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| **Reference** | **Method of dealing with geospatial error** |
| Aedo, C. and Pando, F. (2017) â€˜A distribution and taxonomic reference dataset of Geranium in the New Worldâ€™, Scientific Data. Nature Publishing Group, 4(1), p. 170049. doi: 10.1038/sdata.2017.49. | 1-minute accuracy |
| Anacker, B. L. and Strauss, S. Y. (2014) â€˜The geography and ecology of plant speciation: range overlap and niche divergence in sister speciesâ€™, Proceedings of the Royal Society B: Biological Sciences. The Royal Society, 281(1778), p. 20132980. doi: 10.1098/rspb.2013.2980. | None used - applied a 10km buffer as range estimation, but no error added to geographical point |
| Andrew, M. E., Wulder, M. A. and Coops, N. C. (2011) â€˜How do butterflies define ecosystems? A comparison of ecological regionalization schemesâ€™, Biological Conservation. Elsevier, 144(5), pp. 1409â€“1418. doi: 10.1016/J.BIOCON.2011.01.010. | Mention sampling resolution of 1km2 at best and median of 101km2, georef error not explicitly mentioned |
| Andrew, M. E., Wulder, M. A., Coops, N. C., and Baillargeon, G. (2012) â€˜Beta-diversity gradients of butterflies along productivity axesâ€™, Global Ecology and Biogeography. John Wiley & Sons, Ltd (10.1111), 21(3), pp. 352â€“364. doi: 10.1111/j.1466-8238.2011.00676.x. | None mentioned - used cbif (canadian biodiversity information facility) so may have used data that had point-radius error, but if so no mention of incorporating it into the study is made |
| Arrigo, N., Therrien, J., Anderson, C. L., Windham, M. D., Haufler, C. H., and Barker, M. S. (2013) â€˜A total evidence approach to understanding phylogenetic relationships and ecological diversity in Selaginella subg. Tetragonostachysâ€™, American Journal of Botany. John Wiley & Sons, Ltd, 100(8), pp. 1672â€“1682. doi: 10.3732/ajb.1200426. | None used - discarded imprecise georefs (or gave them new coords, no mention of error) |
| Barros, F. S. M., Siqueira, M. F. de and Costa, D. P. da (2012) â€˜Modeling the potential geographic distribution of five species of Metzgeria Raddi in Brazil, aiming at their conservationâ€™, The Bryologist. American Bryological and Lichenological Society, pp. 341â€“349. doi: 10.2307/23321035. | Arbitrary precision of 5 arc minutes given to all localities |
| Beaman, R. and Conn, B. (2003) â€˜Automated geoparsing and georeferencing of Malesian collection locality dataâ€™, Telopea, 10(1), pp. 43â€“52. doi: 10.7751/telopea20035604. | None used, but state error analysis is needed |
| Beentje, H.J., Luke, W.R.Q., Ghazanfar, S.A. and Moat, J. (2006) â€˜Restricted range endemism in East African plantsâ€™, Taxonomy and ecology of African plants, their conservation and sustainable use. Proceedings of the 17th AETFAT Congress, pp. 229â€“245. | None mentioned |
| Bendiksby, M., Mazzoni, S., JÃ¸rgensen, M. H., Halvorsen, R., and Holien, H. (2014) â€˜Combining genetic analyses of archived specimens with distribution modelling to explain the anomalous distribution of the rare lichen Staurolemma omphalarioides: long-distance dispersal or vicariance?â€™, Journal of Biogeography. Edited by P. Pearman. John Wiley & Sons, Ltd (10.1111), 41(11), pp. 2020â€“2031. doi: 10.1111/jbi.12347. | None mentioned |
| Boakes, E. H., McGowan, P. J. K., Fuller, R. A., Chang-qing, D., Clark, N. E., O'Connor, K., and Mace, G. M. (2010) â€˜Distorted Views of Biodiversity: Spatial and Temporal Bias in Species Occurrence Dataâ€™, PLoS Biology. Public Library of Science, 8(6), p. e1000385. doi: 10.1371/journal.pbio.1000385. | A bewildering variety of methods used accuracy to 1degree, or 10minutes or if description matched two or more places a midpoint was taken, so long as it was accurate to 1degree. Data was then required to meet arbitrary requirements such as that it was within a reasonable distance of the species known range (what this constitutes is not specified) |
| Boedeker, C., Eggert, A., Immers, A. and Wakana, I., (2010) â€˜Biogeography of Aegagropila linnaei (Cladophorophyceae, Chlorophyta): a widespread freshwater alga with low effective dispersal potential shows a glacial imprint in its distributionâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 37(8), p. no-no. doi: 10.1111/j.1365-2699.2010.02309.x. | None mentioned |
| Bontrager, M. and Angert, A. L. (2016) â€˜Effects of range-wide variation in climate and isolation on floral traits and reproductive output of Clarkia pulchellaâ€™, American Journal of Botany. John Wiley & Sons, Ltd, 103(1), pp. 10â€“21. doi: 10.3732/ajb.1500091. | Error distance calculated, but how is not said. Potentially point raidius. |
| Boumans, L. (2011) â€˜The Plecoptera Collection At The Natural History Museum In Osloâ€™, Illiesia, 7(25), pp. 280â€“290. Available at: <http://www2.pms-lj.si/illiesia/papers/Illiesia07-25.pdf>. | None used - they simply say they georef’d the specimens as best they could to a coord. |
| Brummitt, N., Bachman, S. and Moat, J. (2008) â€˜Applications of the IUCN Red List: towards a global barometer for plant diversityâ€™, Endangered Species Research, 6(2), pp. 127â€“135. doi: 10.3354/esr00135. | None specified, alludes to error being computed for georeferences |
| Buckley, L. B. (2008) â€˜Linking traits to energetics and population dynamics to predict lizard ranges in changing environments.â€™, The American naturalist. The University of Chicago Press , 171(1), pp. E1â€“E19. doi: 10.1086/523949. | None mentioned, however data was from GBIF and herpnet (GBIF definitely uses point-radius for its data, but as the author makes no mention, I assume they havenâ€™t included error) |
| Burgio, K. R., Carlson, C. J. and Bond, A. L. (2018) â€˜Georeferenced sighting and specimen occurrence data of the extinct Carolina Parakeet (Conuropsis carolinensis) from 1564 - 1944.â€™, Biodiversity data journal. Pensoft Publishers, (6), p. e25280. doi: 10.3897/BDJ.6.e25280. | Point radius |
| Campbell, T. L., Lewis, P. J. and Williams, J. K. (2011) â€˜Analysis of the modern distribution of South African Gerbilliscus (Rodentia: Gerbillinae) with implications for Plio-Pleistocene palaeoenvironmental reconstructionâ€™, South African Journal of Science. Academy of Science of South Africa, 107(1/2), pp. 1â€“7. doi: 10.4102/sajs.v107i1/2.497. | None used - some data was accepted to have error as was georef’d using older mapping systems, but still only used point data |
| Campbell, T.L., Lewis, P.J., Thies, M.L. and Williams, J.K., (2012) â€˜A Geographic Information Systems (GIS)-based analysis of modern South African rodent distributions, habitat use, and environmental tolerancesâ€™, Ecology and Evolution. John Wiley & Sons, Ltd, 2(11), pp. 2881â€“2894. doi: 10.1002/ece3.384. | None mentioned - translational errors between map projections are talked about, but they do not mention anything else. Projection errors are deemed acceptable 20-90m long and 292-300m lat. |
| Carlson, C. J., Burgio, K. R., Dougherty, E. R., Phillips, A. J., Bueno, V. M., Clements, C. F., Castaldo, G., Dallas, T. A., Cizauskas, C. A., Cumming, G. S., DoÃ±a, J., Harris, N. C., Jovani, R., Mironov, S., Muellerklein, O. C., Proctor, H. C., and Getz, W. M. (2017) â€˜Parasite biodiversity faces extinction and redistribution in a changing climateâ€™, Science Advances. American Association for the Advancement of Science, 3(9), p. e1602422. doi: 10.1126/sciadv.1602422. | Probably point-radius ( Wieczorek & Chapman, 2006) |
| Cason, M. M., Baltensperger, A. P., Booms, T. L., Burns, J. J., and Olson, L. E. (2016) â€˜Revised distribution of an Alaskan endemic, the Alaska Hare (Lepus othus), with implications for taxonomy, biogeography, and climate changeâ€™, Arctic Science. NRC Research Press http://www.nrcresearchpress.com, 2(2), pp. 50â€“66. doi: 10.1139/as-2015-0019. | Point-radius (by the sound of it, assigned coords and error radii) |
| Chang, C.S., Chang, K.S., Ahn, Y.S. and Kim, H. (2012) â€˜Georeferencing of primary species occurrence data and necessity of data quality control-a case study of two varieties of Ox-Knee, Achyranthes bidentata Blumeâ€™, Journal of Korean Society of Forest Science, 101(2), pp. 185â€“194. Available at: <http://www.koreascience.or.kr/article/JAKO201219069094059.page>. | Yes, seems like point-radius but a little difficult to tell |
| Chatfield-Taylor, W. and Cole, J. A. (2017) â€˜Living rain gauges: cumulative precipitation explains the emergence schedules of California protoperiodical cicadasâ€™, Ecology. John Wiley & Sons, Ltd, 98(10), pp. 2521â€“2527. doi: 10.1002/ecy.1980. | None mentioned – say they use GEOLocate which can calculate polygonal error |
| Christenhusz, M. J. M. and Toivonen, T. K. (2008) â€˜Giants invading the tropics: the oriental vessel fern, Angiopteris evecta (Marattiaceae)â€™, Biological Invasions. Springer Netherlands, 10(8), pp. 1215â€“1228. doi: 10.1007/s10530-007-9197-7. | None mentioned |
| Cook, D., Lee, S.T., Taylor, C.M., BassÃ¼ner, B., Riet-Correa, F., Pfister, J.A. and Gardner, D.R., (2014) â€˜Detection of toxic monofluoroacetate in Palicourea speciesâ€™, Toxicon. Pergamon, 80, pp. 9â€“16. doi: 10.1016/J.toxicon.2013.12.003. | None mentioned |
| Couvreur, T.L., Porter-Morgan, H., Wieringa, J.J. and Chatrou, L.W., (2011) â€˜Little ecological divergence associated with speciation in two African rain forest tree generaâ€™, BMC Evolutionary Biology. BioMed Central, 11(1), p. 296. doi: 10.1186/1471-2148-11-296. | None mentioned |
| Craven, P. and Vorster, P. (2006) â€˜Patterns of plant diversity and endemism in Namibiaâ€™, Bothalia, 36(2), pp. 175â€“189. doi: 10.4102/abc.v36i2.360. | Quarter degree square system of Edwards and Leistner (1971) |
| Crawford, P. H. C. and Hoagland, B. W. (2009) â€˜Can herbarium records be used to map alien species invasion and native species expansion over the past 100â€ƒyears?â€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 36(4), pp. 651â€“661. doi: 10.1111/j.1365-2699.2008.02043.x. | Georef’d to township (93.3km2) resolution (present or absent essentially) |
| Damerval, C., Ben Othman, W., Manicacci, D. and Jabbour, F. (2018) â€˜Distribution area of the two floral morphs of Nigella damascena L. (Ranunculaceae): a diachronic study using herbarium specimens collected in Franceâ€™, Botany Letters. Taylor & Francis, 165(3â€“4), pp. 396â€“403. doi: 10.1080/23818107.2017.1422437. | None mentioned |
| Davenport, T. R. B., De Luca, D. W., Bracebridge, C. E., Machaga, S. J., Mpunga, N. E., Kibure, O., and Abeid, Y. S. (2010) â€˜Diet and feeding patterns in the kipunji (Rungwecebus kipunji) in Tanzaniaâ€™s Southern Highlands: a first analysisâ€™, Primates. Springer Japan, 51(3), pp. 213â€“220. doi: 10.1007/s10329-010-0190-x. | None mentioned - modern GPS loggers used for georefing so little error on the points I think |
| De Giovanni, R., Bernacci, L.C., de Siqueira, M.F. and Rocha, F.S., (2012) â€˜The real task of selecting records for ecological niche modellingâ€™, Natureza a Conservacao, 10(2), pp. 139â€“144. doi: 10.4322/natcon.2012.018. | Point-radius |
| de la Torre, L., CerÃ³n, C., Balslev, H. and Borchsenius, F., (2012) â€˜A biodiversity informatics approach to ethnobotany: Meta-analysis of plant use patterns in Ecuadorâ€™, Ecology and Society, 17(1). doi: 10.5751/ES-04582-170115. | None mentioned |
| DeWalt, R. E., Cao, Y., Hinz, L., and Tweddale, T. (2009) â€˜Modelling of historical stonefly distributions using museum specimensâ€™, Aquatic Insects. Taylor & Francis , 31(sup1), pp. 253â€“267. doi: 10.1080/01650420903024249. | None used |
| Dodd, A.J., Burgman, M.A., McCarthy, M.A. and Ainsworth, N., (2015) â€˜The changing patterns of plant naturalization in Australiaâ€™, Diversity and Distributions. Edited by R. Duncan. John Wiley & Sons, Ltd (10.1111), 21(9), pp. 1038â€“1050. doi: 10.1111/ddi.12351. | None mentioned |
| Donoso, D. A., Salazar, F., Maza, F., CÃ¡rdenas, R. E., and Dangles, O. (2009) â€˜Diversity and distribution of type specimens deposited in the Invertebrate section of the Museum of Zoology QCAZ, Quito, Ecuadorâ€™, Annales de la SociÃ©tÃ© entomologique de France (N.S.). Taylor & Francis Group, 45(4), pp. 437â€“454. doi: 10.1080/00379271.2009.10697628. | Point radius, follows methods outlined in Wieczorek et al., (2004), categorises description data into nine bins depending on certainty/quality of description |
| Droissart, V. SonkÃ©, B., Hardy, O. J., Simo, M., Taedoumg, H., Nguembou, C. K., and StÃ©vart, T. (2011) â€˜Do plant families with contrasting functional traits show similar patterns of endemism? A case study with Central African Orchidaceae and Rubiaceaeâ€™, Biodiversity and Conservation. Springer Netherlands, 20(7), pp. 1507â€“1531. doi: 10.1007/s10531-011-0042-z. | None used - imprecise data was discarded, what counted as imprecise isn’t mentioned, however they do mention that spp were grouped into classes based on distance from the ocean at 1degree, more than 2-3degree and more than 3degree classes. In this case 1deg corresponds to 111km |
| Droissart, V., Hardy, O. J., SonkÃ©, B., Dahdouh-Guebas, F., and StÃ©vart, T. (2012) â€˜Subsampling Herbarium Collections to Assess Geographic Diversity Gradients: A Case Study with Endemic Orchidaceae and Rubiaceae in Cameroonâ€™, Biotropica. John Wiley & Sons, Ltd (10.1111), 44(1), pp. 44â€“52. doi: 10.1111/j.1744-7429.2011.00777.x. | Filtered data to precise only (accurate to 10km) |
| Duursma, D. E., Gallagher, R. V., Roger, E., Hughes, L., Downey, P. O., and Leishman, M. R. (2013) â€˜Next-Generation Invaders? Hotspots for Naturalised Sleeper Weeds in Australia under Future Climatesâ€™, PLoS ONE. Edited by P. Adam. Public Library of Science, 8(12), p. e84222. doi: 10.1371/journal.pone.0084222. | None mentioned. GBIF used, but also georeferenced themselves, do not mention error/uncertainty |
| Erb, L. P., Ray, C. and Guralnick, R. (2011) â€˜On the generality of a climate-mediated shift in the distribution of the American pika (Ochotona princeps)â€™, Ecology. John Wiley & Sons, Ltd, 92(9), pp. 1730â€“1735. doi: 10.1890/11-0175.1. | Point radius |
| Escudero, M., Hipp, A.L., Hansen, T.F., Voje, K.L. and LuceÃ±o, M., (2012) â€˜Selection and inertia in the evolution of holocentric chromosomes in sedges (Carex, Cyperaceae)â€™, New Phytologist. John Wiley & Sons, Ltd (10.1111), 195(1), pp. 237â€“247. doi: 10.1111/j.1469-8137.2012.04137.x. | None mentioned - went for high precision of lat/long coords but didn’t discuss error of measurement |
| Feeley, K. J. and Silman, M. R. (2010) â€˜Modelling the responses of Andean and Amazonian plant species to climate change: the effects of georeferencing errors and the importance of data filteringâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 37(4), pp. 733â€“740. doi: 10.1111/j.1365-2699.2009.02240.x. | Data filtering (removing data before modelling if it does not meet minimum requirements (which can be quite strict) of quality. |
| Foley, D. H., Weitzman, A. L., Miller, S. E., Faran, M. E., Rueda, L. M., and Wilkerson, R. C. (2007) â€˜The value of georeferenced collection records for predicting patterns of mosquito species richness and endemism in the Neotropicsâ€™, Ecological Entomology. John Wiley & Sons, Ltd (10.1111), 0(0), pp. 071203162814003-??? doi: 10.1111/j.1365-2311.2007.00927.x. | None used. Precision was either of lat long or 1km - 100m depending on if MGRS coords were used or specimens were re-georef’d |
| Funk, V. A., Zermoglio, M. F. and Nasir, N. (1999) â€˜Testing the use of specimen collection data and GIS in biodiversity exploration and conservation decision making in Guyanaâ€™, Biodiversity and Conservation. Kluwer Academic Publishers, 8(6), pp. 727â€“751. doi: 10.1023/A:1008877222842. | None used |
| GÃ³mez-Mendoza, L. and Arriaga, L. (2007) â€˜Modeling the Effect of Climate Change on the Distribution of Oak and Pine Species of Mexicoâ€™, Conservation Biology. John Wiley & Sons, Ltd (10.1111), 21(6), pp. 1545â€“1555. doi: 10.1111/j.1523-1739.2007.00814.x. | None mentioned - as with many, if the author isn’t doing the georefing they don’t seem to think about uncertainty |
| Garcia-Milagros, E. and Funk, V. A. (2010) â€˜data: Improving the use of information from museum specimens: Using Google EarthÂ© to georeference Guiana Shield specimens in the US National Herbariumâ€™, Frontiers of Biogeography, 2(3). doi: 10.21425/f5fbg12348. | Gazetteer coordinates as a measure of uncertainty, Point-radius |
| GBIF  <https://www.gbif.org/> | Used point-radius method when post-hoc georeferencing |
| Gotelli, N. J., Chao, A., Colwell, R. K., Hwang, W-H., and Graves, G. R. (2012) â€˜Specimen-Based Modeling, Stopping Rules, and the Extinction of the Ivory-Billed Woodpeckerâ€™, Conservation Biology. John Wiley & Sons, Ltd (10.1111), 26(1), pp. 47â€“56. doi: 10.1111/j.1523-1739.2011.01715.x. | None mentioned |
| Graham, C. H., Elith, J., Hijmans, R. J., Guisan, A., Townsend P. A., and Loiselle, B. A. (2007) â€˜The influence of spatial errors in species occurrence data used in distribution modelsâ€™, Journal of Applied Ecology. John Wiley & Sons, Ltd (10.1111), 45(1), pp. 239â€“247. doi: 10.1111/j.1365-2664.2007.01408.x. | Demonstrate that MaxEnt and boosted regression trees are both robust to moderate geographical error, interestingly |
| Graham, M. R., Jaeger, J. R., Prendini, L., and Riddle, B. R. (2013) â€˜Phylogeography of the Arizona hairy scorpion (Hadrurus arizonensis) supports a model of biotic assembly in the Mojave Desert and adds a new Pleistocene refugiumâ€™, Journal of Biogeography. Edited by M. McGeoch. John Wiley & Sons, Ltd (10.1111), 40(7), pp. 1298â€“1312. doi: 10.1111/jbi.12079. | Alludes to standard georeferencing techniques and states anything with error greater than 5km was dropped from modelling, however no indication of what standard technique used actually is. MAXENT is also used, however I do not believe this in of itself deals with georef errors |
| Guralnick, R. P., Wieczorek, J., Beaman, R., and Hijmans, R. J., (2006) â€˜BioGeomancer: Automated Georeferencing to Map the Worldâ€™s Biodiversity Dataâ€™, PLoS Biology. Public Library of Science, 4(11), p. e381. doi: 10.1371/journal.pbio.0040381. | Point-radius method |
| GutiÃ©rrez, E. E., Boria, R. A. and Anderson, R. P. (2014) â€˜Can biotic interactions cause allopatry? Niche models, competition, and distributions of South American mouse opossumsâ€™, Ecography. John Wiley & Sons, Ltd (10.1111), 37(8), pp. 741â€“753. doi: 10.1111/ecog.00620. | Error is acknowledged, but how it was calculated is not specified. I think, based on the supplementary material and figures, point-radius or an equivalent was used. |
| Henebry, G., Putz, B. C. and Merchant, J. W. (2001) â€˜Modeling Reptile and Amphibian Range Distributions from Species Occurrences and Landscape Variablesâ€™, GAP Analysis Bulletin No. 10, 10, pp. 22â€“26. Available at: https://digitalcommons.unl.edu/usgspubs/30 (Accessed: 5 August 2019). | Error of one quarter section (65 ha) if specimens had to be georef’d. Point data was used for the other previously ref’d specimens |
| Hopkins, M. J. G. (2007) â€˜Modelling the known and unknown plant biodiversity of the Amazon Basinâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 34(8), pp. 1400â€“1411. doi: 10.1111/j.1365-2699.2007.01737.x. | No method described for georef’d points, but say that uncertainty was +-50km (this was used as a reason for not using a particular model) |
| Kozak, K. H. and Wiens, J. J. (2007) â€˜Climatic zonation drives latitudinal variation in speciation mechanismsâ€™, Proceedings of the Royal Society B: Biological Sciences. The Royal SocietyLondon, 274(1628), pp. 2995â€“3003. doi: 10.1098/rspb.2007.1106. | None used â€“ say all georefecences were from systematic studies with ref being taken from original authors (so probably lat long coords). |
| Kozak, K. H., Graham, C. H. and Wiens, J. J. (2008) â€˜Integrating GIS-based environmental data into evolutionary biologyâ€™, Trends in Ecology & Evolution. Elsevier Current Trends, 23(3), pp. 141â€“148. doi: 10.1016/J.TREE.2008.02.001. | None mentioned |
| Lash, R.R., Carroll, D.S., Hughes, C.M., Nakazawa, Y., Karem, K., Damon, I.K. and Peterson, A.T., (2012) â€˜Effects of georeferencing effort on mapping monkeypox case distributions and transmission riskâ€™, International Journal of Health Geographics. BioMed Central, 11(1), p. 23. doi: 10.1186/1476-072X-11-23. | Point-radius |
| Linder, P. H., Antonelli, A., Humphreys, A. M., Pirie, M. D., and WÃ¼est, R. O. (2013) â€˜What determines biogeographical ranges? Historical wanderings and ecological constraints in the danthonioid grassesâ€™, Journal of Biogeography. Edited by R. Ladle. John Wiley & Sons, Ltd (10.1111), 40(5), pp. 821â€“834. doi: 10.1111/jbi.12070. | None mentioned, GBIF was used for part of the dataset so some point radius possibly |
| Lozier, J. D., Aniello, P. and Hickerson, M. J. (2009) â€˜Predicting the distribution of Sasquatch in western North America: anything goes with ecological niche modellingâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 36(9), pp. 1623â€“1627. doi: 10.1111/j.1365-2699.2009.02152.x. | Georef’d to place name only (presumably Yellowstone has equal meaning here to Medstead (a small village), so resolution varies wildly). |
| MagwÃ©-Tindo, J., Zapfack, L. and SonkÃ©, B. (2016) â€˜Diversity of wild yams (Dioscorea spp., Dioscoreaceae) collected in continental Africaâ€™, Biodiversity and Conservation. Springer Netherlands, 25(1), pp. 77â€“91. doi: 10.1007/s10531-015-1031-4. | Point radius (also using handheld gps logger, so less error in modern collection) |
| Martellos, S., Attorre, F., Farcomeni, A., Francesconi, F., Pittao, E. and Tretiach, M., (2014) â€˜Species distribution models backing taxa delimitation: the case of the lichen Squamarina cartilaginea in Italyâ€™, Flora - Morphology, Distribution, Functional Ecology of Plants. Urban & Fischer, 209(12), pp. 698â€“703. doi: 10.1016/J.FLORA.2014.08.008. | Difficult to tell, mention wiezoreck 2004 but also say georef’d to 1km2 grids |
| Martin, M. D. and Omland, K. E. (2011) â€˜Environmental Niche Modeling Reveals Climatic Differences among Breeding Ranges of Orchard Oriole Subspeciesâ€™, The American Midland Naturalist, 166(2), pp. 404â€“414. | Point-radius |
| Matthews, E. R. and Mazer, S. J. (2016) â€˜Historical changes in flowering phenology are governed by temperature Ã— precipitation interactions in a widespread perennial herb in western North Americaâ€™, New Phytologist. John Wiley & Sons, Ltd (10.1111), 210(1), pp. 157â€“167. doi: 10.1111/nph.13751. | None mentioned |
| McAllister, C. A. et al. (2019) â€˜Specimen-based analysis of morphology and the environment in ecologically dominant grasses: the power of the herbariumâ€™, Philosophical Transactions of the Royal Society B: Biological Sciences. The Royal Society, 374(1763), p. 20170403. doi: 10.1098/rstb.2017.0403. | None mentioned - climatic data associted with locality was at the 30-arc second resolution, so might be a proxy in some cases |
| McCormack, J. E., Zellmer, A. J. and Knowles, L. L. (2010) â€˜Does niche divergence accompany allopatric divergence in Aphelocoma Jays as predicted under ecological speciation?: Insights from tests with niche modelsâ€™, Evolution. John Wiley & Sons, Ltd (10.1111), 64(5), pp. 1231â€“1244. doi: 10.1111/j.1558-5646.2009.00900.x. | None mentioned. Some data was direct observation recorded with a GPS logger, but museum specimens were used as well |
| McElwain, J. C. (2004) â€˜Climate-independent paleoaltimetry using stomatal density in fossil leaves as a proxy for CO2 partial pressureâ€™, Geology. GeoScienceWorld, 32(12), p. 1017. doi: 10.1130/G20915.1. | None mentioned |
| McGowan, A. and Kiessling, W. (2013) â€˜Using abundance data to assess the relative role of sampling biases and evolutionary 2 radiations in Upper Muschelkalk ammonoidsâ€™, Acta Palaeontologica Polonica. Institute of Paleobiology, Polish Academy of Sciences, 58(3), pp. 561â€“572. doi: 10.4202/app.2010.0040. | Resolution of 10km - I’m guessing point radius as BioGeoMancer used. Justification used of 10km is broadly considered acceptable in ecological studues, and 100km in paleontology |
| Miller, J. S., Krupnick, G. A., Stevens, H., Porter-Morgan, H., Boom, B., Acevedo-RodrÃ­guez, P., Ackerman, J., Kolterman, D., Santiago, E., Torres, C., and Velez, J. (2013) â€˜Toward Target 2 of the Global Strategy for Plant Conservation: An Expert Analysis of the Puerto Rican Flora to Validate New Streamlined Methods for Assessing Conservation Statusâ€™, Annals of the Missouri Botanical Garden. Missouri Botanical Garden Press, 99(2), pp. 199â€“205. doi: 10.3417/2011121. | None mentioned |
| Miller, R.J., Carroll, A.D., Wilson, T.P. and Shaw, J., (2009) â€˜Spatiotemporal Analysis of Three Common Wetland Invasive Plant Species Using Herbarium Specimens and Geographic Information Systemsâ€™, Castanea, 74(2), pp. 133â€“145. doi: 10.2179/08-001.1. | Coords assigned through 10km locality names |
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| Riordan, E. C. and Rundel, P. W. (2009) â€˜Modelling the distribution of a threatened habitat: the California sage scrubâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 36(11), pp. 2176â€“2188. doi: 10.1111/j.1365-2699.2009.02151.x. | Data filtering (I think, they basically eyeballed it to remove any obvious errors in data entry) |
| Rissler, L. J. and Apodaca, J. J. (2007) â€˜Adding More Ecology into Species Delimitation: Ecological Niche Models and Phylogeography Help Define Cryptic Species in the Black Salamander (Aneides flavipunctatus)â€™, Systematic Biology. Edited by J. Weins. Narnia, 56(6), pp. 924â€“942. doi: 10.1080/10635150701703063. | None mentioned |
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| Rivers, M. C., Bachman, S. P., Meagher, T. R., Lughadha E. N., Brummitt, N. A.. (2010) â€˜Subpopulations, locations and fragmentation: applying IUCN red list criteria to herbarium specimen dataâ€™, Biodiversity and Conservation. Springer Netherlands, 19(7), pp. 2071â€“2085. doi: 10.1007/s10531-010-9826-9. | None mentioned, assuming that as with many of these if the authors are not conducting the georeferencing someone else has done so probably using point-radius as that is the most widely used method |
| Roberts, D. L., Taylor, L. and Joppa, L. N. (2016) â€˜Threatened or Data Deficient: assessing the conservation status of poorly known speciesâ€™, Diversity and Distributions. Edited by J. Beggs. John Wiley & Sons, Ltd (10.1111), 22(5), pp. 558â€“565. doi: 10.1111/ddi.12418. | None used. Data was filtered |
| Rowe, R. J. (2005) â€˜Elevational gradient analyses and the use of historical museum specimens: a cautionary taleâ€™, Journal of Biogeography. John Wiley & Sons, Ltd (10.1111), 32(11), pp. 1883â€“1897. doi: 10.1111/j.1365-2699.2005.01346.x | Post-hoc 3-dimensional georeferencing (point radius but including a z parameter as far as I can tell). |
| SÃ¤rkinen, T., Iganci, J. RV., Linares-Palomino, R., Simon, M. F., and Prado, D. E. (2011) â€˜Forgotten forests - issues and prospects in biome mapping using Seasonally Dry Tropical Forests as a case studyâ€™, BMC Ecology. BioMed Central, 11(1), p. 27. doi: 10.1186/1472-6785-11-27. | Data filtering (they allude to georef errors but don’t incorporate into study) |
| SÃ©rgio, C., Garcia, C.A., Hespanhol, H., Vieira, C., Stow, S. and Long, D., (2012) â€˜Bryophyte diversity in the peneda-GerÃªs National Park (Portugal): Selecting important plant areas (IPA) based on a new survey and past recordsâ€™, Botanica Complutensis, 36, pp. 39â€“50. <https://doi.org/10.5209/rev_BOCM.2012.v36.39443> | 1kmx1km scale of georef |
| Sandall, E. and Deans, A. (2018) â€˜Temporal differentiation in environmental niche modeling of Nearctic narrow-winged damselflies (Odonata: Coenagrionidae)â€™, PeerJ Preprints, pp. 0â€“14. doi: 10.7287/peerj.preprints.27261. | Point radius (resolution to 30arcseconds) |
| Schmidt, M., Kreft, H., Thiombiano, A. and Zizka, G. (2005) â€˜Herbarium collections and field data-based plant diversity maps for Burkina Fasoâ€™, Diversity and Distributions. John Wiley & Sons, Ltd (10.1111), 11(6), pp. 509â€“516. doi: 10.1111/j.1366-9516.2005.00185.x. | 5-10km if older record made using gazetteer, precise location from newer GPS ref’d specimens |
| Sidlauskas, B. L. and Vari, R. P. (2012) â€˜Diversity and distribution of anostomoid fishes (Teleostei: Characiformes) throughout the Guianasâ€™, Cybium, 36(1), pp. 71â€“103. | None mentioned |
| Snyder, J.L., Powell, G.S., Behring, R.S., Alford, A.M., Mccarty, M.E. and Zaspel, J.M., (2016) â€˜Distribution, Phenology, and Notes on the Life History of Calyptra canadensis (Bethune) (Erebidae: Calpinae)â€™, Journal of the Lepidopteristsâ€™ Society. The Lepidopteristsâ€™ Society, 70(4), pp. 253â€“259. doi: 10.18473/lepi.70i4.a1. | Point -raidus I think (Wieczorek et al. (2012)) |
| SoberÃ³n, J. M., Llorente, J. B. and OÃ±ate, L. (2000) â€˜The use of specimen-label databases for conservation purposes: an example using Mexican Papilionid and Pierid butterfliesâ€™, Biodiversity and Conservation. Kluwer Academic Publishers, 9(10), pp. 1441â€“1466. doi: 10.1023/A:1008987010383. | No formal method, localities were assigned to be 1 min arc (transating to pixels of 1.1km a side) |
| Stein, B. R. and Wieczorek, J. R. (2004) â€˜Mammals of the World: MaNIS as an example of data integration in a distributed network environmentâ€™, Biodiversity Informatics, 1(0). doi: 10.17161/bi.v1i0.7. | Point-radius method |
| Stigall, A. L., Bauer, J. E. and Brame, H. M. R. (2014) â€˜The digital Atlas of Ordovician life: Digitizing and mobilizing data for paleontologists and the publicâ€™, Estonian Journal of Earth Sciences, 63(4), pp. 312â€“316. doi: 10.3176/earth.2014.36. | Point radius method (I think, as it says it follows Wieczorek & Chapman, 2006) |
| Stockwell, D. R. B., Beach, J. H., Stewart, A., Vorontsov, G., Vieglais, D., and Pereira, R. S. (2006) â€˜The use of the GARP genetic algorithm and Internet grid computing in the Lifemapper world atlas of species biodiversityâ€™, Ecological Modelling. Elsevier, 195(1â€“2), pp. 139â€“145. doi: 10.1016/J.ecolmodel.2005.11.016. | None mentioned - pulls georef’d records from a wide variety of sources it seems. Error not thought about in this context |
| Strenghts and weaknesses of museum and Guralnick, R. and Van Cleve, J. (2005) â€˜Strengths and weaknesses of museum and national survey data sets for predicting regional species richness: comparative and combined approachesâ€™, Diversity and Distributions. John Wiley & Sons, Ltd (10.1111), 11(4), pp. 349â€“359. doi: 10.1111/j.1366-9516.2005.00164.x. | Points to methods of data prep in supplementary materials, which are not available (broken web link) |
| Syfert, M. M.. Serbina, L., Burckhardt, D., Knapp, S., and Percy, D. M. (2017) â€˜Emerging New Crop Pests: Ecological Modelling and Analysis of the South American Potato Psyllid Russelliana solanicola (Hemiptera: Psylloidea) and Its Wild Relativesâ€™, PLOS ONE. Edited by X.-Q. Li. Public Library of Science, 12(1), p. e0167764. doi: 10.1371/journal.pone.0167764. | Error calculated, don’t say how. Give a median value of 8km and range of 500m to over 100km |
| Syfert, M.M., CastaÃ±edaâ€Ãlvarez, N.P., Khoury, C.K., SÃ¤rkinen, T., Sosa, C.C., Achicanoy, H.A., Bernau, V., Prohens, J., Daunay, M.C. and Knapp, S., (2016) â€˜Crop wild relatives of the brinjal eggplant (Solanum melongena): Poorly represented in genebanks and many species at risk of extinctionâ€™, American Journal of Botany. John Wiley & Sons, Ltd, 103(4), pp. 635â€“651. doi: 10.3732/ajb.1500539. | None mentioned - georeferenced to a “high standard” no quantative measure of what this is given |
| Tobler, M., Honorio, E., Janovec, J., and Reynel, C.  (2007) â€˜Implications of collection patterns of botanical specimens on their usefulness for conservation planning: an example of two neotropical plant families (Moraceae and Myristicaceae) in Peruâ€™, Biodiversity and Conservation. Kluwer Academic Publishers, 16(3), pp. 659â€“677. doi: 10.1007/s10531-005-3373-9. | Manually checked coords to reduce error (error between 1-100km reported in this paper, no formal method of adding uncertainty mentioned) |
| VelÃ¡squez-TibatÃ¡, J., Graham, C. H. and Munch, S. B. (2016) â€˜Using measurement error models to account for georeferencing error in species distribution modelsâ€™, Ecography. John Wiley & Sons, Ltd (10.1111), 39(3), pp. 305â€“316. doi: 10.1111/ecog.01205. | Bayesian logistic regression with measurement error |
| Wehr, J. D., Stancheva, R., Truhn, K., andSheath, R. G. (2013) â€˜Discovery of the Rare Freshwater Brown Alga Pleurocladia lacustris (Ectocarpales, Phaeophyceae) in California Streamsâ€™, Western North American Naturalist. Monte L. Bean Life Science Museum, Brigham Young University, 73(2), pp. 148â€“157. doi: 10.3398/064.073.0204. | None mentioned |
| Wieringa, J. J. and Sosef, M. S. M. (2011) â€˜The applicability of relative floristic resemblance to evaluate the conservation value of protected areasâ€™, Plant Ecology and Evolution, 144(3), pp. 242â€“248. doi: 10.5091/plecevo.2011.588. | None mentioned - do talk about species being included if they were within a 10km buffer of parks, but this isn’t the same as error radius really |
| Wilkin, P., Hladik, A., Weber, O., Hladik, C.M. and Jeannoda, V., (2009) â€˜Dioscorea orangeana (Dioscoreaceae), a new and threatened species of edible yam from northern Madagascarâ€™, Kew Bulletin. Springer-Verlag, 64(3), pp. 461â€“468. doi: 10.1007/s12225-009-9126-2. | None mentioned - I think GPS handloggers were used here |
| Zeilinger, A. R., Rapacciuolo, G., Turek, D., Oboyski, P. T., Almeida, R. P. P., and Roderick, G. K. (2017) â€˜Museum specimen data reveal emergence of a plant disease may be linked to increases in the insect vector populationâ€™, Ecological Applications. John Wiley & Sons, Ltd, 27(6), pp. 1827â€“1837. doi: 10.1002/eap.1569. | Point-radius method! |
| Zhang, M.-G., Zhou, Z-K., Chen, W-Y., Cannon, C. H., Raes, N., and Slik, J. W. F. (2013) â€˜Major declines of woody plant species ranges under climate change in Yunnan, Chinaâ€™, Diversity and Distributions. Edited by B. Bradley. John Wiley & Sons, Ltd (10.1111), 20(4), pp. 405â€“415. doi: 10.1111/ddi.12165. | Ref’d to five arc minutes, as this was resolution of climate data |