

## Observations of spiciness anomaly propagation in the North and South Pacific

SASAKI, Yoshinori<sup>1\*</sup>

<sup>1</sup>Faculty of Science, Hokkaido University

Subduction and propagation of density-compensated (warm/salty or cool/fresh) temperature and salinity water-mass perturbations on isopycnals, referred to as spiciness anomalies, from the mid-latitude region to the equatorial region have been hypothesized to play an important role in decadal variability in the Pacific region. Recent increase of Argo profiles reveals propagation of spiciness anomalies on isopycnals from both the North and South Pacific to the equatorial Pacific on decadal timescales. In this talk we review our and previous studies that reported propagation of spiciness signals, and examine attenuation of spiciness anomalies on isopycnals for the period 2003-2014. It is revealed that spiciness anomalies in the South Pacific are diffused vertically in the course of the propagation, but still propagate equatorward. In addition, we also discuss the influence of anomalous advection across horizontal salinity gradient over isopycnals on spiciness anomaly generation.

**Keywords:** spiciness, subduction, Argo float, decadal variability, Pacific Ocean