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ACS > Vol.2 No.1, January 2012



Global Warming and the Power-Laws of Ecology

PDF (Size: 349KB) PP. 8-13 DOI: 10.4236/acs.2012.21002

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ABSTRACT

A model based on Watson's power law for the species-area relationship predicts that full global warming, projected up to the year 2050, could provoke the disappearance of roughly one-quarter of existing species. Here, an alternative approach is worked out, based on the combination of two ecology laws: Taylor and Watson's power laws, where the former relates species variability with their mean abundance. Just how severely global warming would affect not only the number but the diversity of the surviving species is addressed by this approach, while at the same time giving indications for the post-disaster fate of the remaining species (extinction or recovery).

KEYWORDS

Global Warming; Species Extinction; Ecology Power-Laws; Species Variability Model

Cite this paper

J. Arruda-Neto, M. Bittencourt-Oliveira, A. Castro, T. Rodrigues, J. Harari, J. Mesa and G. Genofre, "Global Warming and the Power-Laws of Ecology," *Atmospheric and Climate Sciences*, Vol. 2 No. 1, 2012, pp. 8-13. doi: 10.4236/acs.2012.21002.

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