.80	75	71.33	89	75.26	92	71.30	88	98.51	123	93.46	121	126.66	156	138.93	173	150.17	186	184.18	226	194.83	254	196.84	274	203.45	263	213.12	270	215.38	282	253.74	324	278.43	368	261.80	345	261.80	345		
Uganda	Low	0.00	0	1.58	3	1.33	2	0.00	0	0.00	0	1.83	3	0.00	0	3.23	4	3.00	3	0.17	1	2.00	4	0.00	0	1.33	3	2.75	5	2.00	3	1.08	2	2.98	9	4.47	11	5.79	10	5.79	10		
Western Sahara	na	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Zambia	Lower-middle	0.50	1	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1	0.33	1	0.00	0	0.00	0	1.00	1	1.13	2	0.00	0	0.38	1	0.61	2	0.75	3	1.00	4	0.50	1	0.50	1	0.50	1		
Zimbabwe	Low	1.50	3	2.75	4	1.50	2	0.25	1	1.33	2	1.75	3	1.00	1	2.92	4	3.03	6	3.88	5	0.70	2	2.67	6	2.50	3	4.00	4	4.21	6	3.75	6	7.24	11	5.75	7	5.75	7				
Asia		4272.56	4855	4759.63	5392	4877.72	5463	5298.84	6051	5856.31	6655	6250.56	7131	7357.31	8329	8471.06	9530	9730.08	10954	11806.59	13134	11695.80	13059	12978.28	14629	14859.67	16685	18570.93	20692	19578.01	21896	17440.08	19666	16721.96	19027	19088.15	21644	20890.40	23613	23613	23613		
Afghanistan	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	1.00	1	38.58	48	25.41	32	32.09	37	32.09	37				
Bangladesh	Lower-middle	6.42	9	6.17	7	11.17	16	8.17	10	9.00	11	8.17	10	5.50	6	4.67	8	14.50	18	16.08	21	18.08	24	22.48	32	17.63	30	25.83	45	25.03	34	22.13	38	67.13	83	24.31	37	24.31	37				

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018							
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count						
Bhutan	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	1
Brunei	High	4.25	7	3.38	5	5.75	7	4.33	6	3.75	5	3.50	4	1.00	2	5.08	7	7.17	12	2.83	5	1.33	2	4.00	7	4.75	6	4.58	8	1.32	5	3.75	6	2.58	5	1.45	3	1.45	3						
Burma	Lower-middle	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	1.00	1	0.00	0	0.58	2	0.67	1	0.00	0	0.00	0	0.00	0	0.50	1	1.53	3						
Cambodia	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.83	2	0.00	0	0.10	1	0.00	0	0.20	1	0.20	2	0.79	3								
China	Upper-middle	1596.47	1,869	1981.36	2,255	1995.47	2,268	2236.34	2,619	2757.75	3,215	2962.17	3,422	3729.09	4,270	4451.49	5,064	5238.83	5,937	6803.73	7,613	6470.59	7,290	7144.33	8,057	8430.99	9,440	11279.73	12,526	12038.00	13,401	10192.83	11,556	9596.83	10,973	10224.90	11,740	10981.07	12,692						
India	Lower-middle	453.01	531	447.32	526	517.31	605	526.63	627	609.79	730	683.54	823	609.79	730	840.13	977	981.22	1,151	1141.65	1,337	1200.78	1,398	1443.55	1,702	1569.74	1,858	1836.87	2,172	2037.43	2,388	2243.77	2,576	2247.51	2,591	3641.34	4,048	4684.72	5,138						
Indonesia	Lower-middle	2.75	6	3.00	6	4.28	9	2.92	8	4.42	11	5.25	9	8.17	12	7.83	12	5.63	11	13.33	23	14.16	26	10.34	19	16.83	29	35.19	53	23.29	36	29.31	51	39.69	59	85.97	108	104.65	126						
Japan	High	1250.00	1,406	1295.39	1,483	1235.51	1,387	1332.31	1,539	1361.79	1,570	1302.43	1,503	1325.53	1,562	1420.78	1,652	1458.25	1,704	1517.35	1,790	1565.19	1,843	1583.76	1,893	1670.04	2,008	1777.06	2,132	1790.58	2,178	1681.86	2,067	1612.60	1,984	1770.44	2,167	1644.43	2,052						
Kazakhstan	Upper-middle	11.70	13	18.50	21	11.25	15	25.83	28	29.00	33	15.92	20	21.83	23	21.72	27	17.83	21	27.50	30	41.25	44	39.06	50	58.67	68	76.62	99	99.48	127	132.86	188	117.75	154										
Kyrgyzstan	Lower-middle	1.00	1	2.00	2	0.00	0	0.00	0	4.00	5	0.00	0	3.50	4	3.00	3	4.00	4	2.25	3	1.33	2	1.33	2	1.50	2	0.92	2	4.00	4	2.00	2	6.95	9	9.08	16	11.00	14						
Laos	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.33	1	0.00	0	0.00	0	0.00	0	0.00	0	0.13	1	0.00	0	0.00	0	0.13	1	0.00	0	0.60	0	0.00	0	0.00	0	0.00	0						
Malaysia	Upper-middle	18.62	23	22.92	26	20.03	24	22.67	31	18.00	24	33.70	40	57.22	65	59.88	72	92.73	114	134.72	161	175.25	214	220.89	281	279.39	366	374.13	490	339.19	455	260.35	341	267.88	358	217.83	298	291.09	376						
Maldives	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	3.50	4	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0						
Mongolia	Lower-middle	0.00	0	2.50	3	1.00	1	2.06	4	0.33	1	0.95	3	0.00	0	1.50	2	2.33	3	4.50	6	2.50	3	6.50	8	5.62	9	8.33	12	8.21	11	6.00	8	8.04	11	6.00	8	7.67	11						
Nepal	Low	0.50	1	0.00	0	0.50	1	0.33	1	1.00	1	1.00	2	1.33	2	2.25	3	1.33	2	1.50	3	1.00	2	2.50	3	6.50	8	5.62	9	8.33	12	8.21	11	6.00	8	8.04	11	6.00	8	7.67	11				
North Korea	Low	0.00	0	0.00	0	0.00	0	0.00	0	0.92	4	0.54	3	0.29	2	1.75	5	0.08	1	1.25	3	0.83	2	1.50	3	0.33	2	0.58	3	3.50	4	6.25	10	4.25	7	11.00	14	13.07	16						
Pakistan	Lower-middle	6.75	9	11.29	15	9.76	18	12.08	18	23.79	32	37.27	48	73.59	95	100.50	122	135.68	177	183.04	251	206.14	273	259.04	364	271.88	395	293.64	416	374.42	523	339.25	459	367.35	504	415.26	579	487.32	693						
Papua New Guinea	Lower-middle	0.00	0	0.00	0	0.00	0	1.00	1	1.17	2	0.25	1	0.17	1	1.00	1	0.17	1	0.00	0	0.00	0	0.33	1	2.50	3	0.00	0	2.50	3	0.33	1	0.00	0	2.00	3	0.58	2						
Philippines	Lower-middle	5.50	7	3.67	5	7.37	11	5.50	9	2.20	4	5.58	8	4.58	8	6.08	9	3.83	6	4.85	10	5.42	9	7.24	14	10.68	14	8.07	12	19.29	25	34.20	42	40.12	50	43.74	52	28.56	39						
Singapore	High	116.37	177	156.19	212	159.96	220	165.25	228	141.94	200	138.33	198	137.23	212	153.88	233	148.59	236	159.21	250	156.38	262	160.30	259	171.47	272	166.04	285	183.05	327	173.15	293	160.44	278	143.93	263	168.37	309						
South Korea	High	391.00	460	412.80	507	482.58	574	530.56	657	486.26	612	567.73	717	634.77	797	718.03	890	811.03	1,026	839.42	1,060	848.90	1,085	923.09	1,215	1091.11	1,450	1264.09	1,645	1187.24	1,583	1175.29	1,519	1129.78	1,477	1183.94	1,538	1172.97	1,549						
Sri Lanka	Lower-middle	2.00	3	0.20	1	0.00	0	0.83	2	0.08	1	5.58	8	5.13	9	4.38	6	3.17	6	6.30	11	2.17	4	6.17	8	3.06	6	6.69	10	5.54	10	4.50	11	11.87	18	12.28	15	11.87	16						
Taiwan	High	329.48	396	305.66	367	318.16	371	327.48	391	370.87	447	419.09	503	510.04	604	518.88	634	609.06	752	676.86	844	649.68	808	699.86	861	782.04	957	869.14	1,064	803.62	983	652.01	844	505.20	712	462.29	680	412.64	676						
Tajikistan	Low	5.00	5	4.50	5	10.83	12	8.50	9	10.00	12	14.25	21	6.50	7	3.00	4	3.00	4	3.50	6	7.83	10	6.50	9	4.67	8	10.42	13	5.67	7	5.99	9	11.22	14	4.17	6								
Thailand	Upper-middle	14.17	17	11.46	16	18.87	23	26.08	34	20.08	27	38.28	52	59.38	69	62.58	77	57.86	81	119.16	141	149.17	170	225.98	257	248.95	279	278.51	328	318.18	382	218.43	273	228.03	285	236.57	290	283.60	337						
Timor-Leste	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1						
Turkmenistan	Upper-middle	0.50	1	0.25	1	0.00	0	0.95	3	1.33	3	0.75	3	1.58	4	1.33	2	0.83	2	1.50	3	1.08	5	4.08	9	6.69	20	2.83	9	4.67	13	2.00	6	0.75	2	1.75	4	0.25	1						
Uzbekistan	Lower-middle	23.25	25	17.83	20	24.58	28	11.60	17	27.40	31	24.28	31	27.83	34	29.17	36	24.67	30	38.50	45	35.42	47	39.17	53	44.95	58	58.91	77	68.13	94	58.08	74	44.17	61	55.25	75	69.50	85						
Vietnam	Lower-middle	33.33	40	53.25	62	43.33	52	47.42	59	48.67	62	55.42	67	59.75	75	54.57	71	107.70	137	110.90	143	137.67	172	167.44	214	181.07	224	214.89	259	247.06	311	222.68	301	283.04	368	323.63	446	331.88	451						
Australia and Oceania		599.82	769	552.81	732	529.66	703	509.14	709	642.29	860	597.38	855	621.22	876	629.47	899	754.91	1,106	725.53	1,041	721.28	1,072	760.66	1,126	812.68	1,194	784.49	1,205	905.53	1,409	830.10	1,282	820.57	1,307	794.23	1,277	770.99	1,292						
Australia	High	519.08	677	456.29																																									

TABLE SSA-12

S&E articles in mathematics and statistics, by region, country, or economy: 2000–18

(Number)

Region, country, or economy	Economies by income status	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
		Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count	Fractional count	Whole count		
Marshall Islands	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0		
Micronesia, Federated States of	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Nauru	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
New Zealand	High	80.41	108	96.52	125	99.07	133	80.87	119	92.91	133	91.10	141	95.28	160	97.52	151	103.98	179	118.19	173	116.19	191	115.10	202	125.14	199	133.36	218	123.00	225	118.56	196	119.28	187	110.90	178	106.80	175
Niue	na	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Palau	High	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Samoa	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Solomon Islands	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Tonga	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Tuvalu	Upper-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Vanuatu	Lower-middle	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0		
Unassigned	na	122.46	269	224.58	471	60.78	132	116.98	236	381.27	762	385.80	779	231.68	536	227.54	549	150.39	370	87.77	200	74.82	159	68.15	170	36.82	89	43.32	104	61.77	143	41.80	114	28.09	83	42.80	117	45.07	123

na = not applicable; country data do not exist.

EU = European Union.

^a Beginning in 2006, Serbia and Montenegro represented individual countries.^b Serbia and Montenegro represented a single country for data purposes from 1992 to 2006. Its economic status is that of 2005.^c West Bank and Gaza Strip are separate entities in this list, but are grouped in the World Bank Lending Groups classification list. Here, the economic status of the group is applied to both individual regions.**Note(s)**

Article counts refer to publications from selected journals and conference papers in S&E from Scopus. Articles are classified by their year of publication and are assigned to a region, country, or economy on the basis of the institutional address(es) of author(s) listed in the article. Articles are credited either on a fractional- or whole-count basis. Fractional counts of articles are those produced by authors from different countries, where each country receives fractional credit on the basis of the proportion of its participating authors. For the fractional-count basis, the sum of the regions, countries, or economies may not add to the world total because of rounding. In whole counting, each region, country, or economy with a collaborating author on an article is credited with one count. The sum of the whole count for regions, countries, or economies does not add to the world total because of multiple counts of coauthored publications. Some publications have incomplete address information for coauthored publications in the Scopus database. The unassigned category count is the sum of fractional or whole counts for publications that cannot be assigned to a region, country, or economy. For more information on the 2019 World Bank Country and Lending Groups classification of income groups, see <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed June 2019.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation; Science-Matrix; Elsevier, Scopus abstract and citation database, accessed June 2019.