Abstract for Dansk Havforskermøde 2026

Title: The future of marine monitoring – promises and pitfalls

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Abstract:

Denmark has a long tradition of marine monitoring with continuous time series going almost 50 years back in time. These observations have provided important insights into the impacts of human activities on the marine environment and are fundamental to assessing compliance with policy objectives such as the Water Framework Directive and Marine Strategy Framework Directive. The methods currently employed for marine monitoring have not changed fundamentally over time, providing consistency for assessing trends. Nevertheless, new technologies have emerged in recent decades with the potential of providing more accurate and precise information at lower cost. However, they typically produce large amounts of data that may not provide ecologically relevant information without developing complex methods for post-processing, e.g. using statistical algorithms and artificial intelligence. This presentation will give an overview of the new technologies for biological monitoring, including remote sensing, eDNA, optical instruments and citizen science, with potential to complement or possibly substitute current monitoring methods, as well as it will address the challenges and weaknesses for implementing these methods.