

80 percent of world climate data are not computerized

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The scientific community is only able to access and analyze 20 percent of the recorded climate information held. Credit: Jaime Golombek

In order to gain a better knowledge of climate variations, such as those caused by global warming, and be able to tackle them, we need to understand what happened in the recent past. This is the conclusion of a research study led by the Rovira i Virgili University (URV), which shows that the scientific community today is only able to access and analyse 20% of the recorded climate information held. The remaining data are not accessible in digital format.

Some [climate data](#) in Europe go back to the 17th Century, but "not even 20% of the information recorded in the past is available to the scientific community", Manola Brunet, lead author of the study and a researcher at

the URV's Centre for [Climate](#) Change, tells SINC.

This situation is even worse in continents such as Africa and South America, where weather observations did not begin until the middle of the [19th Century](#). These are the results of a study published in [Climate Research](#), which highlights the need to urgently recover all the information recorded in perishable formats.

"Failure to decipher the messages in the [climate records](#) of the past will result in socioeconomic problems, because we will be unable to deal with the current and future [impacts of climate change](#) and a hotter world", says Brunet.

Spain, along with the USA, Canada, Holland and Norway, is one of a small number of countries which allows partial access to its historic climate data. The rest of the world does not make these data available to the scientific community or the general public, despite recommendations to this effect by the [World Meteorological Organization](#) (WMO).

In order to overcome the political and legal hurdles posed by this currently poor access, "governments should adopt a resolution within the United Nations on opening up their historical climate data", the researcher suggests.

Predicting heat waves

Weather services in all countries are faced with the overwhelming job of converting all their paper-based historical climate information, which is stored in archives, libraries and research centres, into digital format. The wide range of forms in which the information is held makes access harder, as do the purposes for which the meteorological service itself was actually created.

"The main objective is to provide a weather service to public, who want to know what the weather will be like the next day", explains Brunet. This has led to climate science (which studies the range of atmospheric conditions characterising a region rather than focusing on weather forecasting) becoming the great 'victim', receiving fewer funds with which to digitise, develop and standardise data.

However, climate services do play a significant role in some European countries, the United States and Canada. It was these services that were able to explain last summer's heat wave in Eastern Europe and put it into context, as well as the high temperatures recorded on the Old Continent in 2003.

"If we had access to all the historical data recorded, we would be able to evaluate the frequency with which these phenomena are likely to occur in the future with a higher degree of certainty", the expert explains.

This kind of information is of scientific, social and economic interest, with insurance companies setting their premiums according to expected climate changes, for example. City councils and governments also "want to understand climate conditions and how these will change in future in order to improve land zoning and prevent urban development from taking place in areas likely to be affected by flooding", concludes Brunet.

More information: Manola Brunet, Phil Jones. "Data rescue initiatives: bringing historical climate data into the 21st century", *Climate Research* 47, 29-40, 2011. [DOI: 10.3354/cr00960](https://doi.org/10.3354/cr00960)

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