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Impact of Sampling Errors on Hydrological Data Quality: A Case Study of Merjat Fouarat

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Abstract. Field sampling is an essential step in the study of hydrological systems, directly influencing the reliability of analytical results. However, errors related to sampling techniques storage conditions or applied protocols can lead to significant inconsistencies compared to the literature data.In this work, we present a case study on Merjat Fouarat based on a field sampling campaign during which some suboptimal methods were used. The results obtained showed notable deviations from the expected values which motivated a critical analysis of the procedures adopted. The main objective is to identify potential sources of error assess their impact on the quality of hydrological data and propose recommendations to improve sampling practices. This study highlights the importance of adhering to standard protocols to ensure the reliability and reproducibility of results in hydrological research.

Keyword : Hydrological field, sampling Data, quality assessment , Sampling errors, Standard protocols