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PREDICTION & ESTIMATION OF SPATIO-TEMPORAL CHANGE IN GETZ ICE SHELF WEST ANTARCTICA

Abstract

The Antarctic Ice Shelf continuously modifies land ice and ocean boundaries and is important to understand the global climate change and sealevel fluctuations. coastline in the Amundsen Sea, releasing Getz Ice Shelf covers about half of the West Antarctic one of the largest amounts of meltwater due to ice shelf basal melt than any other Pacific sector ice shelves. To assess long extent (about 505 km) , multi– term morphological changes in the Getz Ice Shelf dated Moderate Resolution Imaging Spectro of the austral summer (JanuaryMarch) for a period of 2003— radiomete r (MODIS) satellite data 2019 were utilised. Based on ocean process and physiographic location, into differen Getz Ice Shelf was divided into three Sectors (I, II, III), and each sector was studied t transects at 5 km uniform intervals. Past ice shelf extents were reconstructed and predicted ice shelf position for the next 5and 10years. The rate of changes in Getz Ice Shelf extent was estimated statistically using end point rate (EPR), average of rates (AR) and linear regression (LR), and cross with correlation coefficient and rootmean– validated square error (RMSE) methods. The change rates computed using the EPR, AOR, and LR techniques reveal a higher degree of correlation between LR and EPR val between LR and AOR values. ues than We have observed that Getz Ice Shelf extent has been receded at the rate of m/year during the austral summer of 20032019. Over the 17 years 42 period, about 60