

# 3<sup>rd</sup> International Conference on Hydrology & Meteorology

September 15-16, 2014 Hyderabad International Convention Centre, India

## Possible role of equatorial Indian Ocean on Indian monsoon

**K Muni Krishna**  
Andhra University, India

Monsoon rainfall is the important parameter to the Indian Economy. The seasonal reversal of wind direction occurring in May brings abundant moisture from the warm waters of the tropical ocean to the Indian continent. This study examines the role of equatorial Indian Ocean (EIO) sea surface temperatures on convection and intra-seasonal variability of the southwest monsoon and also the moisture supply from the EIO to Indian sub-continent. For this study Hadley sea surface temperature, IMD rainfall, NCEP-NCAR sea level pressure, outgoing long wave radiation, wind and velocity potential data sets are used. The sea surface temperature anomalies at EIO and rainfall show a good relation. Moisture dynamics at EIO also reveals very interesting feature about the convective activity. Statistical tests are also conducted to find out the relation between SST, moisture, convection and rainfall.

### Biography

K Muni Krishna has completed his PhD at the age of 28 years from Andhra University. He joined as a faculty in the same Institute from 2008 to present. He has published more than 20 papers in reputed national and International journals and has been serving as a Guest Editor, editorial board member and reviewer of various national and international journals. He also received several honors and awards from International organizations.

[munikrishna@yahoo.co.in](mailto:munikrishna@yahoo.co.in)

## The dynamics of runoff of Aghstev River in the conditions of climate change in the territory of the republic of Armenia

**Varduhi Margaryan**  
Yerevan State University, Armenia

Aghstev is a right side tributary of Kura. The length of river is 133 km, the surface of catchment basin is 2589 km<sup>2</sup> (in the Republic of Armenia 81 km and 1730 km<sup>2</sup> accordingly). Lower reaches of the river is in Azerbaijan. Taking a count the role and significance of Aghstev, it has to study, estimate and forecast the annual runoff in the conditions of global climate change. In this work have been solved the following tasks: to study and analyze main physics- geographical factors, which determine the annual runoff, collect, work out and estimate meteorological and hydrological elements of river basin, to forecast the annual runoff in the conditions of global climate change. For estimation of regularities of space-temporal changes of river runoff and study, analyze, forecast it have been used mathematic-statistic, analyze and synthesis, analogy, geography, interpolation and other methods. For estimation or forecast the influence of climate change is necessary to know about quantitative climatic changes, which will be in future. But for forecast of future climate there are not reliable methods yet. Instead of them are being chosen some climatic scenarios of future climate. The changes of annual runoff of Aghstev have been estimated for three scenarios of climate change: 1)  $t+1.5; 0.9X$ , 2)  $t+2.0; 1.1X$ , 3)  $t+2.0; 0.85X$ . So, possible vulnerability of runoff in basin is more close to 2-nd scenario. In case of keeping of nowadays tendency of change of air temperature and atmospheric precipitation is possible increasing of annual runoff of river even up to 15-25 %, in period of 2030-2070, unlike of other areas of republic. In means, the climate change not only negative, but also positive influence can be have on river runoff.

### Biography

Varduhi Margaryan graduated geographical faculty of Yerevan State University. He/She defended the candidate thesis and is author of more than 50 scientific articles. He/she is an assistant in YSU.

[vmargaryan@ysu.am](mailto:vmargaryan@ysu.am)