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Impact-Based Warnings of Severe Thunderstorms in South Africa

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Annually, severe thunderstorms cause devastation in places across South Africa. The South African Weather Service is currently in the process of moving towards issuing warnings based on the impact the weather is expected to have on society and not on meteorological thresholds. Impact-based forecasting uses a combination of the level of the impact and the likelihood of that impact occurring. The impact level is determined using an impact table that has been specifically created for severe thunderstorms using input from the local South African Disaster Managers.
The thresholds that define severity of a thunderstorm will remain the same. These thresholds are, large hail, large amounts of small hail, strong and damaging wind as well as localised flooding or flash-flooding. The potential impact a severe thunderstorm can have on an area will mainly be based on whether the area is populated or not. Areas that have a higher population will result in higher impacts as more people could be affected. Another factor that will be used to determine the level of impact is the time of day, during peak hour traffic large amounts of people are outside and are therefore more vulnerable. The project is currently in a pilot phase where the warnings are not issued to the public, but are rather only distributed to the relevant disaster managers.