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Ocean science in action: communicating cutting edge advances in marine research and technology via Massive Online Open Courses

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MOOCs or Massive Open Online Courses are picking up momentum in popularity. Unlike regular courses, MOOCs can attract many thousands of enrollees around the world and engage broader audiences outside of academia, such as government officials and NGOs. With scientific communication and policy engagement practices shifting online due to the current pandemic, MOOCs can be seen as a digital tool that acts as a confluence for education, public engagement and capacity development. In this presentation we will introduce you to a MOOC “Ocean Science in Action: **Addressing marine ecosystems and food security**”, which attracted ~1800 participants from over 100 countries for its first run in October 2020 with these numbers continuing to increase for subsequent runs (the next started on 18th January). The MOOC aims to introduce the participants to innovative marine technologies and their applications used to tackle the challenges of the sustainable management of marine ecosystems with specific lectures focussed on food security, impacts of climate change on marine ecosystems and fisheries, the sustainable development goals and the Ocean Decade 2030.

Marine autonomous systems are becoming ever more reliable and easy to use for environmental observations – at a fraction of the cost of a research ship. Earth observation satellites monitor the oceans daily, collecting a wide range of marine data, most of which are freely available from global archives. Ocean models of increasingly high resolution make it possible to explore regional ecosystem dynamics and gain insights into reasons for variability and change. Engaging participants globally into the cutting edge research and the use of marine data requires novel approaches to engagement, communication and teaching. Using elements of MOOC created by SOLSTICE (Sustainable Oceans, Livelihoods and food Security Through Increased Capacity in Ecosystem research in the Western Indian Ocean) program, this presentation will explore how research projects can create inspiring and informative digital content to communicate their findings to achieve a long lasting legacy of their results and better inform managers and politicians responsible for decision making.