The ice flow velocity is a critical variable in understanding the glacier dynamics. The Synthetic Aperture Radar Interferometry (InSAR) is a robust method for monitoring Earth's surface mainly to measure its topography and deformation. The phase information from two and more interferogram further helps to extract information about height and displacement of the surface. We used this technique to derive glacier velocity for Polar Record Glacier (PRG), East Antarctica using Sentinel-1 Single Look Complex images captured in Interferometric Wide mode. ThePRG is located in the Prydz Bay area on the eastern side of the Amery Ice Shelf. It is about 50 km to the west of the India’s 3rd Antarctic research station Bharati. It is the largest outlet glacier along the Ingrid Christensen Coast, bounded by Meknattane Nunataks and Dodd Island. For velocity estimation, Persistent Scatterer interferometry (PS-InSAR) method was applied. This method uses time coherent of permanent pixel of master images and correlates to same pixel of the slave image to get displacement. C-band sensor of European Space Agency, Sentinel-1A and 1B data were used in this study.

 Estimated average velocity of the PRG is approximated to be≈400 m/year which varies from ≈100 to ≈700 m/year.This study found that PRG moves with a velocity of ≈700m/year in lower parts whereas the upper inland area flows with a velocity of ≈200m/year. The western part of the glacier is moving faster in comparison with the eastern part of the glacier.