

Name of Method: Hydrological model of silt and nutrients (EcoWasp model)

Summary of Method: The method was specifically developed to model silt and nutrient load transport in the Dutch Wadden Sea, with the model primarily concerned with processes related to nutrients, primary and secondary producers and decomposition. Of particular interest to the model development was the potential for changes in nutrient and silt transport to affect ecosystem functioning. The method has been used as part of the Maasvlakte application. The model divided the Wadden Sea into sections, with exchange enabled between a lake, the open North Sea and between each Wadden Sea section. For each section, primary and secondary production was described, together with the exchange of matter between air and water and between water and sediment. Filter feeds were included in the model. The model was used to assess the effect of changing light, nutrient, filter feeders etc on the system.

Advantages of Method: Enables specific and detailed studies of the Wadden Sea to be conducted.

Limitations of Method: Limited to the Wadden Sea and by the available data.

References: Brinkman, B, 2005. Possible ecosystem effects of changing nutrient loads and silt content of the western Dutch Wadden Sea; an EcoWasp simulation.