

Marine Ecology; New marine ecology study findings have been reported from Tor Vergata University.....2

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2010 SEP 17 - (VerticalNews.com) -- According to a study from Rome, Italy, "Primary productivity (PP) and fisheries yield were analysed in 14 large marine ecosystems (LMEs), which encompassed temperate boreal shelves and the Eastern Boundary Currents (EBCs), from 1998 to 2002. PP was estimated by means of a depth-integrated neural network model based on Sea-viewing Wide Field-of-view Sensor (SeaWiFS) data and aimed at providing conservative PP estimates."

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"Landings records were extracted from the global spatial database provided by the Sea Around Us Project (SAUP). Correspondence analysis performed on yield data outlined the role played by different trophic levels (TLs) in LME catches. PP temporal variability was significantly and positively correlated to average trophic level of catches (TLc) so that higher yields in less variable ecosystems were characterised by a lower TLc. From a functional perspective, high PP temporal variability was associated preferentially with demersal fishes and lower yields, while pelagic-dominated catches were harvested in conditions with lower PP variability. Primary production required (PPR) to sustain fisheries in each LME showed that the highest yield occurred in combination with moderate fishing pressure especially when TLc was intermediate to low. High fishing pressures were associated with intermediate total yields and high TLc, a condition which seemed to occur in high-latitude boreal LMEs. The %PPR and TLc were used to assess fisheries impact on ecosystems," wrote L. Conti and colleagues, Tor Vergata University.

The researchers concluded: "PP model choice affects the assessment of exploitation levels, in that a more conservative estimation of PP could contribute to a more precautionary approach to fisheries management where high levels of exploitation are more easily attained."

Conti and colleagues published their study in Marine Ecology - Progress Series (Fisheries yield and primary productivity in large marine ecosystems. Marine Ecology - Progress Series, 2010;410():233-244).

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