Scientists plan to use surfers to monitor the coastal environment

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Credit: AI-generated image (disclaimer)

The coastal zone is hugely valuable in terms of social and economic benefits to humans, and as such is one of our most treasured environments, yet pressures from human activity and climate change are making the future of our coastal shores uncertain.

Monitoring of these areas is fundamental to coastal management. Currently, however, coastal managers lack the information required to develop the understanding needed to enable them to respond to the impacts of phenomena such as climate change.

Traditional methods for monitoring the coastal zone can often be challenging, in terms of expense and practicality.

In response to this, a team led by scientists at PML investigated whether sampling coverage of the coastal zone could be improved through harnessing the power of the surfing community. In a pilot study, to prove the method worked, the coastal environment was monitored for one year using temperature sensors and Global Positioning Systems (GPS) attached to surfboards.

Now the scientists want to extend the method to more areas and many more surfers. They estimate that UK surfers have the potential to acquire in the region of 40 million independent measurements per year.

Dr Bob Brewin who led the study and a keen surfer said: "We've proved this technique can work and is reliable. Our next steps will be to expand the project with more sensors, and more surfers, with the aim to encourage widespread data collection. As sensors get smaller and cheaper, and surfing continues to grow in popularity, we hope to increase the number of ocean variables that can be measured in this way", and like all good citizen science projects this one is of mutual benefit,

"Science gets great data but the surfer also benefits as the data may be used to help protect and monitor conditions at their local surf breaks, as well as providing useful information on surfing performance", added Dr Brewin.

Now the method has been tried and tested, the scientists are confident it

could be transferable to other recreational water sports.

Such a significant level of data collection is likely to be extremely valuable for future monitoring of the coastal zone, working to secure these areas for future generations.

Dr Jamie Shutler, from Geography at the University of Exeter's Penryn Campus, said: "Whilst we focused on working with surfers for this study, the approach is just as applicable to other pass times like kayaking and sailing. So, in the future it's possible that many more people will be able to help monitor their local beaches and coastline".

More information: "On the Potential of Surfers to Monitor Environmental Indicators in the Coastal Zone." *PLoS ONE* 10(7): e0127706. DOI: 10.1371/journal.pone.0127706

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