

## IDENTIFYING CREDIBLE SOURCES OF AVAILABLE DATA

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This check sheet provides information for identifying and collecting credible data. Sources of data that can support extreme events research include: public documents, official records, publicly available datasets, mass media, and social media. This check sheet also offers evidence-based strategies to verify data sources and offers examples of how available data has been used in extreme events research.

### Identifying and Collecting Credible Data

It is part of the researcher's duty to gather materials from credible and trusted sources. In some instances, research participants and informants may be able to assist in the identification and collection of materials; however, these individuals and their organizations may still be in the midst of response to and recovery from a disaster event. Thus, it is incumbent upon researchers to locate alternative data sources and avoid participant burden.

### Potential Data Sources

There are a number of tools available for researchers to evaluate data sources. In the digital era, where data is seemingly everywhere, it is especially important that researchers understand how to critically analyze their usefulness and credibility for answering specific research questions. The following are examples of data and evaluation resources.

#### *Public Documents, Official Records, Archival Records, and Publicly Available Datasets*

Examples include proceedings of government bodies, meeting minutes and transcripts, legal and policy documents, city ordinances, government reports, press releases, official emergency plans, public health data, building permit data, and vital statistics. Tips for finding and assessing these data include:

- Clarify the scale and jurisdictional boundaries of data collection to make searching by government branch or department easier.
- Federal repositories of vital statistics or demographic information can be found from agencies such as the [National Center for Health Statistics](#) or the [U.S. Census Bureau](#). These governmental resources are available online with domains ending in ".gov." The [United Nations](#) and the [World Bank](#) compile similar international data. The websites that host these types of data have domains ending in ".org".
- Resources such as the [University of Maryland Guide](#) for assessing credibility of online sources can provide useful information for identifying trustworthy sources.

#### *Mass Media*

Examples include newspaper articles, televised warning messages, and public service announcements. Tips for finding and assessing these data include:

- Use databases like [Nexus Uni](#) to search for newspaper articles and other published materials from sources around the U.S. and abroad.
- Public libraries and university libraries often house newspaper archives and other special collections of local materials.
- News outlets, such as the *New York Times* and the *BBC*, have worldwide influence and readership.



Social Media

Social media is increasingly used as a data collection tool for researchers and practitioners alike. Examples include materials shared via online social media platforms such as tweets, posts, photos, and blogs. Tips for finding and assessing these data include:

- Geotagged data can be gathered from the APIs provided by social media companies. Consult the [Association of Internet Researchers](#) for a guide to ethical decision-making regarding internet research. Please see the following for additional guidance on research ethics and for assessing the veracity of data:
  - [Luka, E. Mary and Mélanie Millette \(2018\)](#)
  - [Palen, Leysia and Amanda Hughes \(2018\)](#)

**Using Available Data in Extreme Events Research: Examples from [Quick Response Reports](#) published by the Natural Hazards Center.**

Utilizing Public Documents and Archival Records	Utilizing Social Media Data
<p>In a study of educational recovery of K-12 Puerto Rican students following Hurricane Maria, the researchers supplemented interviews with a review of public documents pertaining to educational programs in Florida. This data was used to understand and evaluate how receiving communities implement programs to serve displaced children and their families (<a href="#">Hamm-Rodriguez and Morales 2018</a>).</p> <p>In an assessment of the response of healthcare centers following Hurricane Irma, the researchers conducted archival research of local newspaper outlets to establish timelines for how long different cities were without power. This informed their comparative analysis of organizational capacity to respond to the needs of older adults in disaster (<a href="#">Hutton and Allen 2018</a>).</p>	<p>Following the September 8, 2011, San Diego Blackout, the researchers compiled publicly available Twitter posts from the city electric provider as part of a data collection strategy designed to document and analyze organizational and socio-economic impacts of the blackout and infrastructure independence (<a href="#">Miles, Gallagher, and Huxford 2011</a>).</p>

**REFERENCES:**

Hamm-Rodriguez, M., & Morales, A. S. (2018). The Effects of Displacement on Puerto Rican K-12 Students in Florida after Hurricane Maria. Quick Response Report #285. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. <https://hazards.colorado.edu/quick-response-report/the-effects-of-displacement-on-puerto-rican-k-12-students-in-florida-after-hurricane-maria>

Hutton, N., & Allen, M. (2018). Powerless and Vulnerable: Assessing the Capacity of Elderly Healthcare Services Following Irma. Quick Response Grant #270. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. <https://hazards.colorado.edu/quick-response-report/powerless-and-vulnerable-assessing-the-capacity-of-elderly-health-care-services-following-hurricane-irma>

Luka, M. E., & Millette, M. (2018). (Re)framing Big Data: Activating Situated Knowledges and a Feminist Ethics of Care in Social Media Research. *Social Media + Society*, 4(2). <https://doi.org/10.1177%2F2056305118768297>.

Miles, S., Gallagher, H., & Huxford, C. (2011). Quick Response Research on the September 8, 2011, San Diego Blackout. Quick Response Grant #228. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. [https://hazards.colorado.edu/uploads/quick\\_report/miles\\_draft\\_2012.pdf](https://hazards.colorado.edu/uploads/quick_report/miles_draft_2012.pdf)

Palen, L., & Hughes, A. (2018). Social Media in Disaster Communication. Ch. 24 in W. Donner and J.E. Trainor (Eds.), *The Handbook of Disaster Research* (pp.497-518). Springer.

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