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Pilot Project for Early Warning; The CHUVA-SOS

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This study describes an operational tool for severe storm nowcasting using radar, lightning network and satellite images. The system is a Web based Geographic Information System called SOS-CHUVA (Severe storm Observation System using data for the CHUVA project). This system is a useful tool to interpret, sumarize and integrate the environmental information and display or sends warning for emergency management groups. This is an open access system to also serve the population giving real time information to reduce citizen vulnerability. CHUVA (Rain in Portuguese) is a research project to study the cloud process of the main precipitation regimes in Brazil. Take advantage of the instrumentations employed in each campaign a nowcasting pilot project is set up for each region, including the specific vulnerability and needs. The SOS-CHUVA shows real time high resolution radar and lightning data (update each 6 minutes, timeliness smaller than 10 minutes) the forecast for the next minutes and the probability to happen lightning, among several others functions. For the regions outside radar coverage, the system has the hidroestimator and the HidroTrack, a precipitation estimation and nowcasting for the next two hours. The system also has the 24 hours, high resolution BRAMS-1 km weather forecast. All information available in SOS-CHUVA are based in nowcasting tools developed or adapted specific for this matter.