from above. Model parameters of these processes are difficult to constrain, but with a reasonable choice, modelled and observed profiles are in good agreement.

Poster

SW-MONSOON IN THE WESTERN ARABIAN SEE: PHYTOPLANKTON DYNAMICS

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Monsoons are a determining feature of the Western Arabian Sea, reversing the general current directions twice a year. During the SW-monsoon (June to September) a region of intense upwelling occurs along the coast of Oman, from which long filaments of relatively cold and nutrient rich water develop and finally do stretch for several hundred kilometers into the open ocean.

Naturally, with changing monsoons, conditions for phytoplankton communities are changing too. Thereby three major regions within the Western Arabian Sea could be distinguished physicochemically for the SW-monsoon period: (1) the 'Central Arabian Sea' with stable oligotrophic conditions: SST above 28°C, a deep thermocline (about 80 – 100 m), nutrient concentrations below detection limit down to about 90 m associated with a deep chlorophyll maximum (DCM); (2) the 'Coastal Upwelling Region' with typical upwelling features of low SST (about 20°C) combined with relatively high nutrients in surface water (NO_3 and $Si(OH)_4$ concentrations from 5 to 18 µmol l^{-1} and from 7 to 10 µmol l^{-1} respectively) and (3) the highly variable 'Findlater Jet Region' with conditions ranging from oligotrophic to eutrophic from the outside to the inside of filaments: SST between 24°C and 27°C, a thermocline between 35 m and 102 m and NO_3 and $Si(OH)_4$ concentrations in surface water ranging from 0 to 10 µmol l^{-1} and from 0 to 5 µmol l^{-1} respectively.

Concerning phytoplankton dynamics these regions can easily be described and characterized with general parameters like surface chlorophyll a (chl a) and particulate organic carbon (POC) concentrations as well as primary production: 'Central Arabian Sea': 0.4 mg chl *a* m^{-3}, 85 mg POC m^{-3} and 10 – 14 mg C m^{-3} d^{-1}; 'Coastal Upwelling Region': 0.9 mg chl *a* m^{-3}, 150 mg POC m^{-3} and about 40 – 190 mg C m^{-3} d^{-1} and 'Findlater Jet Region': between 0.4 and 0.5 mg chl *a* m^{-3}, 120 mg POC m^{-3} and 80 mg C m^{-3} d^{-1}.

Analysis revealed a huge variety of different phytoplankton communities within the Findlater Jet region as well as the coastal upwelling.

Conceptional models of the different regions are presented which demonstrate the necessity of intense measurements for the understanding of a pelagic system.