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What are Marine Ecological Time Series telling us about the ocean? A status report

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Abstract IGMETS:

The International Group for Marine Ecological Time Series (IGMETS) and the related publication 'What are Marine Ecological Time Series telling us about the ocean? A status report' intend to look at holistic changes in different ocean regions, explore plausible reasons and explanations at a regional and global scale, and to highlight locations of especially large change that might be of particular importance for model projections or ongoing management policies. During the preparation process the oceanographic data of ecological time-series sampling sites (in total 336) were categorized in different time windows, allowing to establish global baselines, assess spatial variability and response to climate at the basin scale and greater. The number and frequency of observations is clearly imbalanced, while the North Atlantic and the North-West Coast of the North Pacific are fairly well observed, vast areas of the ocean, especially areas expected and to be highly affected by climate change (e.g. coral triangle) are under sampled. The newly published information provides the possibility to improve model projections and forecasts needed to separate human induced and natural variability in the open ocean and coastal areas.

While IGMETS is focused on in situ, ship-based measurements, satellite data are used to create global, spatially complete fields that can shed light on the general physical and biological conditions. As written publications can only provide an extract of the analysis, the online feature, the IGMETS explorer, allows to discover even more relations, e.g. the dependency of marine life on ocean currents.

Keywords:
Observation, time series, phytoplankton, zooplankton, climate change, natural variability

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