

Study uses water data to map population changes caused by tourism

June 24 2020, by Alan Williams

The economies of Devon and Cornwall have for many years relied heavily on the tourism industry.

But concerns have consistently been raised about the annual influx of visitors and, in particular, the pressures it places on the region's resources and infrastructure.

Now, a two-year research project led by the University of Plymouth and University of Leeds aims to begin capturing that impact through actual utilities data.

[WatPop: understanding seasonal population change](#) unites researchers in population geography from the two universities with resources experts at South West Water—the statutory water authority for the region—and the Office for National Statistics.

By accessing water supply data provided by South West Water, researchers hope to gain an informed insight into the extent to which occupancy levels rise during the peak tourist seasons.

And while this project focuses specifically on Devon and Cornwall, equivalent data are routinely collected by all statutory water authorities and—as non-sensitive and non-personally identifiable operational data—could have the potential to indicate the small-area or dwelling level population fluctuations driven by tourism.

The £300,000 study is being supported through funding from the Economic and Social Science Research Council's (ESRC) Secondary Data Analysis Initiative.

Dr. Alan Smith, Lecturer in Environmental Management in Plymouth's School of Geography, Earth and Environmental Sciences, is the project's Principal Investigator. He said, "This study will allow us to maximise the use of anonymised water metering data already routinely collected by South West Water. This will enable us to generate powerful insights to seasonal population change and make comparisons with traditional population datasets. Ultimately, the ability to link non-sensitive and routinely collected indicators of [water](#) supply to underlying population fluctuations could offer considerable benefits to a range of end users, from both the public and [private sector](#)."

Population fluctuations driven by tourism are not captured by traditional statistics, yet in some localities tourism is responsible for huge population fluctuations during the peak summer tourist season.

In Devon and Cornwall, for example, it is estimated that one in 20 dwellings represent self-catering tourist accommodation, however very little is known about their precise location or occupancy patterns.

Such properties present considerable challenges when it comes to assessing [population](#) changes, and place substantial demands on infrastructure and local service provision.

As such, researchers say, WatPop—which includes the appointment of a postdoctoral research assistant in Plymouth and a data science intern in Leeds—has the potential to meet a clear requirement to understand the highly seasonal dwelling-level occupancy patterns associated with the tourist accommodation sector.

Paul Merchant, Supply Demand Manager at South West Water, said, "Tourism plays an important part in our region's economy and this collaboration will improve our understanding of its impact on our networks. It represents an exciting opportunity to work with the University of Plymouth to explore data that we are already routinely collecting. This will help us to support the industry's needs effectively now, as well as giving us valuable information to help plan for the future."

Provided by University of Plymouth

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