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Boom-and-bust cycles of sardine linked to monsoon and oceanographic changes: study

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KOCHI

Monsoon rainfall trends caused the sudden surge of juvenile Indian oil sardines along Kerala's coast in 2024 and the subsequent ecological and economic fallout, according to a study by the ICAR-Central Marine Fisheries Research Institute (CMFRI).

The study, published in *Current Science*, highlighted how climate-driven oceanographic changes shape the boom-and-bust cycles of this vital fishery, underscoring the urgent need for dynamic fishery forecast models and harvest rules, according to a communication.

Oil sardines had witnessed a steep decline, from a record catch of four lakh tonnes in 2012 to just 3,500 tonnes in 2021. FILE PHOTO

Oil sardines had witnessed a steep decline, from a record catch of four lakh tonnes in 2012 to just 3,500 tonnes in 2021. However, in 2024, an unusual influx of young sardines, averaging 10 cm in size, was reported along Kerala's coast, with instances of mass beaching in districts such as Kozhikode and Thrissur, the study said.

The study by CMFRI integrated fisheries biology and oceanographic data from Kochi, Vizhinjam, and Kozhikode. It stated that the phenomenon was triggered by positive monsoon rainfall trends, coupled with nutrient-rich upwelling that boosted microplankton growth – the primary food source for sardine larvae. This spike in microplankton enhanced larval survival, leading to an unprecedented surge in recruitment, the study said.

Later, this condition also increased competition for food resources among the recruits, leading to poorly fed fish and lower weight gains for the zero-year-class fishes," said U. Ganga, Principal Scientist who led the study.