

# **Change in the relationship of Kuroshio transport and North Pacific Oscillation** and its impact on East Asian marginal SST

### Summary

The marginal sea around East Asia has the largest tendency of sea surface temperature (SST) increase. Recently, it is found that the center of the North Pacific Oscillation (NPO) moves eastward. The relationship between NPO and EAWM/NINO3.4 becomes insignificant. It is assumed that the SST in the tropical Pacific Ocean before the end of 1990s. The relationship between the East Asia marginal SST and EAWM becomes insignificant as the contribution of NPO on EAWM is disappeared. Besides, the Kuroshio Transport Index (KTI) has become to be related with the SST variability in the East China Sea since early 2000s. KTI had a significant relationship with the East Asian marginal SSTs before mid of 1990s. In addition, KTI becomes uncorrelated with the SST in the East Sea. It is assumed that recently strengthened relationship between NPO and KTI contributes on the variability of the East Asian marginal SST.

- : OAFlux(1x1), GODAS(1x0.3), NCEP(2.5x2.5)







150°W

120°W

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East Sea, and East China Sea for the previous period (1980-1997) period (1997-2015).



98-15

-0.10

0.16

0.60\*

80-97

-0.61\*

0.52\*

0.36

he	Yel	low	sea,
<b>'</b> )	and	the	post

red line indicates statistical significant above the 95%.



## **3. Future works**





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	80-94	95-04	05-15
YS	0.58*	-0.05	0.20
ECS	0.59*	-0.03	0.61*
ES	0.76*	0.51	0.09

Table 4. The correlation coefficient between KTI and SSTs in the Yellow sea, East Sea, and East China Sea for the different periods for (a)

> Investigating the mechanism between KTI and NPO associated with the East Asia marginal SST > Analyzing the tropical forcing by model simulation before and after end of 1990

