

2022-05-26

Exploring local perceptions of water quality in the upper Santa River, Peru

Rangecroft, S

<https://pearl.plymouth.ac.uk/handle/10026.1/22396>

10.5194/egusphere-egu22-5520

Copernicus Publications

All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.

PREVIEW

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Exploring local perceptions of water quality in the upper Santa River, Peru

Sally Rangelcroft^{1,2}, **Rosa Maria Dextre**^{1,3}, Isabel Richter⁴, Claire Kelly¹, Cecilia Turin⁵, Beatriz Fuentealba⁶, Claudia V. Grados Bueno⁶, Mirtha Camacho Hernández⁶, Sergio Morera³, John Martin¹, Adam Guy¹, and Caroline Clason¹

¹School of Geography, Earth and Environmental Sciences, University of Plymouth, Plymouth, UK
(sally.rangelcroft@plymouth.ac.uk)

²School of Geography, College of Life and Environmental Sciences, University of Exeter, Exeter, UK

³Instituto Geofísico del Perú (IGP), Lima, Peru

⁴Department of Psychology, Norwegian University of Science and Technology, Trondheim, Norway

⁵Instituto de Montaña, Lima, Peru

⁶Instituto Nacional de Investigación en Glaciares y Ecosistemas de Montaña (INAIGEM), Huaraz, Peru

Water quality is an integral part of water security, but water quality itself is complex, due to its multifaceted nature. Measuring the physico-chemical indicators for water quality (e.g. pH, turbidity, heavy metal content) can provide an objective picture of water health, but it does not provide information on how it integrates and expresses the human perspective. Perceptual information and local ecological knowledge on water quality can help to understand the usability of water and support better conservation strategies. Therefore, the aims of the Nuestro Rio project were to investigate local perceptions of water quality in the upper Santa River basin, Peru. Walking interviews (n = 99) were conducted in the field between July-August 2021 to assess community members perceptions of their local rivers and streams. Through qualitative data analysis in two rural communities in the glaciated Santa River basin, we collected local perspectives on good and poor water quality, identified some of the key water concerns of the population, and explored the importance of emotions for determining water quality perceptions. Overall water quality perspectives differed within, and between, the two communities. Yet, it was possible to identify several characteristics and concerns that the population has been perceiving in recent years, as well as their causes, both natural and anthropogenic. Both communities felt the main cause of poor water quality was pollution due to the presence of minerals in the water, “invisible” aspects of water quality. We found that local perceptions on water quality also depend on water use as it has an important effect on local organisation. Emotions, on the other hand, reflect the population’s concern, fear, anger, and even frustration, when perceiving poor water quality, and happiness, trust, and even affection, when perceiving good water quality. More inclusive science that asks people what they observe, think and feel about the quality of their rivers and water can help provide a much deeper contextual understanding (e.g. useability of water, changes over time, traditional ecological knowledge) of local dynamic human-water systems, and improve science communication and policy implementation.

