

EDITORIAL

Data Availability Principles and Practice

KEYWORD: Editorial

Science requires evidence. Making data available lets other scientists confirm results, uncover errors, or find new insights. Moreover, gathering data can be expensive and time consuming. Because the same data can be used for a range of purposes, making data available can be an efficient use of limited research resources. Doing so can improve traceability and accountability when it comes to research findings.

These reasons and more lie behind recent efforts to promote data availability in research publications. The American Meteorological Society (AMS) recently updated its data policy guidelines (<https://www.ametsoc.org/index.cfm/ams/publications/ethical-guidelines-and-ams-policies/data-policy-and-guidelines/>) to require, among other things, that articles in its journals include a Data Availability Statement. Data do not necessarily need to be freely available. Authors simply need to explain how to find and use the data or why, in some circumstances, the data are not available.

Papers that appear in *Monthly Weather Review* often involve large datasets and source codes used to produce and analyze those data, not all of which are publicly available. Other papers may include social science data, which require different treatment owing to confidentiality considerations. We do not wish to impose a one-size-fits-all requirement, which may serve as a barrier to authors. In fact, one of our goals in this endeavor is to work with authors to develop their Data Availability Statement and ensure that no papers go unpublished as a result of this new AMS requirement.

The Data Availability Statement need not be long, and the statement does not count toward the word-count limit. If data or the source code used to produce and analyze the data are for some reason unavailable, for instance, due to licensing issues or restrictions on controlled unclassified information, authors must make a good-faith effort to explain the circumstances. We also encourage software and its documentation that are important for the results being reported to be saved in a repository if possible and described as part of the Data Availability Statement. See the AMS example statements to gain a sense of expectations. Our editors are willing to work with authors to accommodate any difficulties or unique situations.

Thoughtful data availability requirements such as AMS's benefit both the scientific community and society. Consistent policies and practices can help reduce misunderstanding and divergent interpretations. Although the data availability requirement should not be an obstacle to publication, at the same time, authors should not use exceptions to making data available as a way to evade their responsibilities. We encourage authors and readers of *Monthly Weather Review* to read the AMS data policy and to contact us with any questions or concerns.


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