ACSA Publications Listing

No. 4 — March 2018

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Journal Articles - *Conference Proceedings Articles*
Dissertations - *Books & Chapters*

From the moderators

Thank you to everyone who contributed to this issue of the ACSA Publications Listing.

The ACSA Publication Listing is a quarterly electronic listing of publications in the field of citizen science within the Australian community. The listing is intended to share information with those interested in the Australian citizen science community. The deadline for contributions is announced two weeks prior to the listing. Contributions may be submitted at any time.

Please only submit those publications where you are the author (to prevent duplication) and only include those that have been accepted for publication.

Julie Banfield & Jessie Oliver

Abstracts of recently published journal articles

Thermal limits to the geographic distributions of shallow-water marine species

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Temperature profoundly affects species? geographic ranges, but the extent to which it limits contemporary range edges has been difficult to assess from laboratory experiments of thermal tolerance. The persistence of populations depends on temperature-mediated outcomes of ecological and demographic processes across all stages of a species? life history, as well as any adaptation to local temperature regimes. We assessed the relationships between sea temperature and observed distributional ranges for 1,790 shallow-water marine species from 10 animal classes and found remarkable consistencies in trends in realized thermal limits among taxa and ocean basins, as well as general agreement with previous laboratory findings. Realized thermal niches increase from the Equator towards cold?temperate locations, despite an opposite trend in geographic range size. Species? cool distribution limits are best predicted by the magnitude of seasonality within their range, while a relatively firm thermal barrier exists on the equatorward range edge for temperate species. Our findings of consistencies in realized thermal limits indicate potential limits to adaptation among common marine species and highlight the value of realized thermal niches for predicting species? distributional dynamics in warming seas

Published in Nautre Ecology & Evolution, 2017, vol. 1, 1846.
doi: https://doi:10.1038/s41559-017-0353-x

Abundance and local-scale processes contribute to multi-phyla gradients in global marine diversity

Graham J. Edgar[1], Timothy J. Alexander[2], Jonathan S. Lefcheck[3], Amanda E. Bates[4], Stuart J. Kininmonth[5,6], Russell J. Thomson[7], J. Emmett Duffy[8], Mark J. Costello[9] and Rick D. Stuart-Smith[1]

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Among the most enduring ecological challenges is an integrated theory explaining the latitudinal biodiversity gradient, including discrepancies observed at different spatial scales. Analysis of Reef Life Survey data for 4127 marine species at 2406 coral and rocky sites worldwide confirms that the total ecoregion richness peaks in low latitudes, near +15N and –15S. However, although richness at survey sites is maximal near the equator for vertebrates, it peaks at high latitudes for large mobile invertebrates. Site richness for different groups is dependent on abundance, which is in turn correlated with temperature for fishes and nutrients for macroinvertebrates. We suggest that temperature-mediated fish predation and herbivory have constrained mobile macroinvertebrate diversity at the site scale across the tropics. Conversely, at the ecoregion scale, richness responds positively to coral reef area, highlighting potentially huge global biodiversity losses with coral decline. Improved conservation outcomes require management frameworks, informed by hierarchical monitoring, that cover differing site- and regional-scale processes across diverse taxa, including attention to invertebrate species, which appear disproportionately threatened by warming seas.

Published in Science Advances, vol. 3, 10.
doi: https://doi.org/10.1126/sciadv.1700419

An Analysis of Citizen Science Based Research: Usage and Publication Patterns

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The use of citizen science for scientific discovery relies on the acceptance of this method by the scientific community. Using the Web of Science and Scopus as the source of peer reviewed articles, an analysis of all published articles on ?citizen science? confirmed its growth, and found that significant research on methodology and validation techniques preceded the rapid rise of the publications on research outcomes based on citizen science methods. Of considerable interest is the growing number of studies relying on the re-use of collected datasets from past citizen science research projects, which used data from either individual or multiple citizen science projects for new discoveries, such as for climate change research. The extent to which citizen science has been used in scientific discovery demonstrates its importance as a research approach. This broad analysis of peer reviewed papers on citizen science, that included not only citizen science projects, but the theory and methods developed to underpin the research, highlights the breadth and depth of the citizen science approach and encourages cross-fertilization between the different disciplines.

Published in PLOS One.
doi: https://doi.org/10.1371/journal.pone.0143687

Abstracts of recently published books and chapters

A Case Study of Crowdsourcing Imagery Coding in Natural Disasters

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Crowdsourcing and open licensing allow more people to participate in research and humanitarian activities. Open data, such as geographic information shared through OpenStreetMap and image datasets from disasters, can be useful for disaster response and recovery work. This chapter shares a real-world case study of humanitarian-driven imagery analysis, using open-source crowdsourcing technology. Shared philosophies in open technologies and digital humanities, including remixing and the wisdom of the crowd, are reflected in this case study.

Published in Data Analytics in digital Humanities.
doi: https://doi.org/10.1007/978-3-319-54499-1_9

Abstracts of recently published conference proceedings articles

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Abstracts of recently published dissertations
