



Scientific Use and Impact of Socioeconomic Data across Disciplines

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Prepared for Presentation to the Research Data Alliance 21st Plenary (RDA P21)

International Data Week, Salzburg, Austria, 23-26 October 2023

Session: Data Repositories Discovering Unpublished and Diverse Data Usage and Impact

Wednesday, 25 October 2023, 9:30-11:00 UTC (11:30-13:00 AT)

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Brief Overview of SEDAC

<https://sedac.ciesin.columbia.edu/>

- NASA Socioeconomic Data and Applications Center (SEDAC)
- One of 12 Distributed Active Archive Centers (DAACs) in the NASA Earth Observing System Data and Information System (EOSDIS) *
 - Focusing on improving understanding of human interactions in the environment *
 - Mission to develop and operate applications that support the integration of socioeconomic and earth science data *
 - Serves as an "Information Gateway" between earth sciences and social sciences *
- Open data products and services enable diverse uses
 - Currently serving 289 curated datasets within 51 data collections and 2,471 maps
 - Various map services, viewers, and tools to facilitate analysis and visualization
 - SEDAC data have been cited in over 6,000 publications, including over 5,000 journal articles

Operated for NASA under Contract 80GSFC23CA001

*Source: <https://sedac.ciesin.columbia.edu/about>

Finding Evidence on Scientific Data Use and Impact

- Evidence of scientific use and impact of SEDAC data

- Journal articles
- Books
- Educational materials
- Policy documents and grey literature

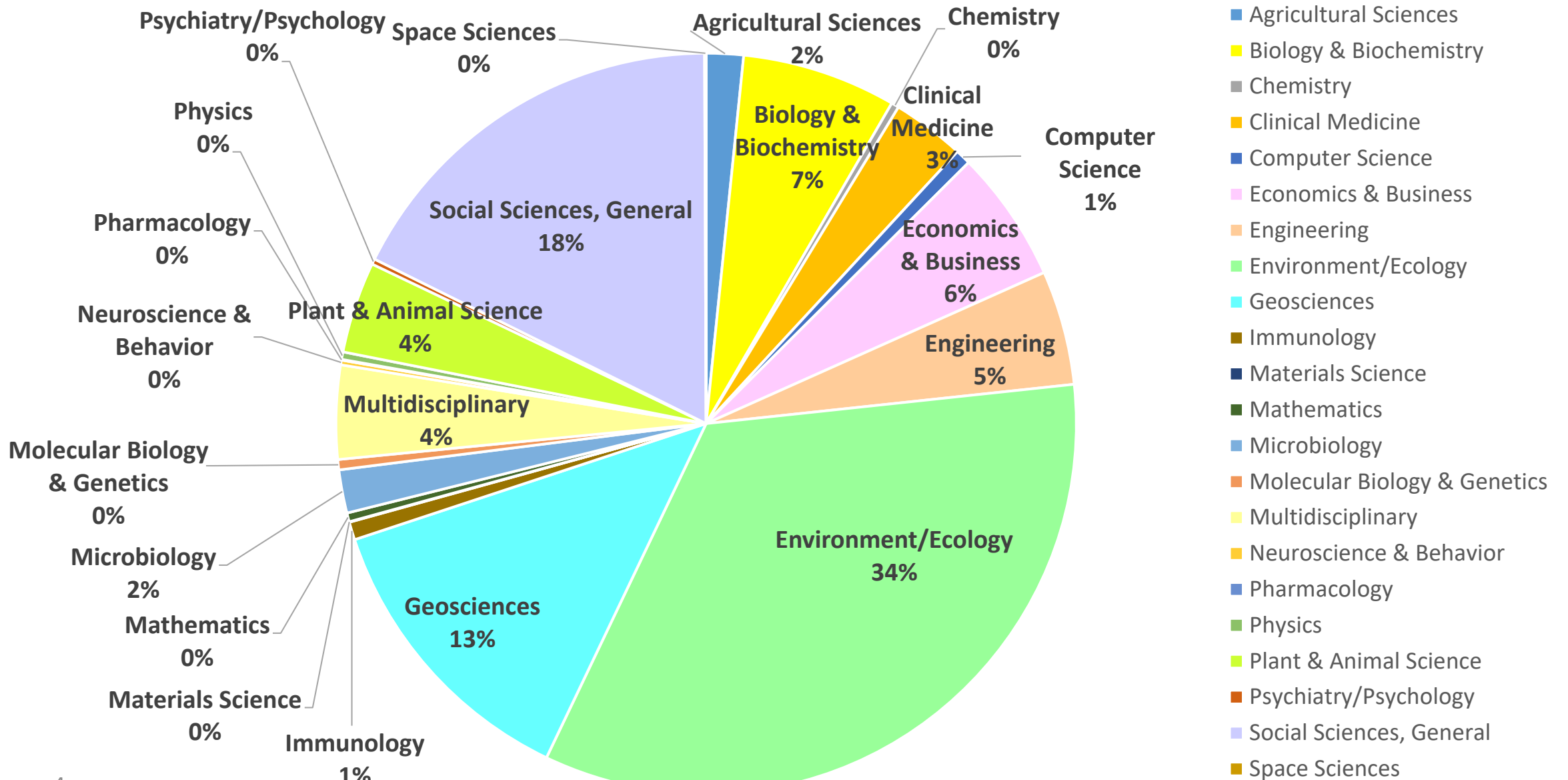


- Discovering evidence of scientific impact

- Catalog searching – DOIs are helpful when attribution includes a DOI
- Publisher feeds – periodic reports of data cited in articles
- Publication requests – often received during publication process
- User community mentions – informing us about recent data citations
- Author notifications – sometimes received from authors about their publications

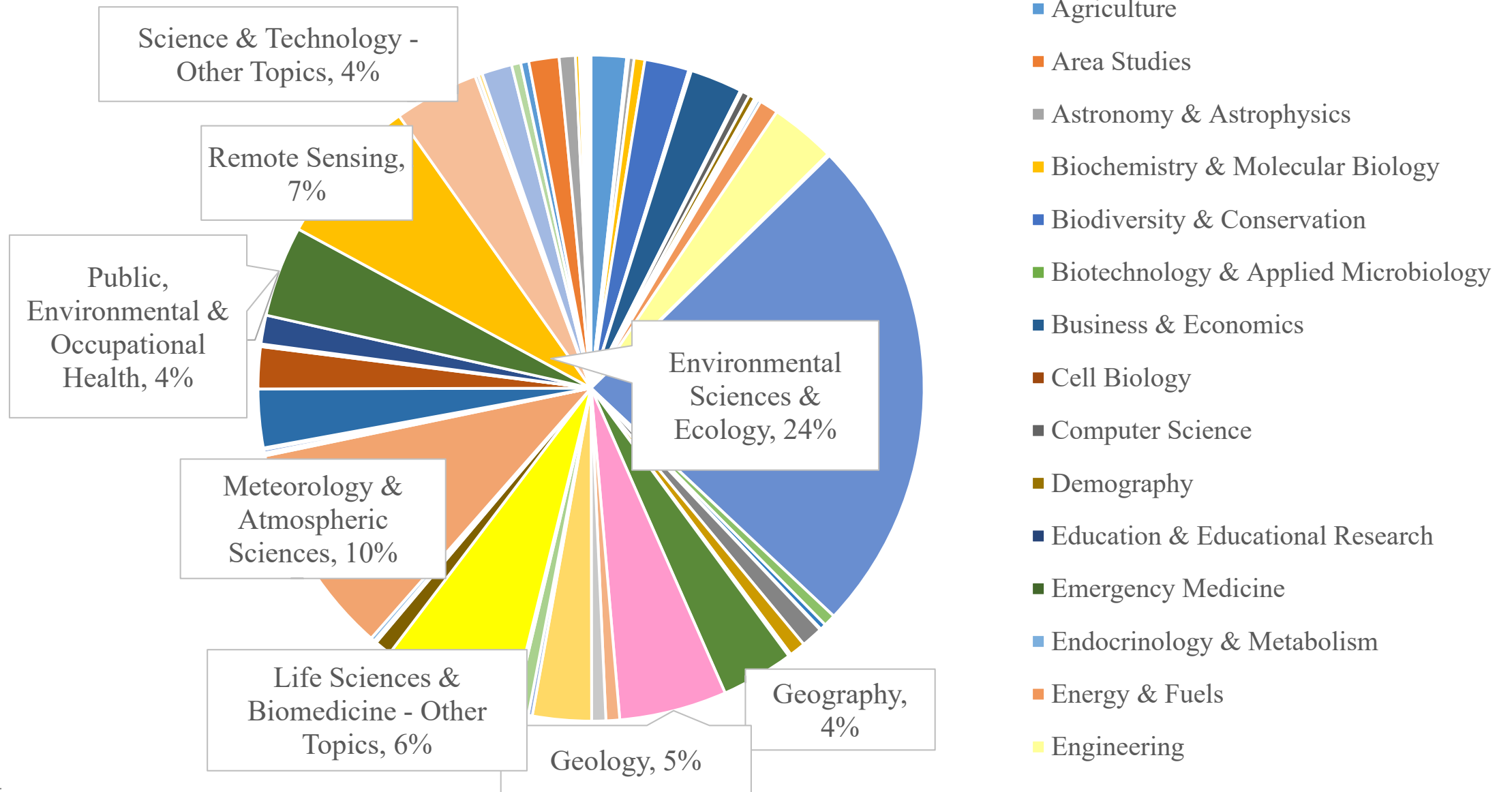


Communities Served: 22 Major Fields of Science (216 Categories and 92 Subject Areas) of Journals that Cited SEDAC Data 2004-2013

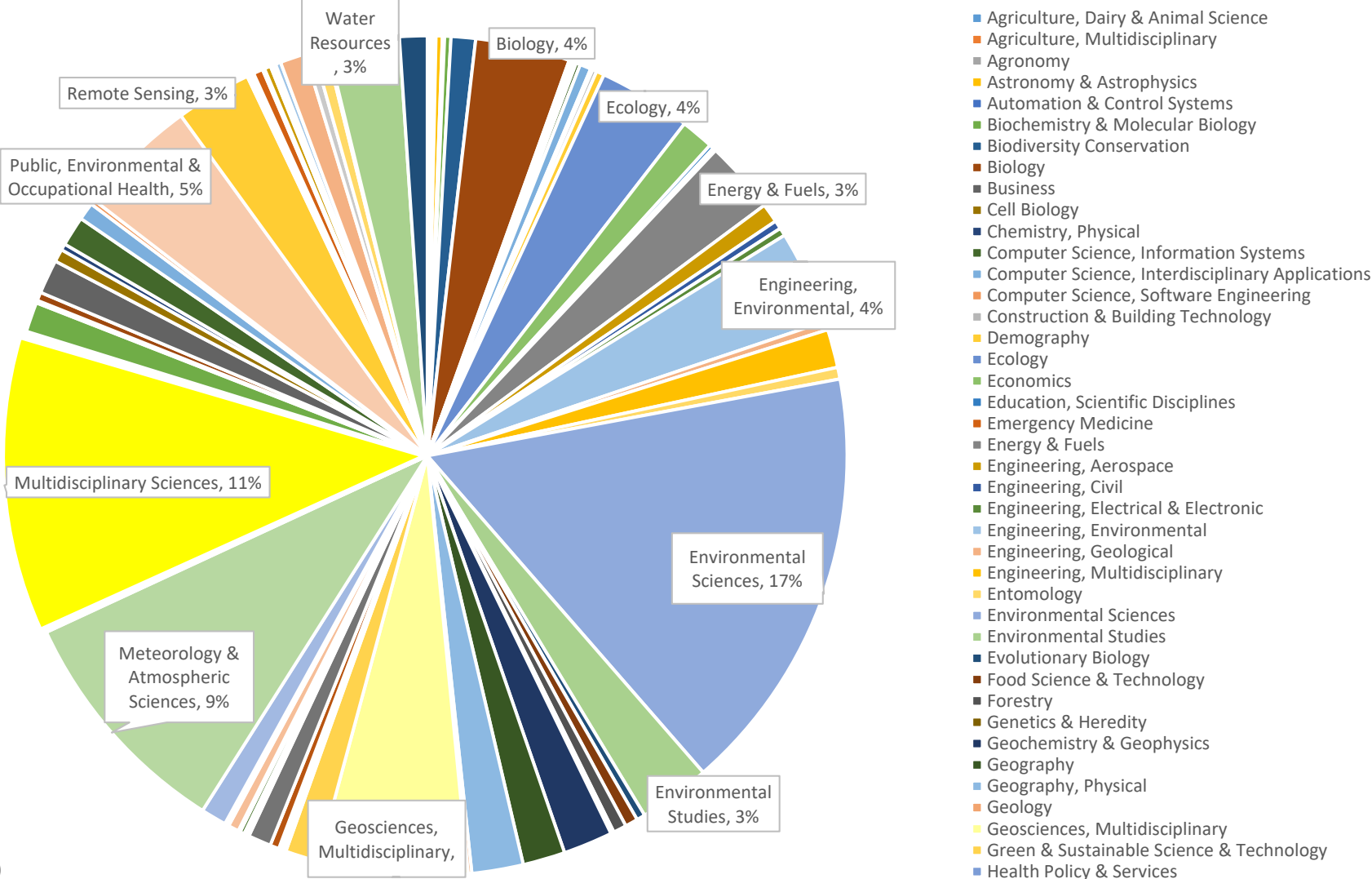


Web of Science® Categories, Web of Knowledge® Subject Areas, and ScienceWatch® Major Fields of 1480 Articles in 540 Journals. Source: Downs & Chen, 2015.

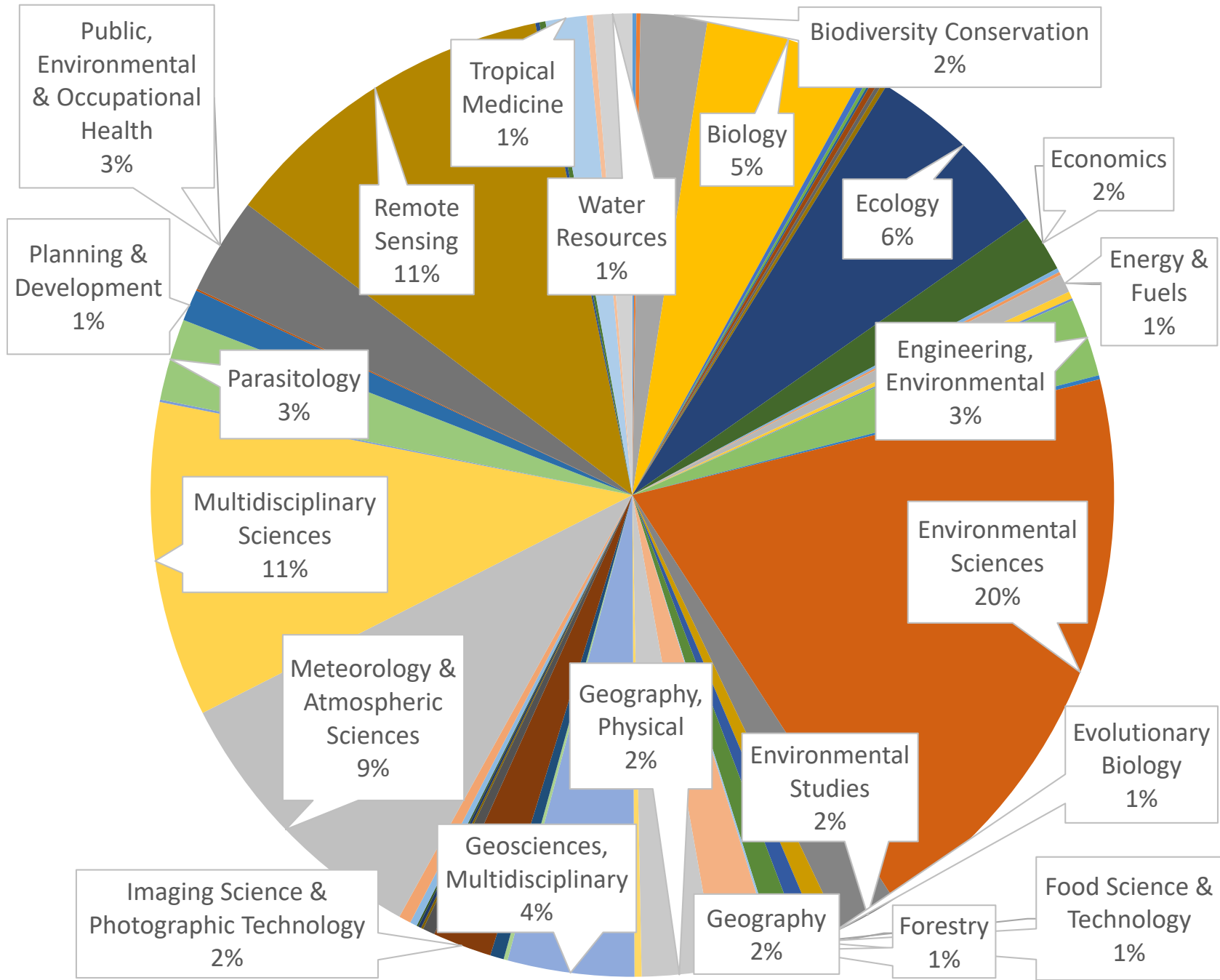
63 Subject Areas of Journals with Articles Co-Citing SEDAC Data with Remote Sensing Data, 2007-2016



85 Discipline Categories of GPWv4 Data Citations 2017-2019



Source: Downs, 2019

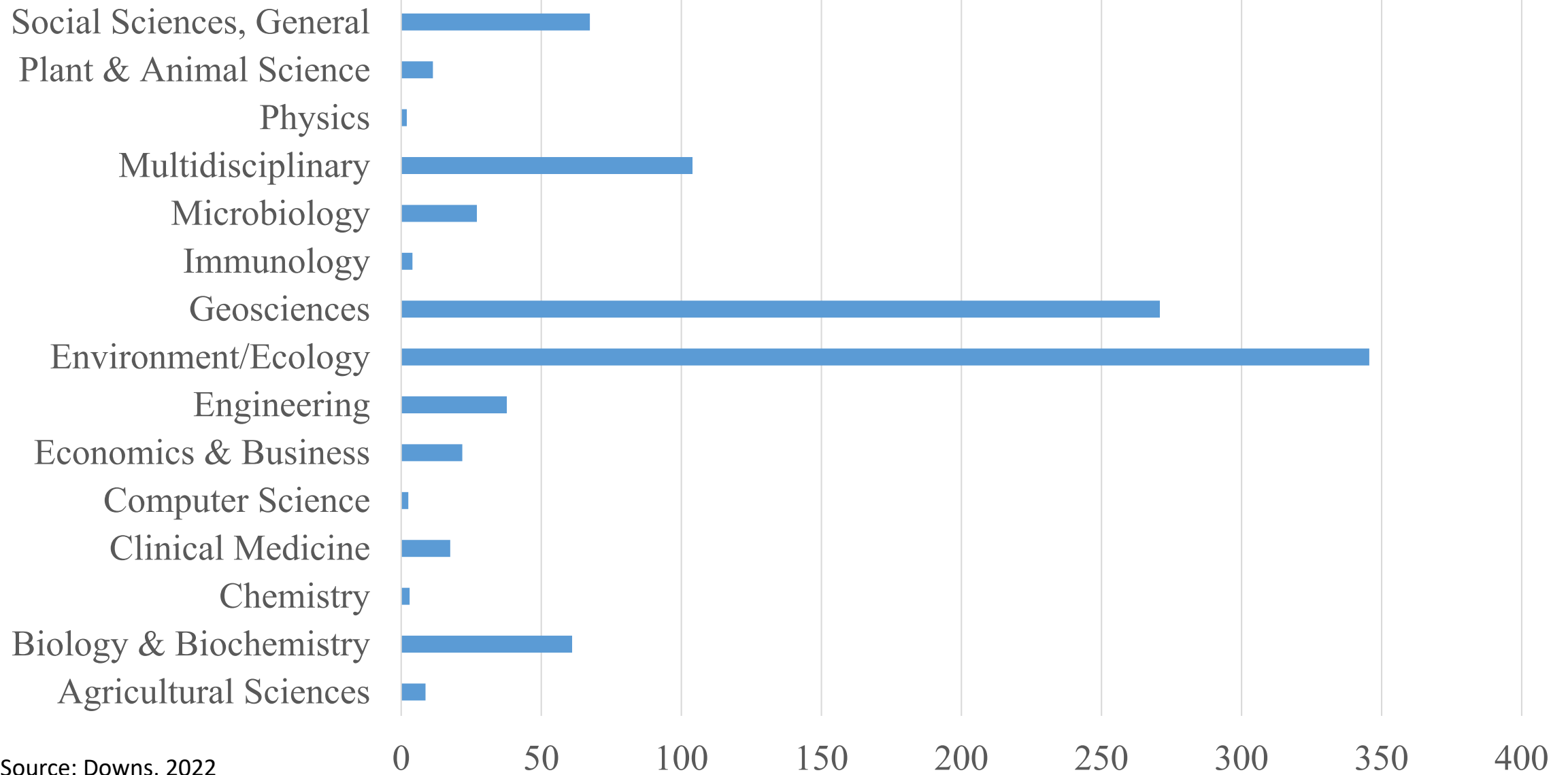


- Agriculture, Multidisciplinary
- Agronomy
- Biodiversity Conservation
- Biology
- Business
- Chemistry, Analytical
- Computer Science, Information Systems
- Computer Science, Interdisciplinary Applications
- Construction & Building Technology
- Demography
- Ecology
- Economics
- Education, Scientific Disciplines
- Electrochemistry
- Energy & Fuels
- Engineering, Civil
- Engineering, Electrical & Electronic
- Engineering, Environmental
- Engineering, Geological
- Environmental Sciences
- Environmental Studies
- Evolutionary Biology
- Food Science & Technology
- Forestry
- Geochemistry & Geophysics
- Geography
- Geography, Physical
- Geology
- Geosciences, Multidisciplinary
- Green & Sustainable Science & Technology
- Health Care Sciences & Services
- Imaging Science & Photographic Technology
- Infectious Diseases
- Information Science & Library Science
- Instruments & Instrumentation
- Law
- Limnology
- Medicine, General & Internal
- Meteorology & Atmospheric Sciences
- Multidisciplinary Sciences
- Operations Research & Management Science
- Parasitology
- Planning & Development
- Public Administration
- Public, Environmental & Occupational Health
- Remote Sensing
- Social Sciences, Interdisciplinary
- Thermodynamics
- Tropical Medicine
- Urban Studies
- Water Resources

51 Categories of Journals with 3 or More Articles that Co-Cite SEDAC Data with Remote Sensing Data from 1997-2021

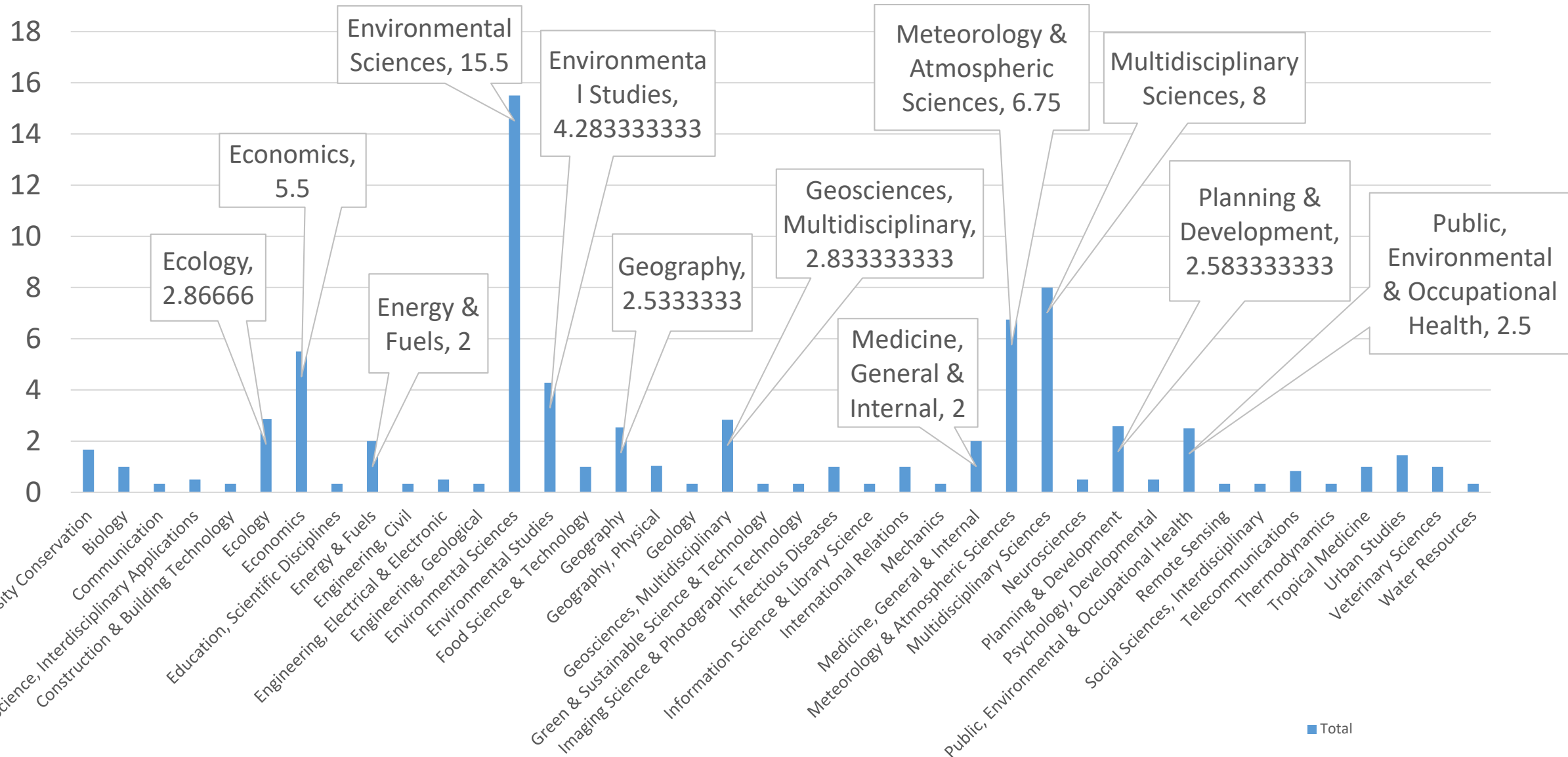
Source: Downs, 2022

15 Major Fields of Journals with 3 or More Articles that Co-Cited SEDAC Data with Remote Sensing Data from 1997-2021



Source: Downs, 2022

Categories* of 75 Randomly Selected 2021-2022 Articles Citing SEDAC Data



*Web of Science® Categories