

EGU21-16436

<https://doi.org/10.5194/egusphere-egu21-16436>

EGU General Assembly 2021

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Leaving no country behind? How scale influences outcomes of drought risk assessments

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As drought risk is projected to increase in many countries around the world, global drought risk assessments incorporating hazard, exposure, and vulnerability are deemed to be useful to inform decisions on which countries should be targeted for the implementation of risk reduction, risk transfer, risk financing and adaptation strategies. This holds particularly true for existing climate change related financing mechanisms, such as the Adaptation Fund (AF), the Green Climate Fund (GCF) or the InsuResilience Solutions Fund (ISF), which have the mandate to concentrate on the “most vulnerable” or “most at-risk”, and therefore need comparative risk information. However, by virtue of the scale of assessment some countries and regions that experience the negative impacts of drought might not appear in the highest risk categories in global comparisons. This limits, and potentially biases, the ability of decision-makers, regional organisations or funding mechanisms to recognise which countries under their remit should be targeted for assistance.

This research aims to explore and overcome this issue by conducting an indicator-based drought risk assessment for agriculture at the global scale, compare these results to risk assessments for different clusters of countries of particular relevance for international climate and disaster risk policy, and discuss implications for decision making. Clusters of countries considered here include different World Bank income groups, UNFCCC Annex I and Non-Annex I countries, least developed countries (LDCs), the Vulnerable 20 (V20), as well as geographic regions. Additional clusters were created from countries that either rely on the agriculture sector in terms of their GDP, labor force, or are considered breadbaskets.

Our analysis revealed that when assessed on a global scale, the higher risk is concentrated in Africa, countries with a reliance on agriculture in employment, and low middle income countries. High income countries and Annex I countries display lower risk on average. However, when assessed by cluster, risk patterns change compared to the global assessment. The most change occurs in the High Income, Latin America and the Caribbean, and Breadbasket clusters of countries. The least amount of change is seen in the Non-Annex I and LDC countries. On an individual country level, some countries moved from a lower quintile of risk in the global assessment to the highest quintile in the cluster assessment. For example Romania and Serbia, not classified as high-risk in the global assessment, emerged in the highest quintile in the Europe

cluster.

Findings of this study can be used directly by decision makers targeting regions or specific groups of countries for drought DRR planning or funding. More broadly, this analysis shows the importance of analysing risk at multiple scales, as different patterns emerge that could influence financial flows, decision making, and ultimately disaster risk outcomes.