Don
Chambers
University of South Florida, College of Marine Science
Keynote
The ocean influences climate by storing and transporting large amounts of heat, freshwater, and carbon, and exchanging these properties with the atmosphere. About 93% of the excess heat energy stored by the earth over the last 50 years is found in the ocean. More than three quarters of the total exchange of water between the atmosphere and the earth’s surface through evaporation and precipitation takes place over the oceans. The ocean contains 50 times more carbon than the atmosphere and is at present acting to slow the rate of climate change by absorbing one quarter of human emissions of carbon dioxide from fossil fuel burning, cement production, deforestation and other land use change.

We summarize the observational evidence of change in the ocean, with an emphasis on basin- and global-scale changes relevant to climate, with a focus on studies published since the AR4. These include: changes in subsurface ocean temperature and heat content, evidence for regional changes in ocean salinity and their link to changes in evaporation and precipitation over the oceans, evidence of variability and change of ocean current patterns relevant to climate, observations of sea level change, and biogeochemical changes in the ocean, including ocean acidification.
OSTS session
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