

The Fourth Session of East Asian winter Climate Outlook Forum

# Outlook of 2016/2017 East Asia Winter Monsoon Using PNU CGCM

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Pusan National University, S. Korea*

*Nov 8-9, 2016  
Ulaanbaatar, Mongolia*

# Hit Rate

## DEC

ave : 0.43

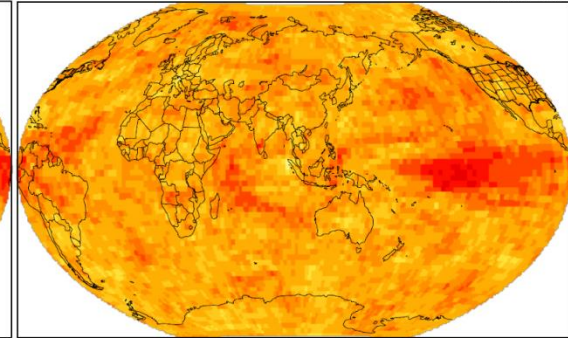
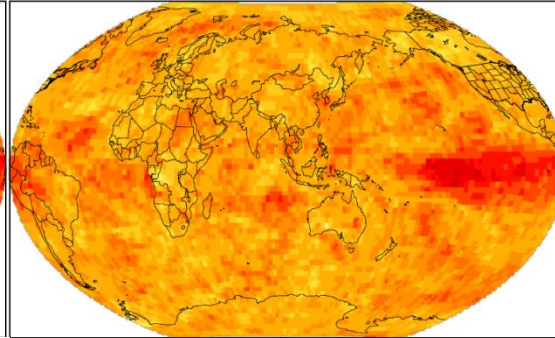
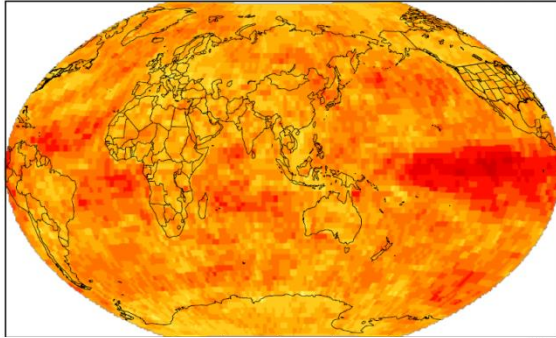
## JAN

ave : 0.40

## FEB

ave : 0.39

T2M

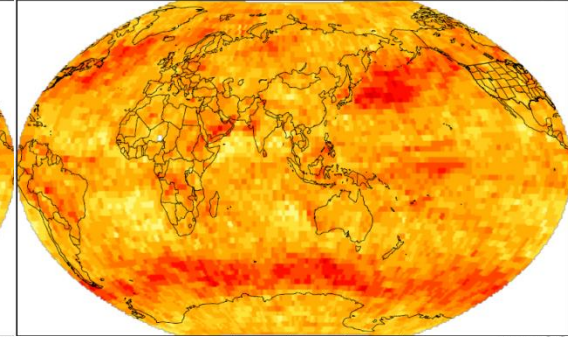
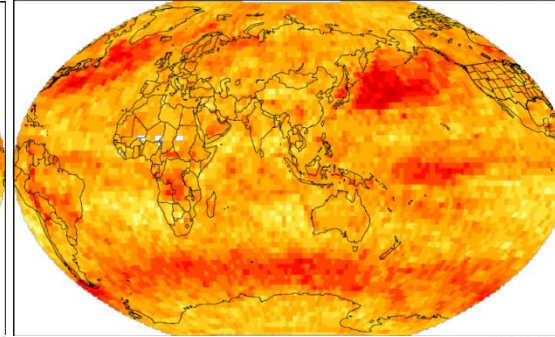
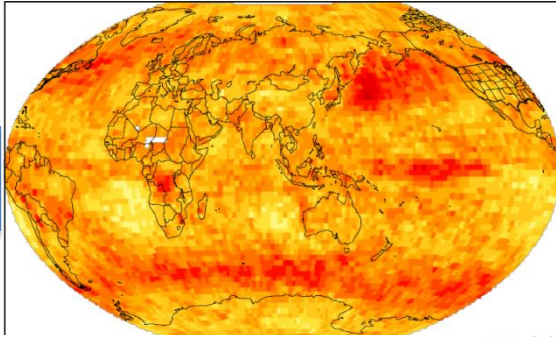


ave : 0.39

ave : 0.39

ave : 0.38

PRCP

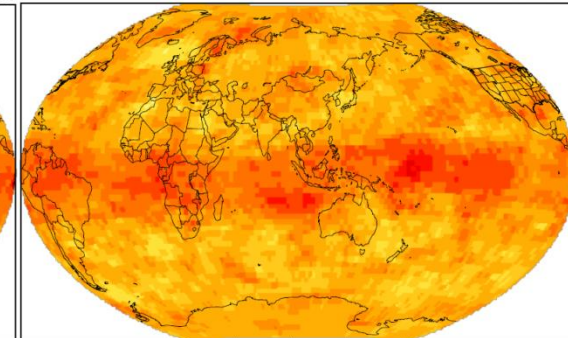
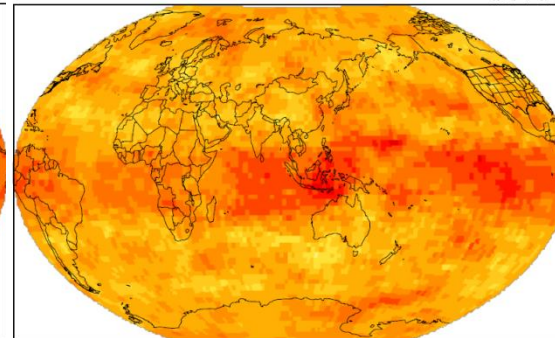
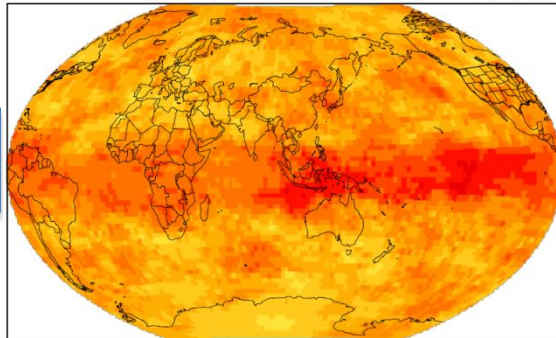


ave : 0.42

ave : 0.40

ave : 0.39

Z500



0° 90°E 180° 90°W

0° 90°E 180° 90°W

0° 90°E 180° 90°W





# Heidke Skill Score

**DEC**

**JAN**

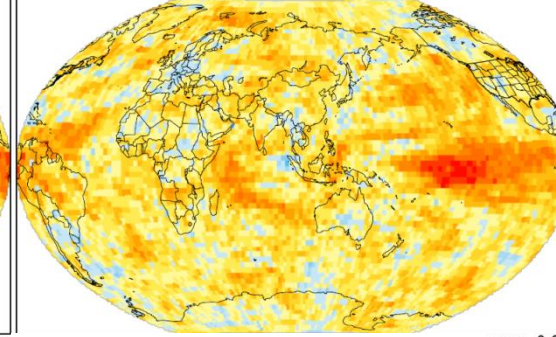
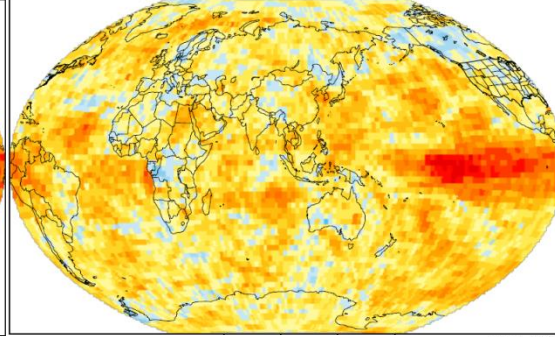
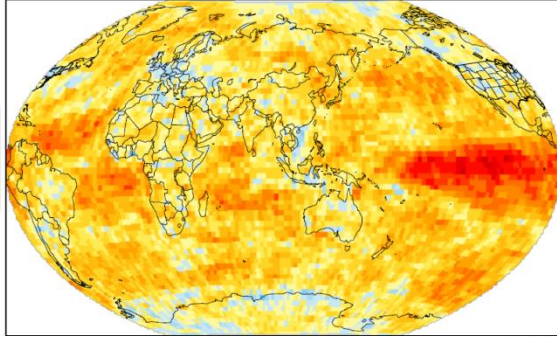
**FEB**

ave : 0.13

ave : 0.10

ave : 0.08

T2M

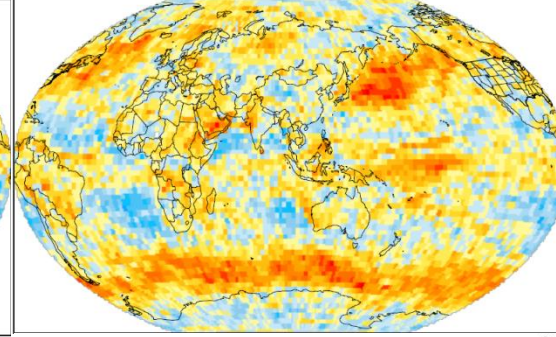
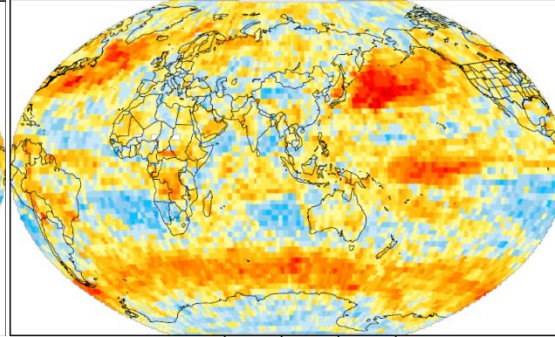
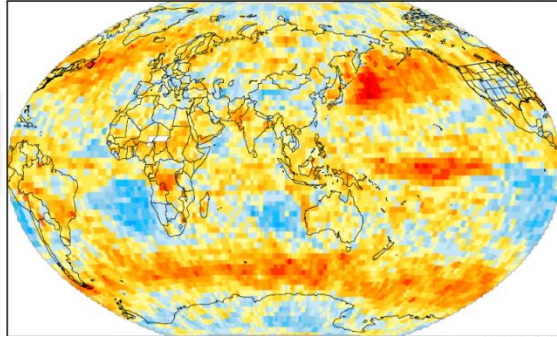


ave : 0.04

ave : 0.04

ave : 0.02

PRCP

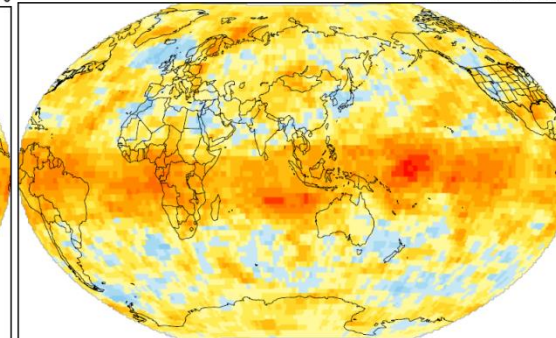
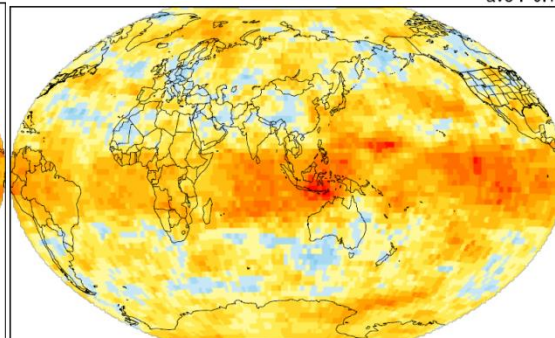
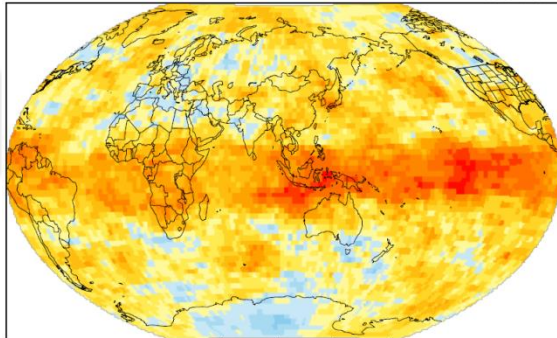


ave : 0.11

ave : 0.10

ave : 0.08

Z500



0° 90°E 180° 90°W

0° 90°E 180° 90°W

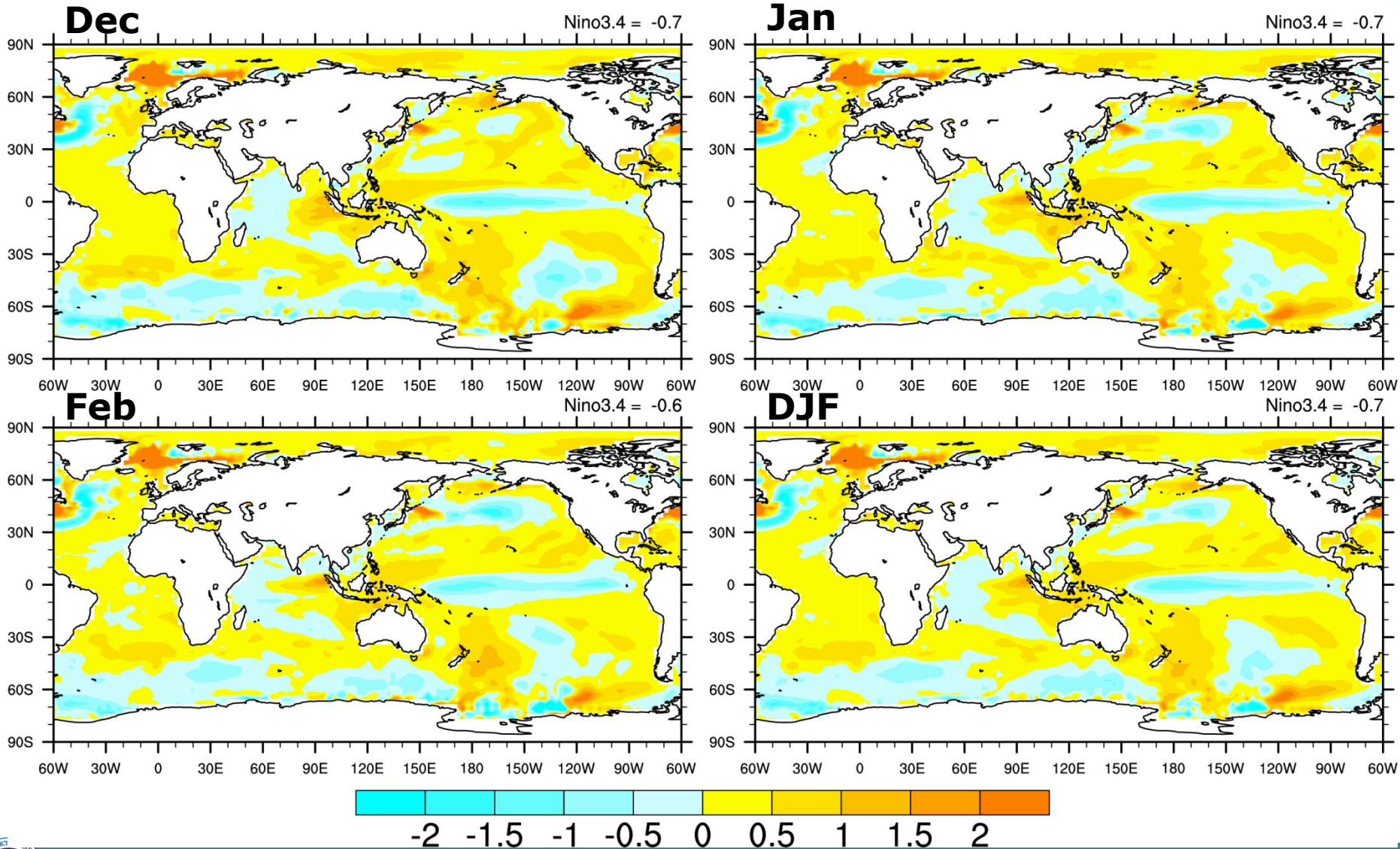
0° 90°E 180° 90°W



# **Outlook of 2016/2017 Winter Prediction**



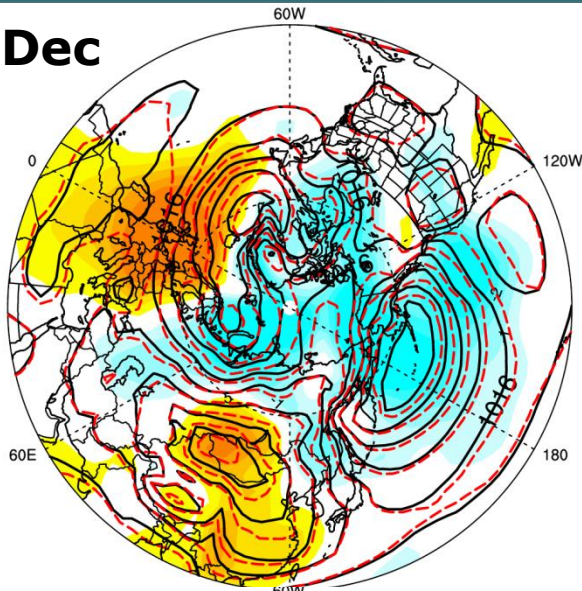
# SST Anomaly Prediction (3-5 Month Lead) for Winter 2016/17



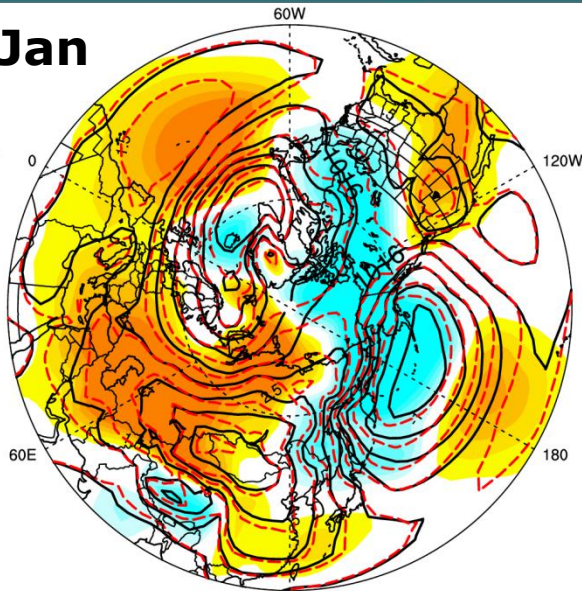


# SLP Anomaly Prediction (3-5 Month Lead) for Winter 2016/17

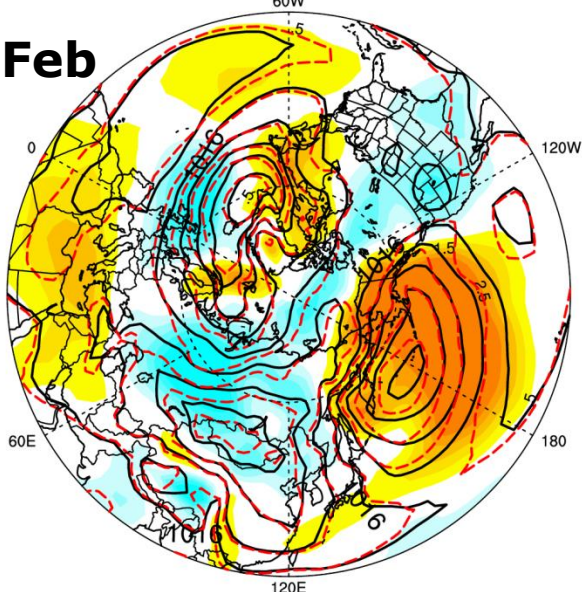
**Dec**



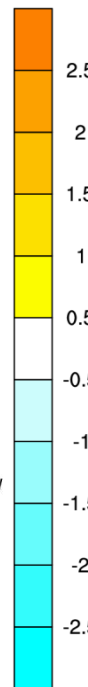
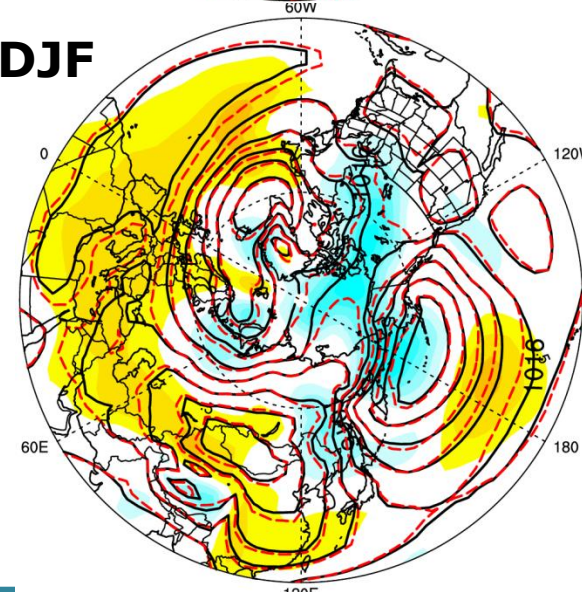
**Jan**



**Feb**



**DJF**



	PC
AO	0.27
PNA	0.11
WP	0.53

	PC
AO	0.10
PNA	-0.06
WP	0.37

	PC
AO	0.42
PNA	0.31
WP	-0.06

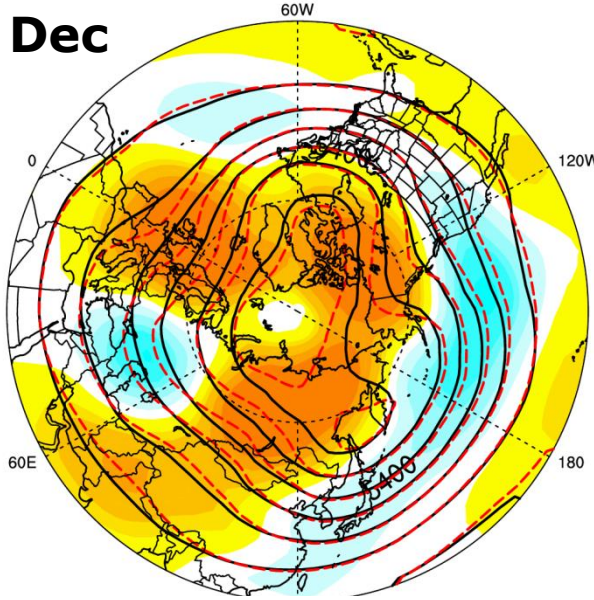
	PC
AO	0.45
PNA	0.18
WP	0.56



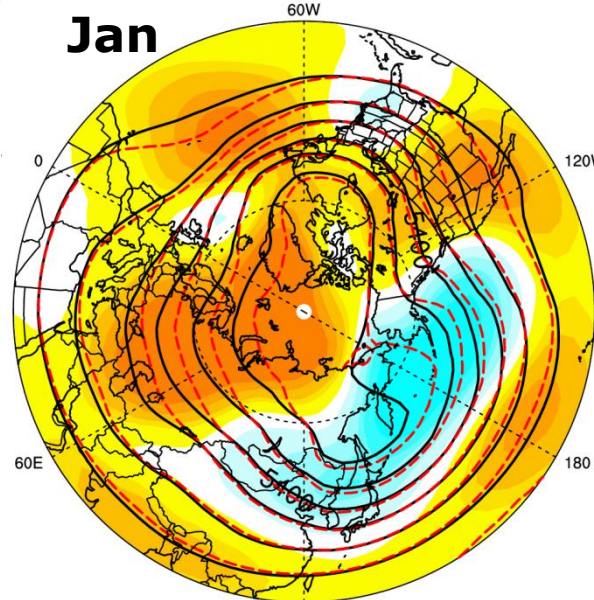


# 500hPa Geopotential Height Prediction (3-5 Month Lead) for Winter 2016/17

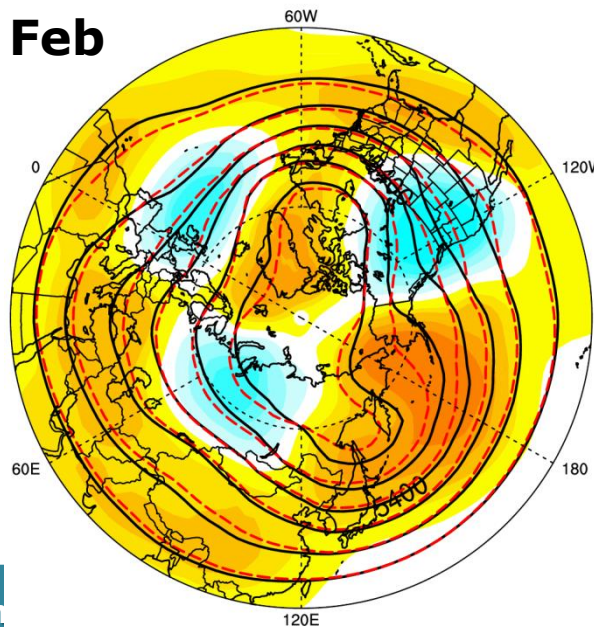
**Dec**



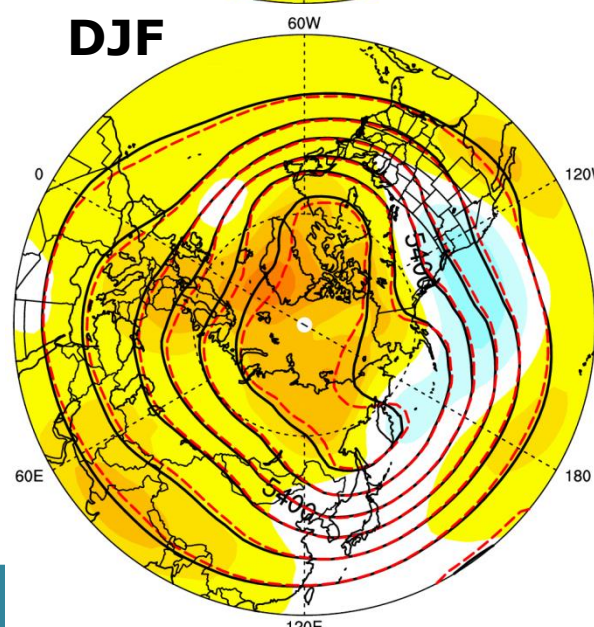
**Jan**



**Feb**



**DJF**



	PC
AO	-0.41
PNA	-0.31

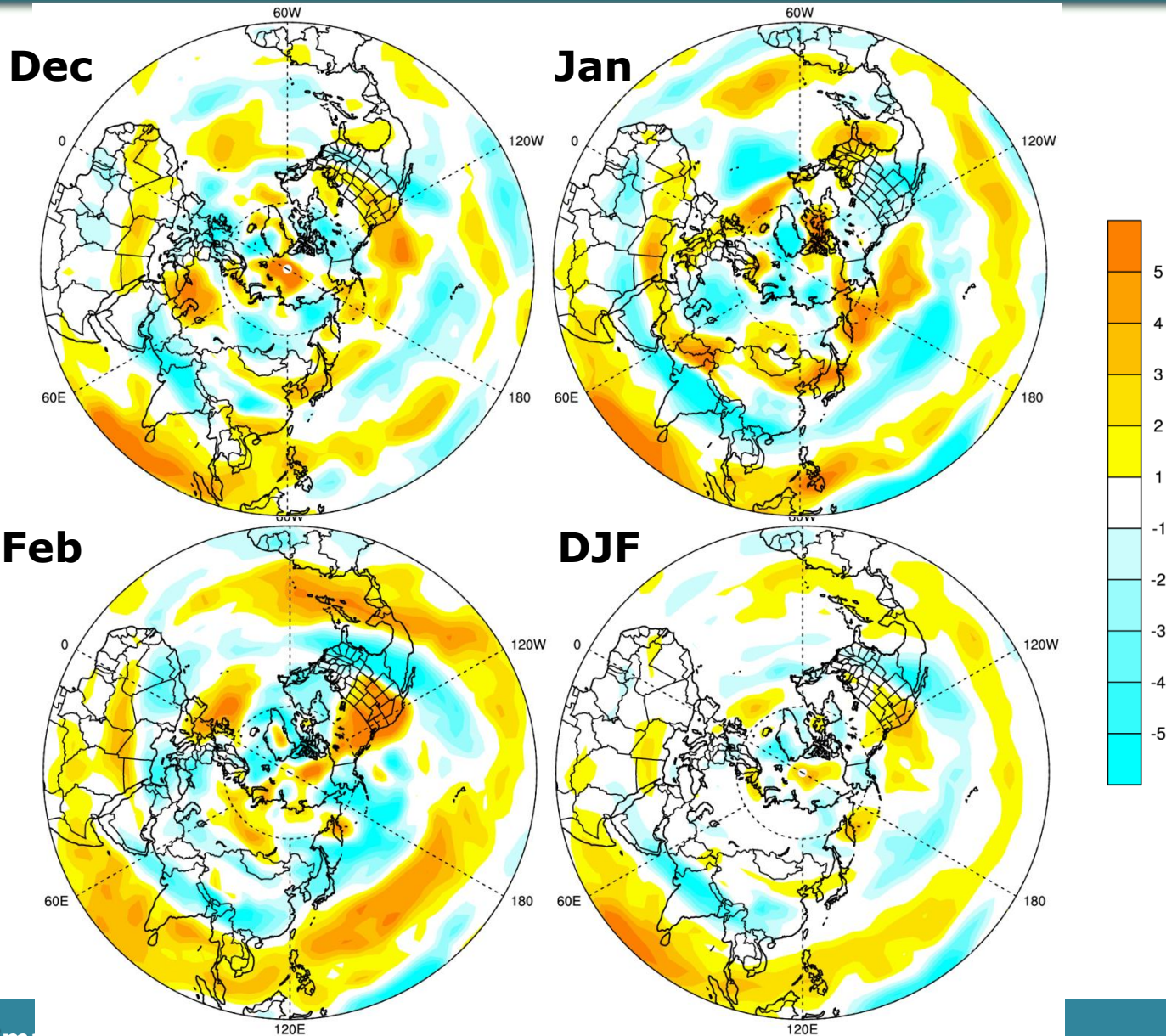
	PC
AO	-0.35
PNA	-0.31

	PC
AO	-0.31
PNA	0.09

	PC
AO	-0.62
PNA	-0.22

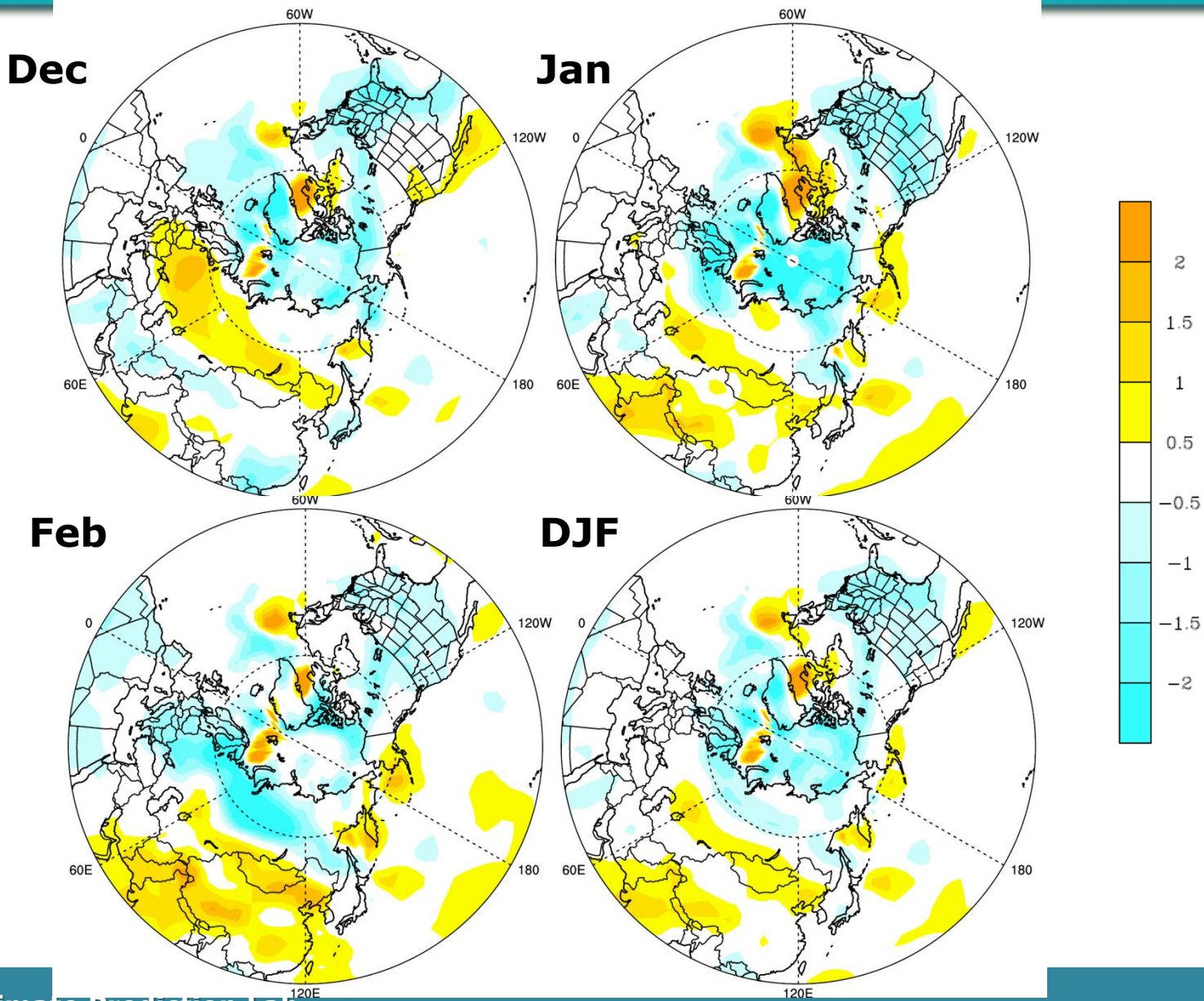


# 500hPa Vorticity Anomaly Prediction (3-5 Month Lead) for Winter 2016/17



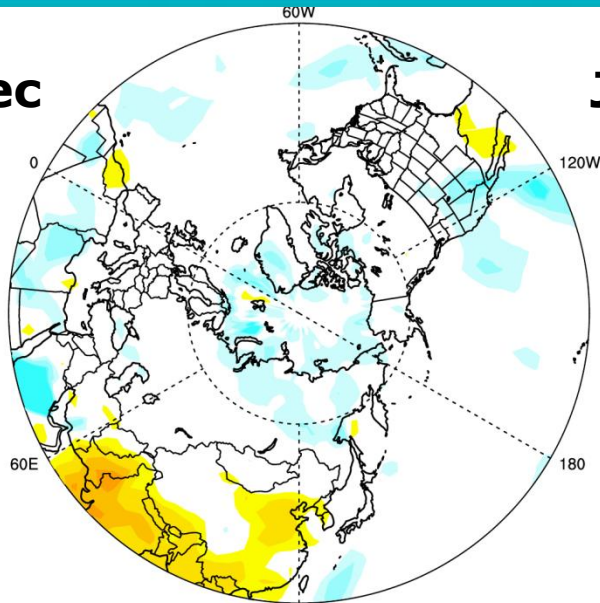


# Tsfc Anomaly Prediction (3-5 Month Lead) for Winter 2016/17

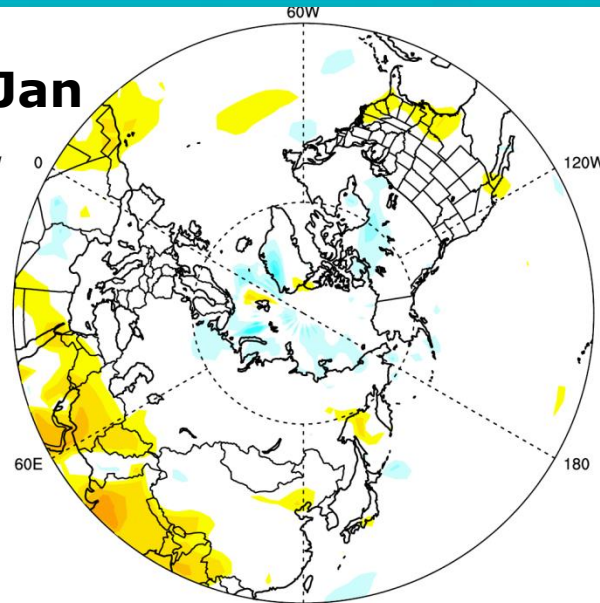


# PRCP Anomaly Prediction (3-7 Month Lead) for Winter 2016/17

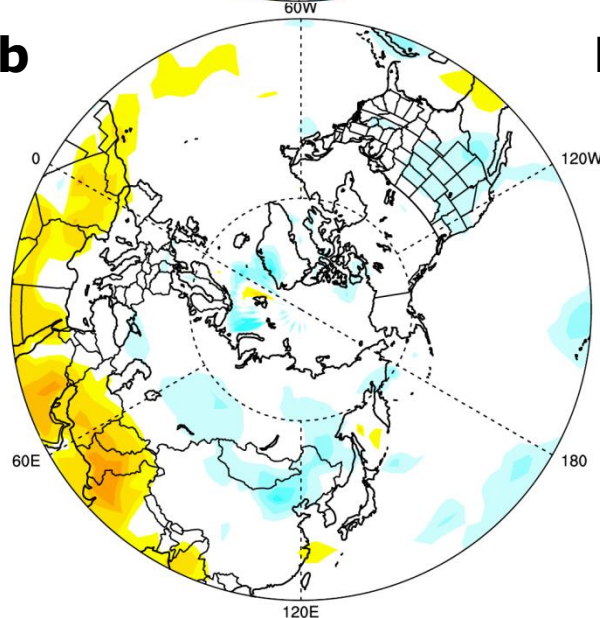
**Dec**



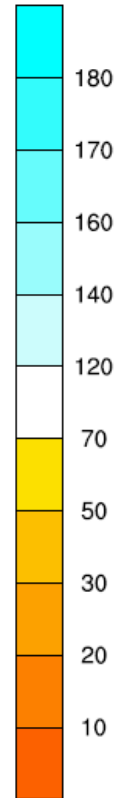
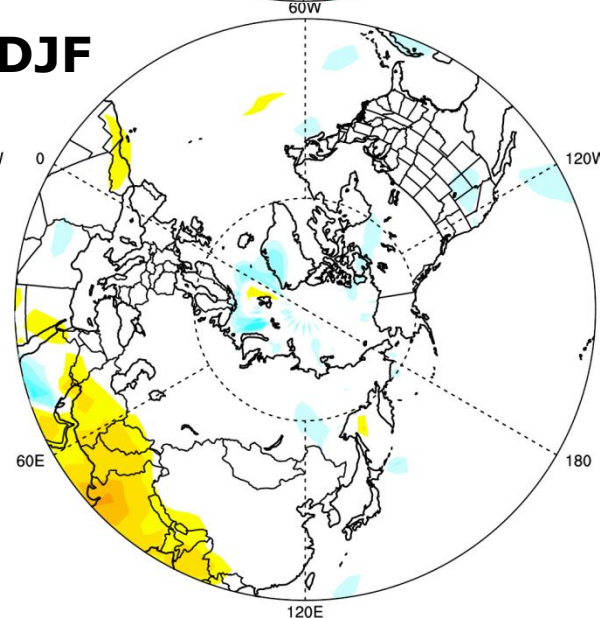
**Jan**



**Feb**



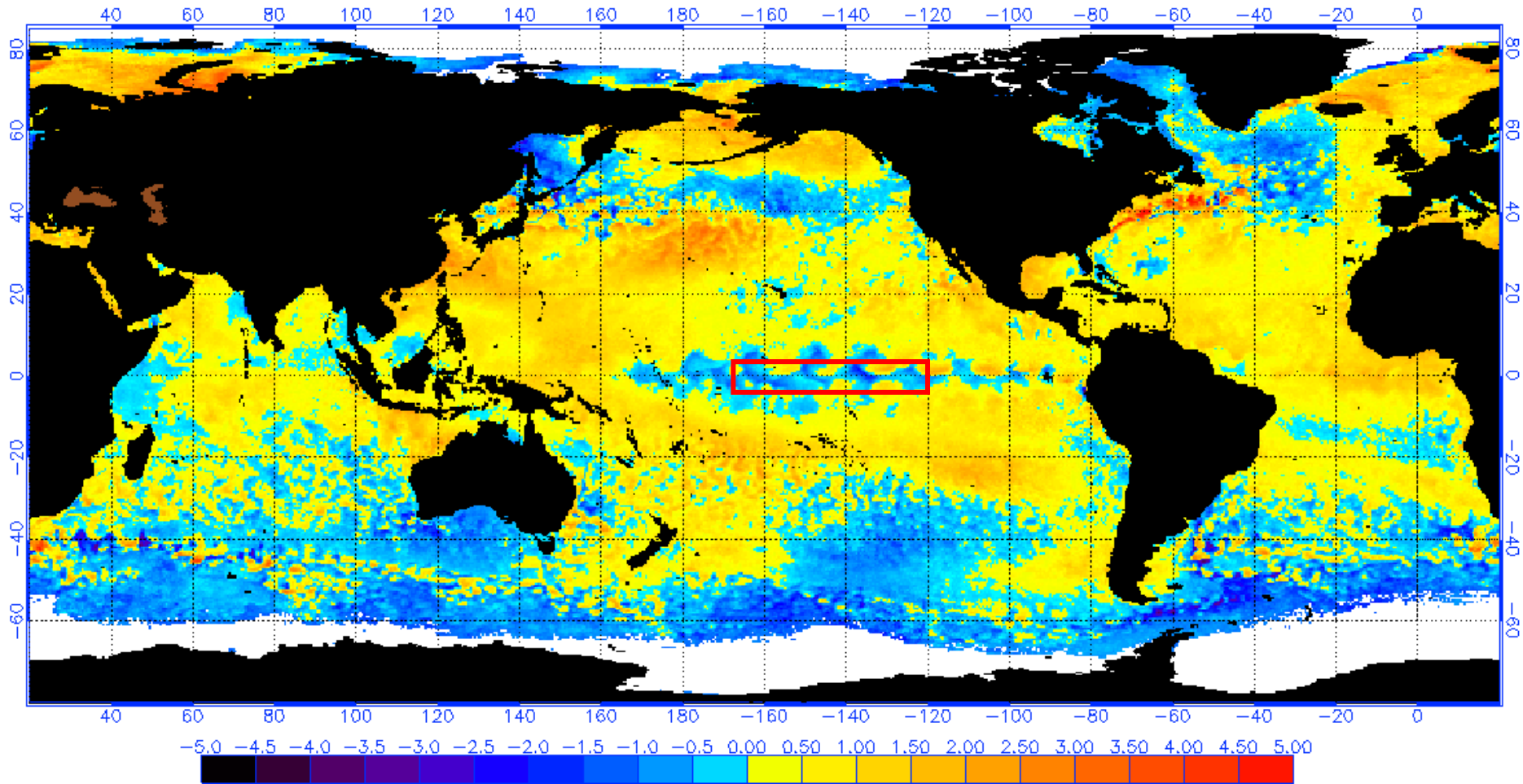
**DJF**



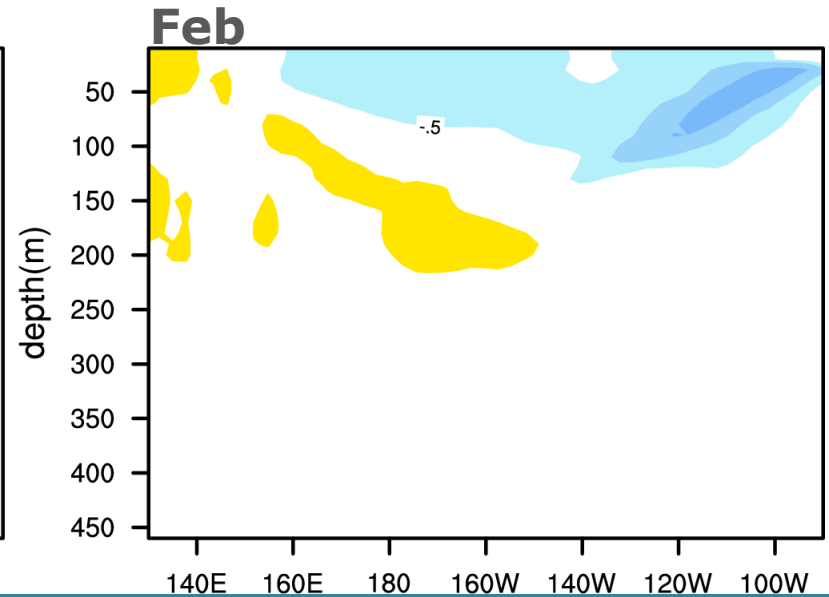
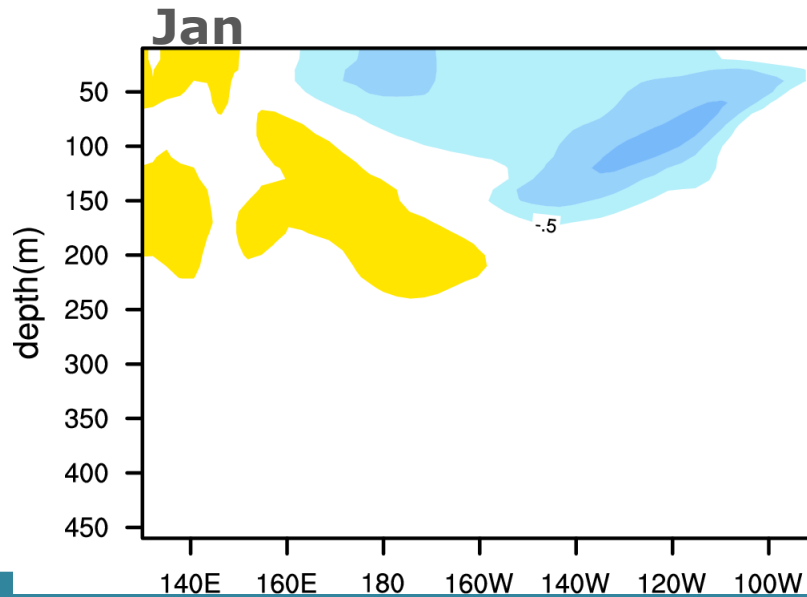
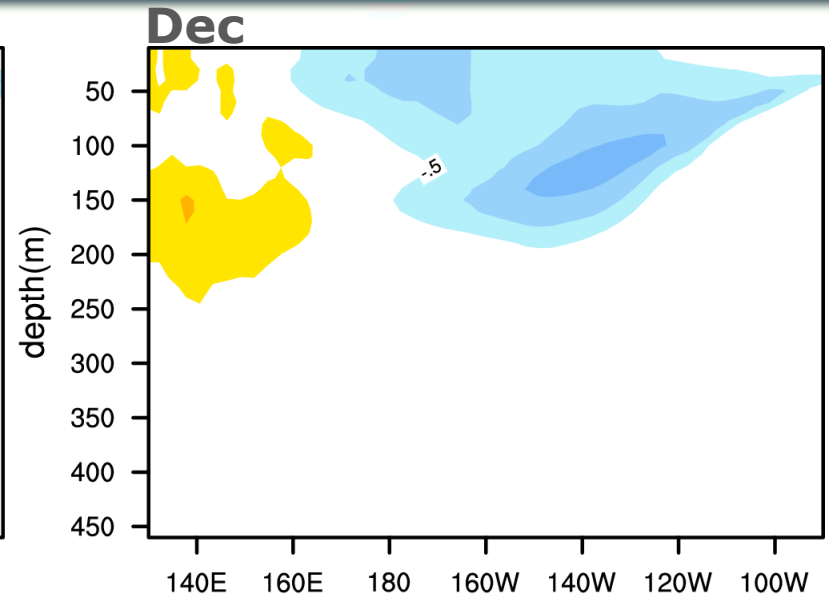
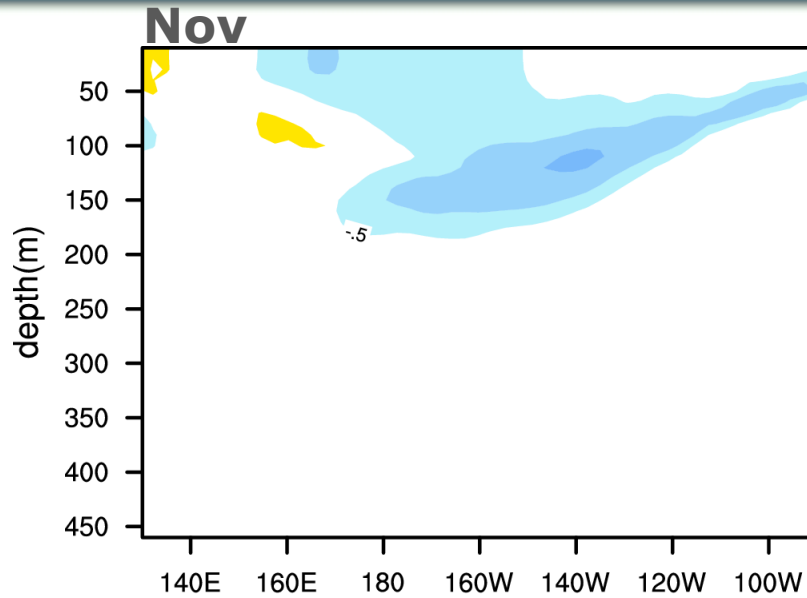


# Current SST Anomaly

NOAA/NESDIS 50 KM GLOBAL ANALYSIS: SST Anomaly (degrees C), 10/27/2016  
(white regions indicate sea-ice)



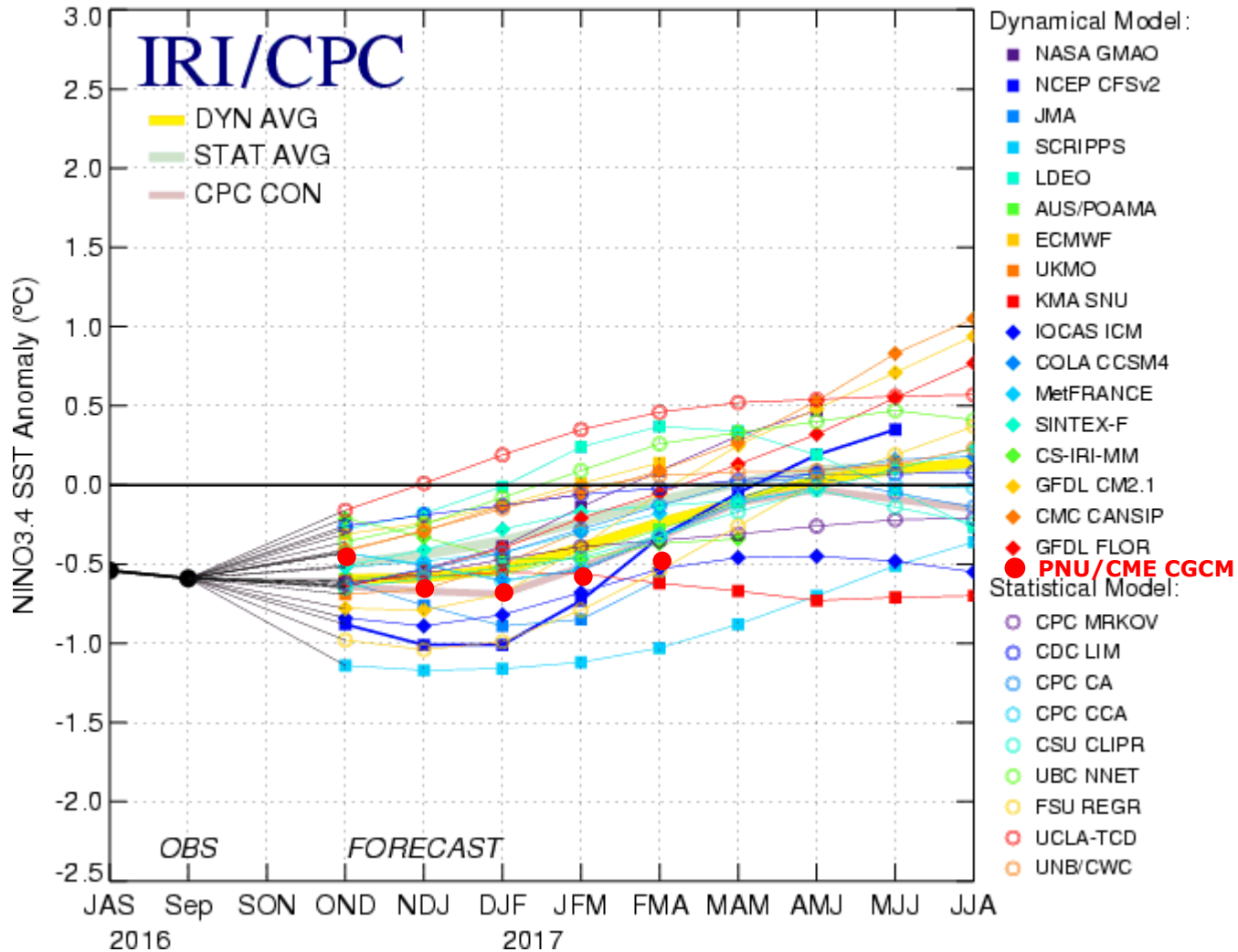
# Vertical profile of SST anomaly for winter 2016/2017





# El Nino/La Nina Prediction for Winter 2016/17

## Mid-Oct 2016 Plume of Model ENSO Predictions



# Dynamical PNU Prediction for Winter 2016/2017

		Temperature (°C)				Precipitation (%)			
		Dec	Jan	Feb	DJF	Dec	Jan	Feb	DJF
China	Northern	0	0	+/0	0	0/-	0/-	0/+	0
	Central	0	0	+/0	0	0/-	0	0	0
	Southern	0/-	0/+	+/0	0	0/-	0	+/0	0
	Western	0/-	+	+/0	+/0	0	0	0	0
Japan	Southwest	0	0	0	0	0	0	0	0
	Northeast	0	+/0	0	0	0	0	0	0
Mongolia		0	+/0	+	+/0	0	0	+/0	0
Korea	Northern	0	+	+/0	0	0/-	0	0	0
	Southern	0	0	0	0	0	0	0	0

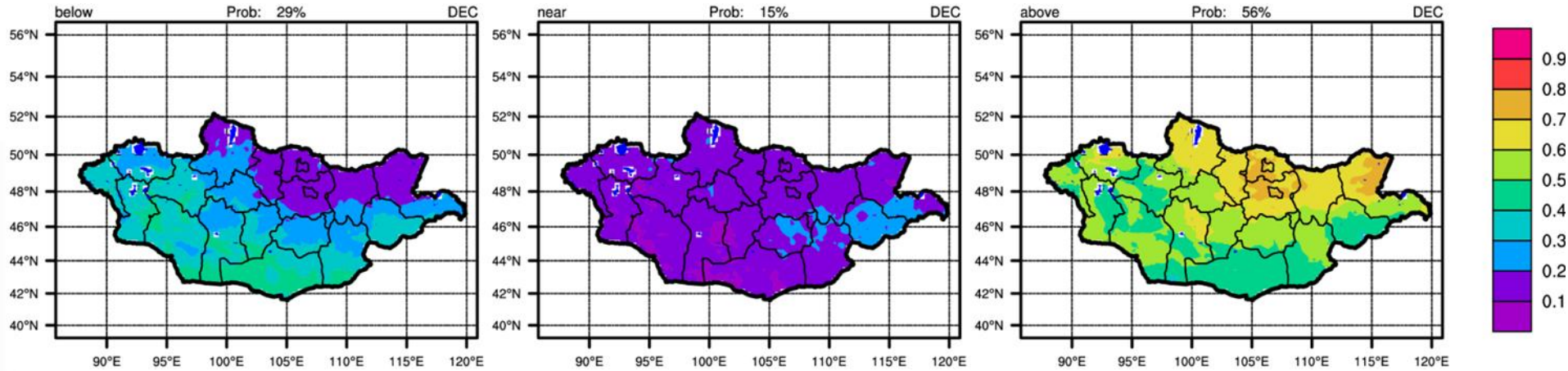


The background of the slide is a vibrant blue sky filled with soft, white, fluffy clouds. The clouds are scattered across the lower two-thirds of the image, creating a sense of depth and atmosphere. The top third of the image is a solid, slightly darker blue gradient that transitions into the sky below.

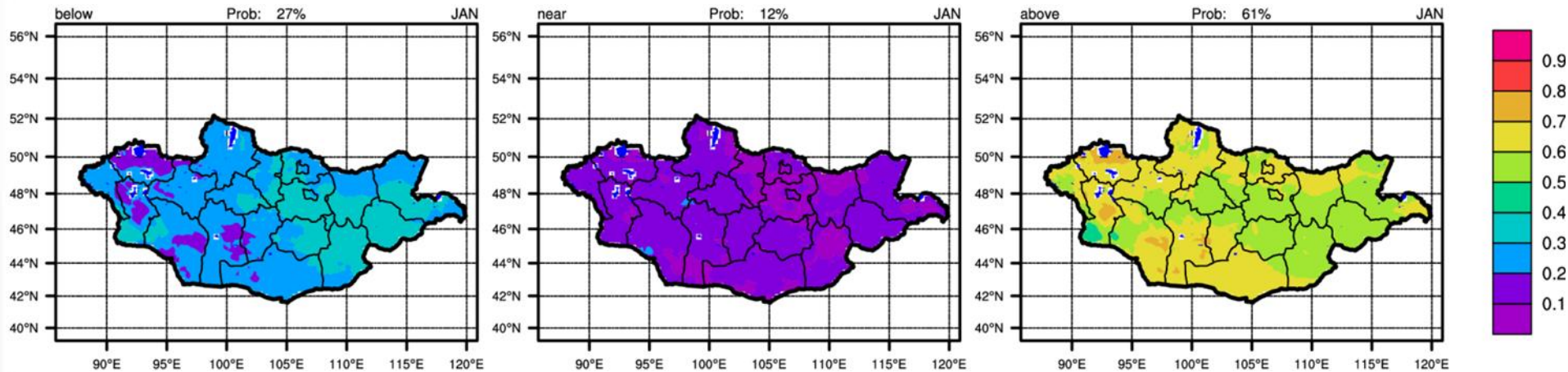
# **Temperature Prediction of 2016/2017 based on statistical downscaling over Mongolia**

# Temperature probability over Mongolia for Winter 2016/17

## Dec



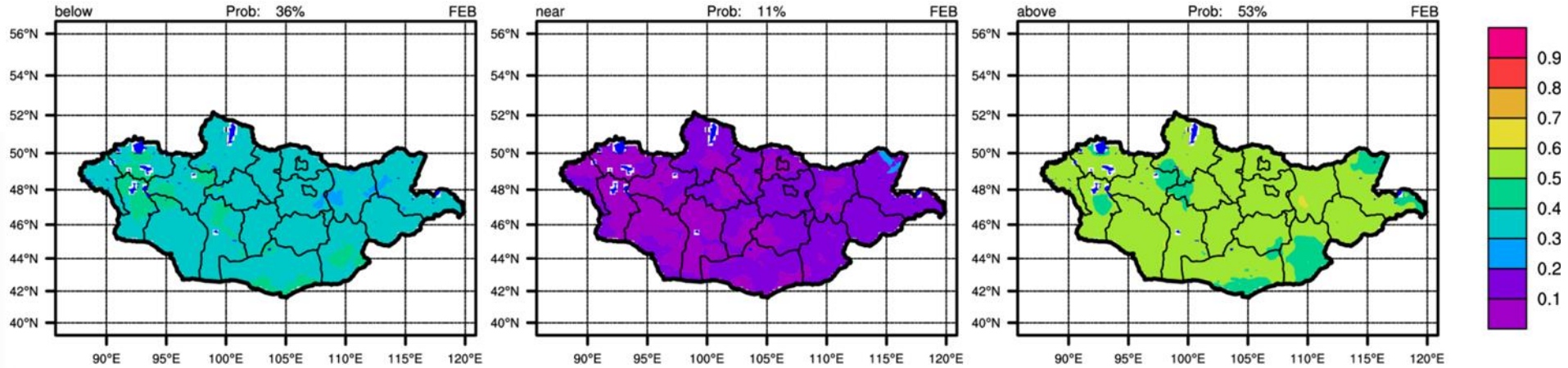
## Jan



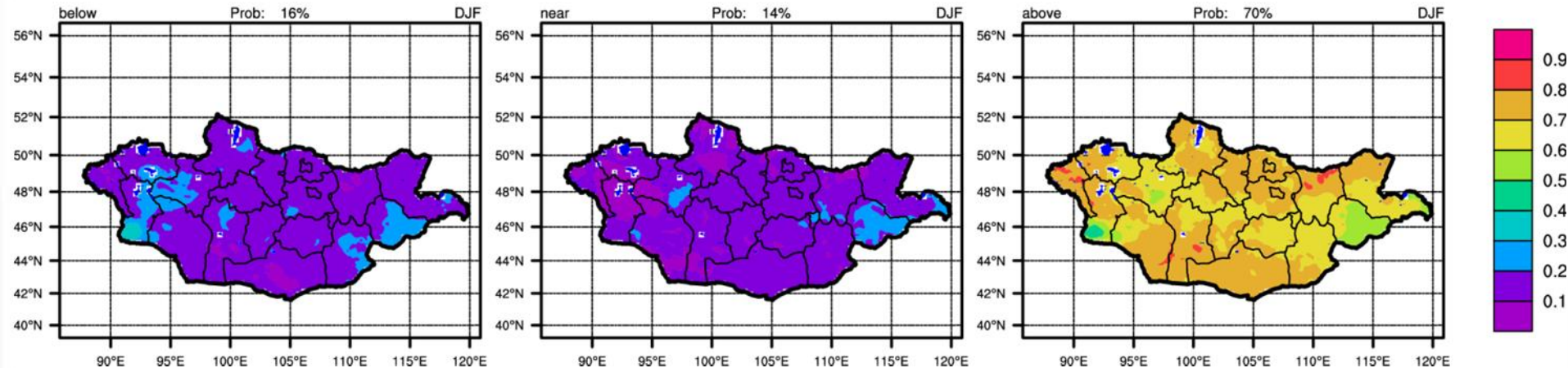


# Temperature probability over Mongolia for Winter 2016/17

## Feb



## DJF



**Thank you!**