Climate models predict a significant increase of Antarctic precipitation with global warming, with a negative contribution to sea-level. Direct observation of precipitation on the field is very difficult in Antarctica due to harsh conditions. Therefore very few such observations are available. Accumulation, i.e. surface mass balance that can be evaluated using glaciological rather than meteorological approaches, is only a first order proxy. Even for accumulation, there are very few observations that can characterize the variability at the time scale of the precipitation events. However, detecting precipitation events and their statistics may be significantly more accessible than measuring quantities and their variability. We show that different climate models simulate significantly different statistics of precipitation events (e.g. number of events per year) over Antarctica. Field data are acquired by a drisdrometer capable of measuring precipitation and blowing snow. Acoustic snow gauges are then used to discriminate precipitation events and blowing snow events. We show that preliminary observations of precipitation events on the field only partially agree with the models. While satellite remote sensing of Antarctic precipitation quantities is less than convincing, teledetection of precipitation events may be possible, thus offering a large scale sensitive constraint on models ability to simulate and predict Antarctic precipitation.