

## **Analysis of the Yellow Sea fog cases using turbulent flux observations**

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Sea fog is one of the most problematic factors in marine activity and the environment. A substantial portion of automobile accidents, problems with aviation, and marine accidents are related to low visibility in the presence of dense fog. The Yellow Sea is the most frequently foggy area along Korea coast. Therefore, it is important to accurately predict the sea fog over the Yellow Sea. In this study, we focus on the microphysical effects of turbulent fluxes on sea fog prediction using direct observation data of turbulent fluxes at Socheongcho Ocean Research Station (SORS) during 2016-2018. The SORS is steel-framed tower-type platform which is located at  $37^{\circ}25' N$ ,  $124^{\circ}44' E$  over the Yellow Sea and designed to monitor long-term oceanic variance, enabling interdisciplinary scientific investigation. Collection of fog case was performed with a present weather detector to monitoring visibility and vertical sounding measured at the synoptic station to the 60 km northwest of SORS. Turbulent fluxes have been observed by an open path eddy covariance system composed of sonic anemometer and an open path infrared gas analyzer. The sonic anemometer is installed on the intermediate deck at the height of 7m, 10m from mean sea level to obtain direct air-sea interaction process. All data were subject to quality control in order to detect any unrealistic value check prior to analysis. The quality of fast-response (10Hz) data collected from an open ocean research platform was controlled using algorithms of Vickers and Mahrt (1997) and Oh et al. (2010). Quality controlled sensible, latent heat fluxes and radiative fluxes were examined to analysis of microphysical structure of fog cases. Detailed results will be shown at the conference.