

Data type	Strength	Weakness
gauge	original ground measurements long application	coarse distribution undercatch of snow and rain due to wind manual errors high expense or unavailability for political reasons
satellite	spatial observations quality not affected by wind or other weather conditions	dependence on platforms and sensors bias caused by snow and ice
interpolations	consistent with traditional ground observations	Inadequacy of interpolating methods unavoidable inferiors inherited from gauge measurements
output from climate models	consistent with other meteorological parameters possibility to measure uncertainties	inadequacy in algorithms, boundary and forcing
reanalysis	combination of modeling technique and many types of observations	changes in observation system model error