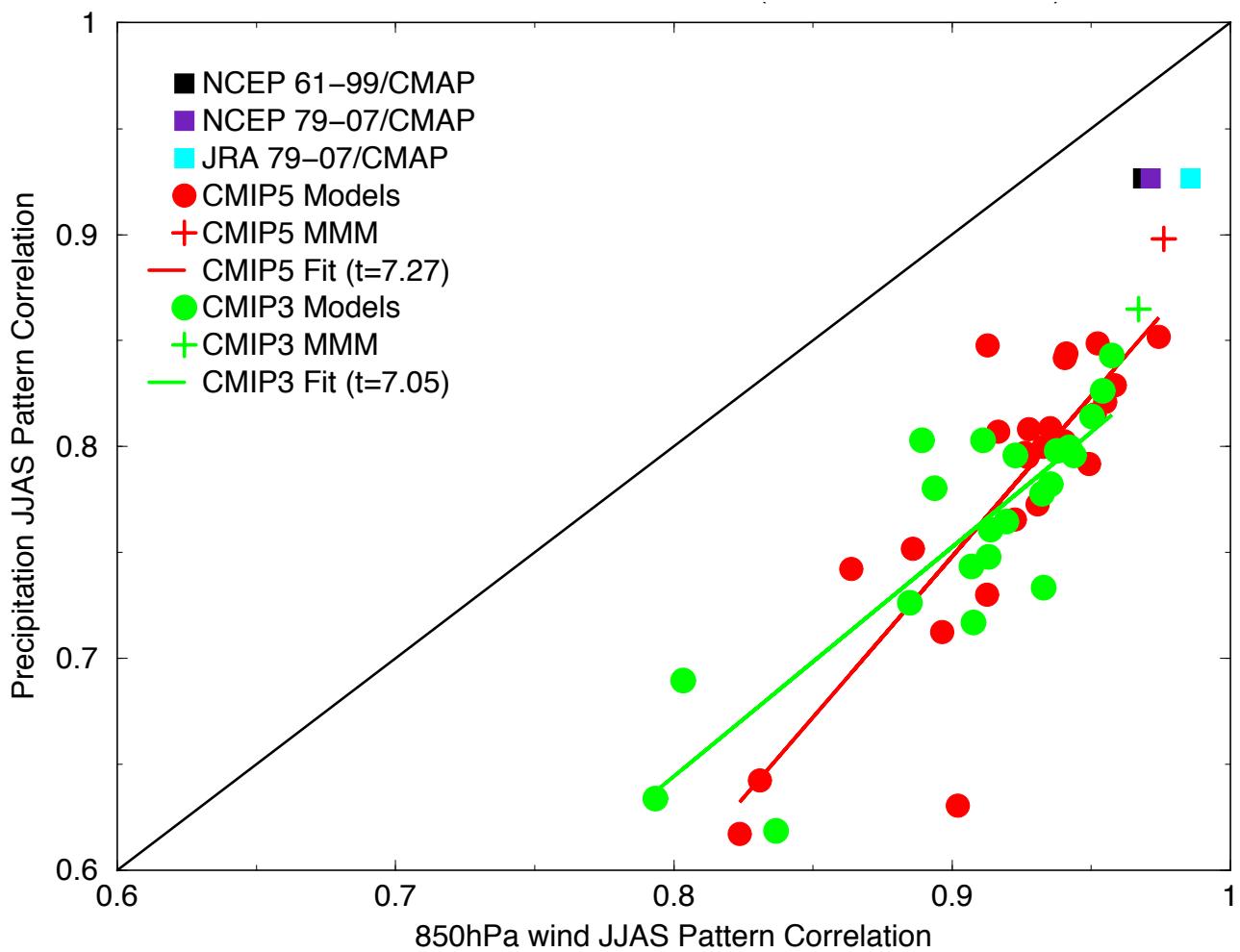
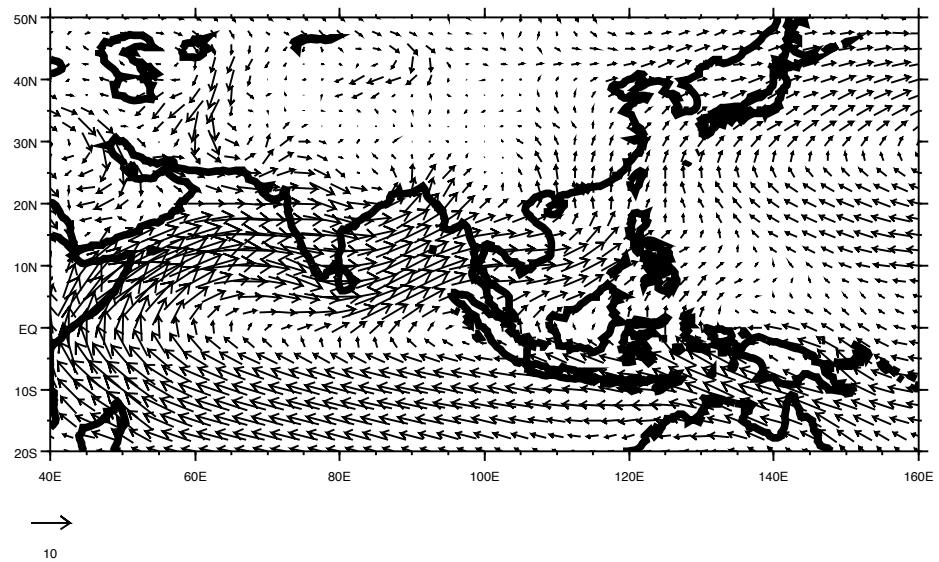


**Fig. 2** a-e JJAS 850hPa wind climatology from **a** ERA40, **b** CNRM-CM5, **c** pcm1, **d** CMIP5 MMM, and **e** CMIP3 MMM. Also given in **a** is the pattern correlation of ERA40 with JRA25, and in **b-e** are the model pattern correlations with ERA40 over the region 40°E-160°E, 20°S-50°N. (f) (JRA25) minus (ERA40), **g-j** as **b-e** but for (model) minus (ERA40). The units are ( $\text{ms}^{-1}$ ). ERA40 and the model data are from 1961-1999, and JRA25 data is from 1979-2007

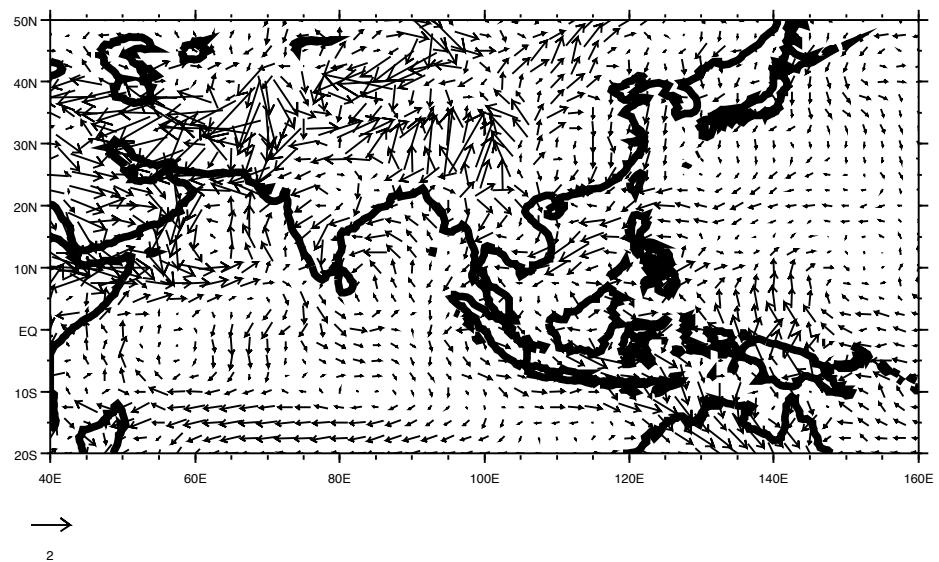


**Fig. 3** Scatterplot of the pattern correlation with observations of simulated JJAS 850hPa wind climatology vs. the pattern correlation with observations of simulated JJAS precipitation climatology. The skill is relative to ERA40 and GPCP over the region 40°E–160°E, 20°S–50°N

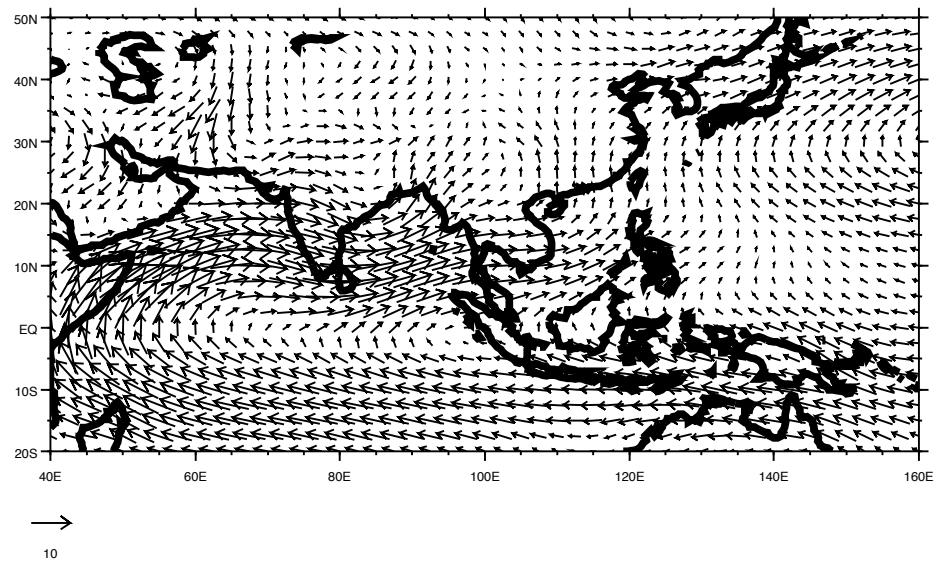
# ERA40



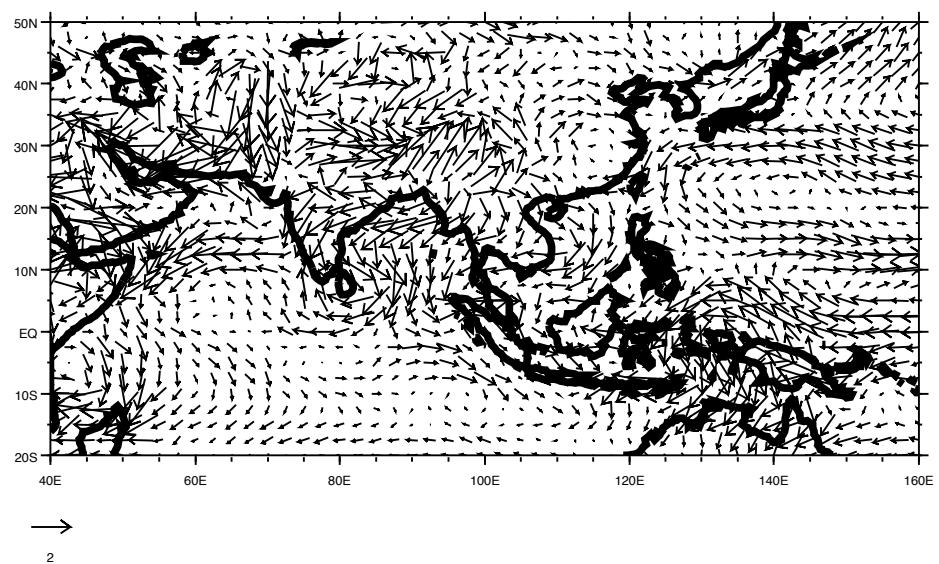
# JRA25 – ERA40



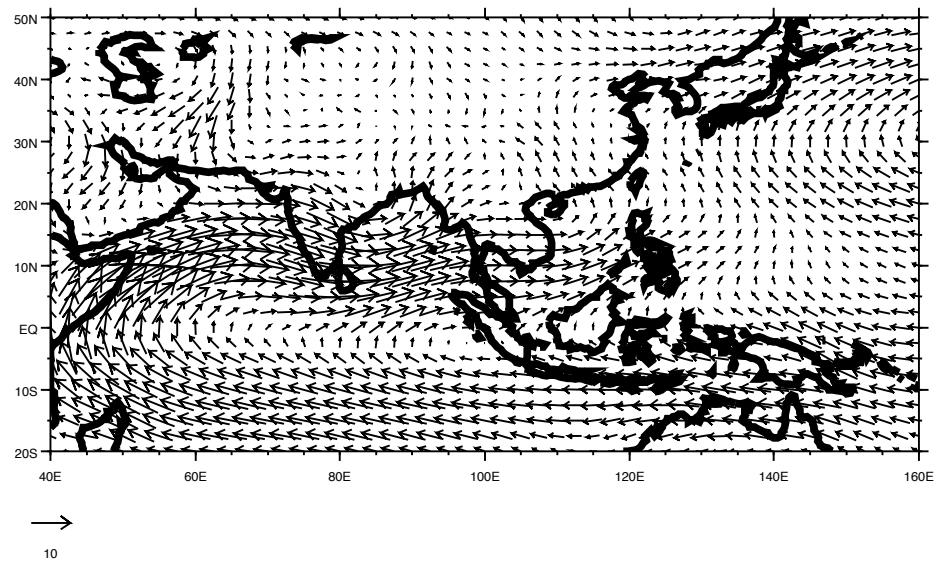
## CMIP5 MMM



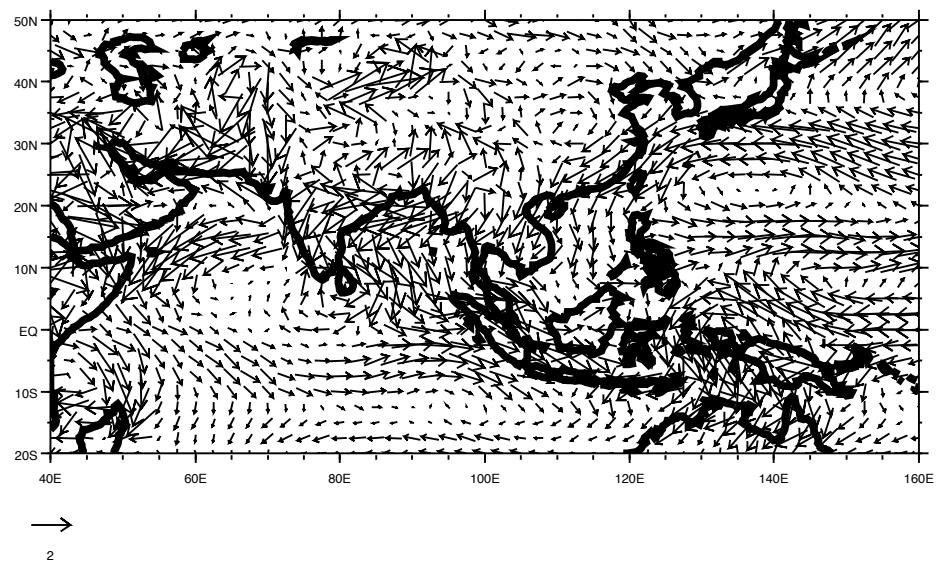
## CMIP5 MMM - ERA40



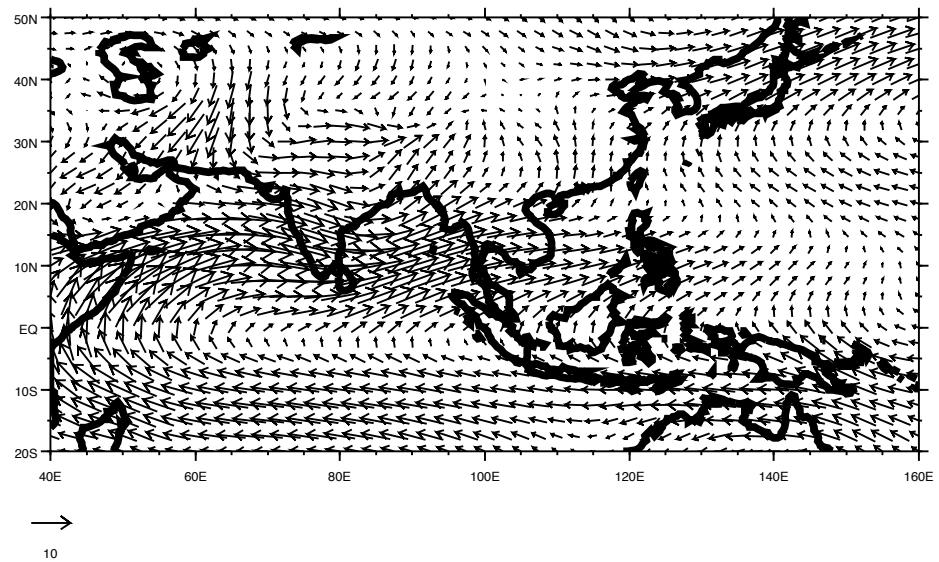
## CMIP3 MMM



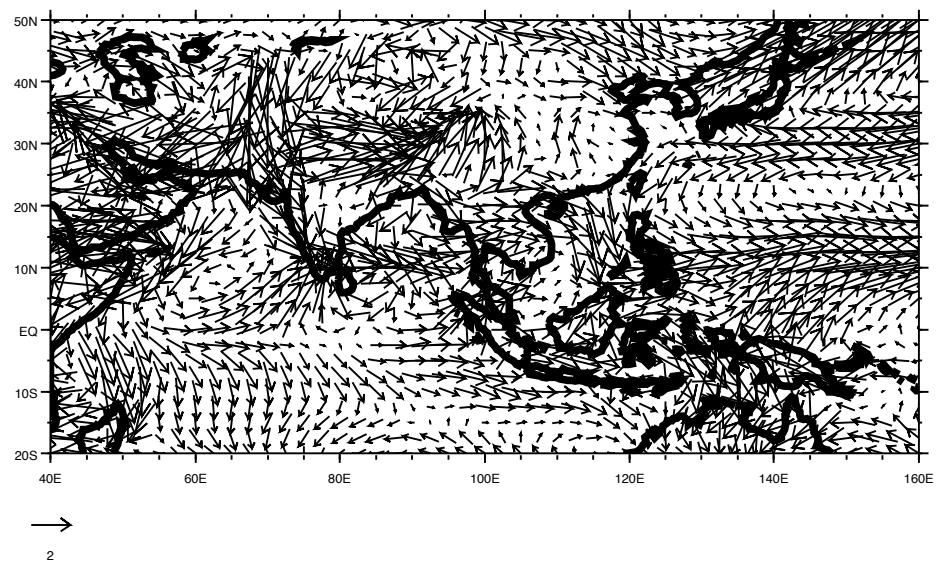
## CMIP3 MMM - ERA40



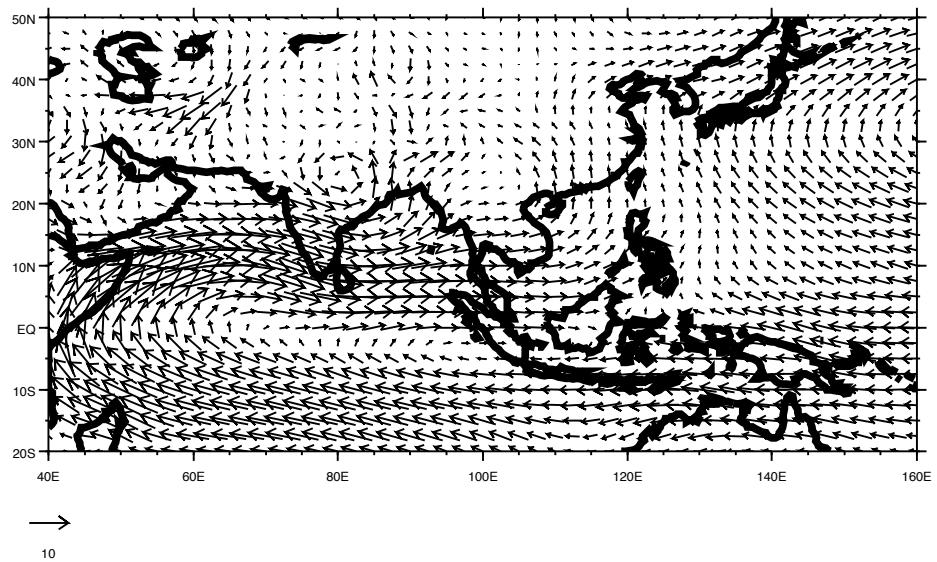
## BCC-CSM-1



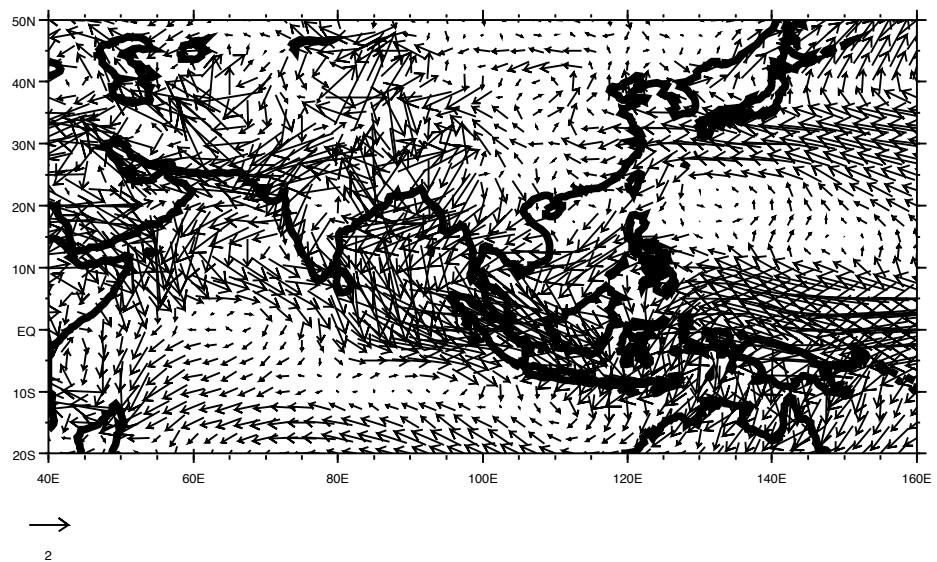
## BCC-CSM-1 - ERA40



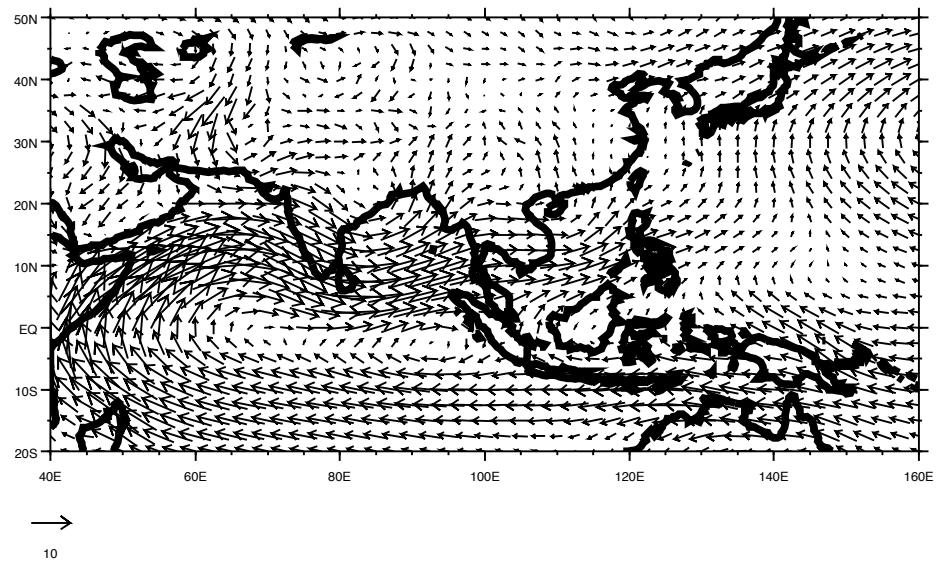
bccr-bcm2.0



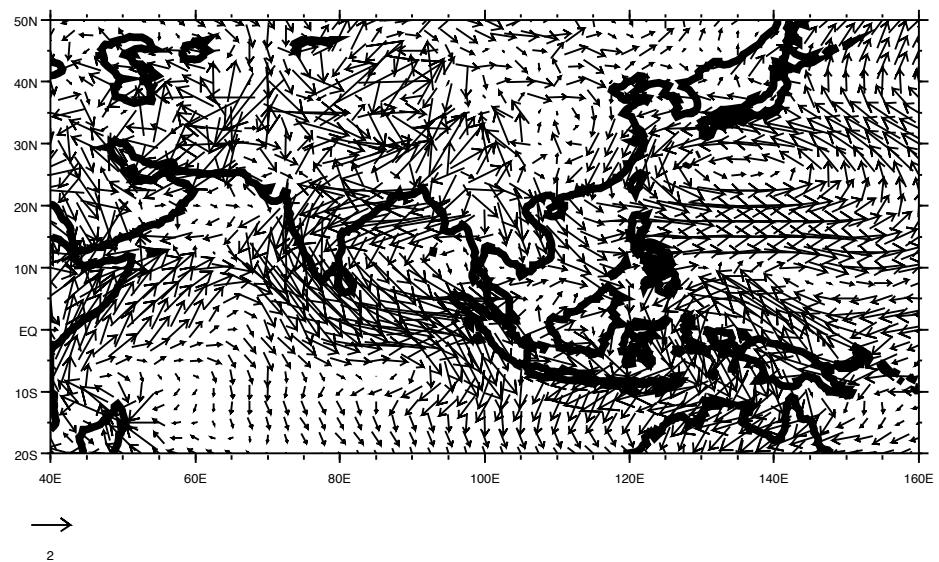
bccr-bcm2.0 - ERA40



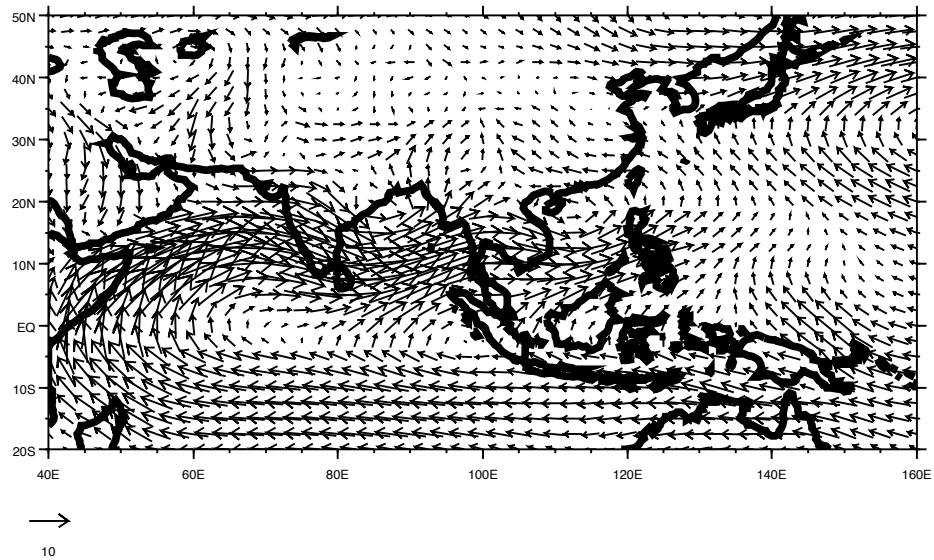
### CanESM2



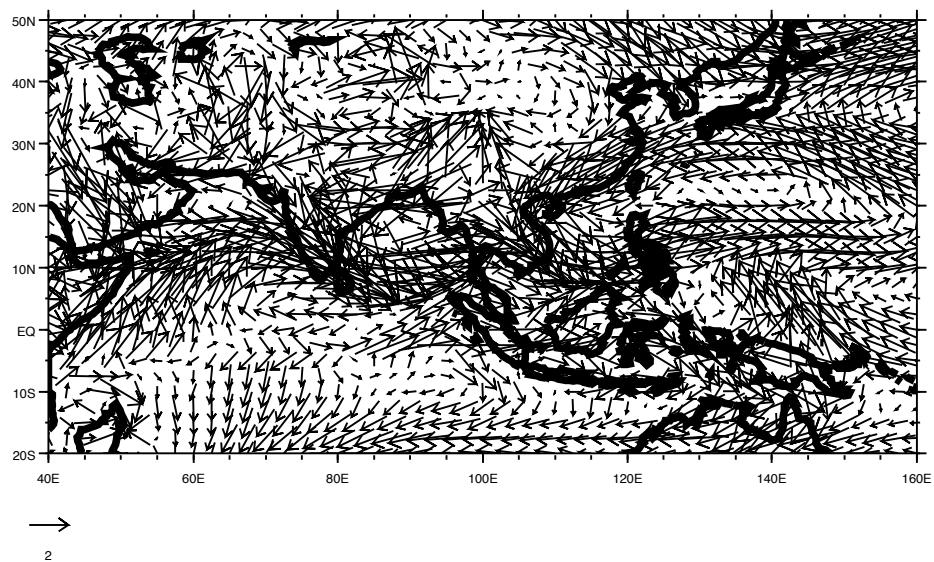
### CanESM2 - ERA40



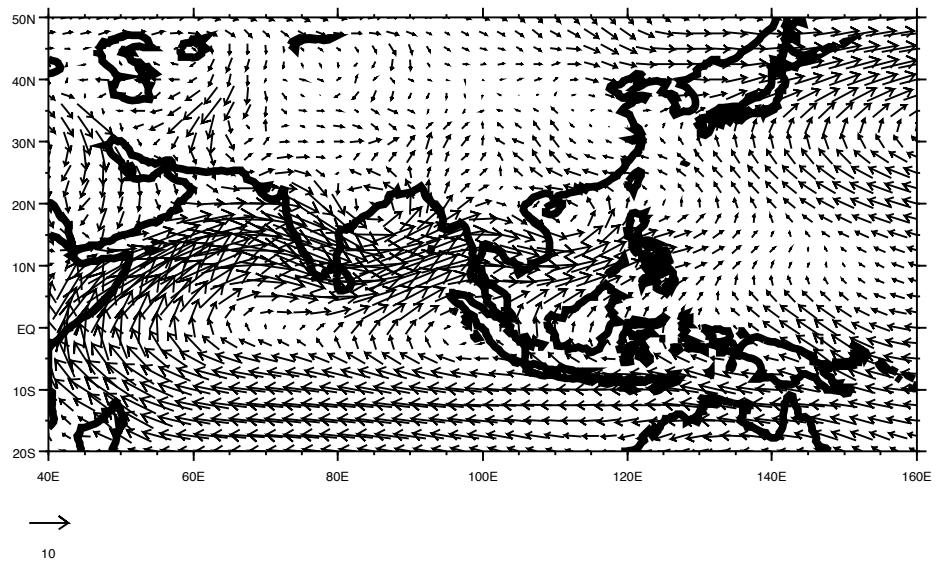
cgcm3.1 (t47)



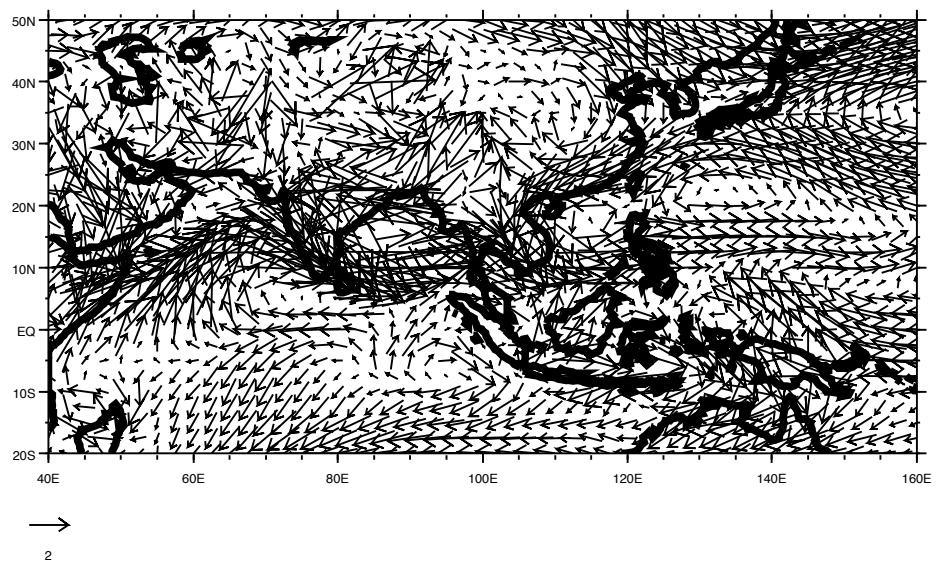
cgcm3.1 (t47) - ERA40



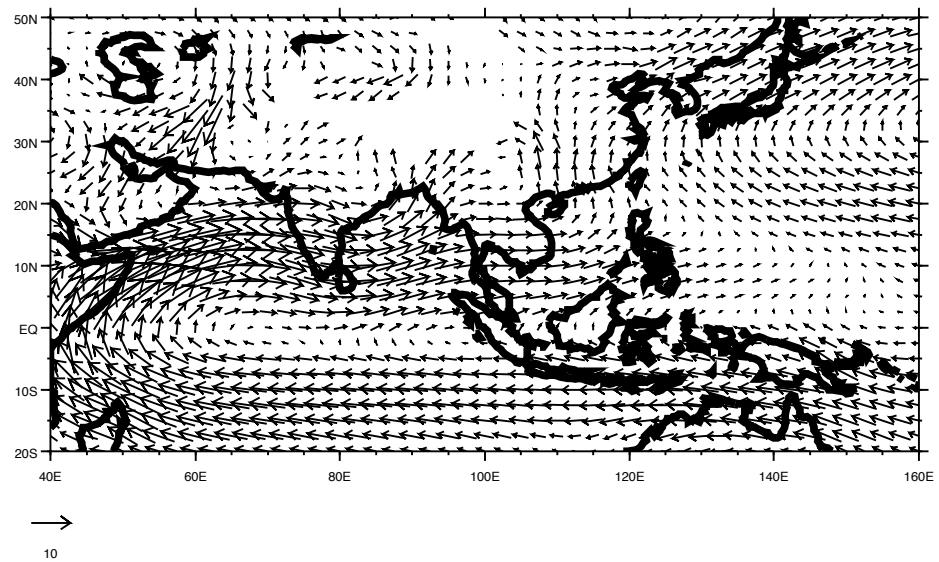
cgcm3.1 (t63)



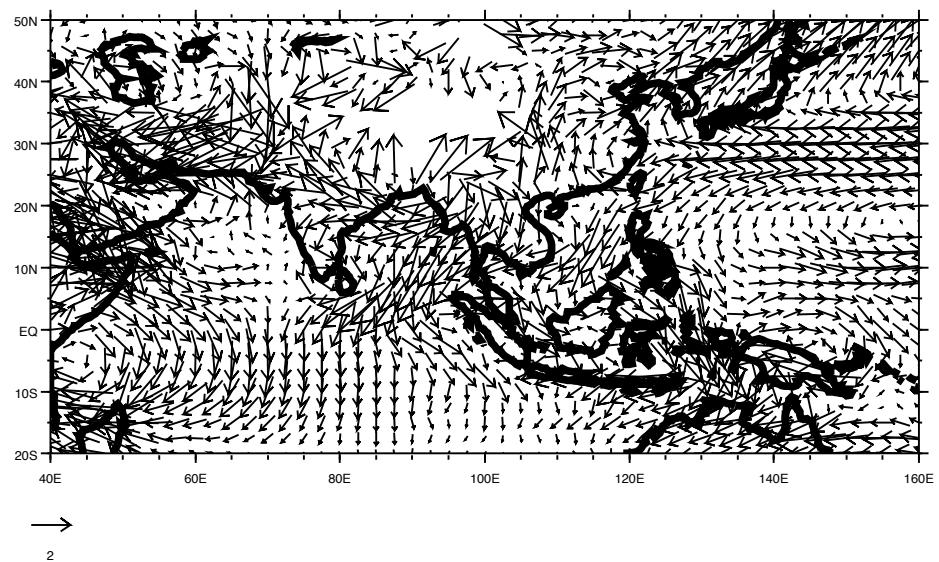
cgcm3.1 (t63) - ERA40



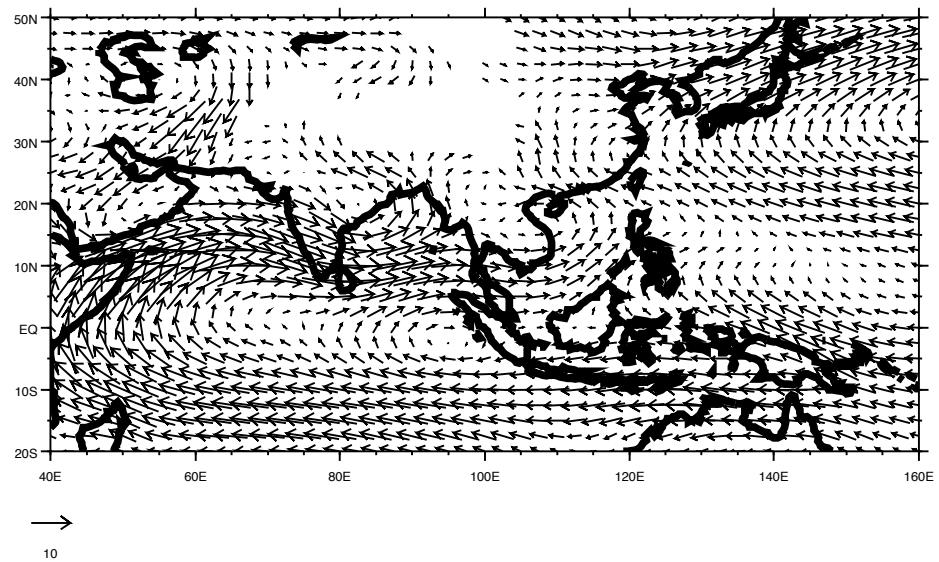
## CCSM4



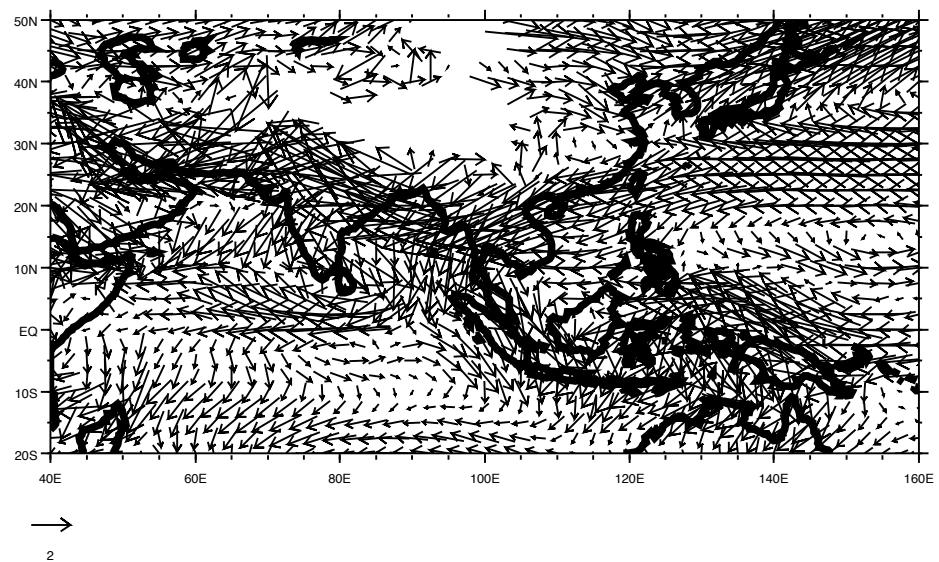
## CCSM4 - ERA40



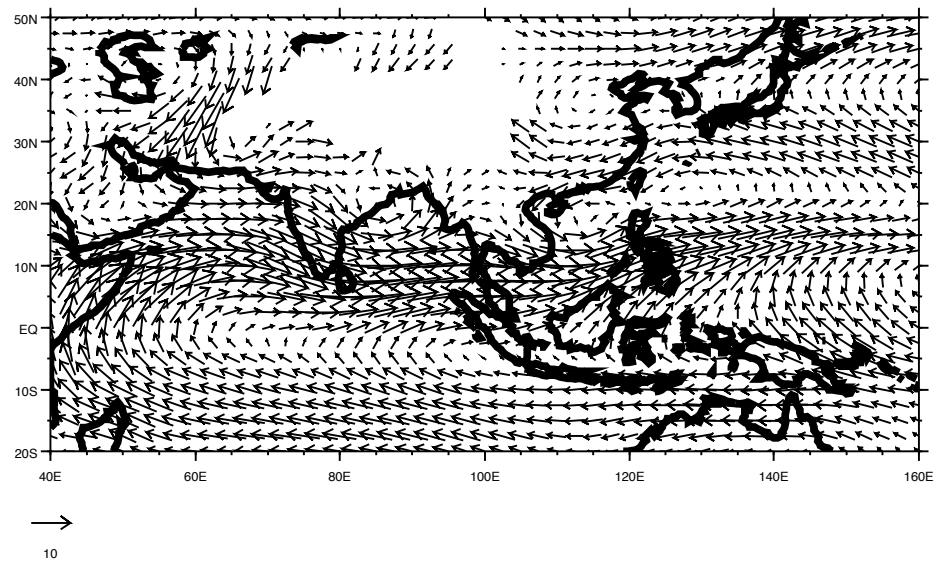
ccsm3



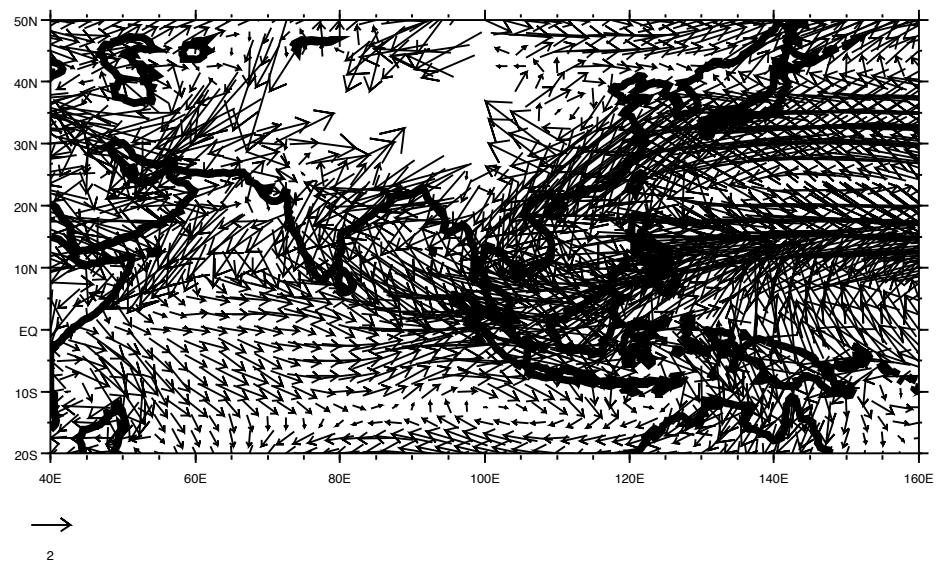
ccsm3 - ERA40



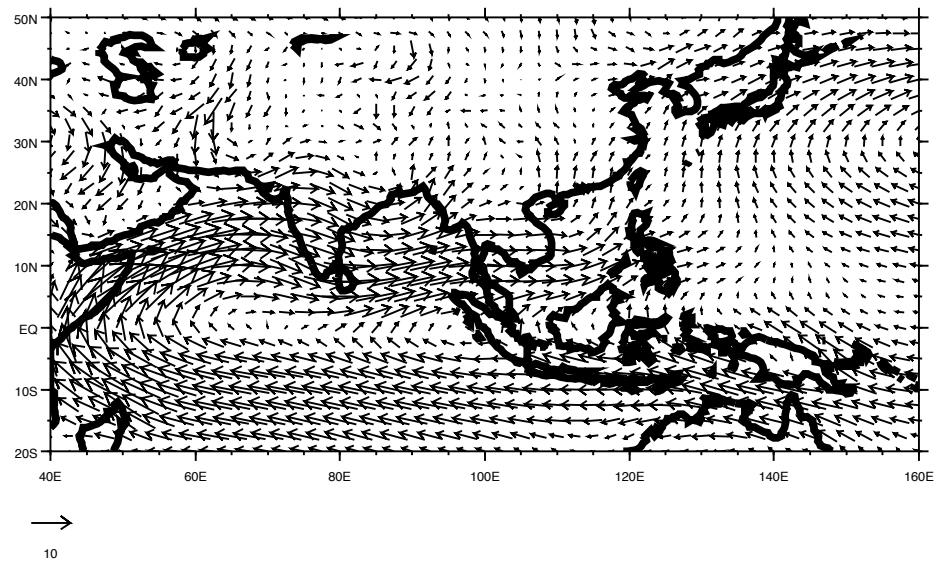
pcm1



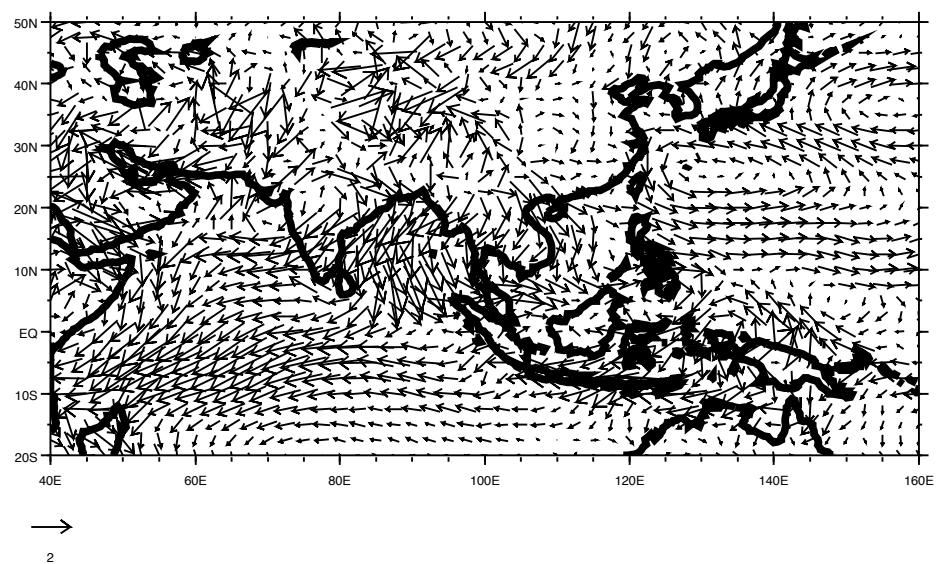
pcm1 - ERA40



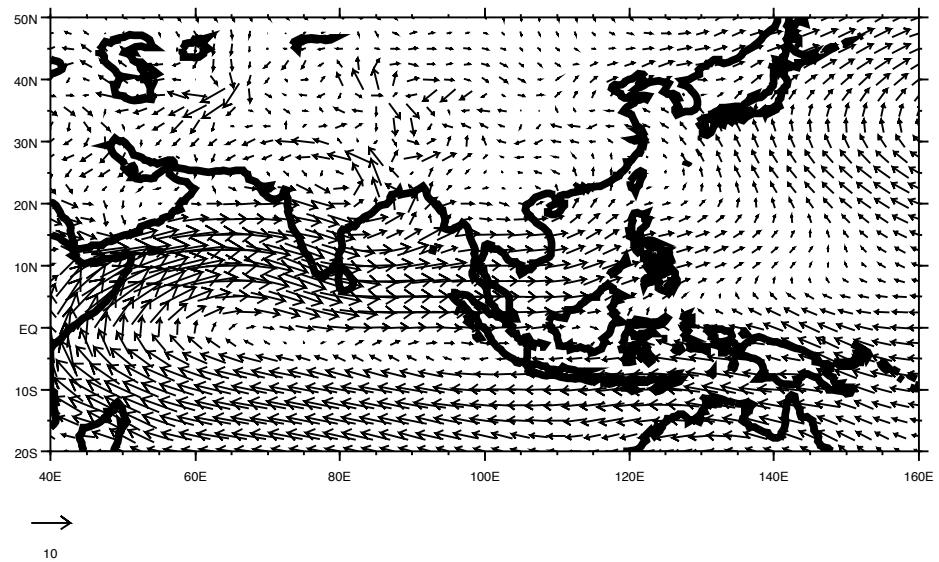
## CNRM-CM5



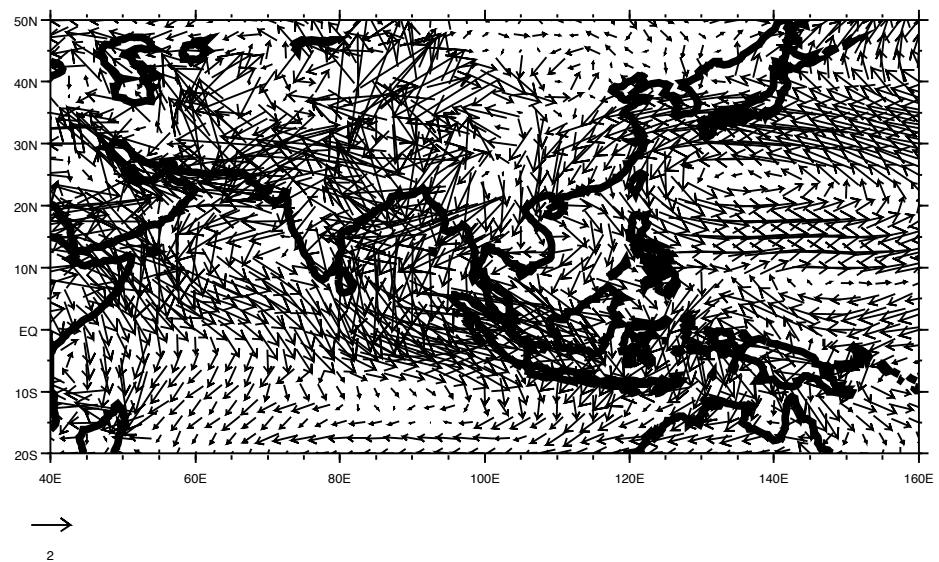
## CNRM-CM5 - ERA40



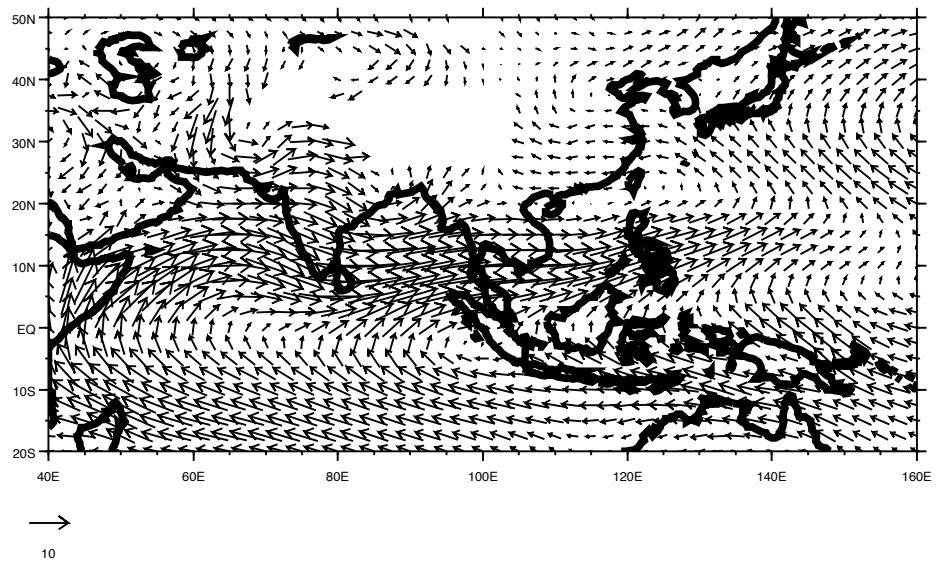
cnrm-cm3



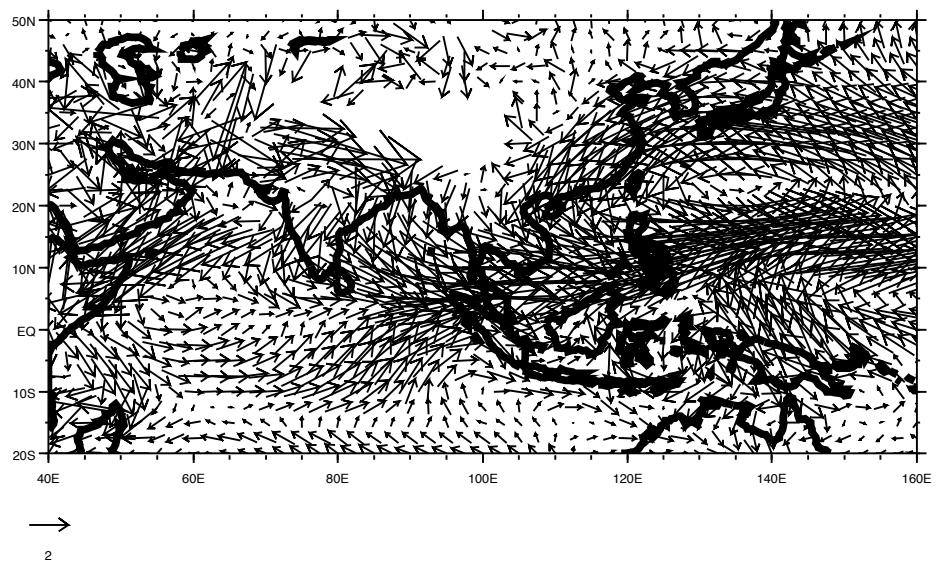
cnrm-cm3 - ERA40



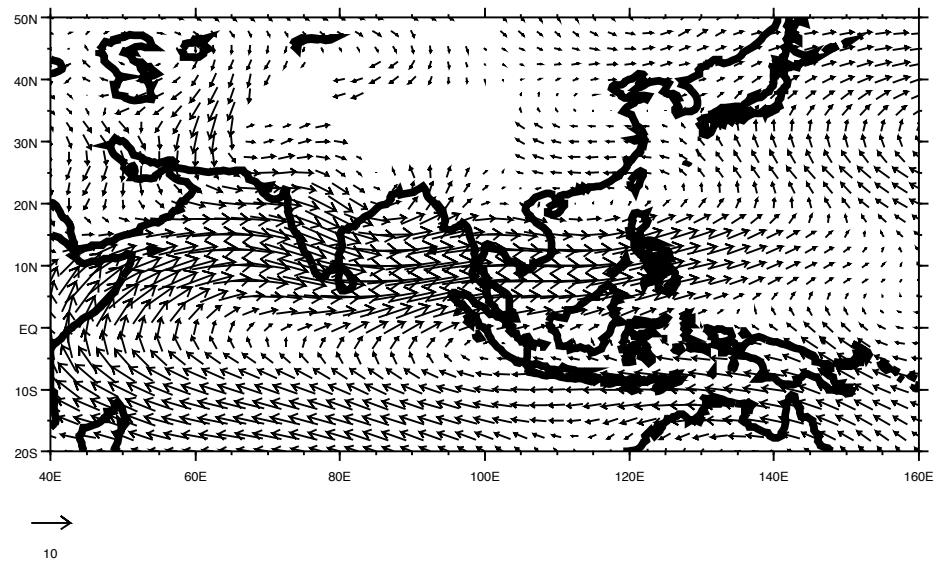
## CSIRO-Mk3.6.0



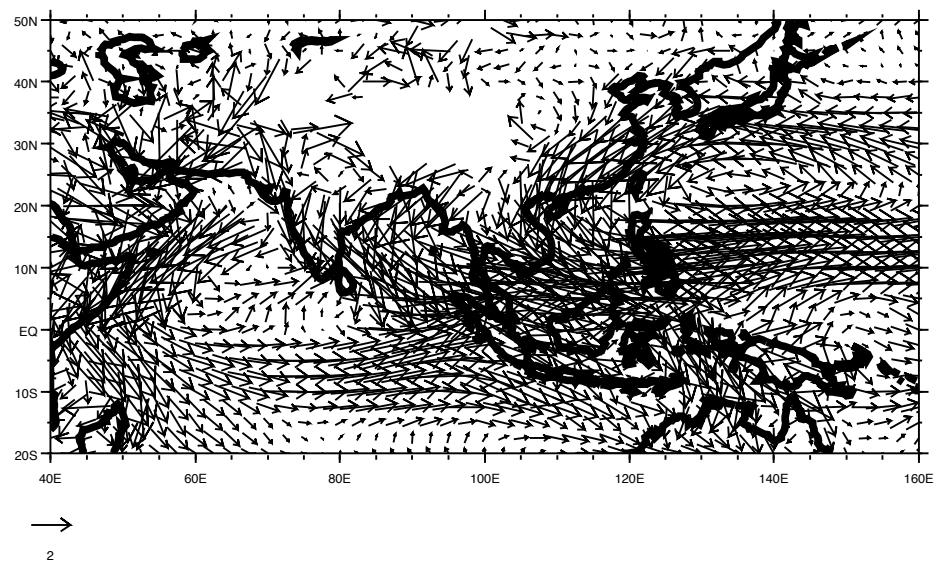
## CSIRO-Mk3.6.0 - ERA40



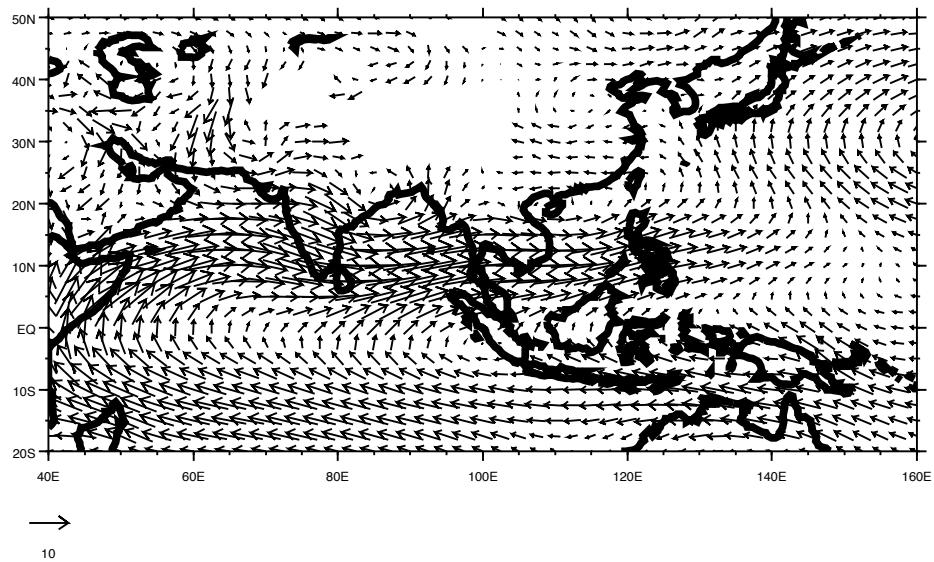
csiro-mk3.0



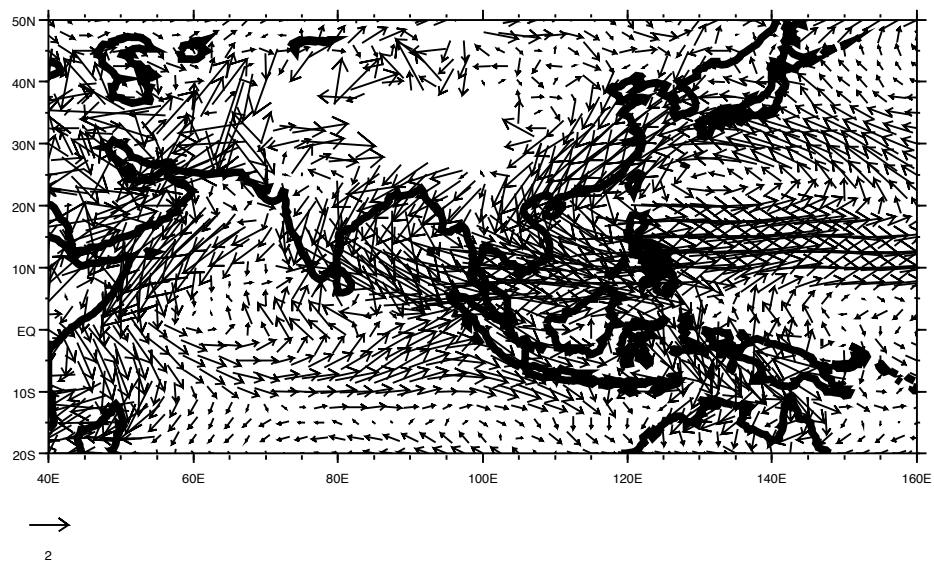
csiro-mk3.0 - ERA40



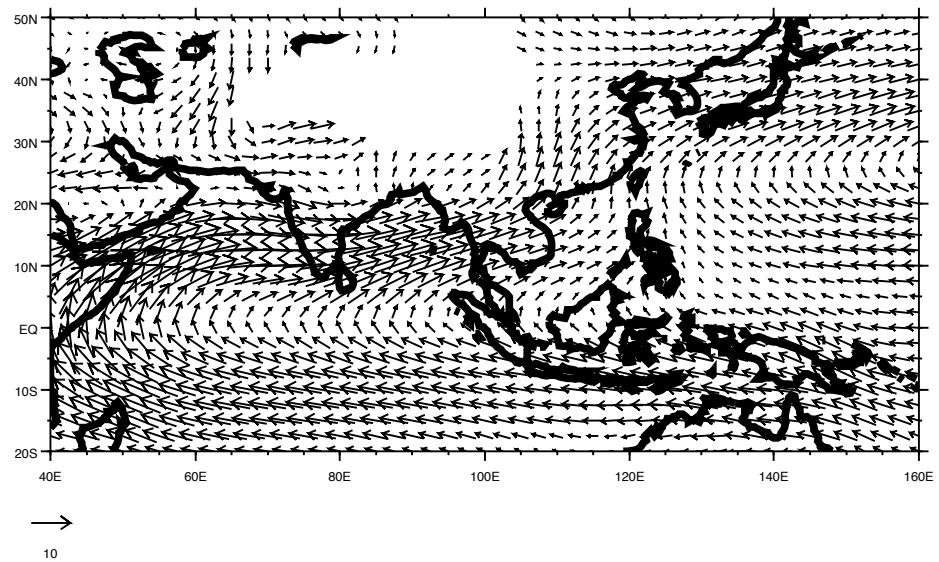
csiro-mk3.5



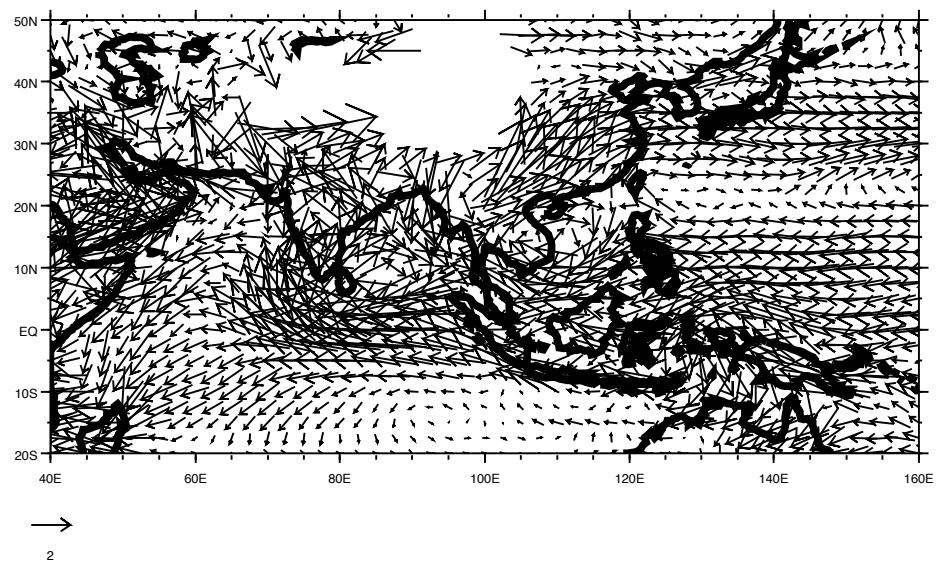
csiro-mk3.5 - ERA40



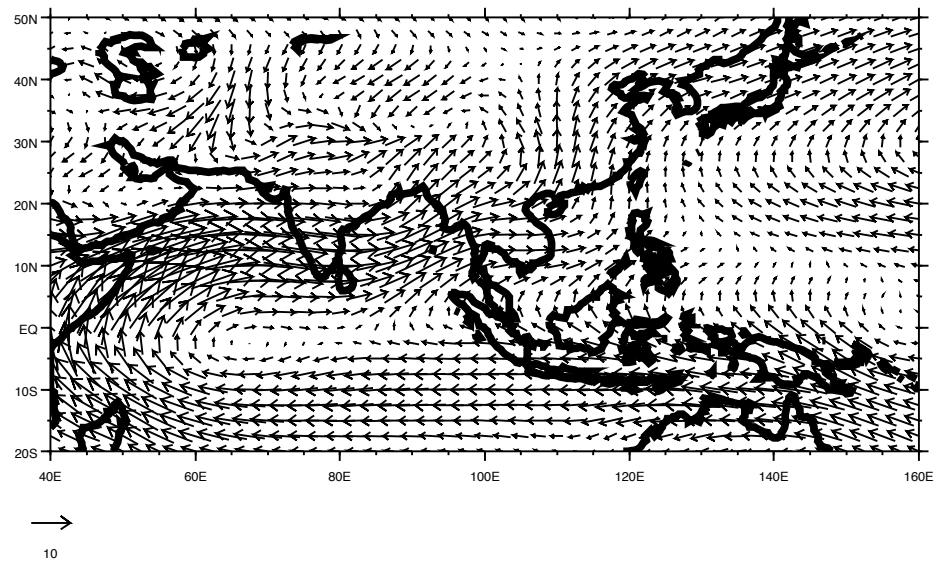
## FGOALS-g2



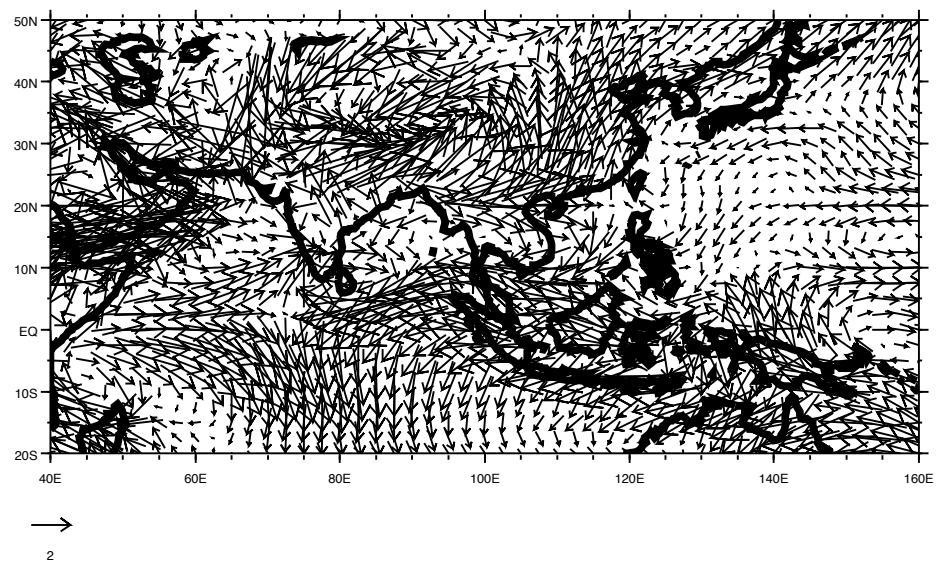
## FGOALS-g2 - ERA40



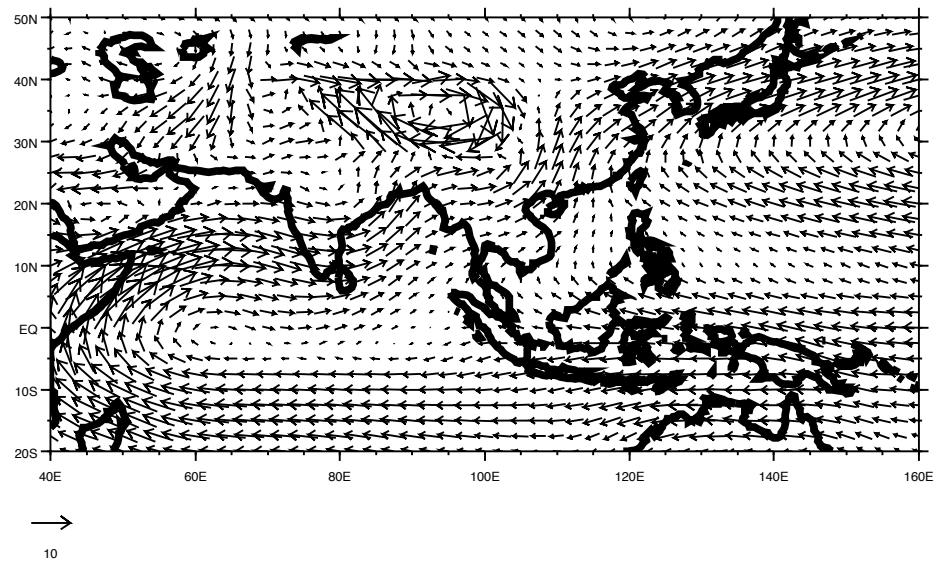
## FGOALS-s2



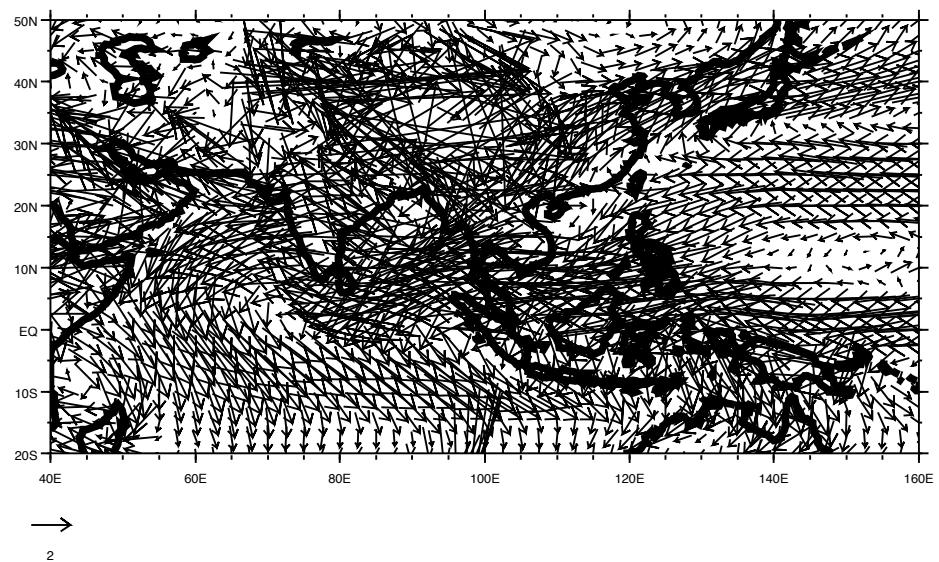
## FGOALS-s2 - ERA40



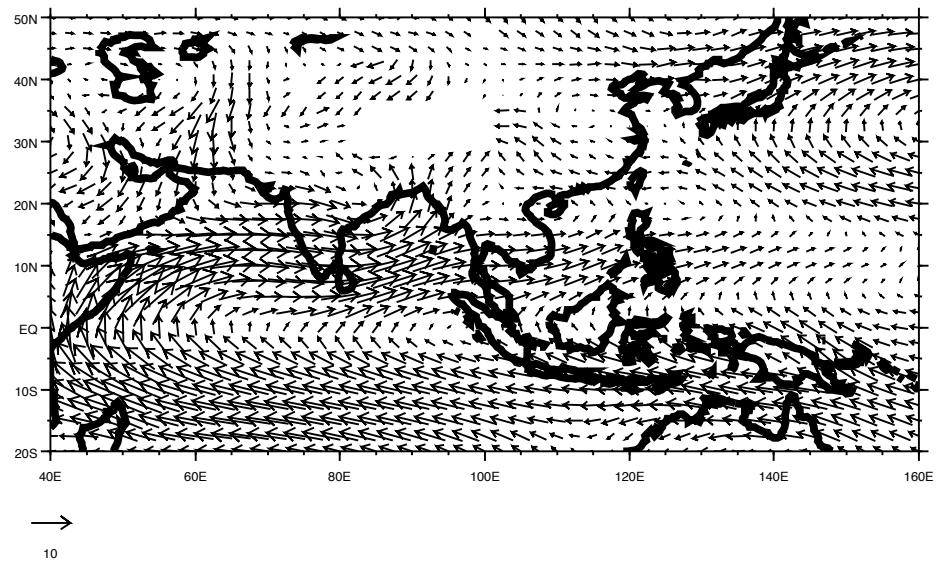
fgoals-g1.0



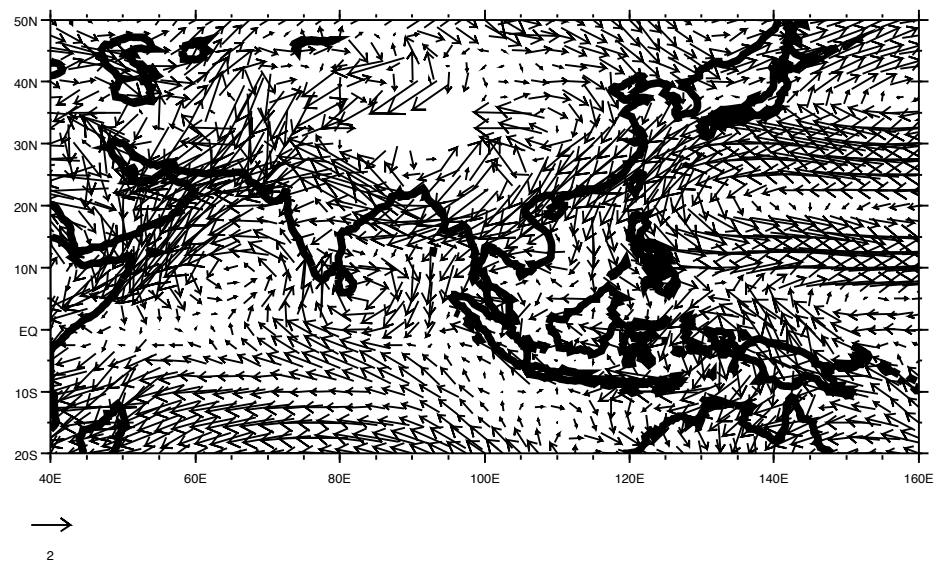
fgoals-g1.0 - ERA40



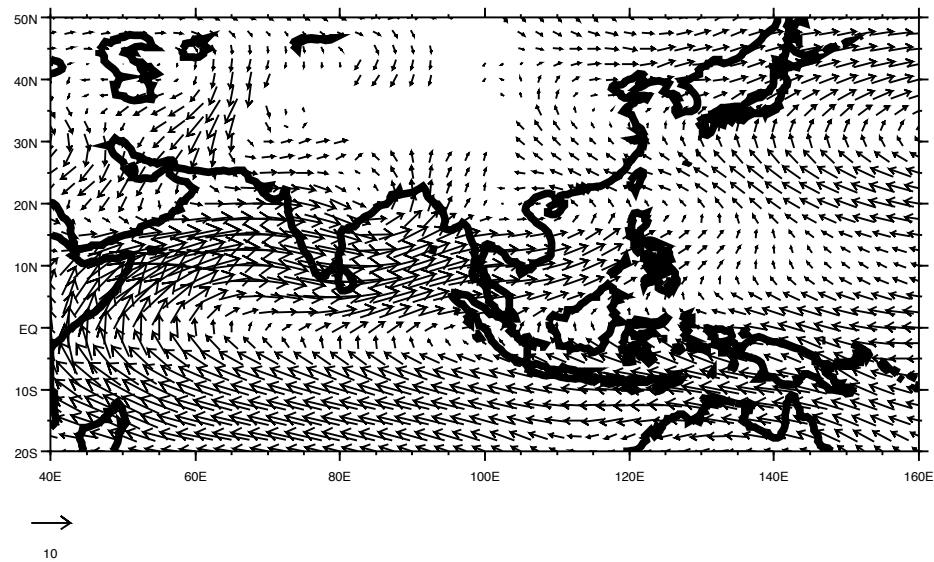
## GFDL-CM3



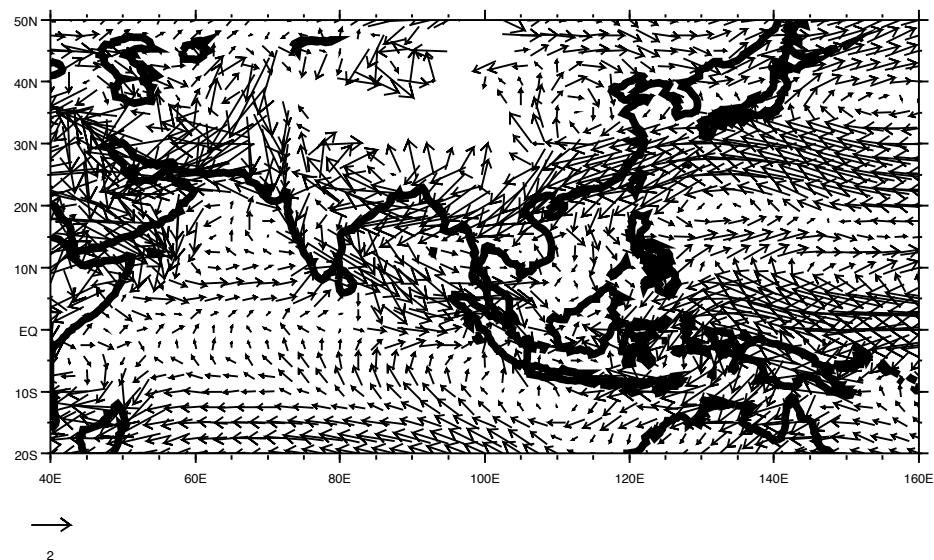
## GFDL-CM3 - ERA40



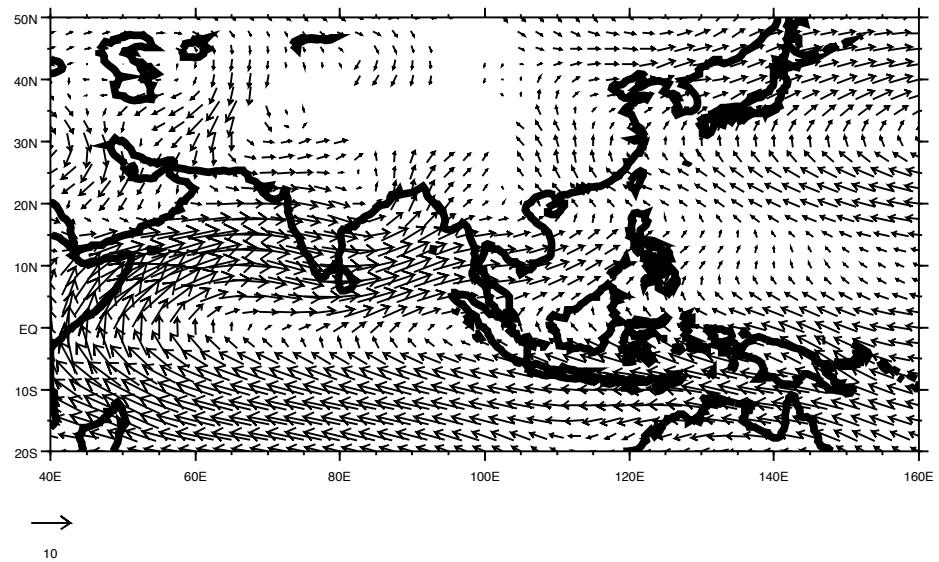
## GFDL-ESM2G



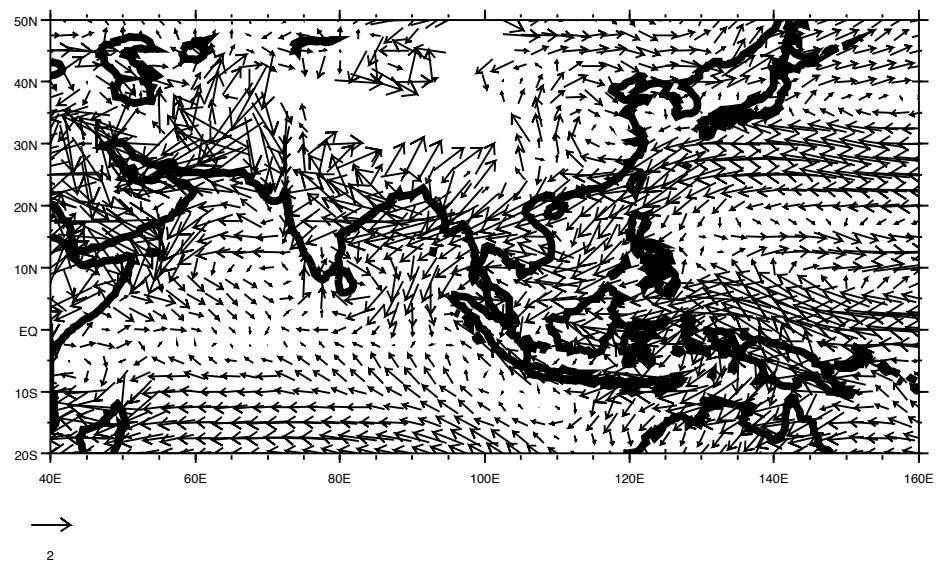
## GFDL-ESM2G - ERA40



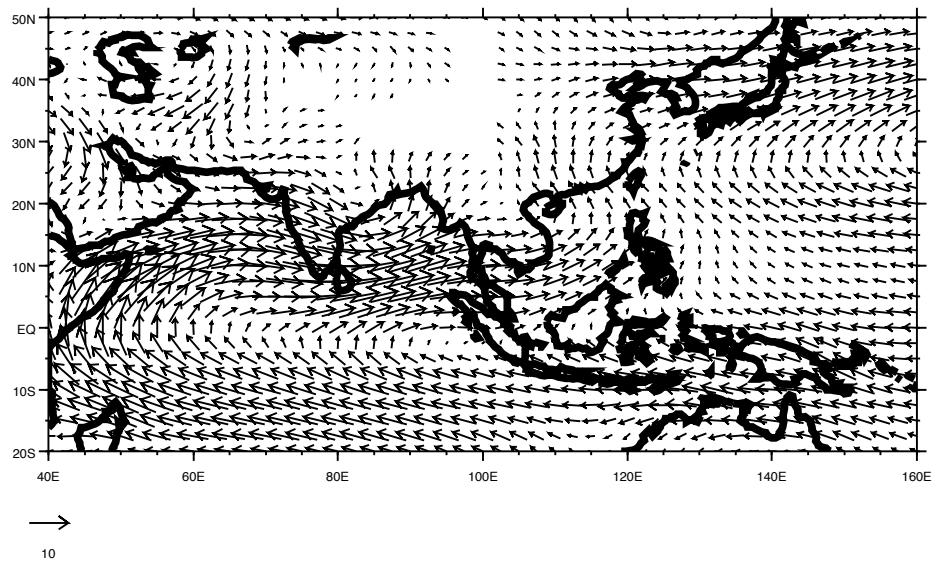
## GFDL-ESM2M



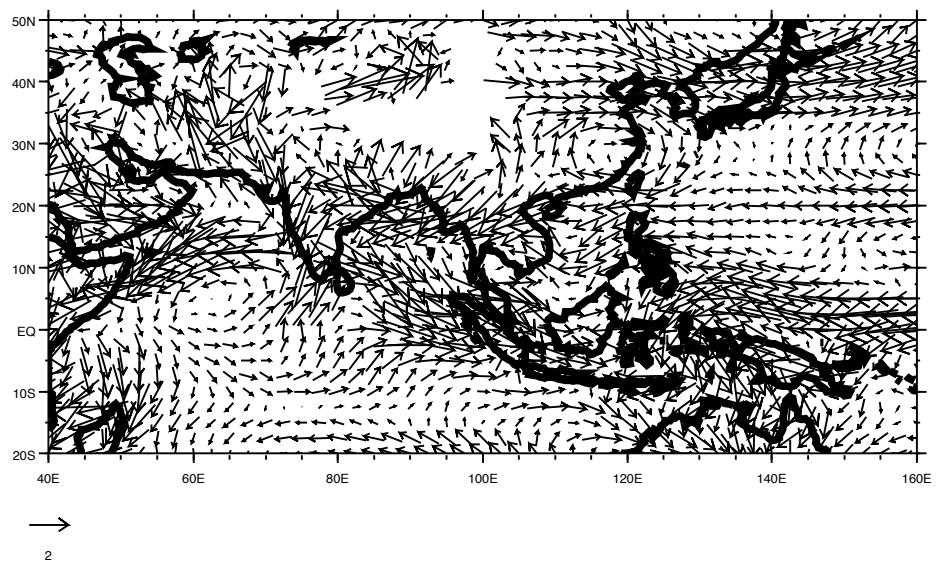
## GFDL-ESM2M - ERA40



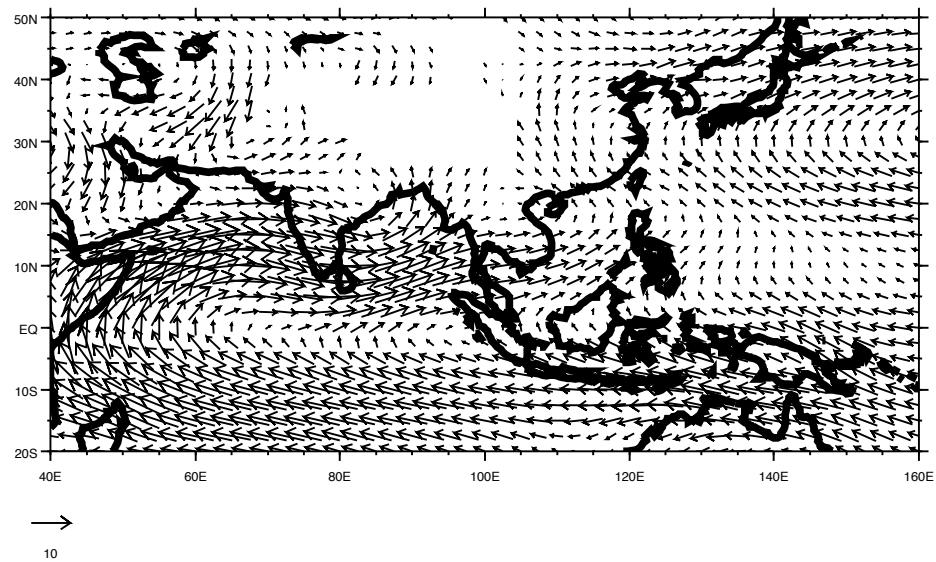
gfdl-cm2.0



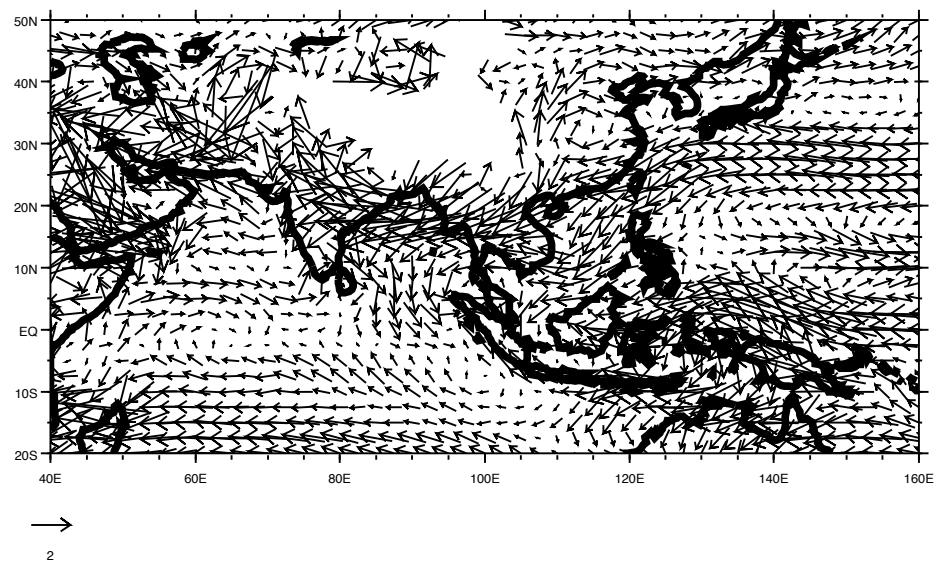
gfdl-cm2.0 - ERA40



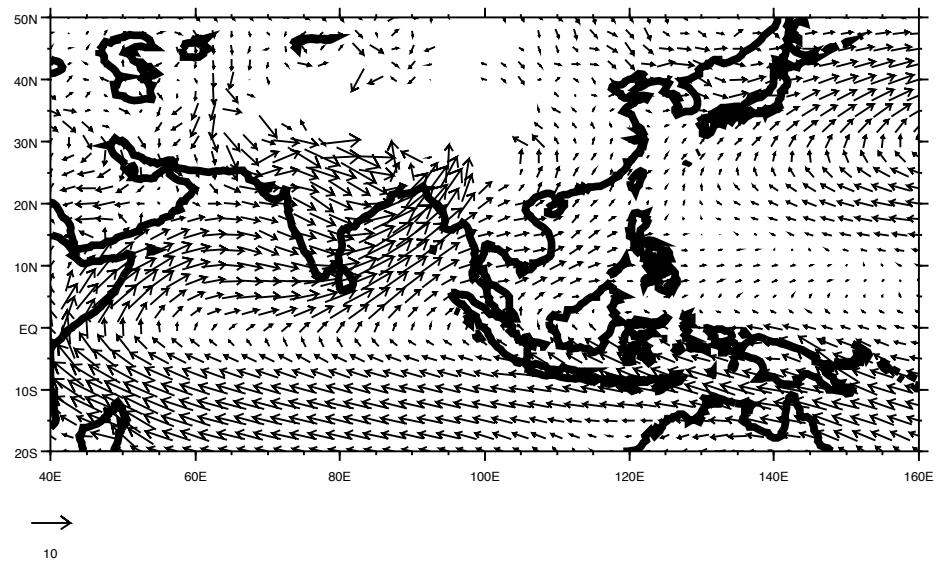
gfdl-cm2.1



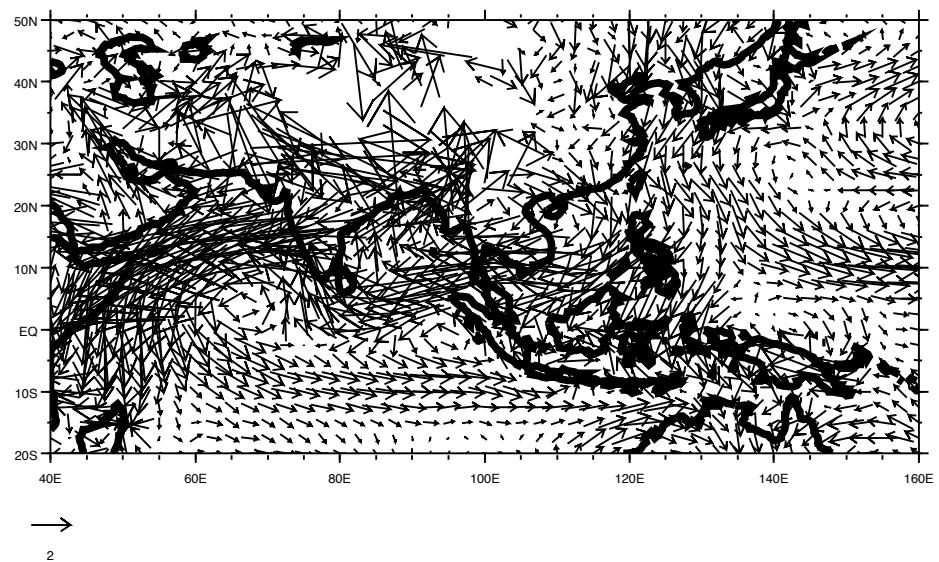
gfdl-cm2.1 - ERA40



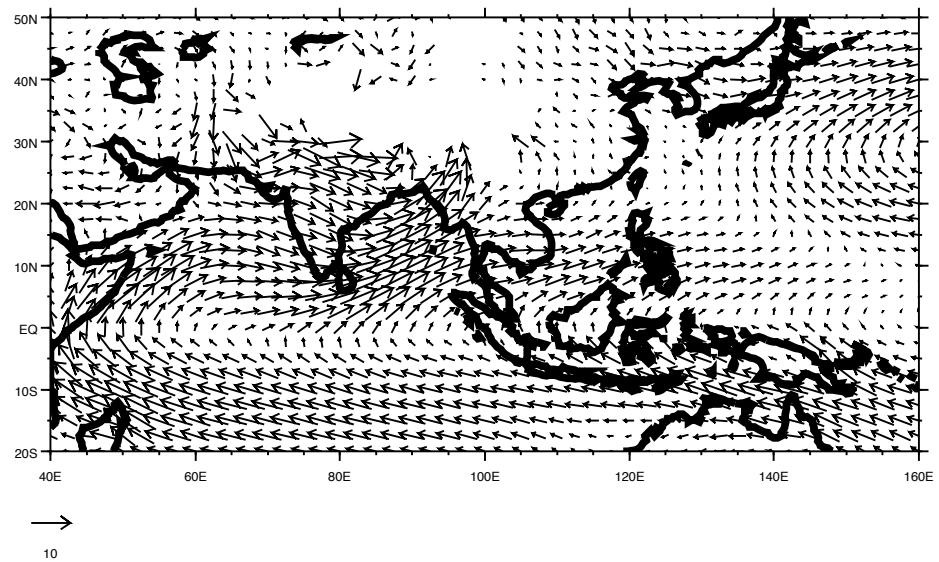
GISS-E2-H



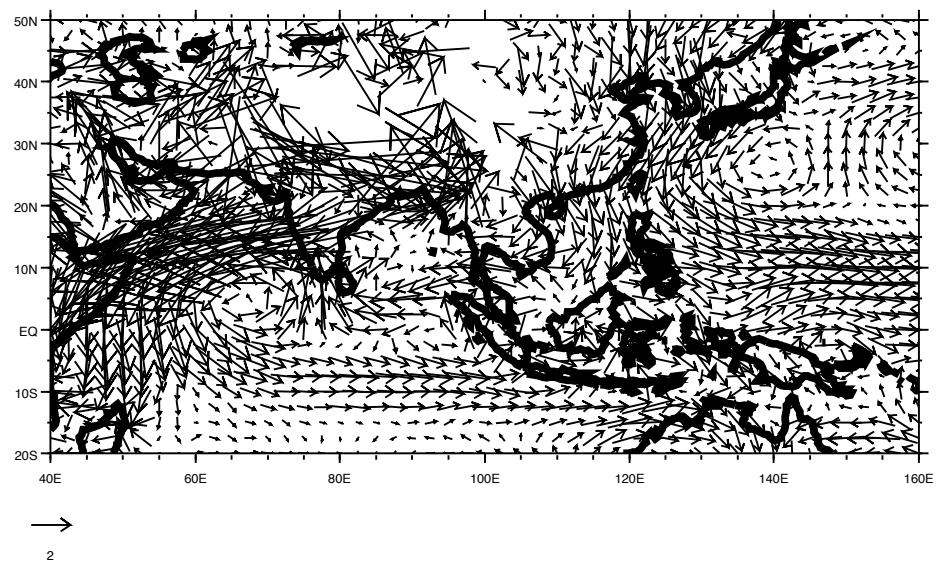
GISS-E2-H - ERA40



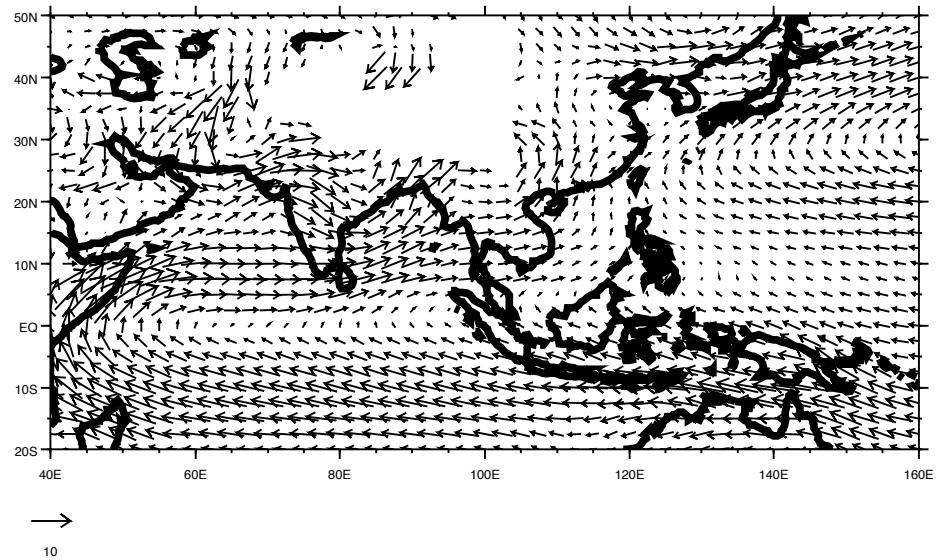
GISS-E2-R



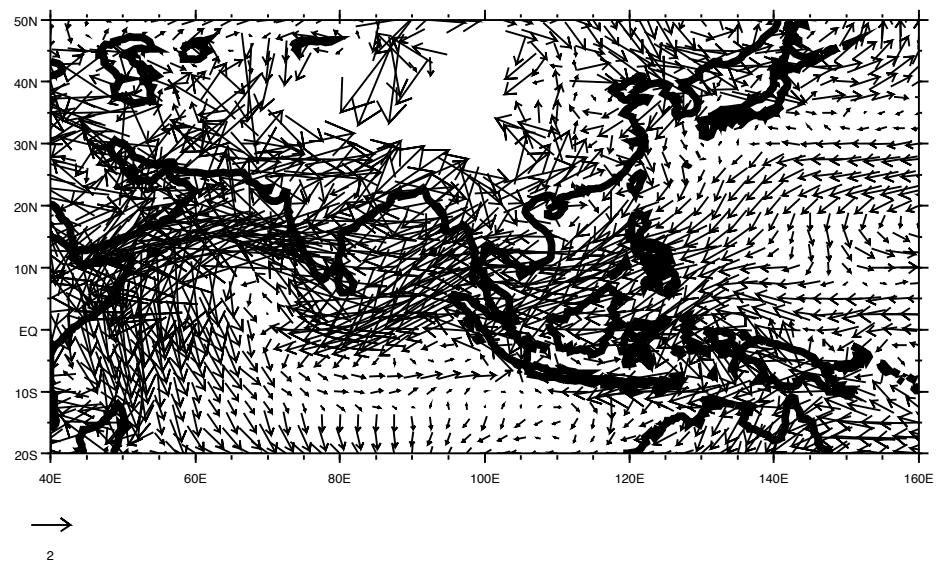
GISS-E2-R - ERA40



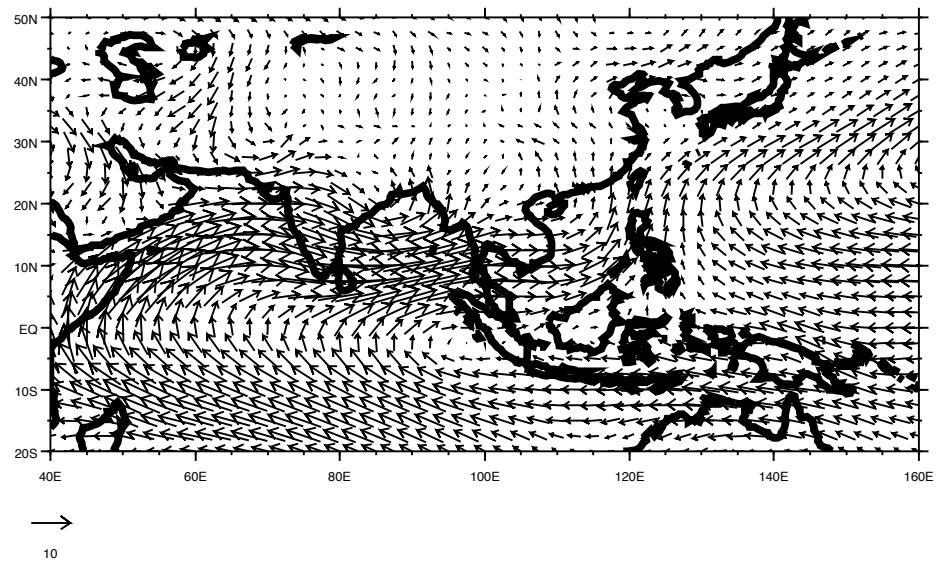
giss-aom



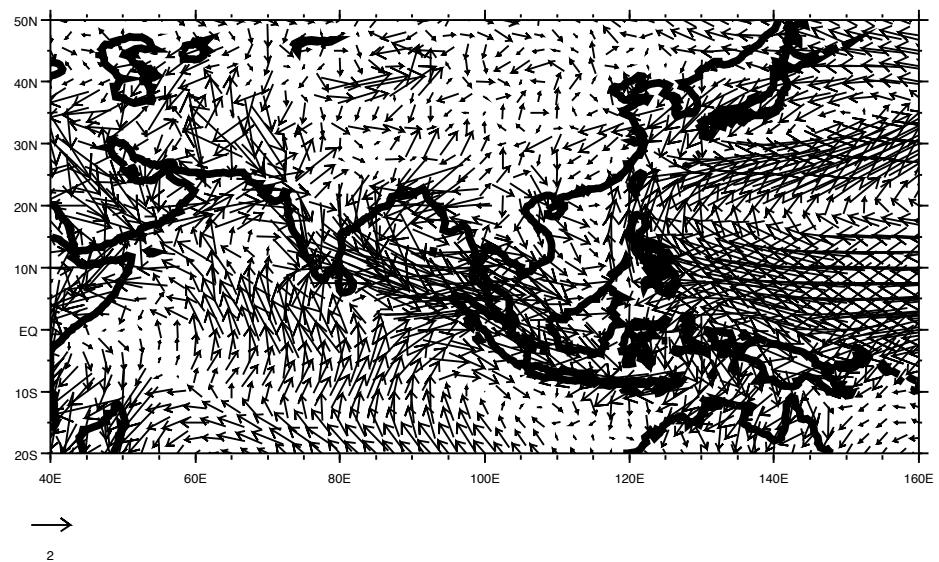
giss-aom - ERA40



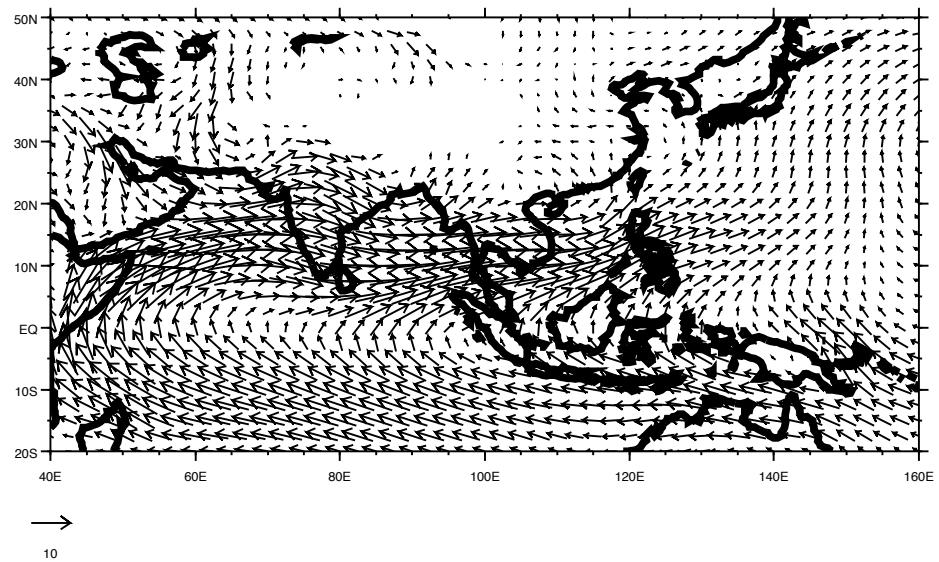
### HadCM3



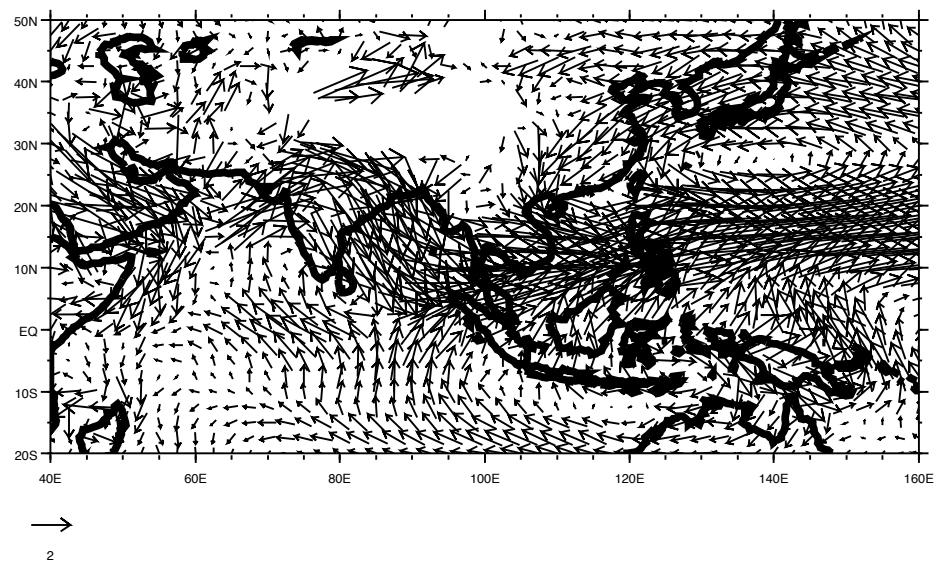
### HadCM3 - ERA40



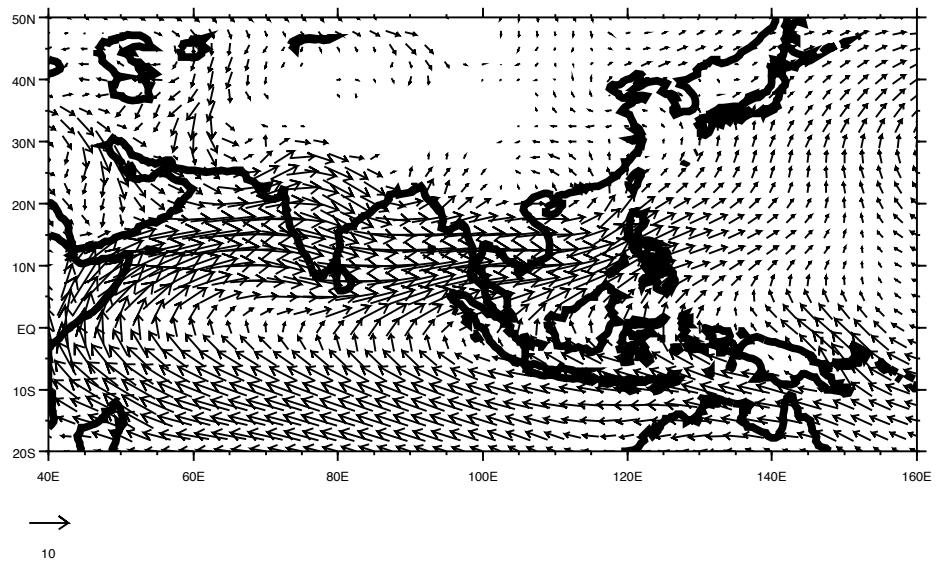
## HadGEM2-CC



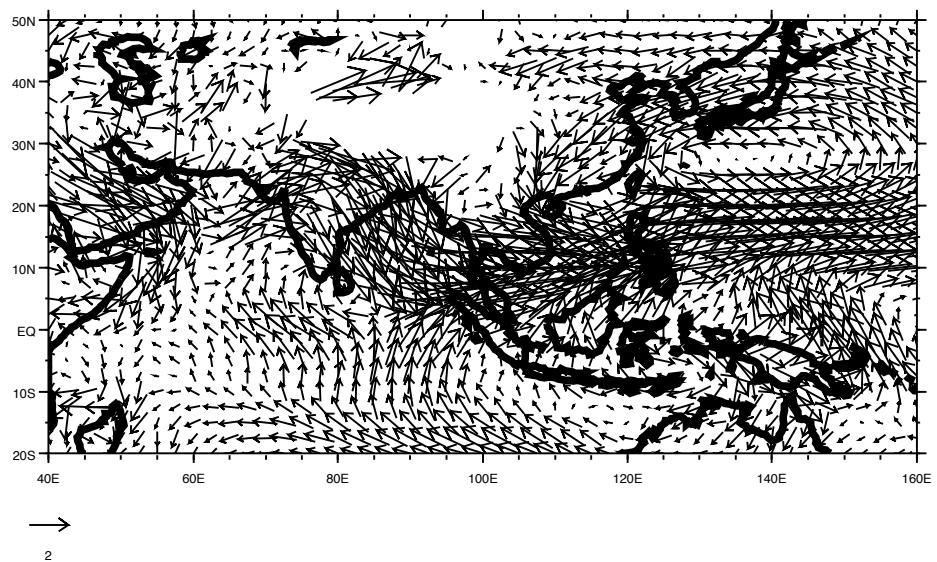
## HadGEM2-CC - ERA40



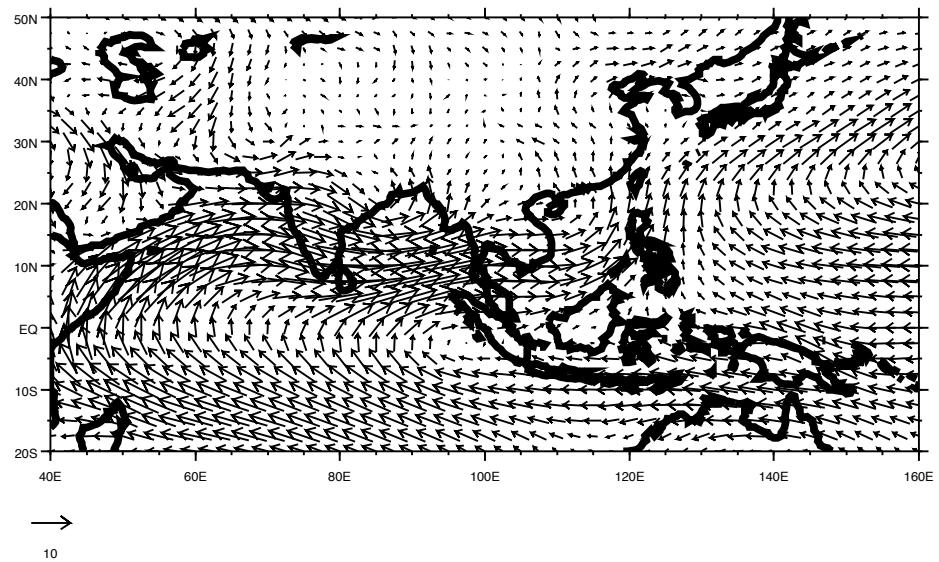
## HadGEM2-ES



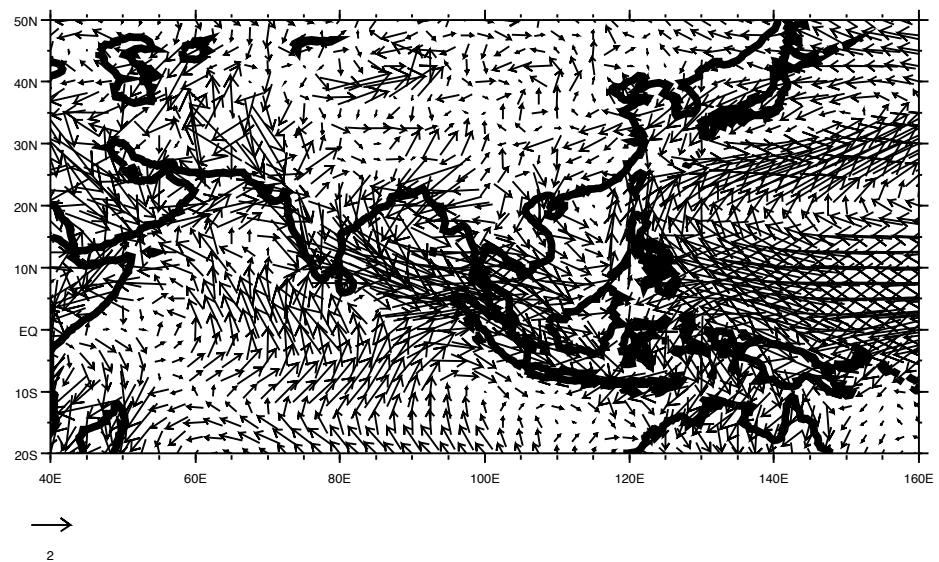
## HadGEM2-ES - ERA40



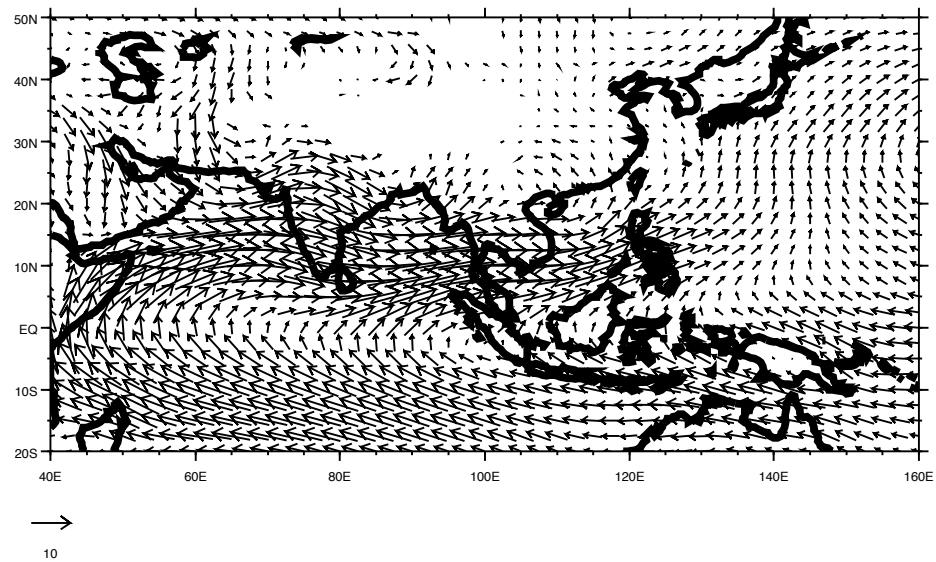
ukmo-hadcm3



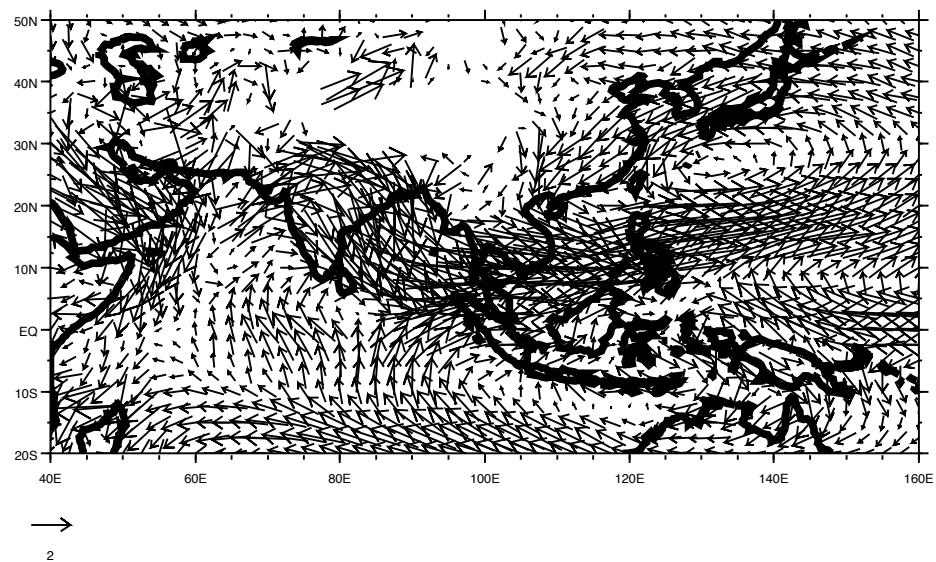
ukmo-hadcm3 - ERA40



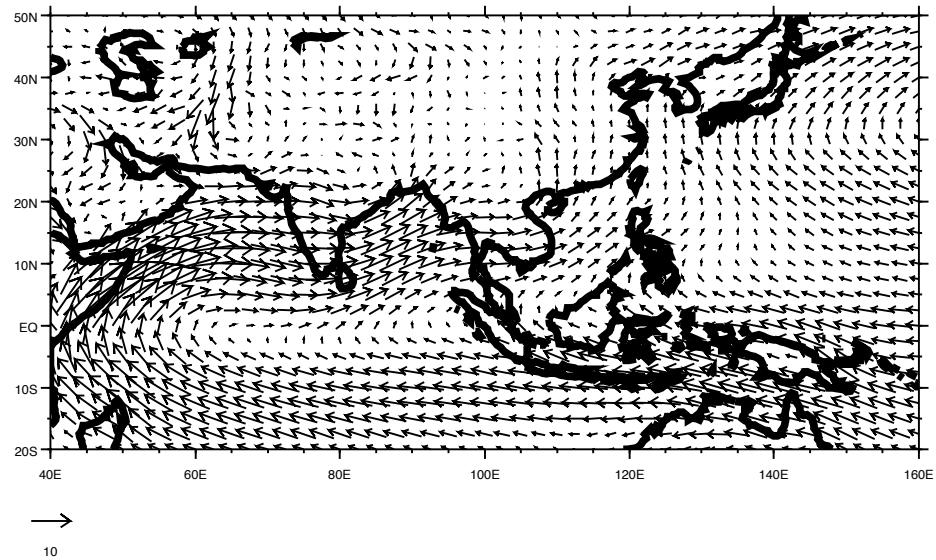
ukmo-hadgem1



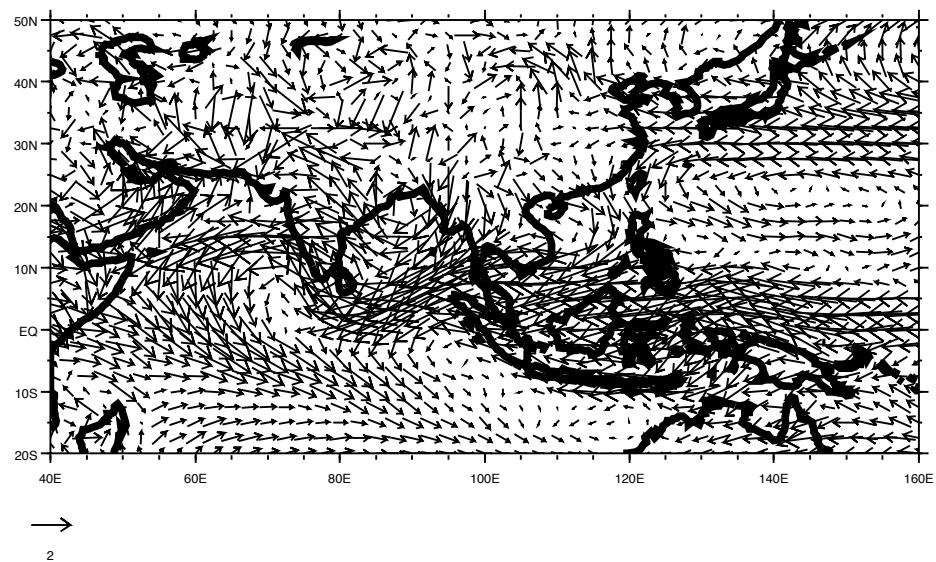
ukmo-hadgem1 - ERA40



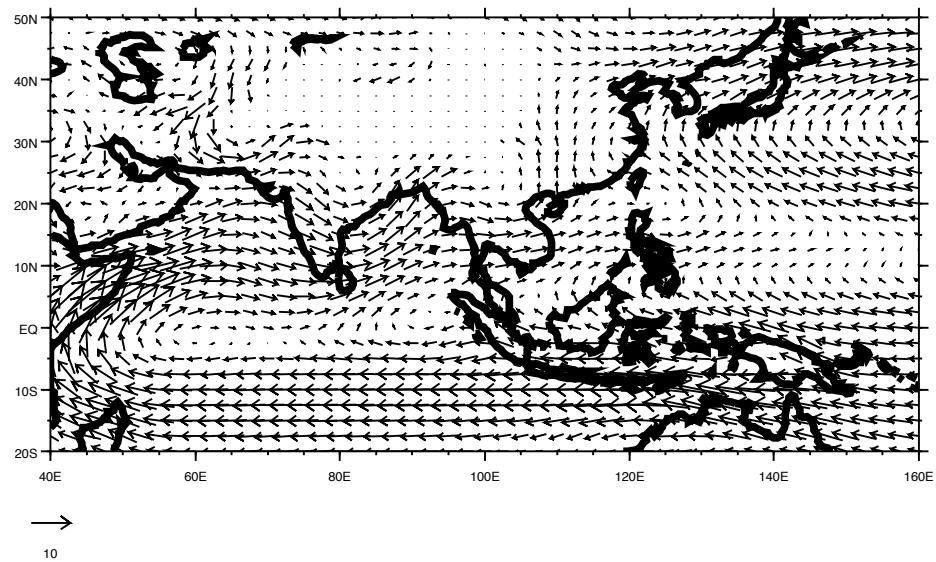
ingv-sxg



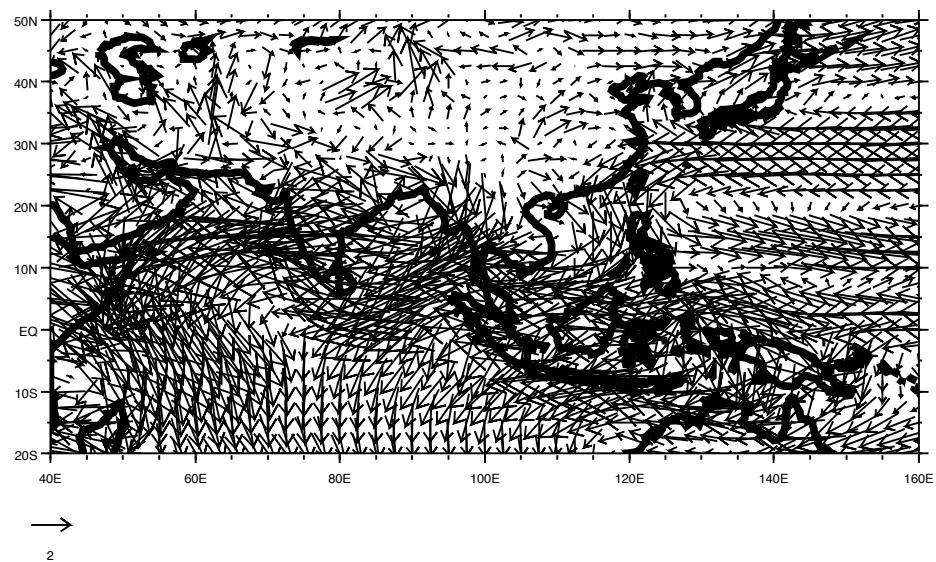
ingv-sxg - ERA40



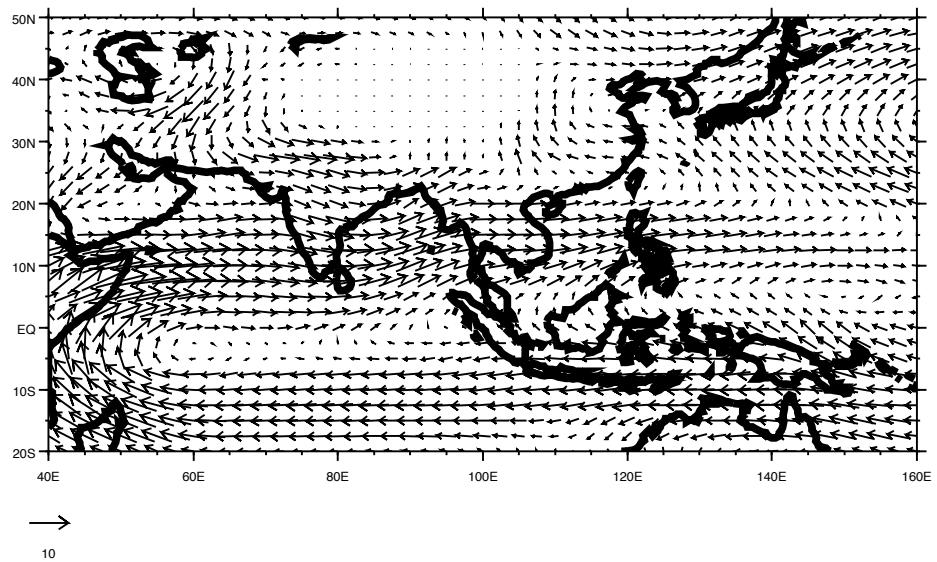
## INM-CM4



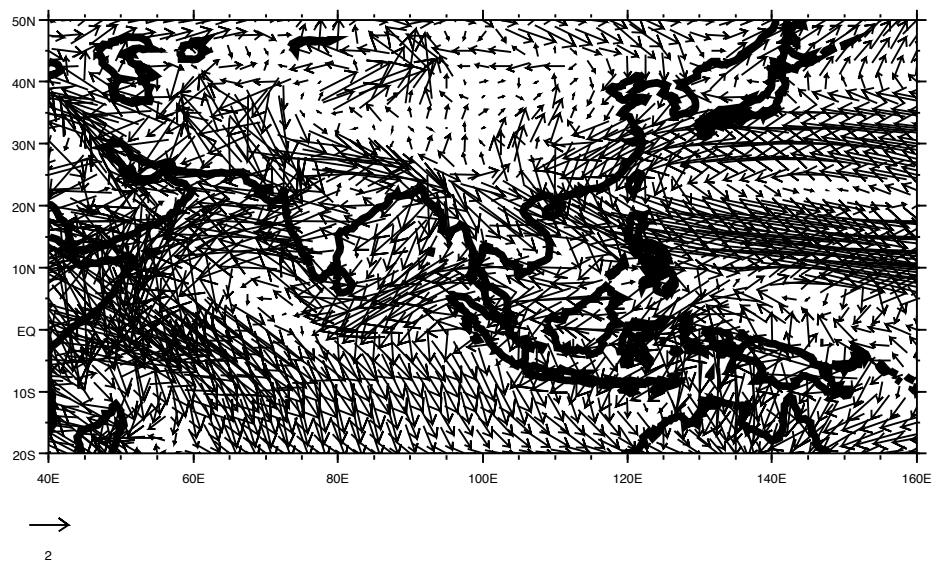
## INM-CM4 - ERA40



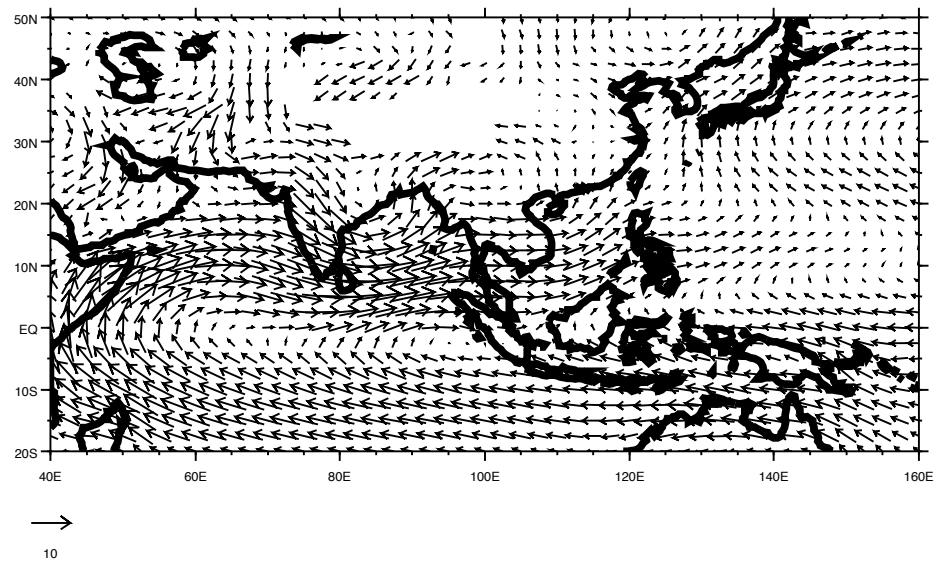
inm-cm3.0



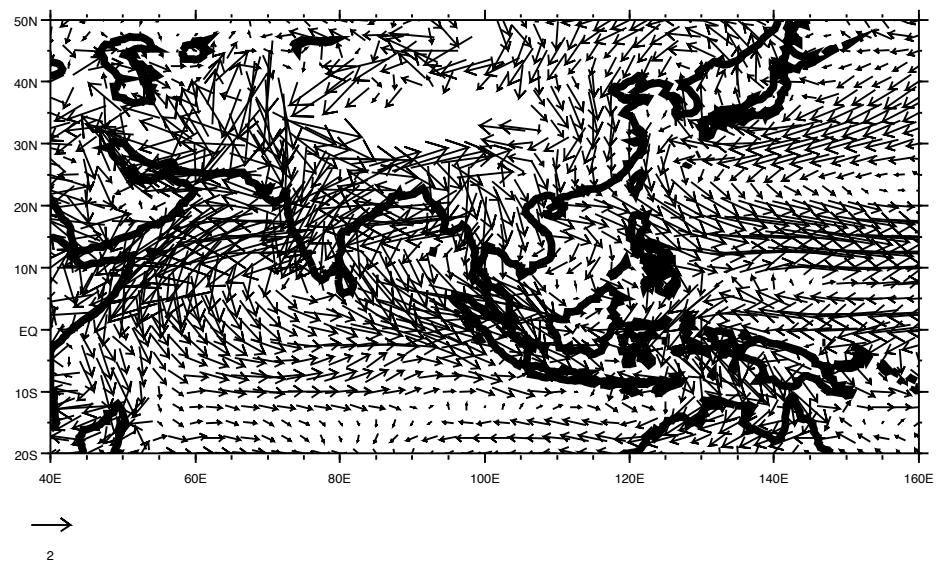
inm-cm3.0 - ERA40



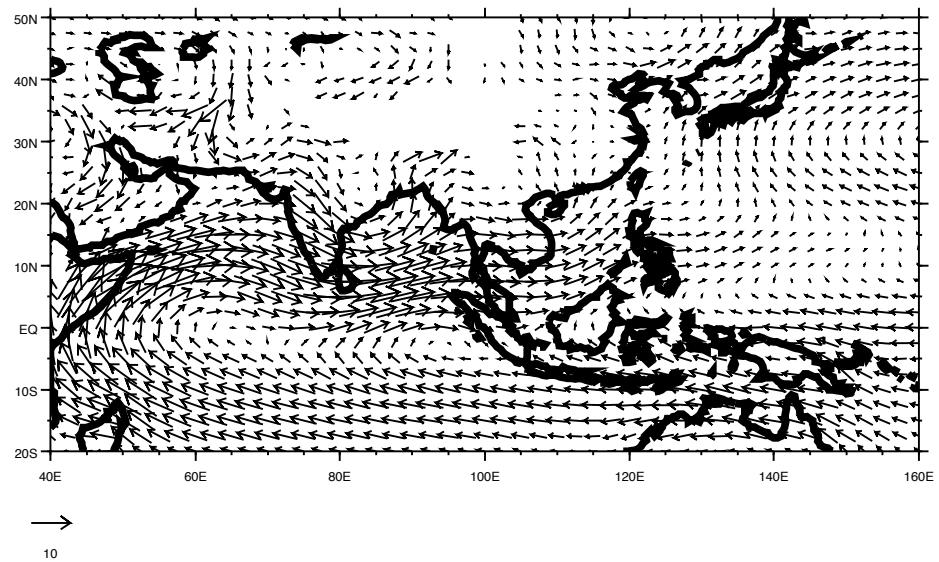
## IPSL-CM5A-LR



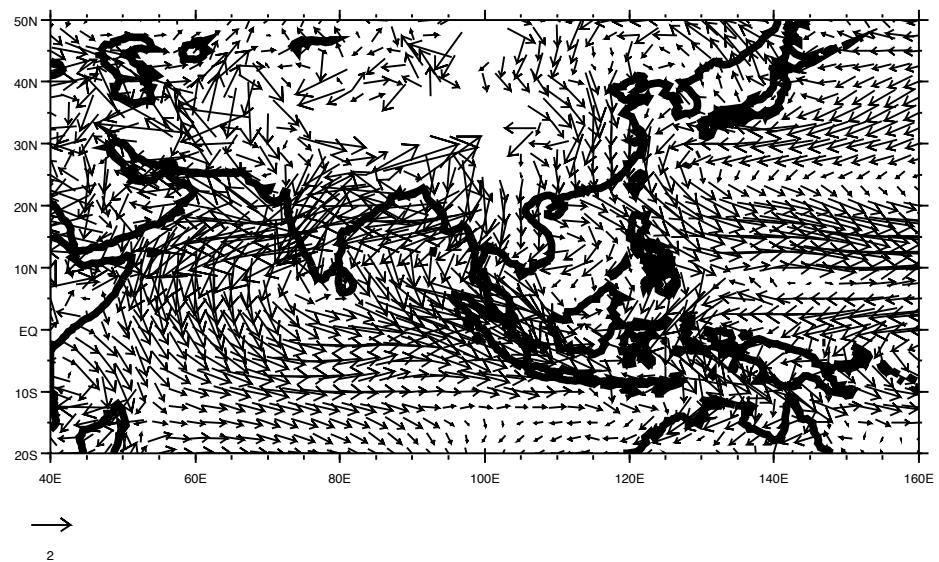
## IPSL-CM5A-LR - ERA40



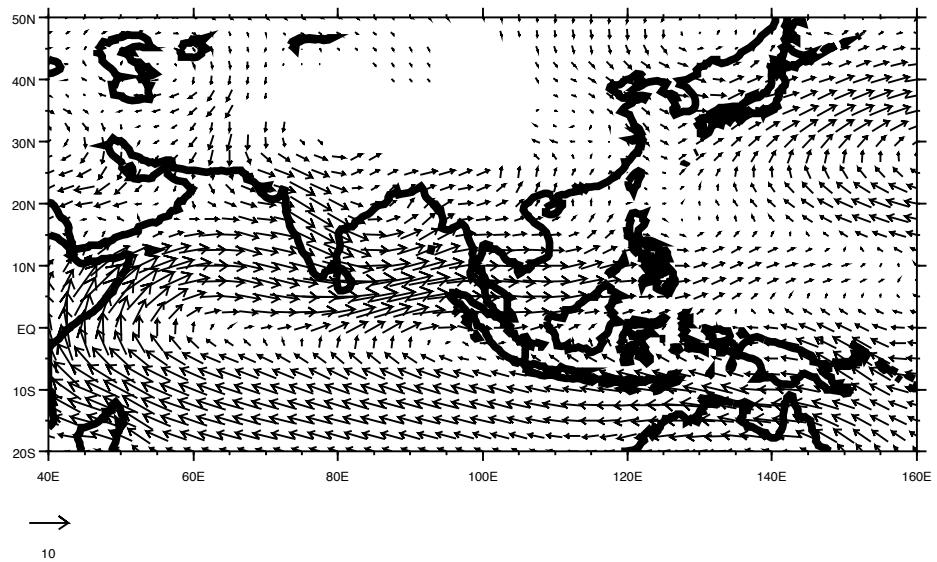
## IPSL-CM5A-MR



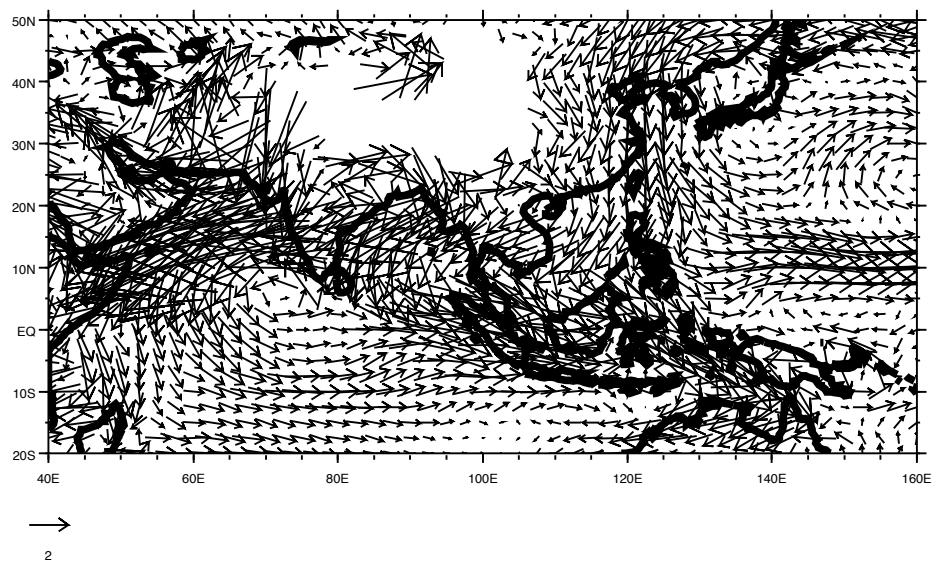
## IPSL-CM5A-MR - ERA40



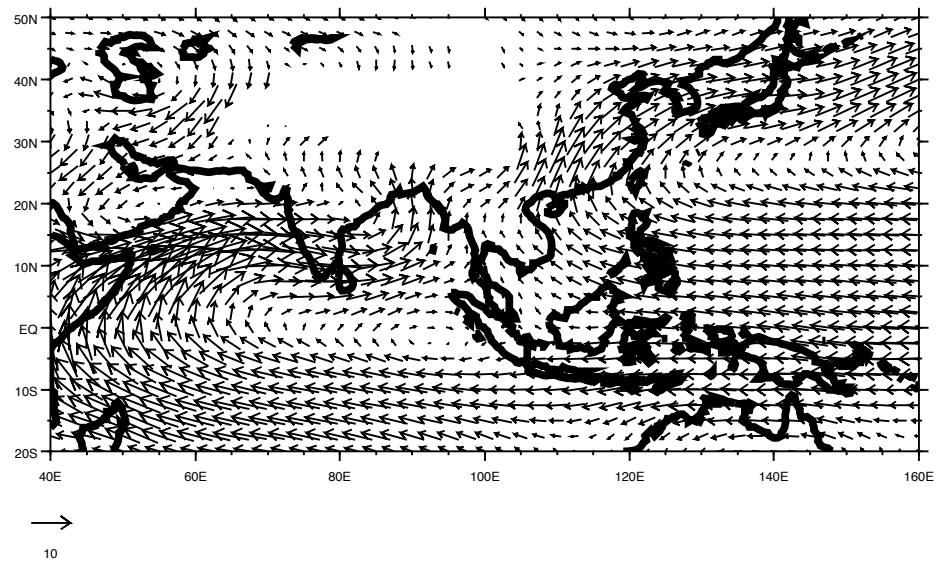
ipsl-cm4



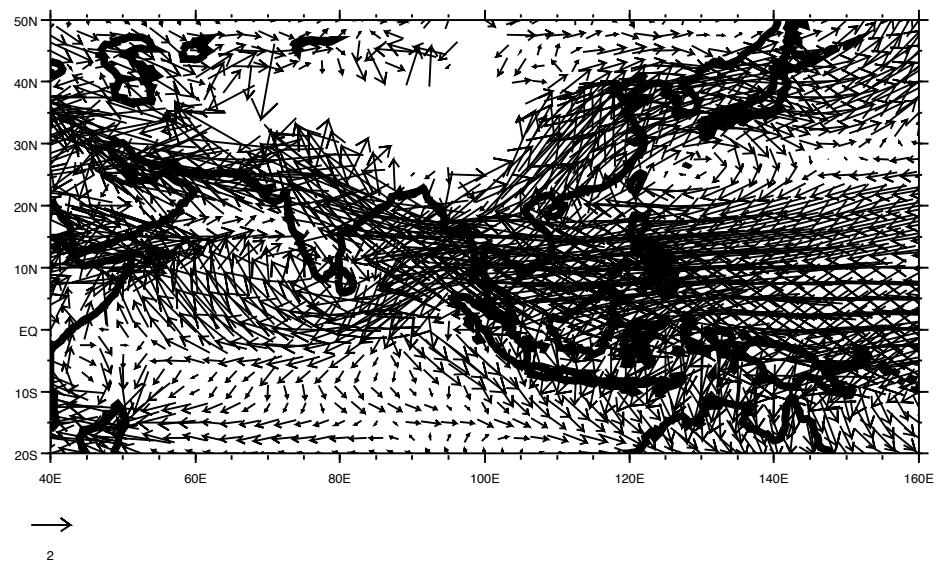
ipsl-cm4 - ERA40



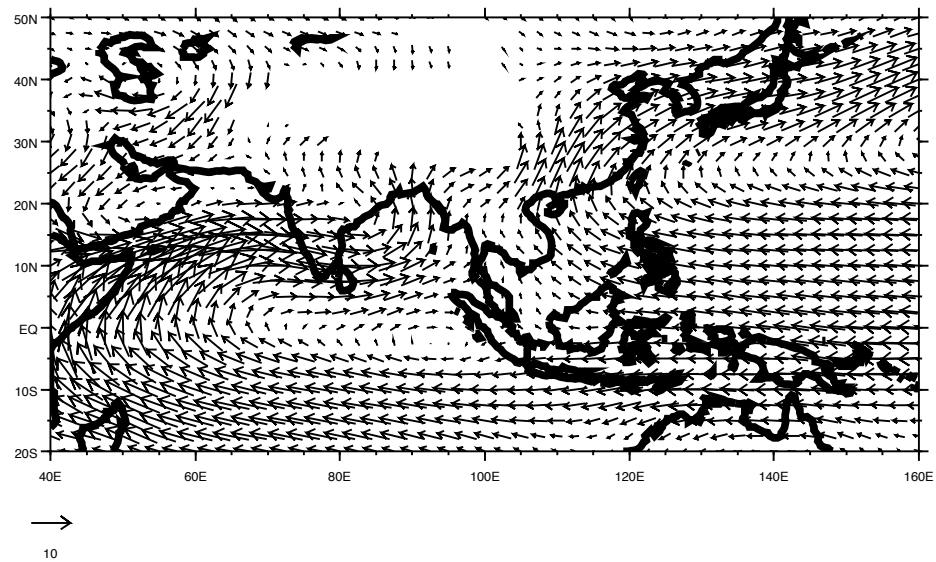
## MIROC-ESM



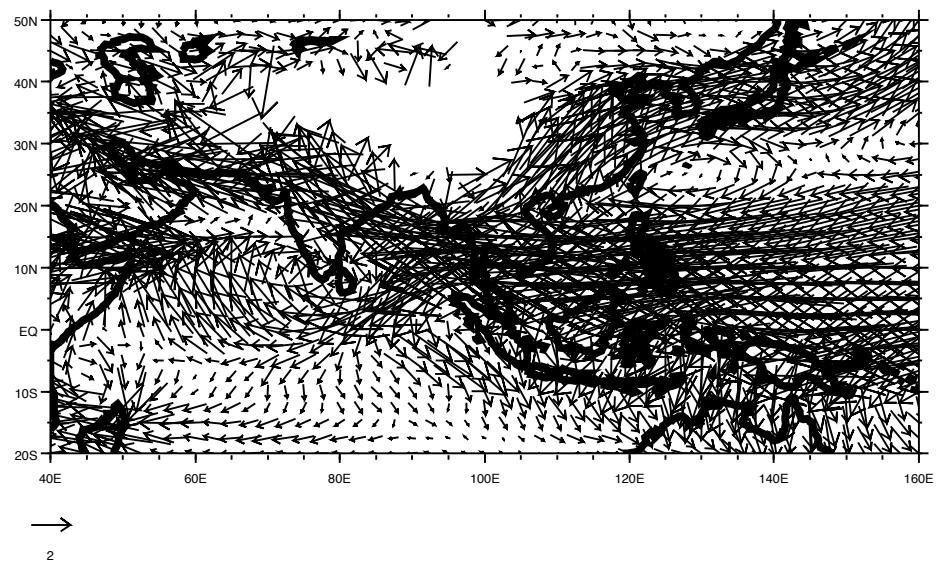
## MIROC-ESM - ERA40



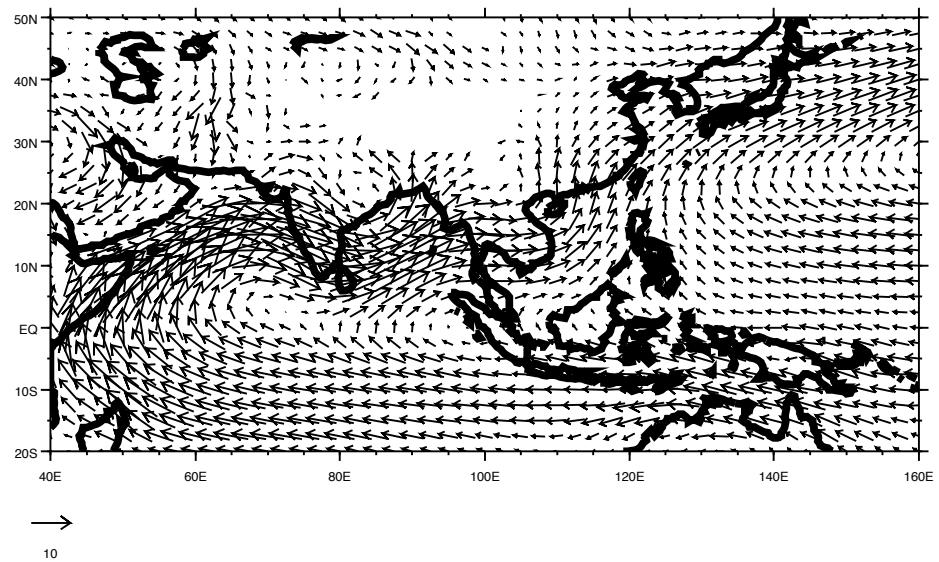
## MIROC-ESM-CHEM



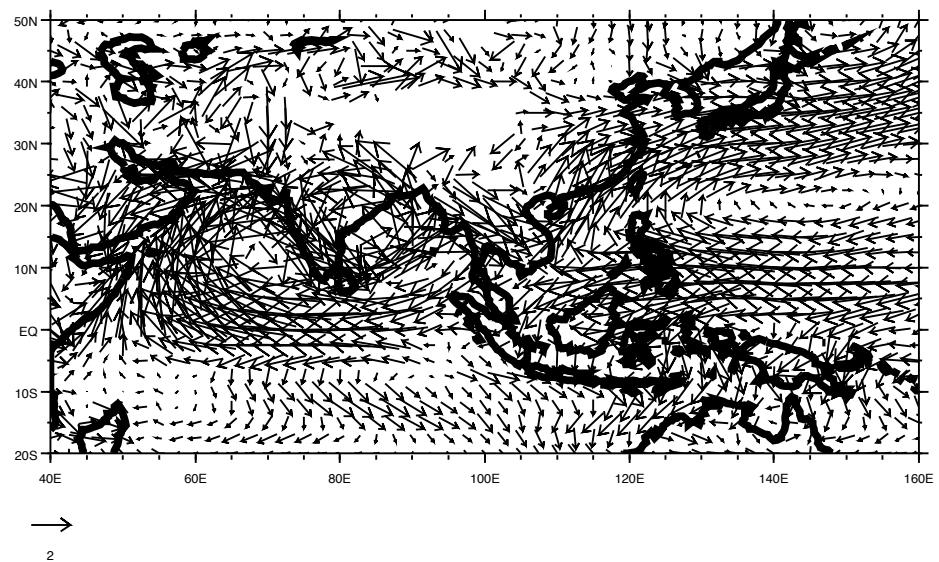
## MIROC-ESM-CHEM - ERA40



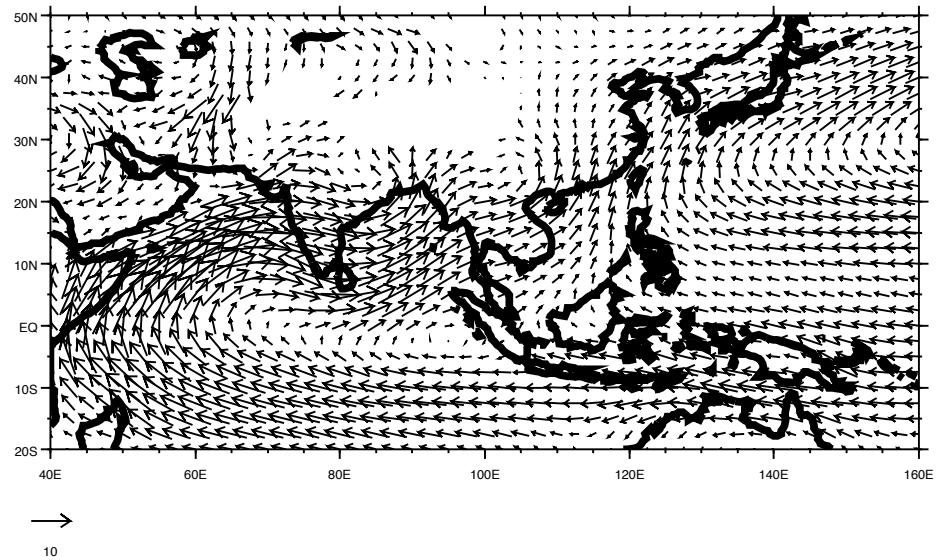
### MIROC4h



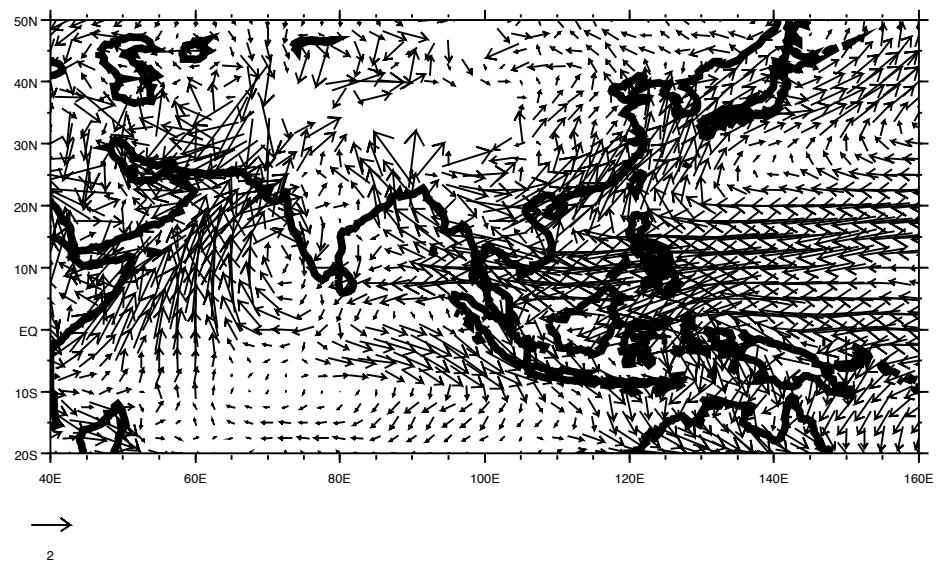
### MIROC4h - ERA40



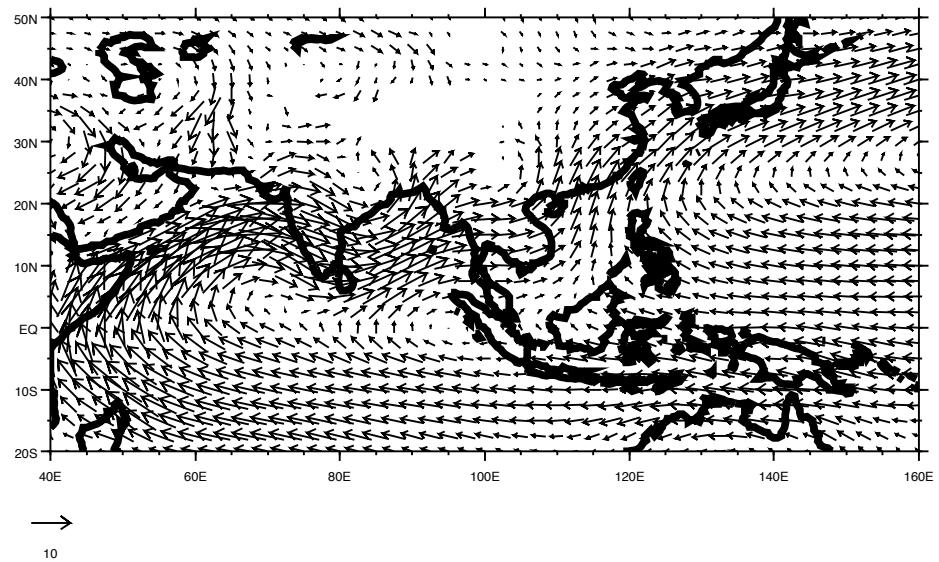
## MIROC5



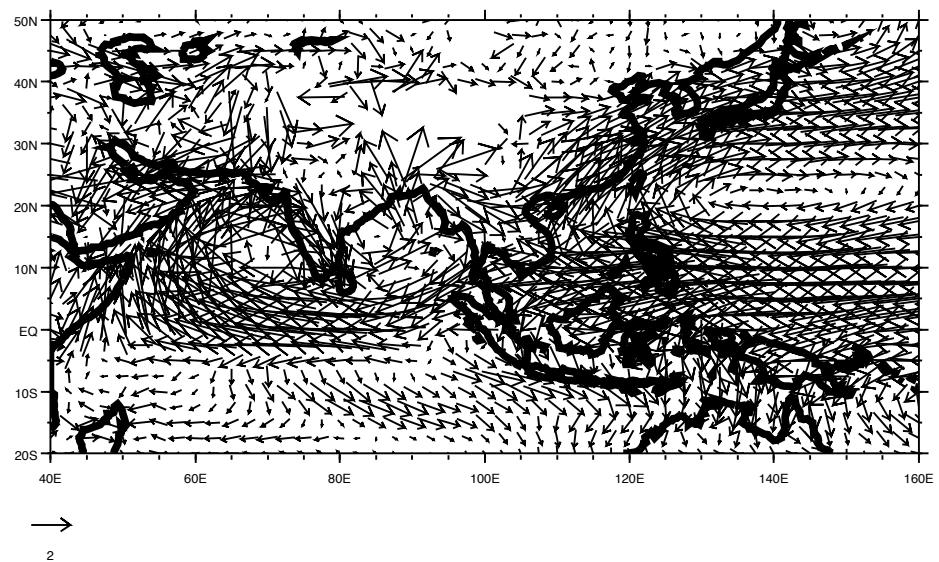
## MIROC5 - ERA40



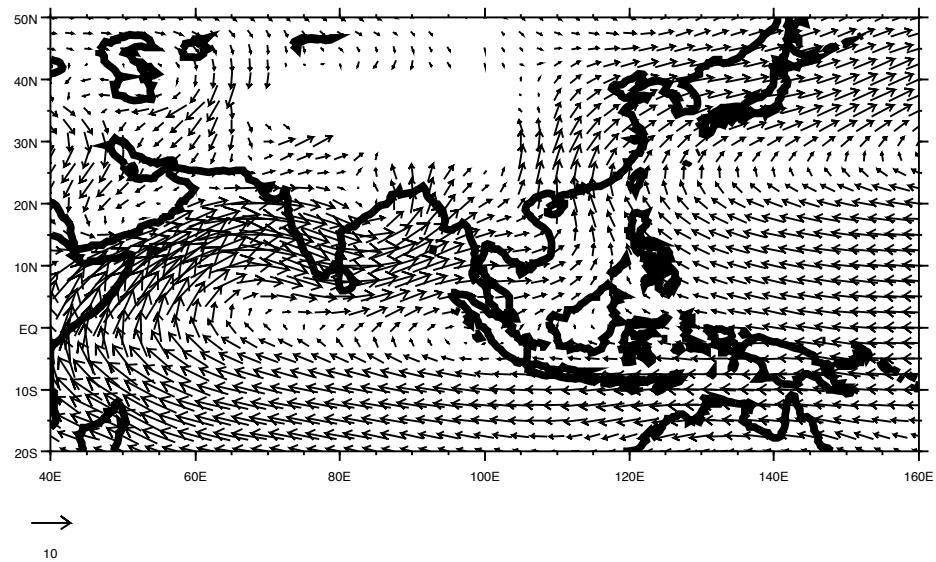
miroc3.2 (hires)



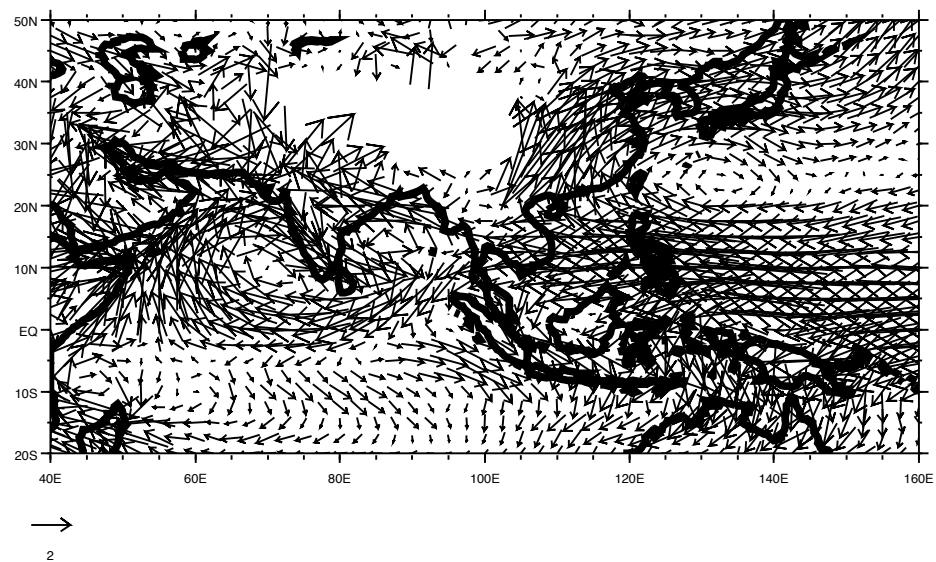
miroc3.2 (hires) - ERA40



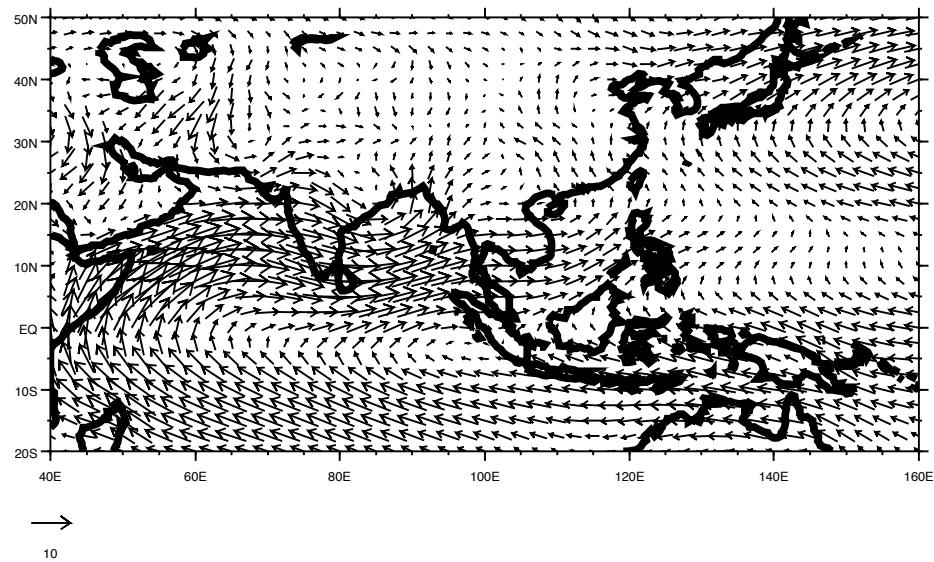
miroc3.2 (medres)



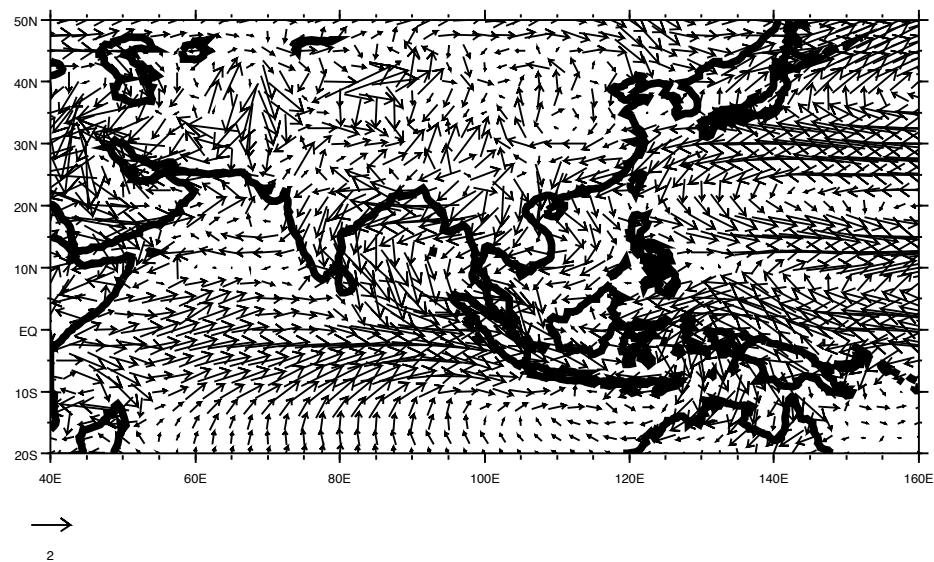
miroc3.2 (medres) - ERA40



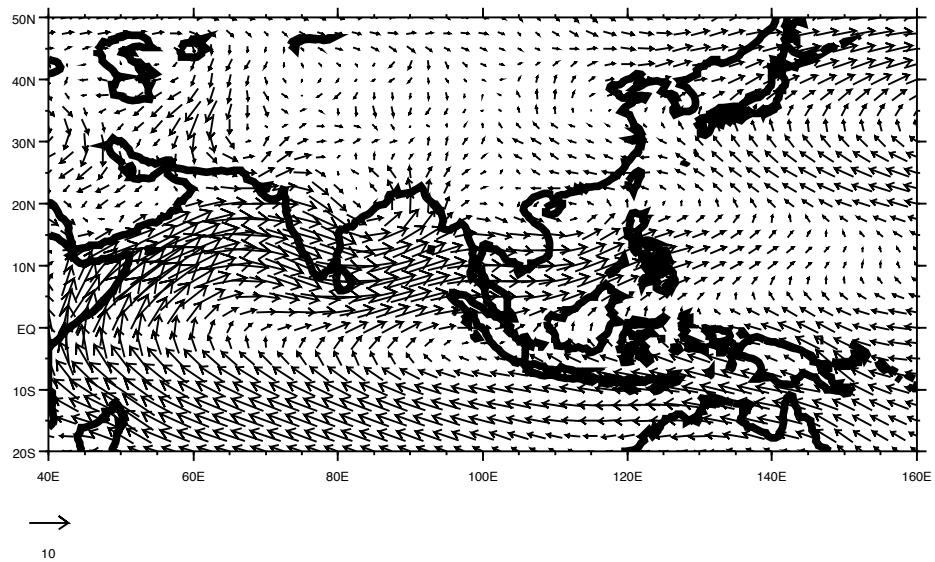
## MPI-ESM-LR



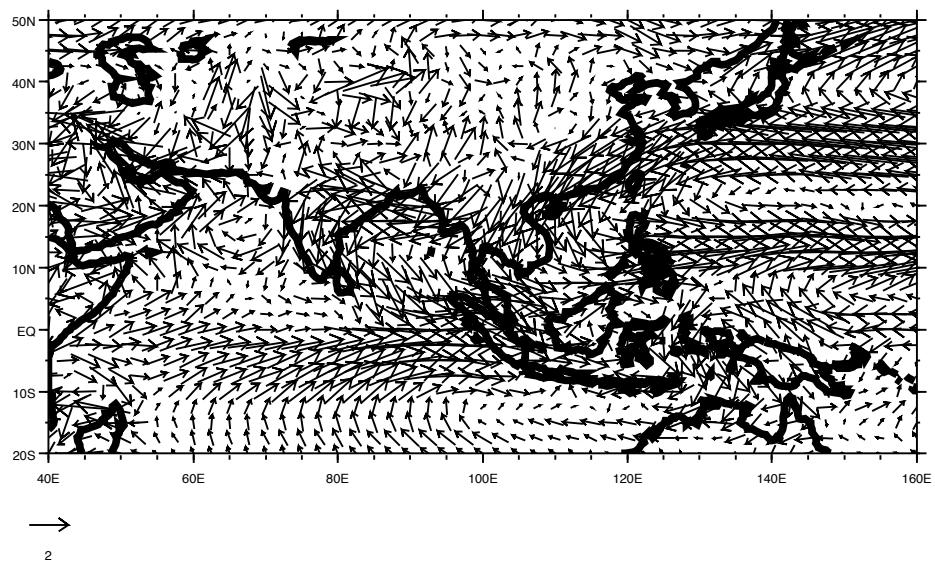
## MPI-ESM-LR - ERA40



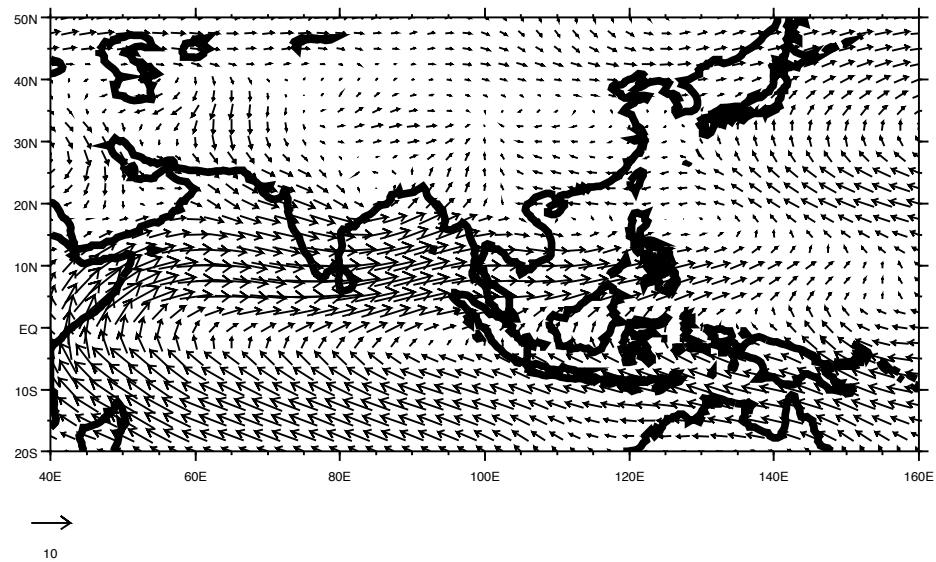
echam5/mpi-om



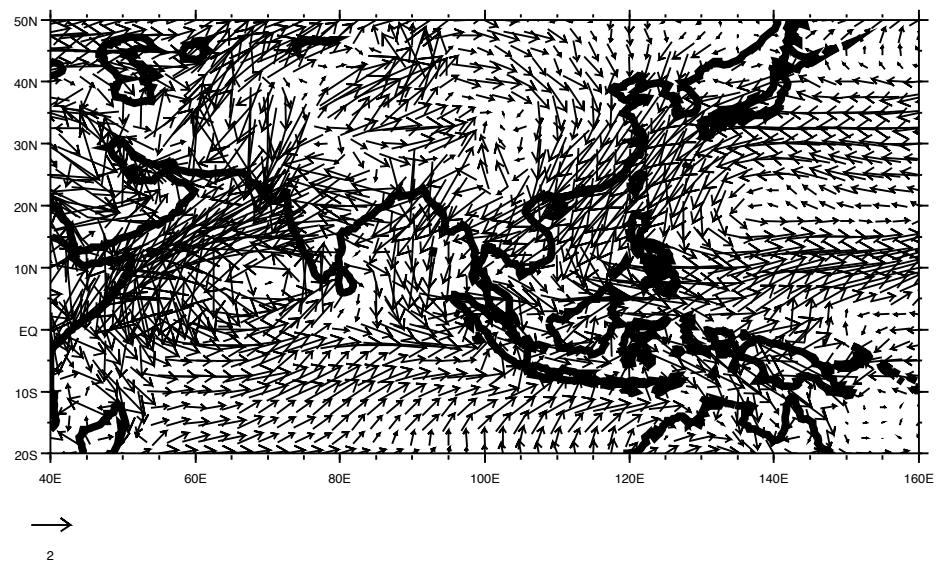
echam5/mpi-om - ERA40



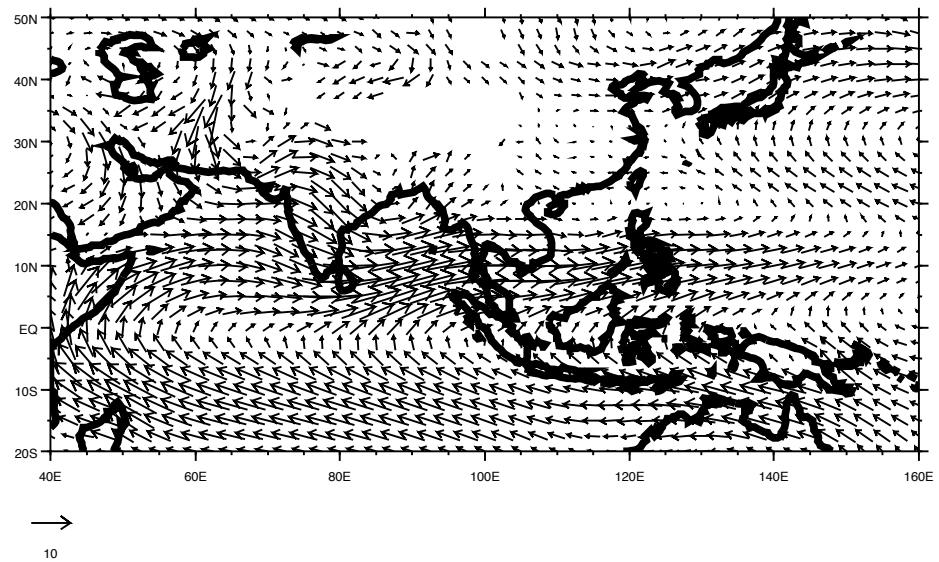
echo-g



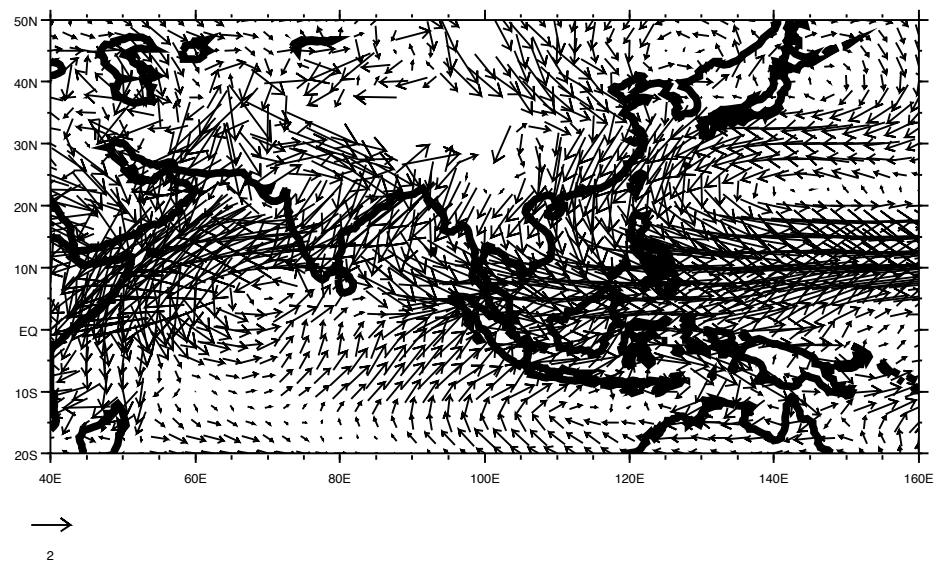
echo-g - ERA40



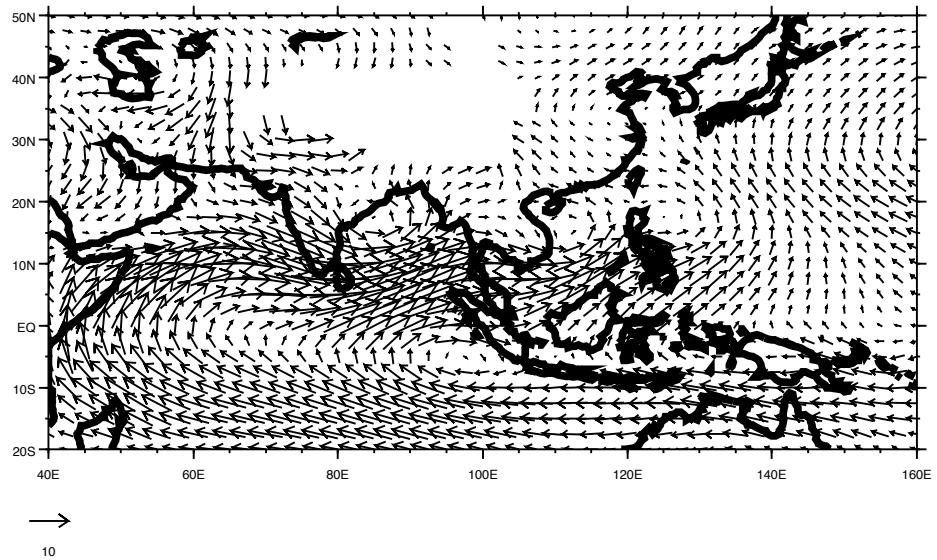
## MRI-CGCM3



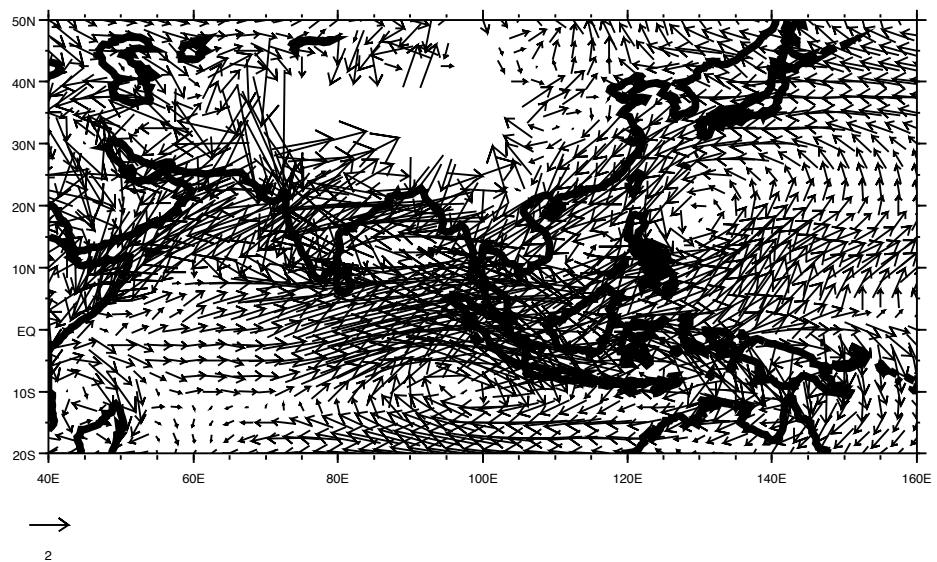
## MRI-CGCM3 - ERA40



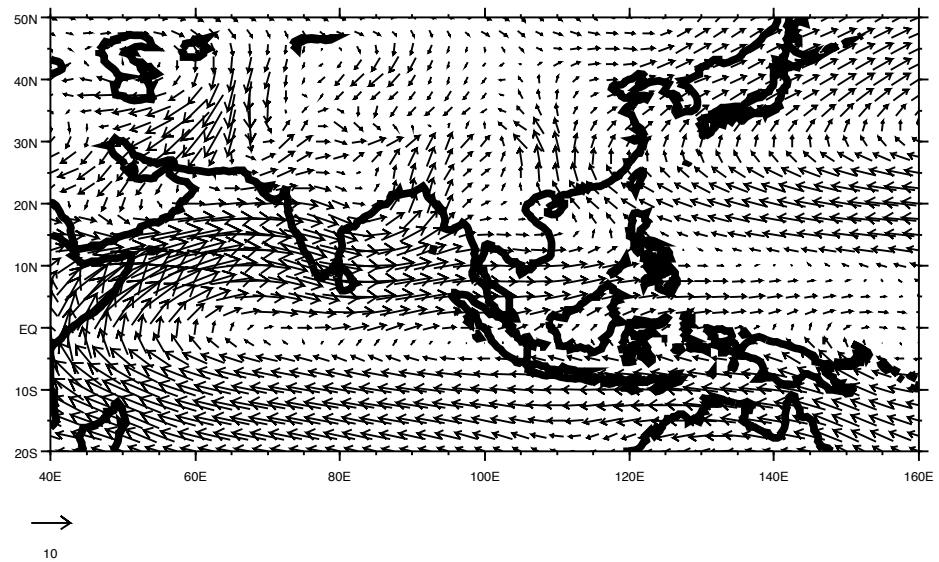
mri-cgcm2.3.2



mri-cgcm2.3.2 - ERA40



## NorESM1-M



## NorESM1-M - ERA40

