

Possible Task Team on Ocean Subsurface Indices (TT-OSI)

Despite the substantial investments being made in sustained observations of the World Ocean by the nations of the world, little effort has been made outside the research paper/IPCC summary processes to make available information about the state of the ocean and its variability and trends away from the surface. It is timely to investigate whether the ocean observation, analysis and modeling communities have progressed sufficiently in understanding of the ocean to put forward a basic set of indices whose information will be of value to society as well as to scientists.

There is willingness among some members of the GODAE OceanView/JCOMM ETOOFS, and CLIVAR/WGOMD and CLIVAR/GSOP communities to create a Task Team to nominate a basic set of ocean subsurface indices that could be of scientific and societal relevance and which, therefore, merit routine evaluation, updating and sharing with the wider community. Three different categories of indices are obvious: those that involve status reporting of the world ocean (e.g. ocean heat content over a specified depth range, world ocean sea level); those that are well correlated with the familiar surface repeating patterns of climate variability that are known to have societal impact (e.g., the warm water volume of the western tropical Pacific and ENSO) and those which are well correlated with significant regional climate phenomena but are not of basin scale (e.g., there might be one for the upwelling zone off Sumatra related to the Tropical Indian SST anomaly region there.)

The TT would make use of a range of model generated data sets of different space and time extent that have been produced recently in the work of the different communities to explore possible index definitions and to agree on how best to evaluate these routinely. The WGOMD and GSOP have data sets of multi-decadal duration and nearly world-ocean coverage, while the GOV/ETOOFS have multi-year data sets of regional to near-world-ocean extent of quite high spatial resolution. Long time series would be prepared from the WGOMD and GSOP 20th century data sets and GOV/ETOOFS data sets would be used to extend these time series to the present and to keep them updated. Significant work would likely be expected to determine how best to make use of the several data sets and to construct time series that can be shared with the wider community.

It's envisioned that the TT would have a two year duration and two to three members from each community. Progress would be reported to the CLIVAR SSG and ETCCDI leadership annually. If technical difficulties are difficult to surmount the TT duration might need to be extended for another two year period.

Structure: It is proposed that there be a co-lead from each of the contributing groups and that this group would select the Principal Lead, and that the leadership group would identify a first set of possible indices for each of the three types. Much of the TT's work will need to be done in intersessionals, liaison and comparison and evaluation of intersessional results hopefully could be accomplished via add-on sessions at meetings that likely would involve most participants; a list of such opportunities would need to be made and dates selected. The State of the Ocean Climate website will be available to make time series of indices easy to access and download, but results would not be made publicly available until group approval is reached.