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2015 Environ. Res. Lett. 10 120402

(http://iopscience.iop.org/1748-9326/10/12/120402)

Environmental Research Letters

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PUBLISHED
22 December 2015

EDITORIAL

The launch of *Environmental Research Reviews*

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In this issue we are excited to launch a new section entitled *Environmental Research Reviews* (ERR). These are meant to be topical and evidence-based. The aim is to provide reviews of the environmental literature in key areas that are changing so quickly that it is hard for all but the specialists in these areas to keep up. Taken together, *Environmental Research Letters* (ERL) and ERR provide a unique set of venues to present both advances in our understanding of environmental issues, and to review, synthesize and disseminate our knowledge base about the changing natural world.

ERR will appear initially as a section within ERL, but one with its own dedicated Editorial Board and Reviews Editor, utilising a format that provides depth and background into the topic under review, as well as a unique forum to synthesize and to draw evidence-based assessments and evaluations of key fields.

The first three such reviews appearing in this issue of ERL all focus on climate change through a variety of methodological approaches, and highlight the rich diversity of approaches possible to make sense of anthropogenic climate change as well as mitigation and adaptation strategies.

Goetz and colleagues (1) use a traditional 'expert knowledge' based approach for collecting key articles on the new technologies that are being employed to measure and monitor reductions of greenhouse gas emissions from degraded and deforested lands under REDD+. As experts, the authors assembled a collection of key articles that they and their colleagues knew best and concurred were of exceptional quality. By using key words they expanded their collection of articles by searching the Google Scholar and Web of Science databases. By emphasizing synthetic papers and those that provide information on uncertainty and error, the authors' comprehensive, systematic and step by step review concludes that current technologies are capable of providing measurable and verifiable levels of forest cover and biomass density in relation to baselines, but not yet with respect to biodiversity.

Giupponi and Biscaro (2) take a different approach to reviewing how the concept of 'vulnerability' in the climate change literature has changed as the field has matured. They too used a variety of key words to search the Web of Science for articles on climate change adaptation and disaster risk, but their focus was more on the dynamics of the scientific enterprise then the science itself. In order to study the dynamics of vulnerability to climate change, they analyzed the literature in terms of its bibliographic history. In doing so they show that two communities developed at the outset with distinct research foci and agendas. By using social network analysis, however, they delved into the historical dynamics of these communities and uncovered the fact that authors in each area were connected to authors in the other areas. This awareness and the fact that United Nations documents, which initially helped define area-separating vocabularies, have recently begun reconciling differences in vocabulary. As Giupponi's and Biscaro's bibliographic analysis strikingly shows, this deliberate attempt at harmonizing language is having a dramatic impact on closing the knowledge gap between those communities.

In the third review, Bunch and Ford (3) explore the extent to which issues of adaptation, resilience and vulnerability to climate change are connected to gender in non-tokenistic ways. As in the previous study, the search for gender-focused articles relied on searching digital databases, in this case the Web of Science and Scopus. Over 1000 articles were identified, but in the end only 123 met the criteria of having a 'substantive' focus on gender. Bunch and Ford developed a conceptual model that ranked the importance of climate change on different genders and the different gender impacts on adaptation and vulnerability. Their review highlights both the differential impacts of climate change on gender and also how much variation exists among geographic areas, with the highest levels being seen in research in Sub-Saharan Africa, and type of study. They also show that these increasing trends are stronger for adaptation as opposed to vulnerability research and that gendered studies tend to focus more on women than men.

While each review focuses on a different aspect of the process and outcome of climate change

assessment, adaptation or mitigation, collectively they showcase the power of using search engines to amass and analyze large data sets. In each case the authors compile a unique knowledge base and then use this to perform evidence-based meta-analyses that range from the bibliographic nature of the manuscripts themselves, to their research styles and approaches, to the data the studies contain. Since the reviews cover the recent history of a variety of topical problems, they provide a gateway for non-specialists to familiarize themselves with up-to-date analytic syntheses of key issues proliferating in the rapidly expanding environmental change literature.