Professor Dr. Thorsten Reusch, Marine Biologist

From tropical coral reefs to polar regions, ocean biodiversity is lost at unprecedented rates, while individual species often reach limits of their capacity to adapt to climate change. Among other aspects, this also affects our food security, because yields from fisheries and aquaculture also decline as a consequence of climate change. But conserving, protecting and restoring biodiversity to maintain our natural life support system is still possible. For example, best practise examples and effective management measures show that depleted fish stocks can be quickly rebuilt. Active habitat restoration for the Baltic Sea we can think of our seagrass and algal meadows can enhance carbon uptake with additional benefits for biodiversity. Also, water- and vector borne diseases are on the rise and need our attention an aspect that marine researchers from Kiel are increasingly focusing on.

Professor Dr. Andreas Oschlies, Earth System Modeller

The IPCC scenarios indicate that nature-based solutions have many co-benefits, for example for biodiversity, ecosystem functioning and local livelihoods but these solutions are not sufficient at all to limit global warming to 1.5° or 2° Celsius. Therefore, in addition to drastic reductions in carbon dioxide and other greenhouse gas emissions and a fast transition to renewable energy sources, we also depend on technical options to remove and safely store carbon dioxide from the atmosphere. The longer it takes to substantially reduce our emissions, the more challenging it will be to establish

lliance (DAM) evaluates options for carbon dioxide removal to inform societal decisions and support the development of appropriate governance schemes.

Professor Dr. Matin Visbeck, Physical Oceanographer:

Large changes lie ahead of us when it comes to transitioning to a more sustainable world and major questions still remain unanswered. GEOMAR research addresses key aspects from fundamental climate processes to solutions options. We also look for novel approaches for decision making: Digital twins of the ocean virtual representations based on shared data, models and knowledge help us to explore development options to optimally adapt to climate change and other ocean changes. Such simulations and visualisations will be developed in close dialogue with users of ocean information around the world so that their individual challenges can be integrated from the

Links:
https://www.ipcc.ch/report/ar6/syr Synthesis Report web site
https://www.geomar.de/en GEOMAR Helmholtz Centre for Ocean Research Kiel

Images:
Images are available for download at http://www.geomar.de/nXXXX-e

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