Anomaly-Persisted Sea Surface Temperature Boundary Conditions for GLACE-2

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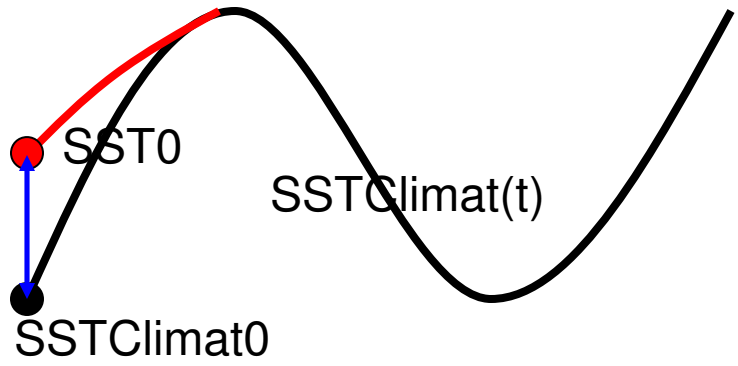
Methodology

SST data: Hadley monthly mean SST data
Period: 1949 to 2000

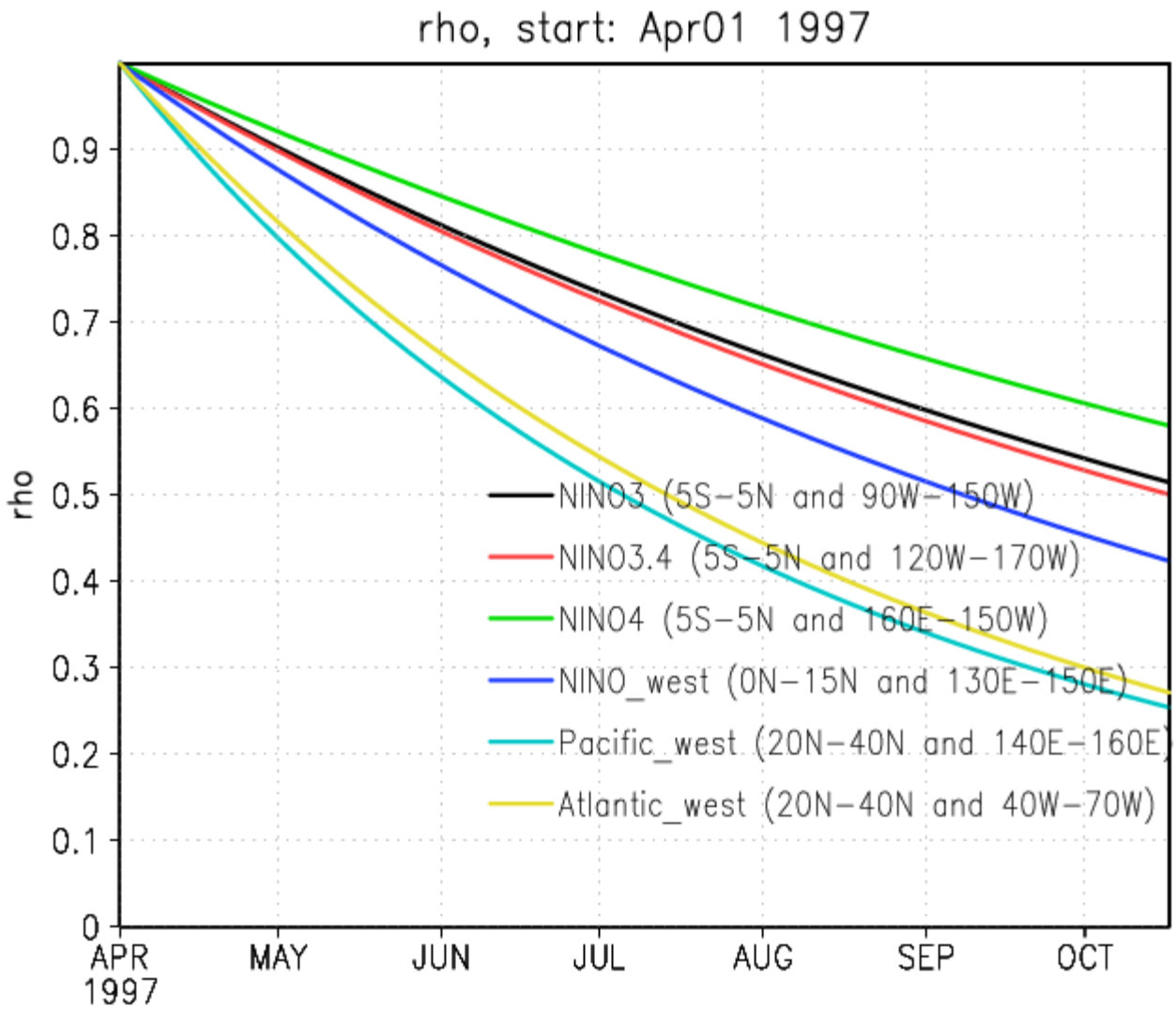


SST(t)=(SST0-SSTClimat0)*rho(t)+SSTClimat(t)

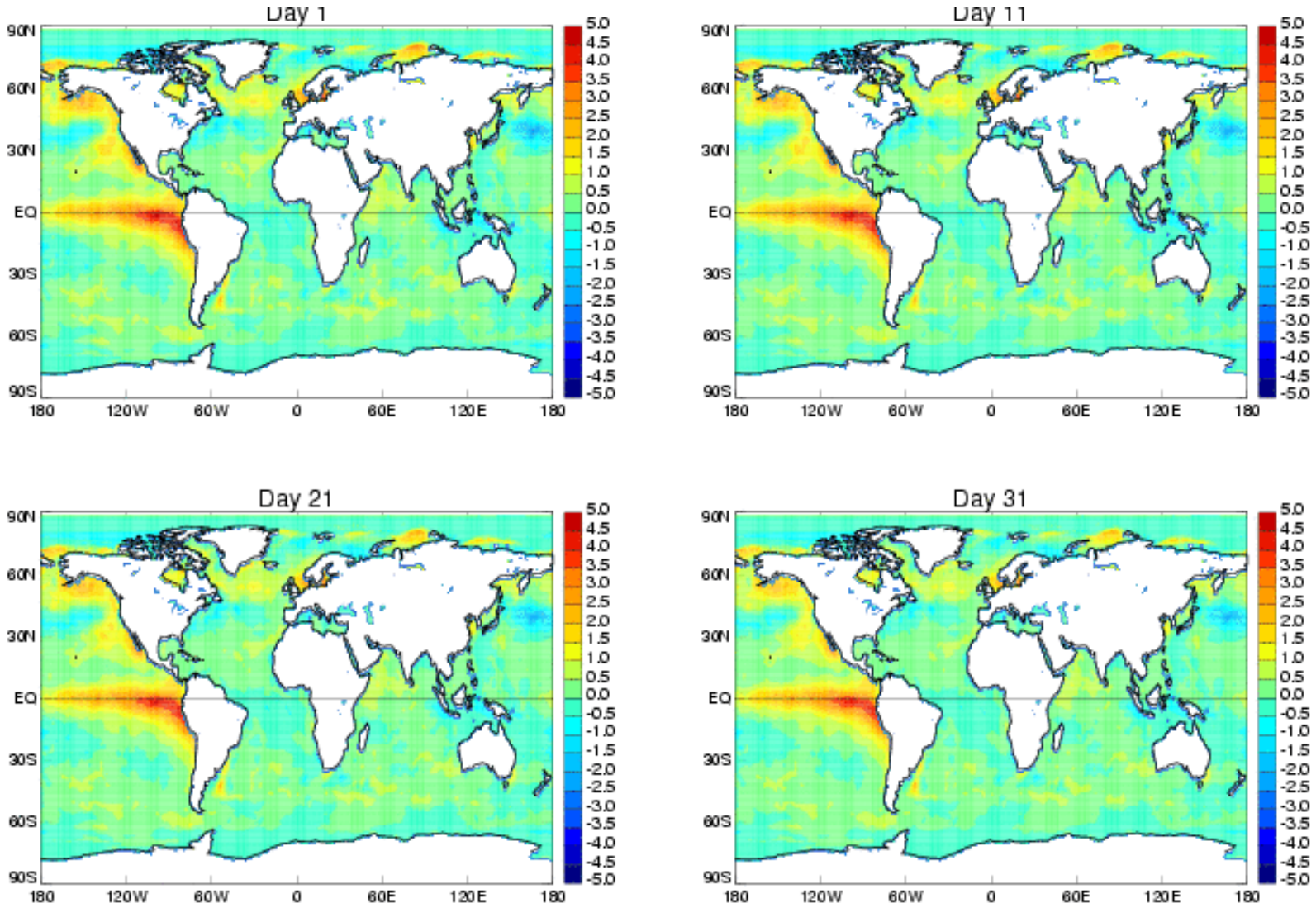
SST0: Initial state of SST (e.g., 19970401)
SSTClimat0: Climatology on start date (derived from all years but target year)
SSTClimat(t): Monthly climatology at time t (derived from all years but target year
SST0-SSTClimat0: SST anomaly at initial date
rho(t): scaled size of anomaly (0 to 1) at time t based on auto-correlation analysis

Persistence of SST Anomaly

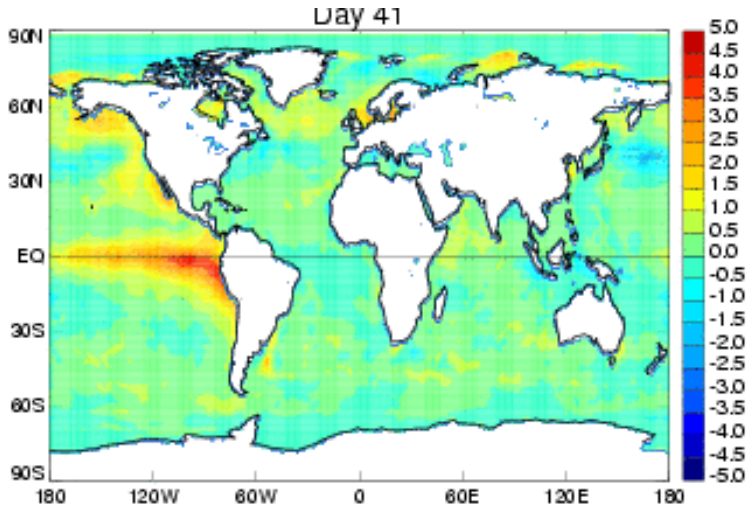
SST(t)=(SST0-SSTClimat0)*rho(t)+SSTClimat(t)

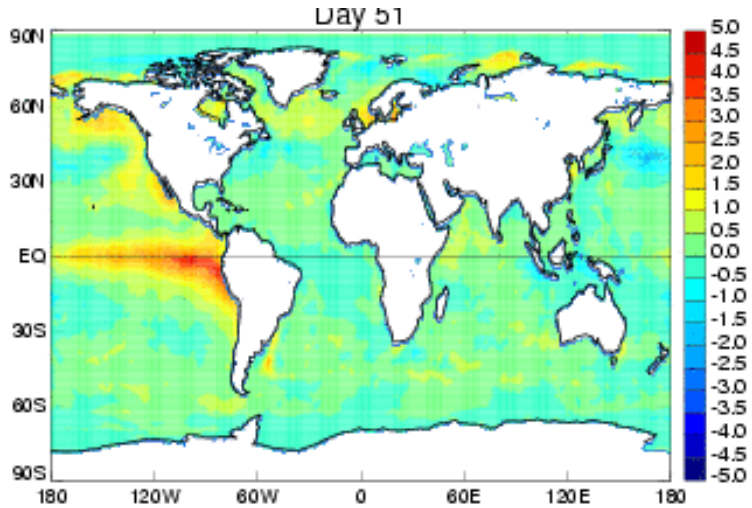


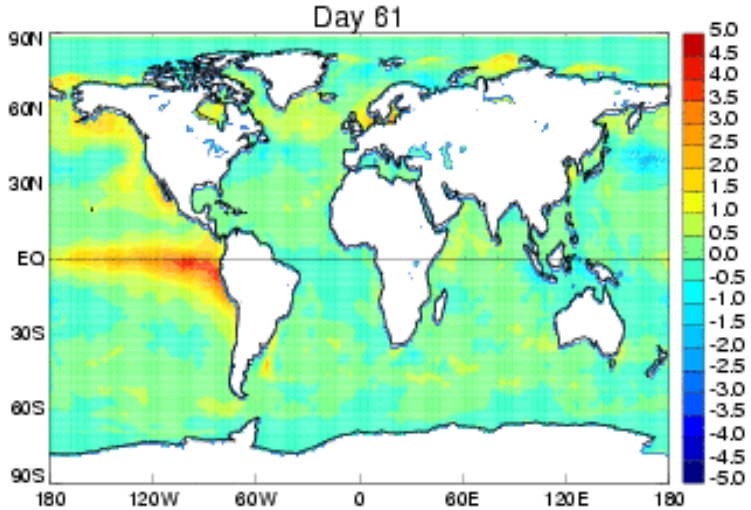
SST Anomaly
Start date: July 1 1997. Day 1 to Day31

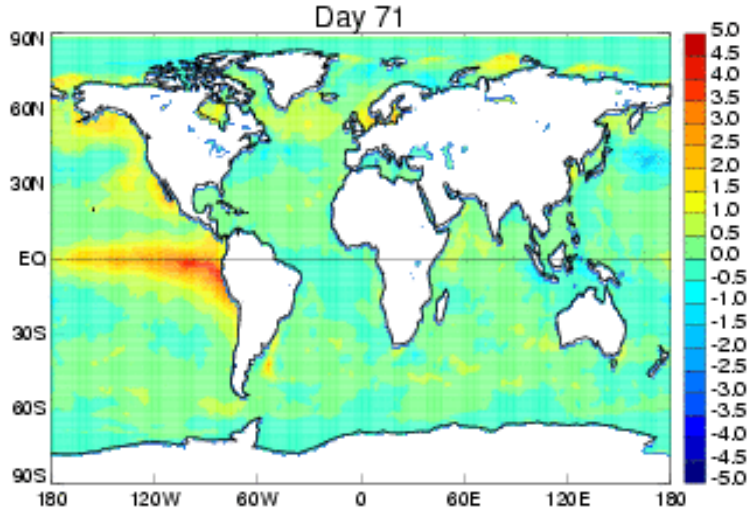


SST Anomaly
Start date: July 1 1997. Day 41 to Day71

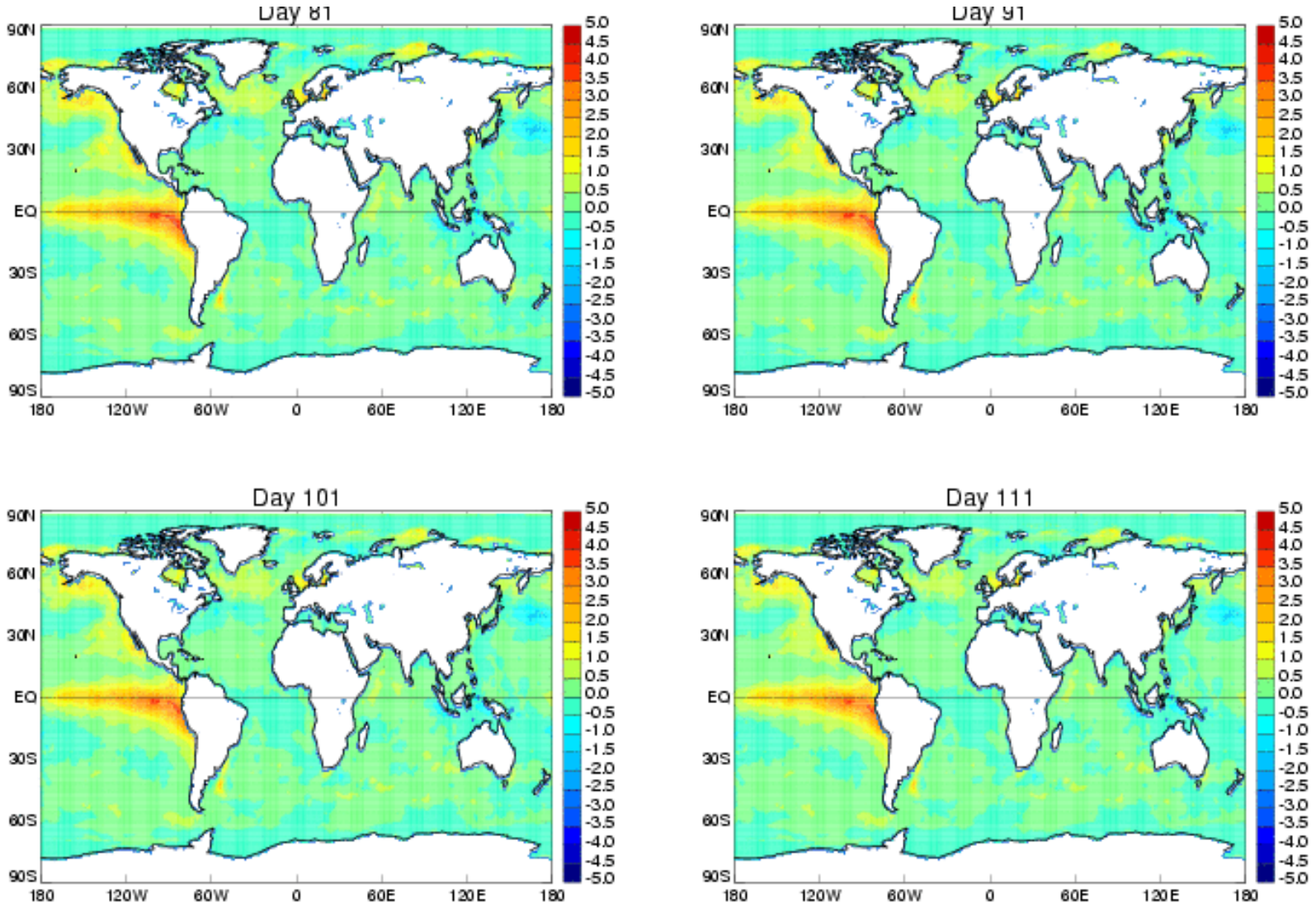








SST Anomaly
Start date: July 1 1997. Day 81 to Day111

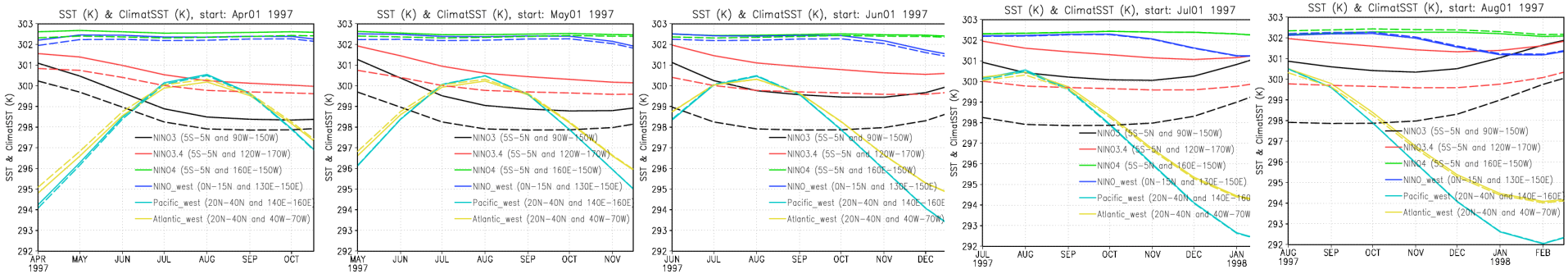


Persisted SST vs. Climatology

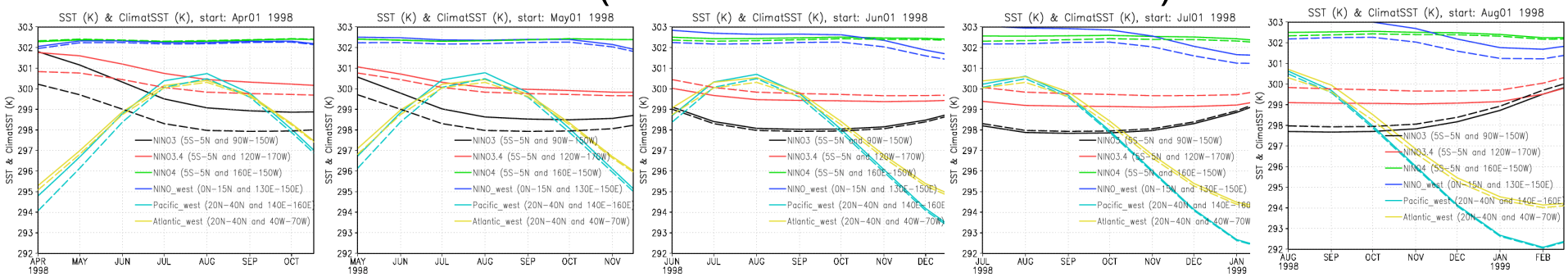
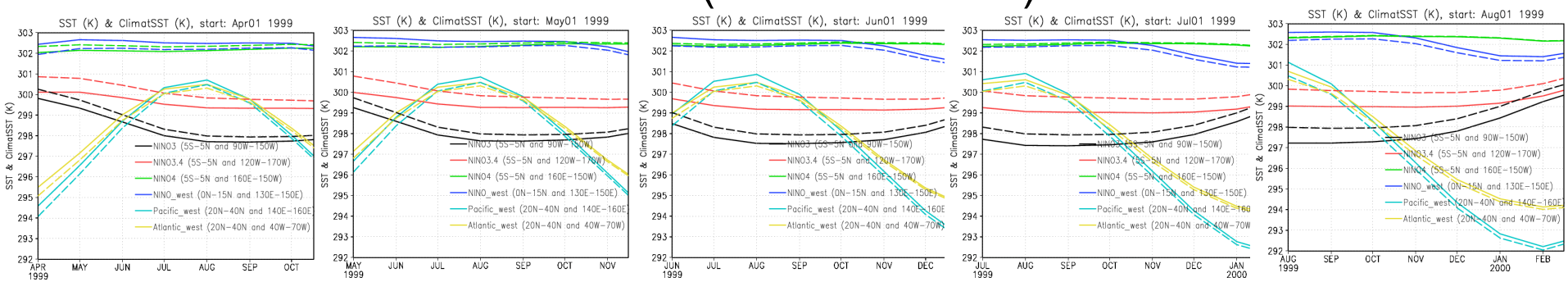
: SST (product)
: SSTClimat (monthly mean)

1997 (El Nino Year)

April May June July August



1998 (El Nino to La Nina Year)



1999 (La Nina Year)