



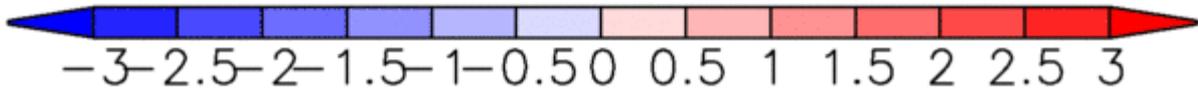
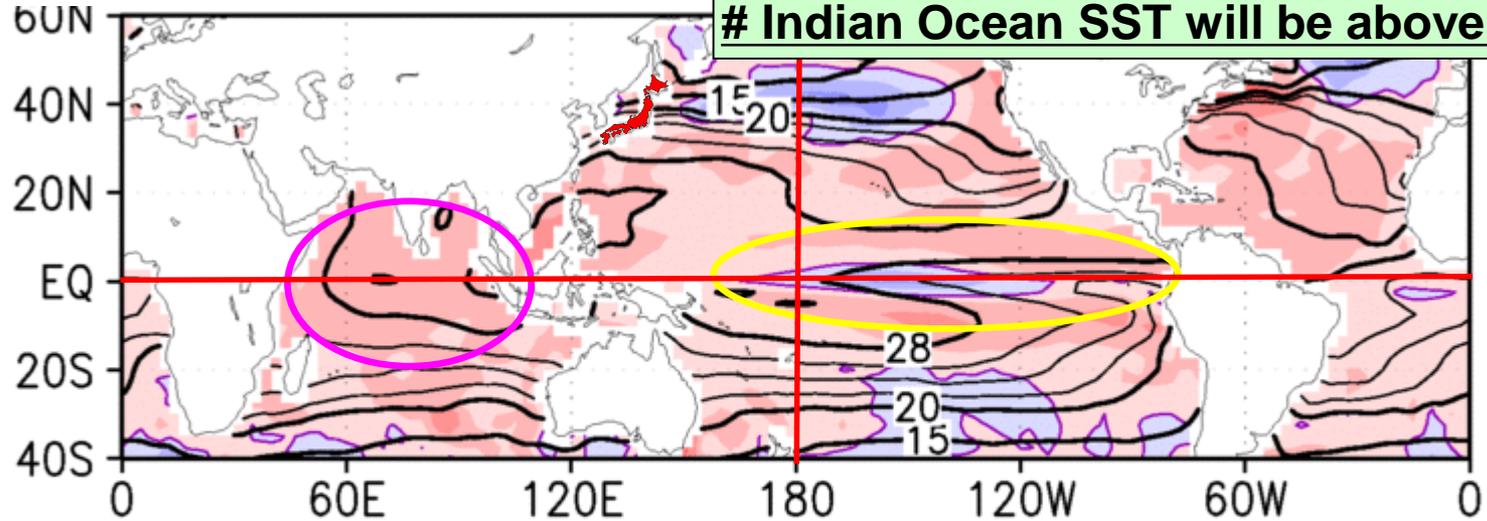
Seasonal outlook for summer 2016 over Japan

Tadayuki OKUBO
Senior Forecaster
Tokyo Climate Center
Japan Meteorological Agency

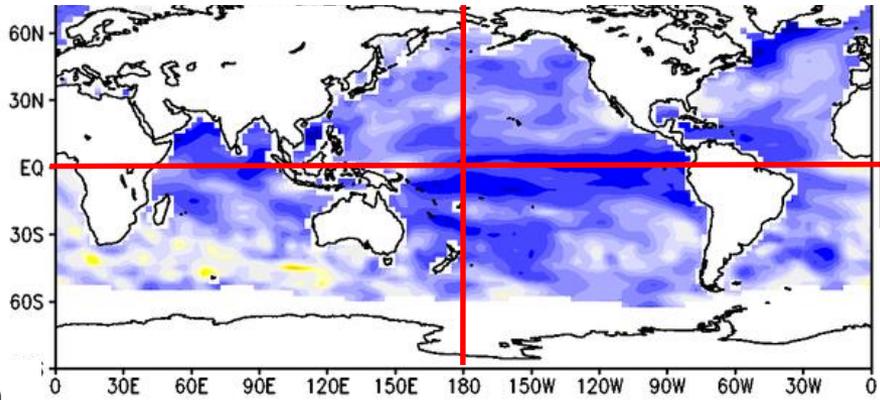
Predicted oceanic conditions in JJA 2016

SST anomalies

El Niño conditions will be neutral.
Indian Ocean SST will be above normal.

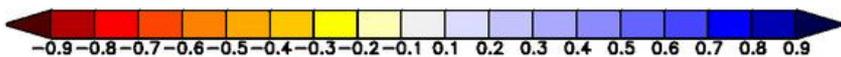


Prediction accuracy (verification result by the 30-year hindcast)

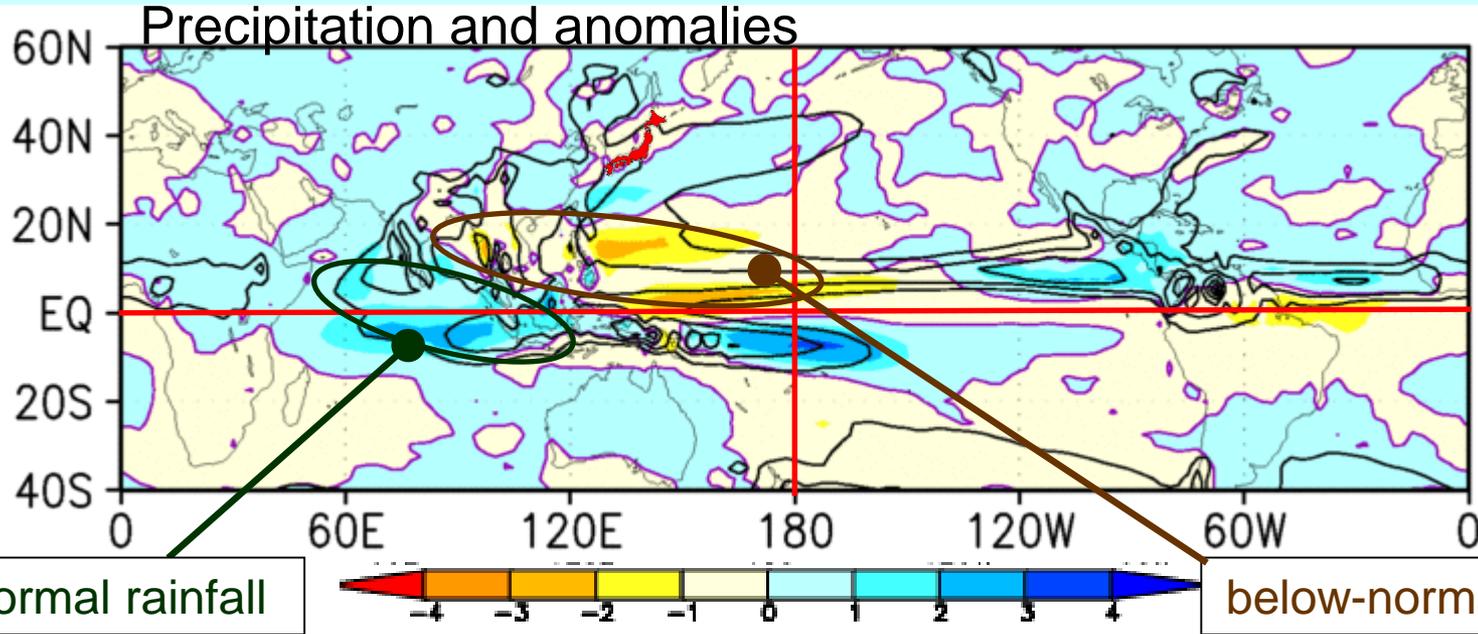


In the tropical region prediction skill is pretty good.

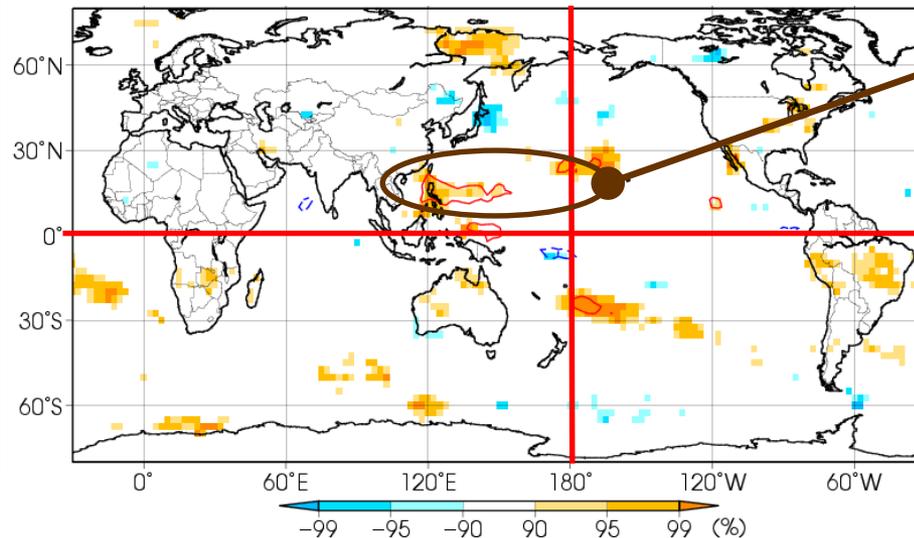
Anomaly correlation coefficients



Predicted sub-tropical circulation in JJA 2016



Indian Ocean SSTs warm composite OLR anomalies



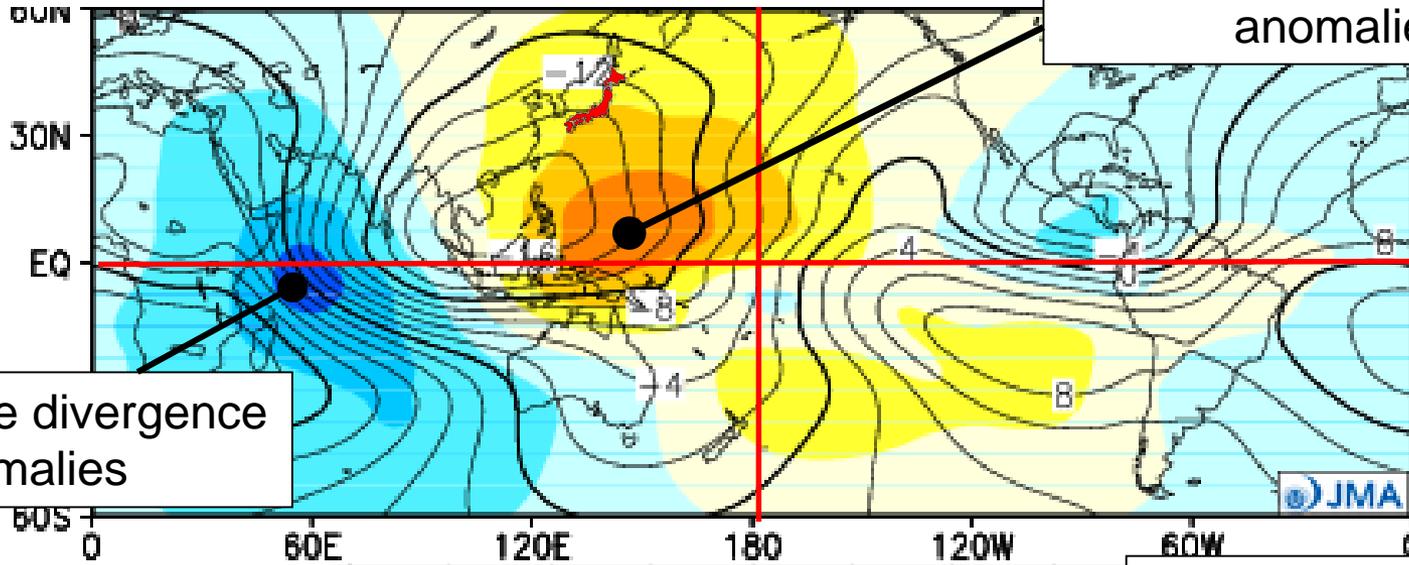
The contours show composite anomalies at intervals of 5 W/m².
 The shading indicates confidence level.
 The base period for the normal and the composite analysis is 1979 - 2012,

A distribution of precipitation anomalies show typical patterns which were observed when Indian Ocean SSTs warm occurred.

Predicted sub-tropical circulation in JJA 2016

200hPa velocity potential and anomalies = 112 days *

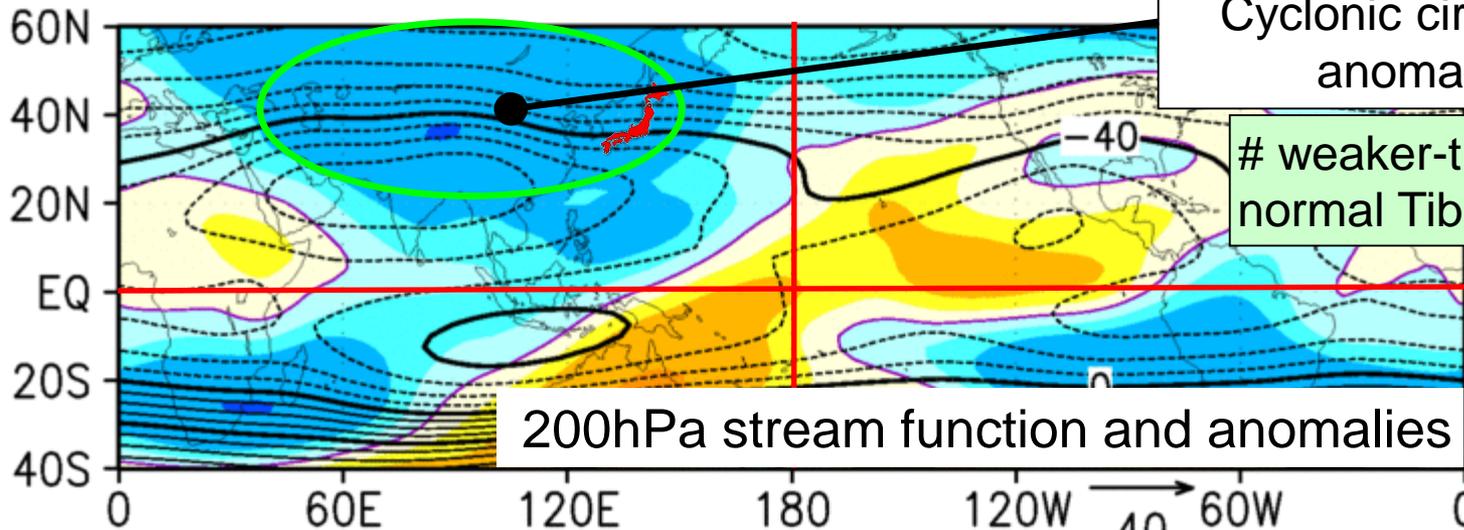
Large scale convergence anomalies



Large scale divergence anomalies

Cyclonic circulation anomalies

weaker-than-normal Tibetan High

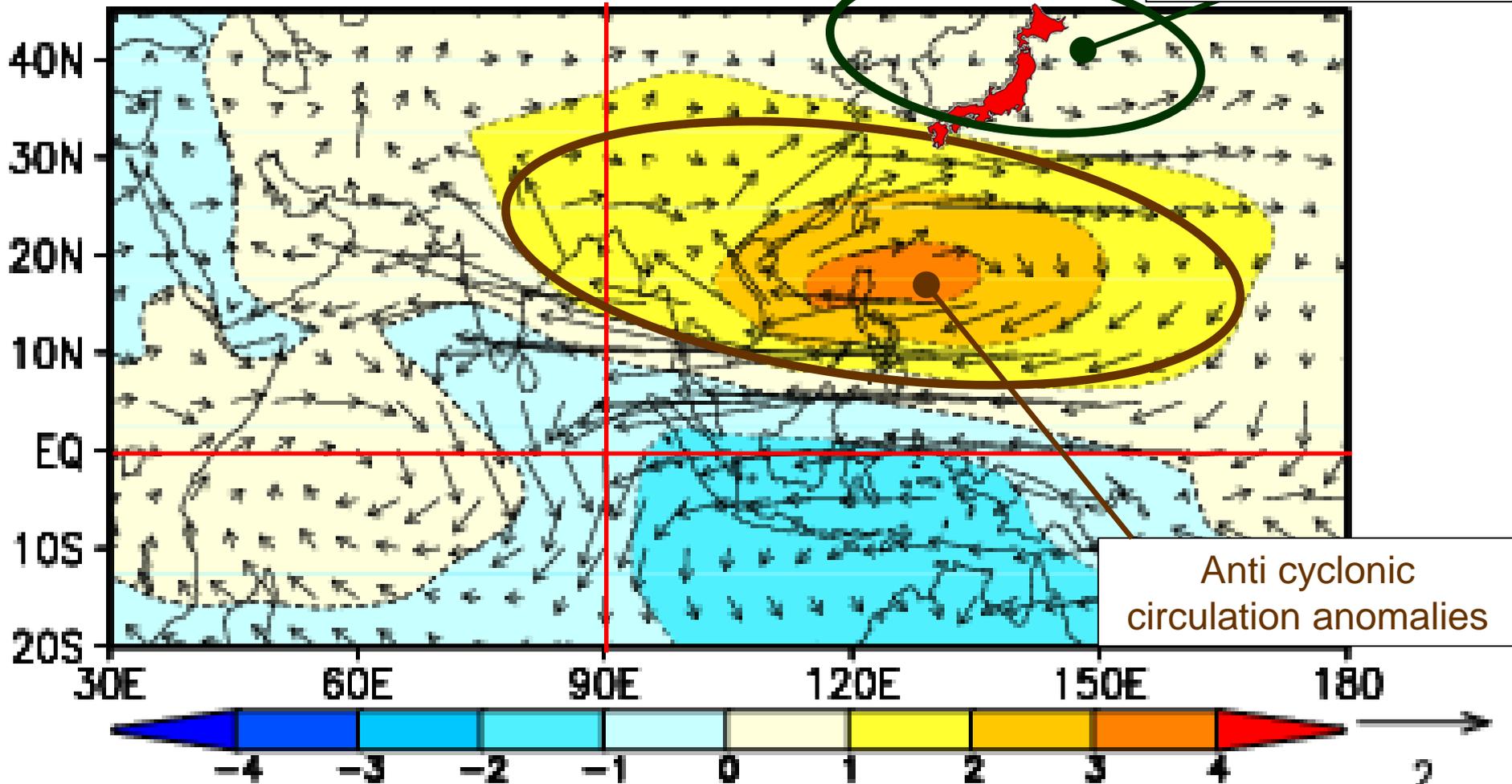


200hPa stream function and anomalies

Predicted sub-tropical circulation in JJA 2016

850hPa stream function anomalies (color shading)
and wind anomalies (vectors)

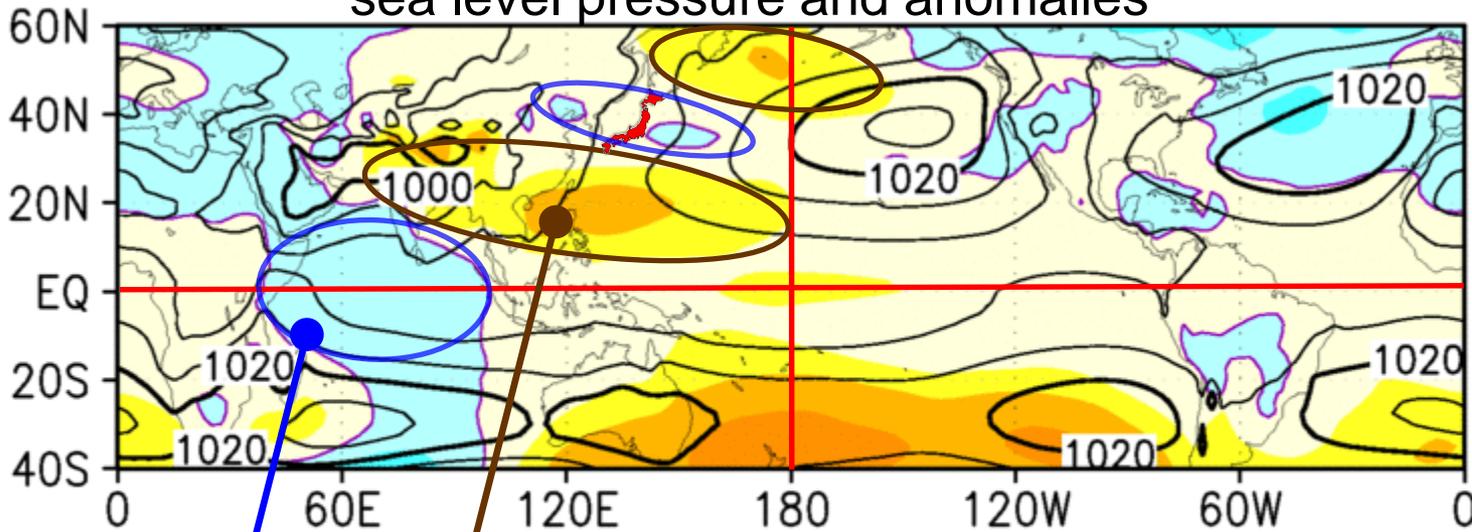
Relative cyclonic
circulation
anomalies



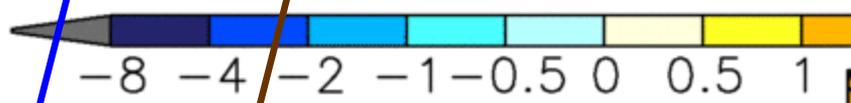
Anti cyclonic
circulation anomalies

Predicted sub-tropical circulation in JJA 2016

sea level pressure and anomalies



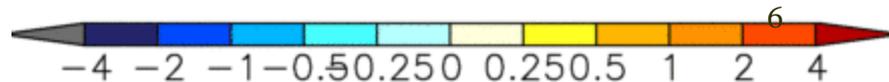
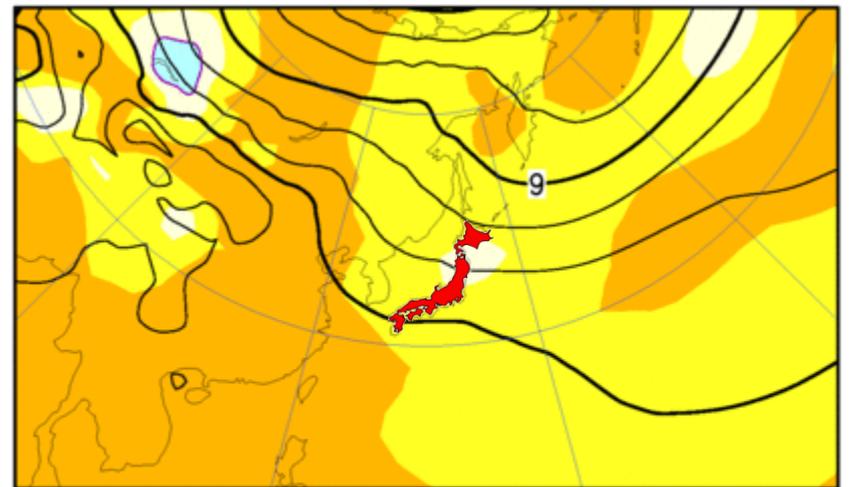
P-J pattern



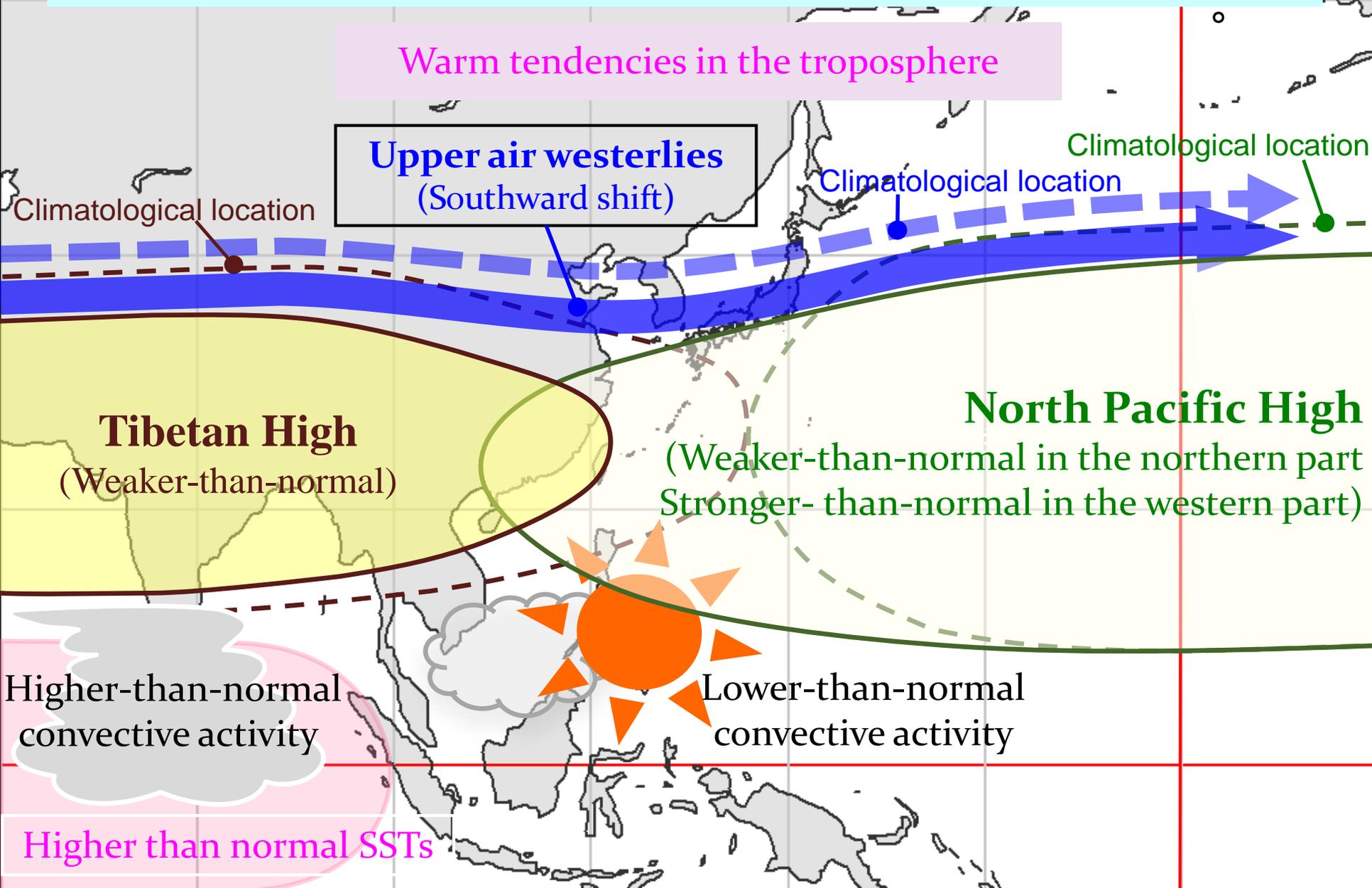
850hPa temperature and anomalies

high pressure anomaly

low pressure anomaly



Schematic chart of outlook for East Asian circulation in JJA 2016



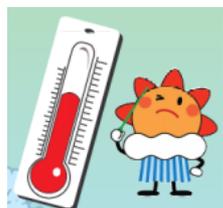
Probability forecast of seasonal mean temperature for JJA 2016 in Japan

Climatology

33	33	33
Low	Normal	High

Northern Japan

30	40	30
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Eastern Japan

20	40	40
----	----	----

Western Japan

20	30	50
----	----	----

Okinawa & Amami

10	30	60
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Probability forecast of seasonal precipitation for JJA 2016 in Japan



Climatology

33	33	33
Below normal	Normal	Above normal

Northern Japan

20	40	40
----	----	----

Western Japan

20	40	40
----	----	----

Eastern Japan

20	40	40
----	----	----

Okinawa & Amami

40	30	30
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Thank you

