Snow observations from space plays important role in hydrological and climatological studies. They are especially important in remote areas with low (or none) population and sparse conventional observations at the ground. From the second hand, at mid latitudes is expected improvement of snow melt models by assimilation of spatially distributed data concerning snow water equivalent or snow depth derived from microwave satellite data. Paper presents discussion on several problems with satellite derived snow observations focusing on JAXA GCOM-W1 snow depth product. This product was analysed for period 1 Oct. 2012 to 30 Apr. 2013 for the area of Poland and verified against ground observations. Benefits and disadvantages of this products were discussed in comparison to other satellite microwave products concerning snow properties. Problems with proper validation against “ground truth” were also highlighted. Alternative use of AMSR2 microwave data was also presented.