

Representation of Highly Cited Forestry and Ecology Researchers by Scientists, Publications and Citations

A Five-Year, Multi-Metric Geographic and Institutional Analysis (2020–2024) of the Stanford / Ioannidis Career-Long Citation Database

Analytical Report — Revised Edition

Prepared 6 July 2026

Data source: Ioannidis, J. P. A. (2025), Elsevier Data Repository, doi:10.17632/btchxktzyw (v3–v8)

Abstract

This report quantifies the geographic and institutional representation of the world's most highly cited forestry and ecology researchers along three complementary metrics—the number of listed scientists, the sum of their career publications, and the sum of their career citations—for each annual release of the Stanford / Ioannidis “top-scientists” database from data years 2020 to 2024. Across the five releases, 23,374 author-year records classified in the Forestry subfield (agriculture domain) or the Ecology subfield (biology domain) were extracted. In the 2024 release these 5,043 scientists account for 755 thousand career publications and 53.3 million career citations. All three metrics are reported for every individual year and for every dimension—continent, world sub-region, country, first-level subdivision (U.S. state, Canadian province, Australian state), and institution (labelled with its country). Rankings list the top 20 members individually and then aggregate the remainder into cumulative bands each holding roughly ten percent of the residual total. A tree-chart maps the full field / sub-field / sub-sub-field taxonomy actually occupied by these authors, and a quantitative-versus-qualitative split is derived from each author's secondary methodological subfield. On every metric the list is dominated by the Global North—the United States, United Kingdom, Canada and Australia, and specialized agricultural universities such as the Swedish University of Agricultural Sciences—while the fastest growth appears in China, Brazil and several mid-sized nations. Maps show the five-year average only.

Keywords: *bibliometrics; scientometrics; citation indicators; publication counts; Stanford/Ioannidis list; forestry; ecology; research geography; Science-Metrix taxonomy; choropleth mapping; concentration/banding; quantitative methods.*

1. Background, Concept and Related Work

Citation-based rankings of individual scientists are widely used in research evaluation. The most common single statistic, the h-index [1], conflates productivity with impact and scales with career length, field and co-authorship. To standardize comparison, Ioannidis and colleagues devised a composite indicator (the “c-score”) combining six field-normalized metrics [2,3] and published an openly licensed database ranking about the top 100,000 scientists (and the top 2% of each subfield) across 22 fields and 174 subfields defined by the Science-Metrix journal ontology [3,4]. The database appears in career-long and single-year forms and is refreshed annually from Scopus. This report analyses the career-long tables.

Whereas the original database is typically used to look up individuals, this report treats it as a population and asks how that population is distributed—not only by head-count but also by the publications and citations those researchers carry, which measure volume and influence rather than mere presence. Institution-level league tables (Shanghai, Times Higher Education, Nature Index) and the proprietary Clarivate Highly Cited Researchers list address adjacent questions; the openness and field-normalization of the Ioannidis data make it uniquely suited to the multi-metric, multi-scale geographic analysis presented here for forestry and ecology—fields central to biodiversity, land management and climate policy.

2. Data Description

The primary data are the five career-long author tables (“Table_1_Authors_career”) from dataset doi:10.17632/btchxktzyw, versions 3, 5, 6, 7 and 8, corresponding to data years 2020–2024. Each ~75–85 MB spreadsheet holds one row per ranked scientist (about 186,000–230,000 rows) with the author name, one large-institution affiliation, its ISO country code, the six component citation metrics and composite c-score, the total career publication count (np) and career citation count (nc), and the Science-Metrix classification (primary subfield, optional secondary subfield, and parent field). From each release we kept every row whose primary or secondary subfield was Forestry or Ecology, yielding a combined database of 23,374 author-year records that underlies this report and is delivered as an Excel workbook and CSV.

Table 1. Combined Forestry+Ecology totals for each release year, by metric. Publications and citations are the sums of each listed author’s career totals; a scientist counts once per release year.

Metric \ Year	2020	2021	2022	2023	2024
Scientists (list entries)	4,344	4,516	4,646	4,825	5,043
Publications (career papers)	561,883	611,960	655,300	701,760	754,910
Citations (career citations)	34,312,131	37,329,949	42,220,901	47,379,878	53,256,152

3. Methods

Metrics. Three quantities are tabulated for every group: the number of scientists (rows), publications (sum of np) and citations (sum of nc). Because career values are cumulative and each release re-lists largely the same people, the counting unit is the author-year; results are reported per release year, with maps showing the five-year average only.

Geography. Continent, UN M49 world sub-region and country were derived from the ISO affiliation code. For the United States, Canada and Australia, each institution was resolved to a first-level subdivision by geolocating its main campus (a verified language-model pass); distributed federal agencies are pooled as “Federal/Multi-site” and unplaceable institutions as “Unknown.” Institutions are labelled with their modal country.

Ranking and banding. For countries and institutions, the top 20 by a given metric are listed individually; the remainder (institutions truncated at the top 100) is then aggregated into consecutive bands each accumulating about ten percent of the residual total, so the long tail is summarized without discarding it. Complete, unbanded rankings of all 83 countries and all 2,344 institutions—by scientists, publications and citations, for every year—are provided in the companion workbook.

Taxonomy and orientation. The tree-chart (Section 4.2) shows every domain, field and subfield actually occupied by these authors’ primary or secondary classifications. A quantitative-versus-qualitative split labels an author “quantitative-oriented” when a primary or secondary subfield is a quantitative discipline—Statistics & Probability, any Engineering subfield, Geological & Geomatics Engineering (GIS/mensuration), Artificial Intelligence & Image Processing (remote sensing), Mathematics, or Bioinformatics. Requested terms such as Silviculture, Biometrics, Mensuration, Forest Management, GIS and Remote Sensing are forestry sub-disciplines that are not distinct labels in the Science-Metrix scheme; they are captured only insofar as they map onto these subfields, and Forestry/Ecology themselves are treated as the home fields rather than as quantitative or qualitative. Values were computed with Python (pandas); figures with matplotlib; maps use Natural Earth boundaries [6]. All totals were independently re-verified against the source releases.

4. Results

4.1 Overall totals by metric and year

All three metrics rose over the five years. Scientists grew 16% (4,344→5,043); career publications summed by the cohort grew from 562k to 755k; and career citations from 34.3M to 53.3M (Figure 1). Citations grew fastest in relative terms, reflecting both new entrants and the continual accrual of citations to established authors.

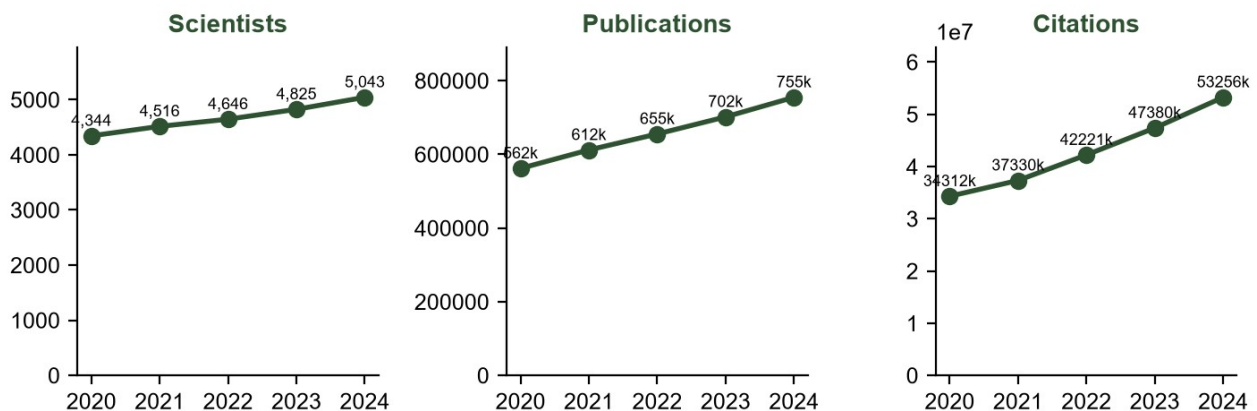


Figure 1. Cohort totals per release year for each metric: number of scientists, summed career publications, summed career citations.

4.2 Taxonomy tree: fields, sub-fields and sub-sub-fields present in the data

Although every author is a forestry or ecology researcher, their secondary classifications spread across the whole of science. Figure 2 charts the 122 sub-sub-fields (Science-Metrix subfields) actually occupied by the cohort, grouped under their 19 sub-fields (fields) and 5 fields (domains). The two target sub-sub-fields (Forestry, Ecology) are gold; 18 quantitative sub-sub-fields are marked in blue. Beyond the home branches (Biology and Agriculture-Fisheries-Forestry dominate), the largest secondary presences are in Earth & Environmental Sciences, Enabling Technologies (energy, biotechnology) and the Geomatics/Environmental Engineering subfields that carry the quantitative, GIS- and remote-sensing-oriented work.

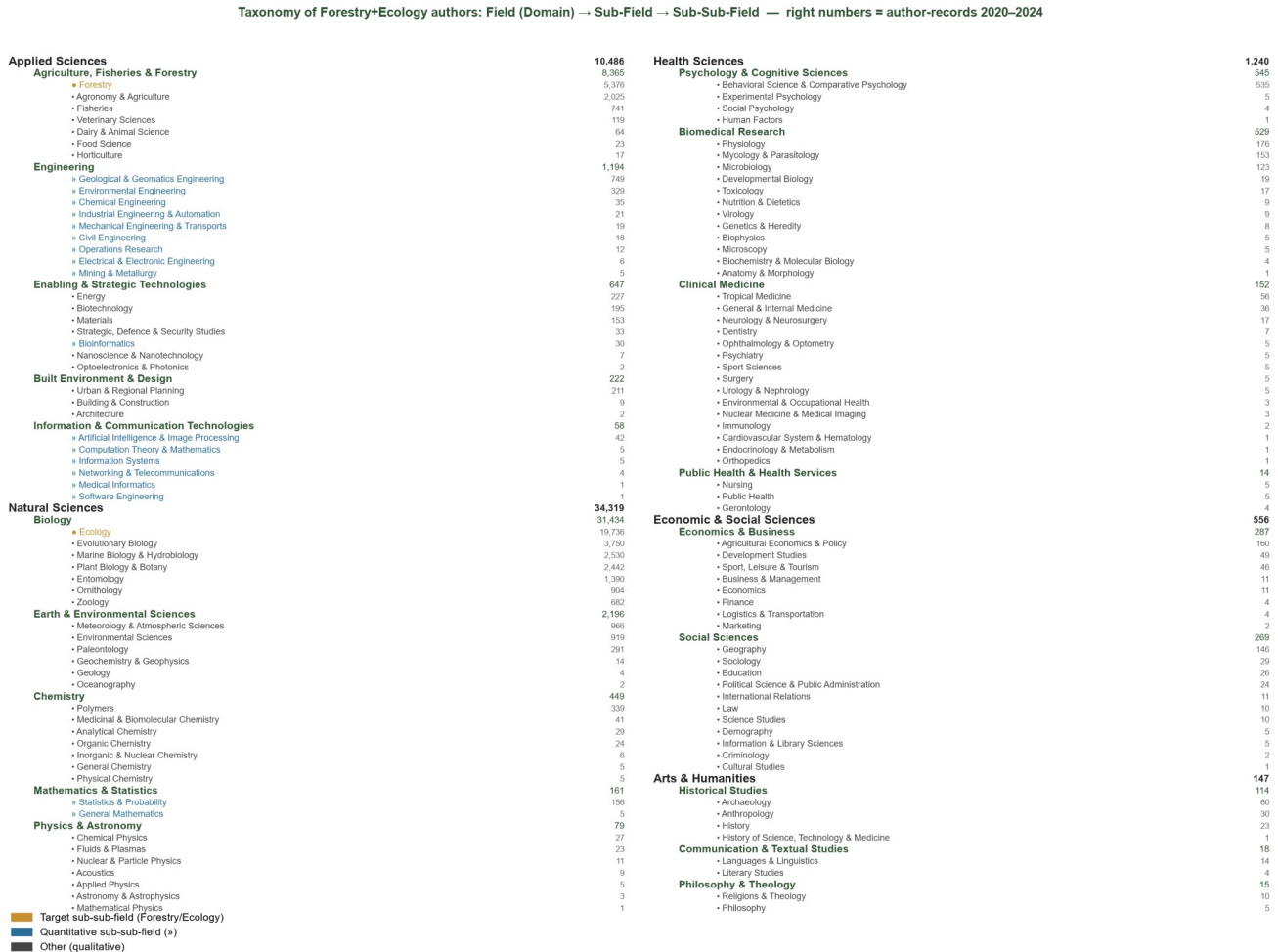


Figure 2. Tree-chart of the Field (Domain) → Sub-Field → Sub-Sub-Field taxonomy occupied by the Forestry+Ecology cohort. Right-hand numbers are author-records touching each node across 2020–2024 (an author may appear under two sub-sub-fields). Gold = target subfields; blue (») = quantitative subfields; grey = other.

4.3 Field composition and quantitative vs qualitative orientation

Ecology dominates the cohort: in 2024, 3,854 of 5,043 scientists were in Ecology, 814 in Forestry and 375 in both, a roughly five-to-one ecology-to-forestry ratio that holds on publications and citations too (Figure 3). Applying the secondary-subfield rule, only about six percent of the cohort is quantitative-oriented (Figure 4): forestry and ecology remain, in these data, predominantly field- and organism-based rather than methodological, though the quantitative minority is growing slightly.

Table 2a. Field composition by scientists, per year.

Field	2020	2021	2022	2023	2024	Total
Ecology	3,372	3,492	3,581	3,699	3,854	17,998
Forestry	653	687	723	761	814	3,638
Both	319	337	342	365	375	1,738

Table 2b. Field composition by publications, thousands, per year.

Field	2020 ('000)	2021 ('000)	2022 ('000)	2023 ('000)	2024 ('000)	Total ('000)
Ecology	454.3	493.2	528.0	562.5	605.9	2,643.9
Forestry	74.4	81.4	87.6	95.7	102.6	441.7
Both	33.2	37.4	39.7	43.6	46.4	200.3

Table 2c. Field composition by citations, millions, per year.

Field	2020 (M)	2021 (M)	2022 (M)	2023 (M)	2024 (M)	Total (M)
Ecology	29.87	32.34	36.67	41.06	46.24	186.18
Forestry	2.71	2.98	3.32	3.76	4.19	16.95
Both	1.74	2.01	2.23	2.56	2.83	11.36

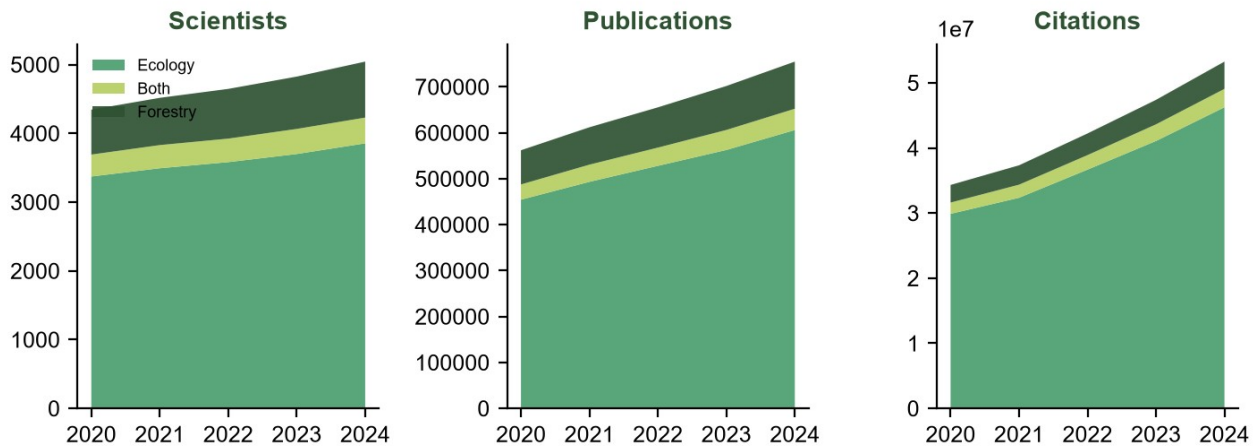


Figure 3. Field composition (Ecology / both / Forestry) per year, for each metric.

Table 3. Quantitative- vs qualitative-oriented scientists per year (by secondary Science-Metrix subfield).

Orientation	2020	2021	2022	2023	2024	Total
Quantitative-oriented	265	276	288	299	315	1,443
Qualitative-oriented	4,079	4,240	4,358	4,526	4,728	21,931

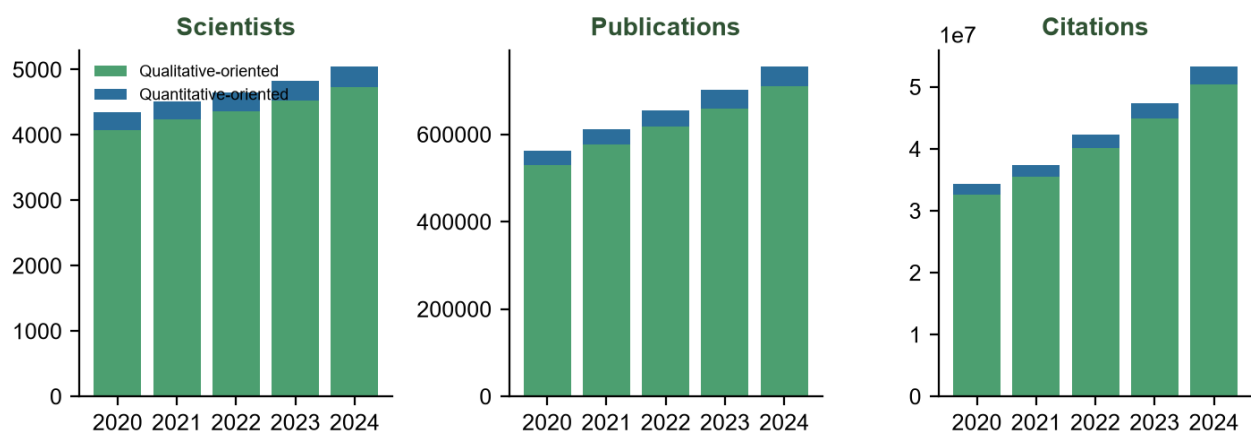


Figure 4. Quantitative- vs qualitative-oriented scientists per year, for each metric.

4.4 Representation by continent and world region

On every metric, North America and Europe supply the great majority of the cohort, with Oceania (Australia and New Zealand) a strong third and Asia, South America and Africa trailing far behind despite holding most of the world's forests and biodiversity (Figure 5, maps in Figure 8).

Table 4a. Continents by scientists, per year.

Continent	2020	2021	2022	2023	2024	Total
North America	2,174	2,213	2,245	2,292	2,365	11,289
Europe	1,485	1,554	1,613	1,685	1,786	8,123
Oceania	360	386	399	422	429	1,996
Asia	189	202	233	256	282	1,162
South America	78	85	91	96	107	457
Africa	53	65	60	66	72	316

Table 4b. Continents by publications, thousands, per year.

Continent	2020 ('000)	2021 ('000)	2022 ('000)	2023 ('000)	2024 ('000)	Total ('000)
North America	254.0	269.7	283.7	298.2	314.3	1,419.9
Europe	209.6	230.2	247.6	265.9	290.6	1,244.0
Oceania	51.2	56.9	61.7	66.4	69.8	306.0
Asia	27.0	30.6	37.5	44.3	50.3	189.7
South America	10.9	12.4	13.6	14.9	17.3	69.1
Africa	8.8	10.8	10.8	11.6	12.5	54.5

Table 4c. Continents by citations, millions, per year.

Continent	2020 (M)	2021 (M)	2022 (M)	2023 (M)	2024 (M)	Total (M)
North America	17.24	18.39	20.47	22.43	24.78	103.31
Europe	11.98	13.25	15.11	17.29	19.73	77.36
Oceania	3.00	3.27	3.72	4.23	4.61	18.83
Asia	1.15	1.29	1.68	1.99	2.45	8.56
South America	0.53	0.58	0.67	0.80	1.04	3.62
Africa	0.38	0.48	0.54	0.61	0.64	2.66

Representation by continent, per release year

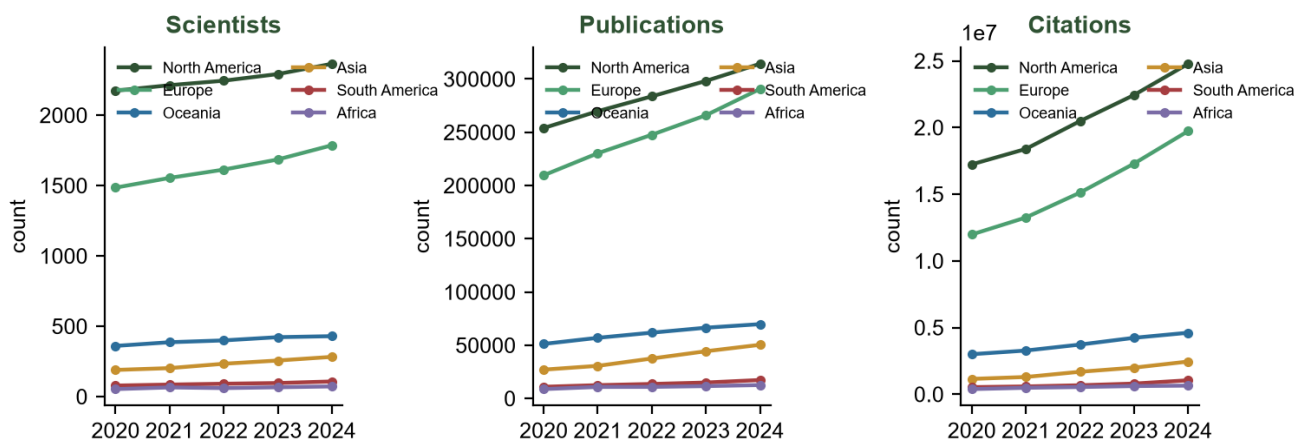


Figure 5. Continents by each metric, per release year.

Table 5. World sub-regions by number of scientists, per year (publications and citations by region are in the workbook).

World sub-region	2020	2021	2022	2023	2024	Total
Northern America	2,146	2,178	2,211	2,257	2,336	11,128
Northern Europe	752	787	800	820	865	4,024
Western Europe	519	541	565	602	624	2,851
Australia & New Zealand	360	386	399	422	429	1,996
Southern Europe	164	172	190	202	221	949
Eastern Asia	108	124	143	162	178	715
South America	78	85	91	96	107	457
Eastern Europe	50	54	58	61	76	299
Southern Africa	39	51	47	49	54	240
Western Asia	40	39	48	50	52	229
Central America	24	27	29	30	22	132
Southern Asia	19	20	25	28	31	123
South-eastern Asia	22	19	17	16	21	95
Eastern Africa	10	10	9	13	11	53
Caribbean	4	8	5	5	7	29
Western Africa	3	3	3	3	3	15
Northern Africa	1	1	1	1	4	8

4.5 Representation by country (top 20 individual, remainder banded)

The United States leads on every metric (1,917 scientists in 2024), followed by the United Kingdom, Canada and Australia; Sweden and Finland punch far above their size. Tables 6a–c list the top 20 countries individually and band the remainder into ~10% cumulative groups; the per-year line charts (Figure 6) and the average maps (Figure 8) show the spatial pattern and the faster growth of China, Brazil and other emerging producers.

Table 6a. Countries by scientists: top 20 individual, remainder in ~10% cumulative bands.

Country	2020	2021	2022	2023	2024	Total
United States	1,766	1,787	1,813	1,842	1,917	9,125
United Kingdom	389	402	400	409	426	2,026
Canada	379	390	397	413	417	1,996
Australia	301	320	333	350	348	1,652

Germany	169	185	197	208	219	978
Sweden	155	162	161	170	180	828
France	105	112	117	123	131	588
Finland	103	107	116	121	123	570
Netherlands	107	108	109	114	119	557
Spain	93	94	106	109	121	523
Switzerland	85	86	91	96	96	454
New Zealand	59	66	66	72	81	344
China	48	52	66	85	92	343
Norway	50	57	58	59	69	293
Japan	46	55	58	59	63	281
Italy	46	48	54	62	66	276
Brazil	40	45	50	54	59	248
South Africa	38	50	46	48	53	235
Denmark	37	41	46	43	48	215
Austria	30	29	32	38	34	163
Ranks 21–22 (2)	56	58	66	62	64	306
Ranks 23–24 (2)	39	40	39	44	46	208
Ranks 25–26 (2)	27	30	37	39	42	175
Ranks 27–29 (3)	31	33	35	38	45	182
Ranks 30–33 (4)	34	38	35	40	38	185
Ranks 34–38 (5)	34	32	36	33	41	176
Ranks 39–45 (7)	31	37	36	40	37	181
Ranks 46–61 (16)	33	29	30	32	45	169
Ranks 62–83 (22)	8	12	11	14	21	66

Table 6b. Countries by publications, thousands: top 20 individual, remainder in ~10% cumulative bands.

Country	2020 ('000)	2021 ('000)	2022 ('000)	2023 ('000)	2024 ('000)	Total ('000)
United States	201.5	212.6	223.9	234.2	249.1	1,121.3
United Kingdom	55.0	59.5	61.5	65.2	69.0	310.2
Canada	48.7	52.8	55.2	58.9	61.3	277.0
Australia	43.0	47.4	51.8	56.0	57.7	255.8
Germany	25.3	29.3	32.7	35.9	38.8	162.0
France	16.4	18.0	19.4	20.8	23.4	98.0
Sweden	16.1	17.7	18.1	19.3	21.6	92.8
Spain	14.3	15.1	17.9	19.2	22.3	88.8
Netherlands	14.6	15.3	16.6	17.8	18.7	83.1
Finland	14.5	15.1	16.5	17.7	18.1	81.8
Switzerland	12.5	13.6	15.1	16.1	16.6	73.8
China	8.8	9.9	13.5	18.6	22.3	73.1
New Zealand	8.2	9.6	10.0	10.4	12.1	50.2
Norway	7.5	9.1	9.3	9.3	11.8	47.0
South Africa	7.0	9.2	9.0	9.3	10.4	44.9
Italy	6.8	7.4	8.8	10.1	11.4	44.4
Brazil	6.4	7.6	8.5	9.5	10.6	42.5
Japan	6.2	8.0	8.2	8.3	9.3	39.9
Denmark	5.7	6.5	7.3	6.9	7.6	34.1
Belgium	4.6	4.7	4.4	5.9	6.0	25.6
Ranks 21–21 (1)	4.0	4.8	4.9	4.7	5.5	23.8
Ranks 22–23 (2)	7.3	7.4	8.9	9.7	9.3	42.5
Ranks 24–25 (2)	3.9	4.4	4.7	5.2	6.3	24.4
Ranks 26–28 (3)	4.5	5.2	6.8	7.2	7.7	31.3
Ranks 29–32 (4)	5.2	5.6	5.5	5.8	6.4	28.6

Ranks 33–37 (5)	3.8	5.2	5.6	5.6	6.0	26.2
Ranks 38–43 (6)	4.4	3.8	4.5	5.8	6.2	24.7
Ranks 44–58 (15)	4.2	4.4	4.0	5.2	6.0	23.7
Ranks 59–83 (25)	1.1	1.8	2.3	2.9	3.5	11.7

Table 6c. Countries by citations, millions: top 20 individual, remainder in ~10% cumulative bands.

Country	2020 (M)	2021 (M)	2022 (M)	2023 (M)	2024 (M)	Total (M)
United States	14.45	15.35	17.06	18.64	20.82	86.33
United Kingdom	3.53	3.91	4.28	4.83	5.38	21.93
Australia	2.61	2.83	3.23	3.69	3.96	16.33
Canada	2.59	2.81	3.10	3.46	3.77	15.73
Germany	1.36	1.62	1.99	2.31	2.63	9.91
France	1.13	1.18	1.30	1.53	1.77	6.91
Sweden	1.00	1.09	1.17	1.36	1.58	6.21
Netherlands	0.97	1.01	1.19	1.35	1.55	6.07
Switzerland	0.78	0.88	1.04	1.18	1.26	5.13
Spain	0.70	0.75	0.94	1.08	1.34	4.81
Finland	0.60	0.65	0.76	0.85	0.89	3.75
China	0.40	0.41	0.61	0.84	1.07	3.33
Norway	0.39	0.47	0.53	0.52	0.72	2.63
New Zealand	0.39	0.44	0.49	0.53	0.64	2.50
South Africa	0.32	0.43	0.48	0.52	0.54	2.29
Denmark	0.32	0.35	0.41	0.42	0.49	1.98
Brazil	0.23	0.29	0.36	0.44	0.56	1.87
Italy	0.26	0.29	0.35	0.43	0.52	1.85
Japan	0.23	0.29	0.33	0.35	0.41	1.62
Belgium	0.22	0.22	0.24	0.35	0.35	1.40
Ranks 21–21 (1)	0.18	0.22	0.24	0.26	0.30	1.21
Ranks 22–23 (2)	0.33	0.34	0.41	0.49	0.54	2.11
Ranks 24–25 (2)	0.19	0.21	0.34	0.34	0.31	1.38
Ranks 26–28 (3)	0.26	0.27	0.30	0.27	0.35	1.45
Ranks 29–31 (3)	0.12	0.21	0.27	0.28	0.36	1.23
Ranks 32–35 (4)	0.22	0.25	0.26	0.32	0.26	1.31
Ranks 36–41 (6)	0.20	0.21	0.22	0.28	0.33	1.26
Ranks 42–54 (13)	0.24	0.18	0.18	0.27	0.32	1.19
Ranks 55–83 (29)	0.06	0.09	0.10	0.14	0.21	0.61

Top-8 countries by metric, per release year

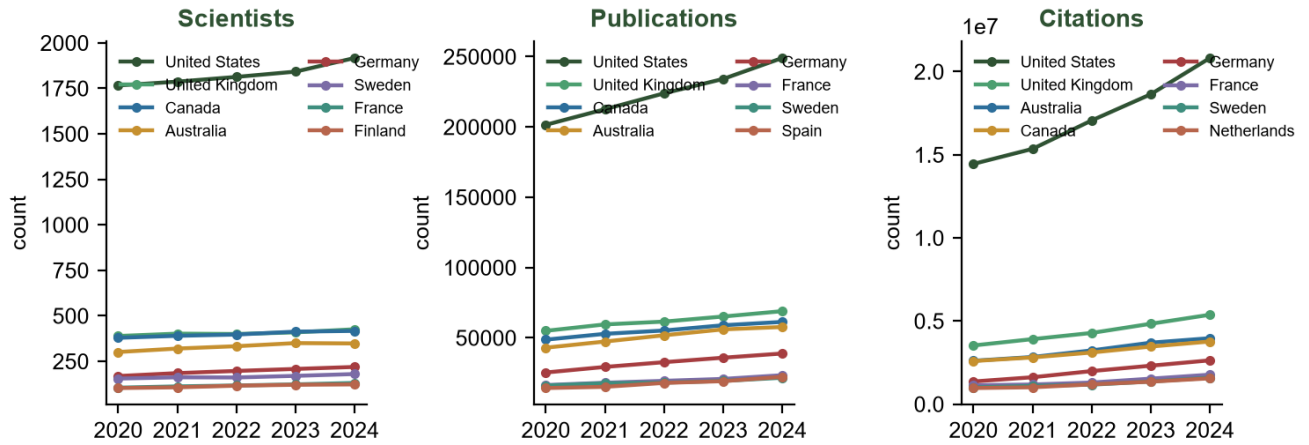


Figure 6. Top-8 countries by each metric, per release year.

Countries: top-20 individual, remainder banded (by scientists)

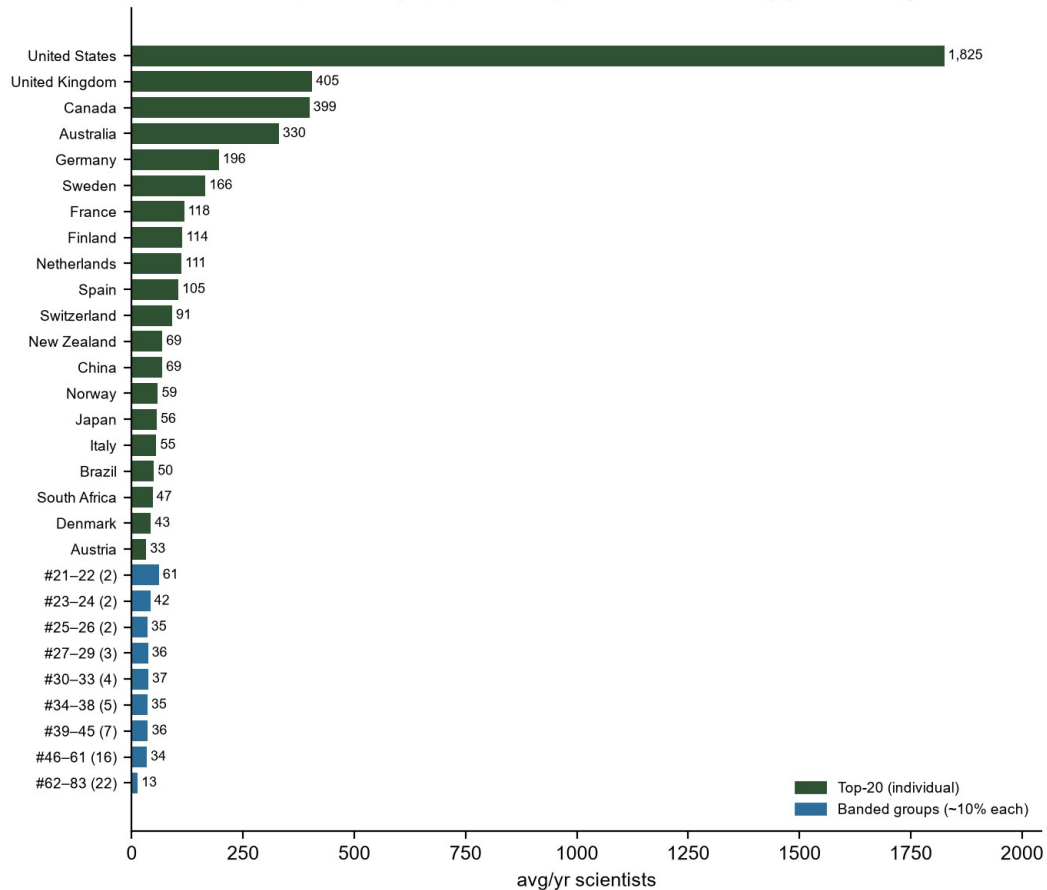


Figure 7. Countries by scientists (average/yr): top-20 individual bars, remainder in ~10% cumulative bands.

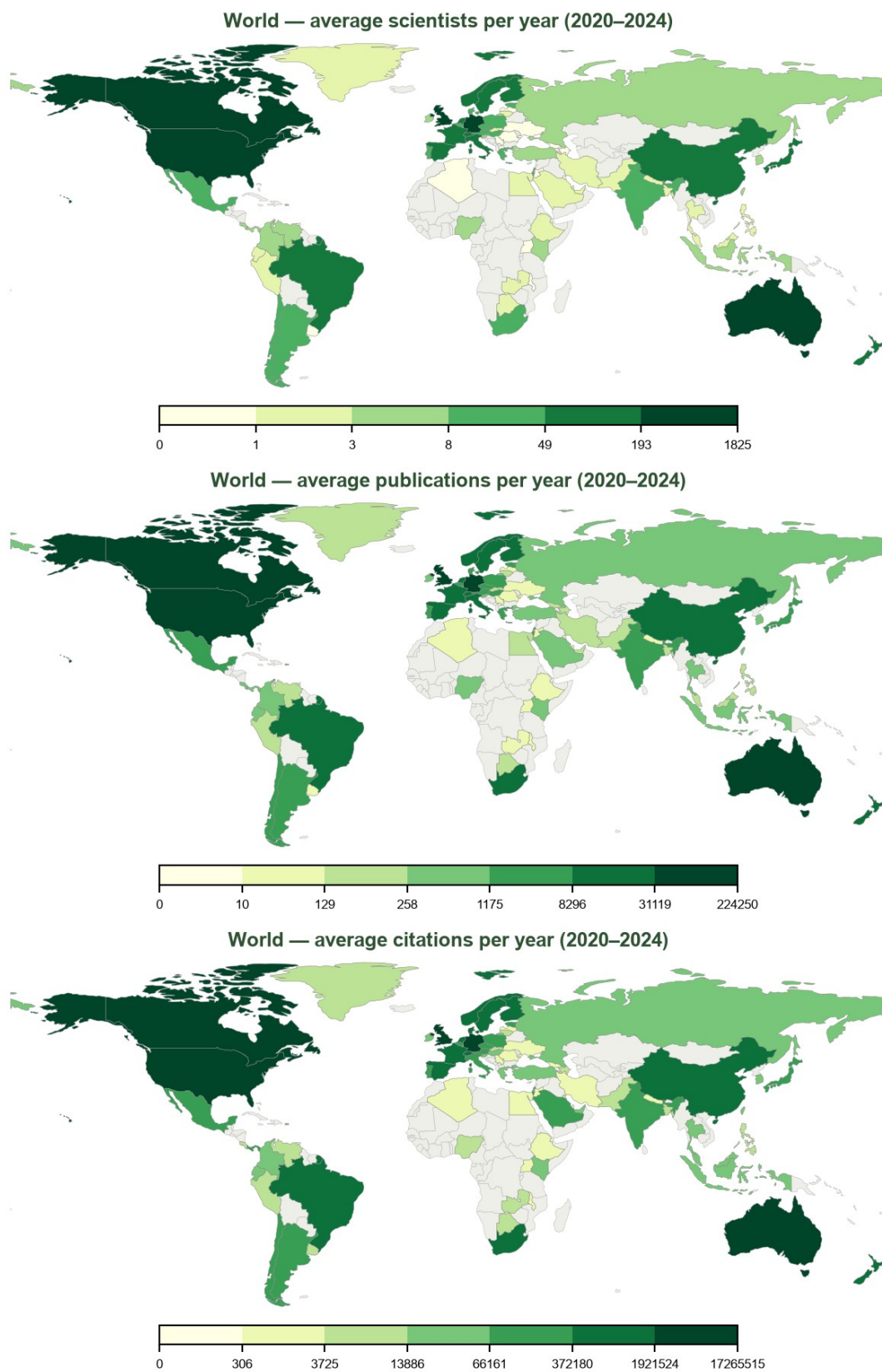


Figure 8. World choropleths of the five-year average per year for each metric (scientists, publications, citations). Boundaries: Natural Earth [6].

4.6 Subnational representation (United States, Canada, Australia)

Within the United States, California leads on all metrics; a pooled block of federal agencies (USDA Forest Service, USGS, USDA-ARS) ranks second; New York, North Carolina, Colorado, Oregon and Florida follow (Figure 9 maps the average of each metric). In Canada, Ontario and British Columbia lead; in Australia, Queensland and New South Wales. Full per-metric, per-year subnational tables are in the workbook.

Table 7. Top U.S. states/categories by number of scientists, per year (publications and citations by state are in the workbook).

US state / category	2020	2021	2022	2023	2024	Total
California	224	228	240	244	246	1,182
Federal/Multi-site	141	140	142	179	175	777
New York	100	97	101	99	96	493
North Carolina	69	72	76	79	77	373
Colorado	75	73	69	67	73	357
Oregon	72	71	74	65	69	351
Florida	71	65	69	68	69	342
Washington	61	65	68	69	56	319
Michigan	52	58	58	57	66	291
Massachusetts	58	57	57	57	54	283
Unknown	42	49	49	28	110	278
Arizona	56	49	50	61	46	262
Wisconsin	49	48	48	41	53	239
Virginia	43	39	41	41	46	210

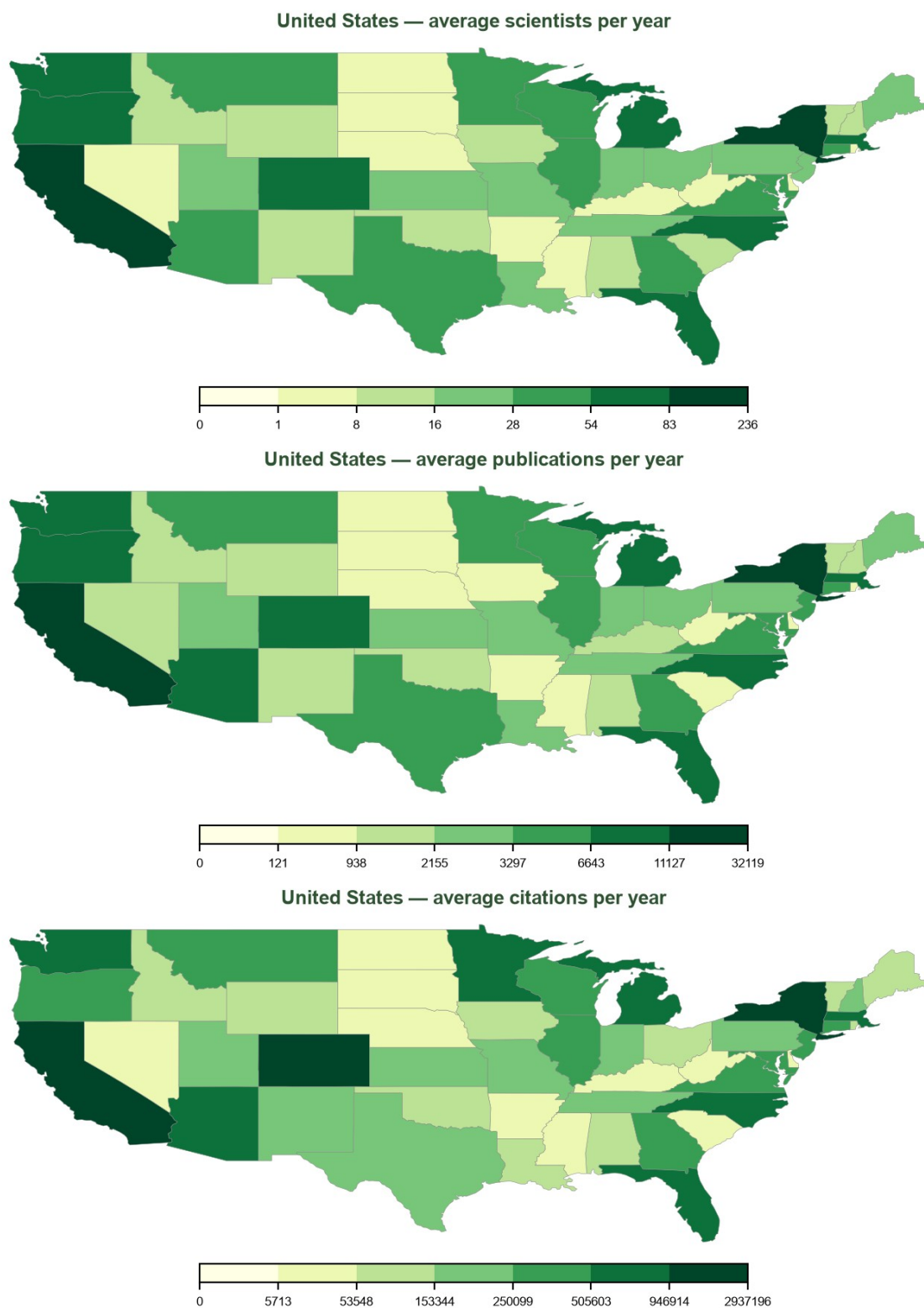


Figure 9. United States choropleths of the five-year average per year for each metric (contiguous states; AK and HI omitted from frame).

4.7 Representation by institution (with country; top 20 individual, ranks 21–100 banded)

The Swedish University of Agricultural Sciences leads on scientists, with the University of British Columbia, UC Davis, Oregon State University and Wageningen close behind; U.S. federal research bodies and land-grant universities are prominent. Tables 8a–c list the top 20 institutions (with country) individually and band ranks 21–100 into ~10% cumulative groups; per-year trends are in Figure 10.

Table 8a. Institutions by scientists: top 20 individual, ranks 21–100 in ~10% cumulative bands.

Institution (country)	2020	2021	2022	2023	2024	Total
Sveriges lantbruksuniversitet (Sweden)	54	60	58	61	61	294
University of California, Davis (United States)	54	55	55	56	53	273
The University of British Columbia (Canada)	53	47	51	57	57	265
Oregon State University (United States)	48	48	53	50	48	247
Wageningen University & Research (Netherlands)	42	45	42	43	43	215
USDA Forest Service (United States)	33	29	32	73	36	203
University of Washington (United States)	37	40	41	38	29	185
University of Wisconsin-Madison (United States)	34	34	34	31	36	169
Michigan State University (United States)	29	32	30	33	37	161
Helsingin Yliopisto (Finland)	28	30	33	36	34	161
University of Minnesota Twin Cities (United States)	32	29	34	32	34	161
Colorado State University (United States)	32	32	30	33	32	159
Cornell University (United States)	26	27	31	32	29	145
University of Toronto (Canada)	28	30	31	28	28	145
NC State University (United States)	24	26	31	30	28	139
University of Florida (United States)	29	24	27	30	28	138
University of Alberta (Canada)	26	29	28	26	23	132
University of Georgia (United States)	25	27	24	23	28	127

States)						
University of Oxford (United Kingdom)	22	21	22	28	30	123
Natural Resources Institute Finland (Luke) (Finland)	23	23	23	24	23	116
Ranks 21–26 (6)	120	123	125	143	130	641
Ranks 27–32 (6)	114	121	114	119	121	589
Ranks 33–39 (7)	124	127	136	123	131	641
Ranks 40–46 (7)	96	95	113	138	132	574
Ranks 47–54 (8)	123	117	109	136	105	590
Ranks 55–63 (9)	122	114	125	126	125	612
Ranks 64–72 (9)	96	112	112	147	108	575
Ranks 73–82 (10)	112	111	114	132	111	580
Ranks 83–93 (11)	115	108	115	127	123	588
Ranks 94–100 (7)	77	74	75	58	62	346

Table 8b. Institutions by publications, thousands: top 20 individual, ranks 21–100 in ~10% cumulative bands.

Institution (country)	2020 ('000)	2021 ('000)	2022 ('000)	2023 ('000)	2024 ('000)	Total ('000)
The University of British Columbia (Canada)	7.1	7.1	7.8	9.2	9.3	40.5
University of California, Davis (United States)	6.2	6.5	6.6	7.0	7.0	33.4
Sveriges lantbruksuniversitet (Sweden)	5.0	5.5	5.6	6.2	6.2	28.5
Wageningen University & Research (Netherlands)	5.3	5.9	5.6	5.8	5.8	28.3
University of Oxford (United Kingdom)	4.6	4.8	4.9	6.5	6.9	27.7
Oregon State University (United States)	4.9	4.9	5.4	5.8	5.5	26.4
University of Minnesota Twin Cities (United States)	4.6	4.4	5.5	5.3	5.2	25.0
University of Wisconsin-Madison (United States)	4.7	4.8	4.9	4.8	5.4	24.6
Helsingin Yliopisto (Finland)	4.0	4.4	4.6	5.2	4.9	23.1
Colorado State University (United States)	4.3	4.6	4.5	4.5	4.6	22.5
University of Washington	4.3	4.7	4.9	4.8	3.4	22.0

(United States)						
The University of Queensland (Australia)	3.7	3.8	4.1	4.7	5.6	22.0
NC State University (United States)	3.3	3.6	4.7	5.0	4.7	21.3
Cornell University (United States)	3.3	3.5	4.4	4.8	4.3	20.4
University of Toronto (Canada)	3.5	4.3	4.2	3.9	4.0	19.9
Michigan State University (United States)	3.2	3.8	3.5	4.1	5.2	19.7
University of Alberta (Canada)	3.5	4.2	4.2	3.8	3.6	19.4
Georg-August-Universität Göttingen (Germany)	3.5	3.6	3.6	4.3	3.4	18.4
Stanford University (United States)	3.4	3.7	3.9	3.6	3.8	18.3
James Cook University (Australia)	3.6	3.6	3.4	3.2	4.0	17.9
Ranks 21–26 (6)	17.0	17.4	18.1	23.9	19.9	96.4
Ranks 27–32 (6)	14.9	16.6	16.7	18.5	18.9	85.7
Ranks 33–39 (7)	13.9	17.2	18.6	20.0	20.7	90.4
Ranks 40–46 (7)	15.2	17.3	17.7	17.7	18.6	86.5
Ranks 47–54 (8)	16.7	17.1	18.3	20.7	18.7	91.5
Ranks 55–63 (9)	17.5	17.2	17.6	22.9	18.3	93.5
Ranks 64–73 (10)	18.4	18.1	18.4	19.5	18.4	92.7
Ranks 74–84 (11)	15.1	16.0	20.1	21.8	19.5	92.5
Ranks 85–95 (11)	14.7	15.2	16.6	21.2	17.8	85.4
Ranks 96–100 (5)	6.6	6.9	7.5	7.8	7.7	36.5

Table 8c. Institutions by citations, millions: top 20 individual, ranks 21–100 in ~10% cumulative bands.

Institution (country)	2020 (M)	2021 (M)	2022 (M)	2023 (M)	2024 (M)	Total (M)
University of California, Davis (United States)	0.46	0.48	0.52	0.59	0.63	2.67
The University of British Columbia (Canada)	0.43	0.43	0.51	0.61	0.67	2.65
Stanford University (United States)	0.44	0.48	0.55	0.53	0.61	2.62
Colorado State University (United States)	0.40	0.44	0.45	0.53	0.54	2.36
Wageningen University &	0.40	0.43	0.44	0.50	0.58	2.34

Research (Netherlands)						
University of Minnesota Twin Cities (United States)	0.44	0.33	0.53	0.46	0.54	2.29
University of Wisconsin-Madison (United States)	0.38	0.39	0.42	0.43	0.50	2.12
University of Oxford (United Kingdom)	0.29	0.30	0.32	0.48	0.55	1.95
Oregon State University (United States)	0.31	0.32	0.39	0.38	0.41	1.81
James Cook University (Australia)	0.32	0.31	0.34	0.34	0.43	1.73
University of Washington (United States)	0.30	0.33	0.38	0.43	0.28	1.72
Sveriges lantbruksuniversitet (Sweden)	0.27	0.29	0.30	0.34	0.36	1.55
Michigan State University (United States)	0.25	0.29	0.28	0.32	0.38	1.52
University of Exeter (United Kingdom)	0.23	0.25	0.30	0.35	0.37	1.50
University of California, Santa Barbara (United States)	0.22	0.31	0.27	0.37	0.32	1.49
University of Colorado Boulder (United States)	0.23	0.25	0.31	0.34	0.34	1.48
Cornell University (United States)	0.22	0.24	0.31	0.36	0.34	1.47
The University of Queensland (Australia)	0.23	0.24	0.27	0.32	0.41	1.46
Helsingin Yliopisto (Finland)	0.23	0.26	0.30	0.33	0.33	1.44
Duke University (United States)	0.23	0.23	0.24	0.30	0.33	1.33
Ranks 21–26 (6)	1.34	1.30	1.34	1.79	1.57	7.34
Ranks 27–32 (6)	1.06	1.15	1.32	1.64	1.61	6.78
Ranks 33–39 (7)	1.15	1.41	1.41	1.51	1.73	7.21
Ranks 40–46 (7)	1.06	1.11	1.09	1.93	1.27	6.47
Ranks 47–54 (8)	0.88	0.95	1.28	1.64	1.95	6.70
Ranks 55–63 (9)	1.12	1.28	1.38	1.49	1.49	6.77
Ranks 64–73 (10)	1.11	1.20	1.37	1.50	1.47	6.65
Ranks 74–84 (11)	1.02	1.03	1.24	1.73	1.54	6.56
Ranks 85–96 (12)	1.13	1.16	1.32	1.23	1.44	6.28
Ranks 97–100 (4)	0.32	0.33	0.34	0.45	0.44	1.88

Top-7 institutions by metric, per release year

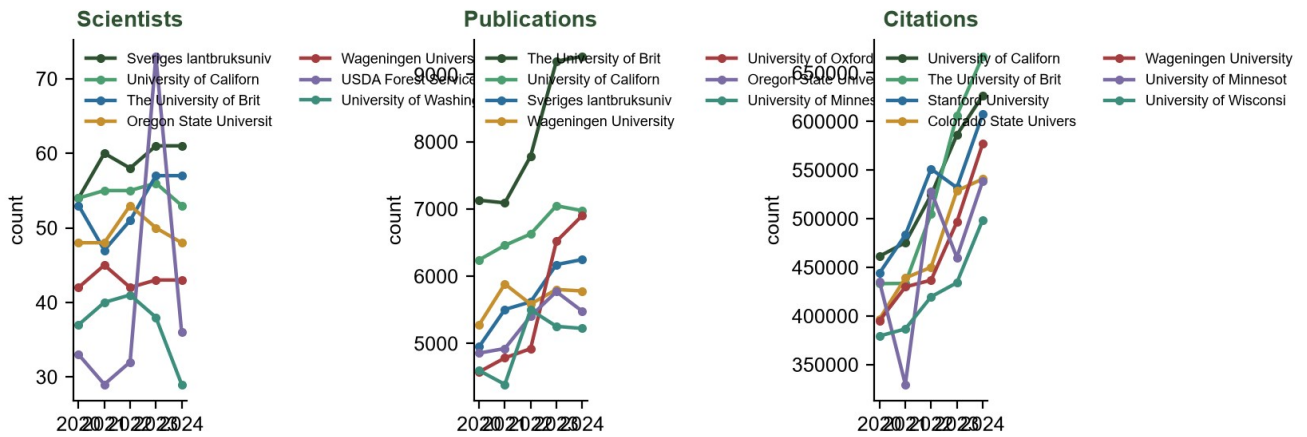


Figure 10. Top-7 institutions by each metric, per release year.

Universities: top-20 individual, ranks 21–100 banded (by scientists)

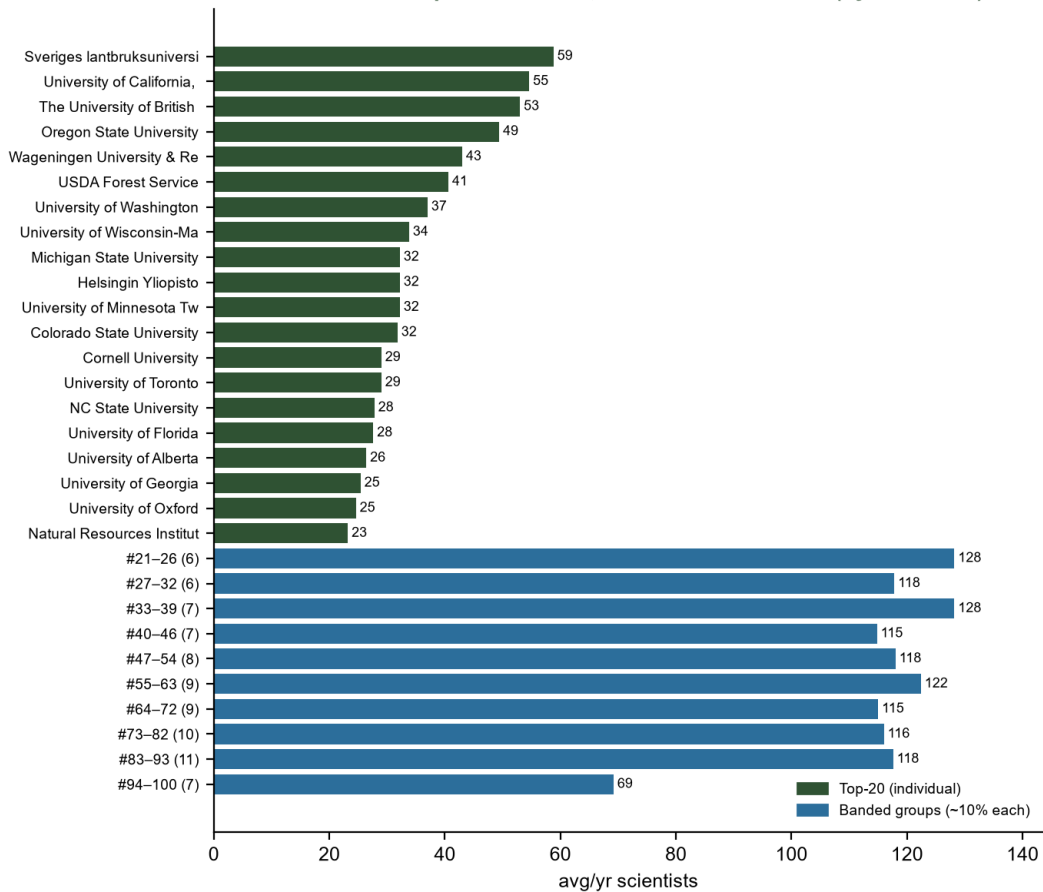


Figure 11. Institutions by scientists (average/yr): top-20 individual, ranks 21–100 in ~10% cumulative bands.

5. Discussion

Adding publications and citations to the head-count sharpens rather than softens the picture: the same countries and institutions that field the most highly cited forestry and ecology researchers also carry, by construction, most of the cohort's papers and citations, so influence is at least as concentrated as presence. The gap between where forests and biodiversity are (largely tropical and Global South) and where the recognized, most-cited expertise is affiliated (temperate, wealthy, English-publishing) is a quantitative entry point into debates on research equity and capacity-building.

The multi-metric, multi-scale tables support several uses: funders and ministries can benchmark national standing on head-count, output and impact separately and track it yearly; universities can benchmark peers and target recruitment (the banded tail shows where the next tier sits); editors can widen reviewer and speaker pools using the country and subnational geography; and science-of-science researchers can study concentration (the banding makes the long tail explicit) and emergence (China's and Brazil's growth). The quantitative-orientation split flags the small but growing methodological community (GIS, remote sensing, statistics, engineering) within these fields.

Limitations carry over and compound. Affiliation country is current institution, not nationality or origin. Scopus coverage biases toward English-language journals. Publication and citation sums inherit the skew of citation distributions—a few superstar authors dominate—so group totals are sensitive to individual outliers. The counting unit is the author-year, so annual changes mix genuine entry with re-computation. Subnational placement leaves ~6% of U.S. institutions “Unknown” and pools federal agencies. Finally, the quantitative/qualitative split is a coarse proxy: the forestry sub-disciplines the reader named (Silviculture, Mensuration, Forest Management...) are not separable in Science-Metrix and are approximated by adjacent subfields.

6. Conclusion

Measured by scientists, publications or citations, the population of highly cited forestry and ecology researchers is large and strongly concentrated in the Global North. North America and Europe dominate every metric; the United States, United Kingdom, Canada and Australia lead among countries; California and a block of U.S. federal agencies lead subnationally; and the Swedish University of Agricultural Sciences is the most represented institution. Ecology outnumbers forestry about five to one, and only ~6% of the cohort is quantitatively oriented. The banded rankings show a long, evenly graded tail beneath the leaders, and the growth signal—fastest in China, Brazil and mid-sized nations—points to a slow diversification that the citation and publication metrics corroborate as clearly as the head-count.

7. Project Summary

Five career-long releases of the Stanford / Ioannidis database (2020–2024) were filtered to Forestry and Ecology, combined into 23,374 records, and analysed by number of scientists, publications and citations across continent, region, country, subnational unit, institution (with country) and taxonomic subfield. Rankings list the top 20 individually and band the rest by ~10% cumulative contribution; maps show the five-year average. Deliverables: this report; a comprehensive workbook with the full per-year, per-metric rankings of all 83 countries and all 2,344 institutions plus continent, region, subnational, field, orientation, taxonomy-tree and map-data sheets; and the combined career database (Excel and CSV).

8. References and Data Sources

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Data sources.

Primary: career-long author tables (Table_1_Authors_career), dataset doi:10.17632/btchxktzyw, versions 3/5/6/7/8, via the Elsevier Digital Commons / Mendeley Data public API. Taxonomy: field/subfield threshold tables (Table_2) in the same dataset. Base maps: Natural Earth (world) and a public US-state boundary file. Analysis and figures: Python (pandas, openpyxl, matplotlib).