

## **Towards an automated event verifier**

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An important task at the Swedish National Seismic Network (SNSN) is the operation of an early warning system and production of a bulletin of globally significant earthquakes. For each event a simple hazard analysis is performed, classifying the event as unlikely, potential or likely to cause harm to society. The customers of this product are Swedish civil protection and crisis management authorities. The system is run in a highly automated manner with only limited human interaction. Input data to the system are event parameters from our in-house processing using Seiscomp3 and a virtual global network of stations, made available to us either directly from collaborating institutes or via IRIS and GFZ, as well as event parameters published by EMSC and USGS. After the initial alert, event parameters and classification are continuously updated as more data on the event becomes available. Being automated and targeted at early warnings, the system will occasionally have to deal with spurious events. At SNSN we are therefore investigating the feasibility to construct an event verifier. The basic idea is to emulate the decision made by a seismologist viewing a section of recorded traces, sorted by epicentral distance, and expecting to see direct P-phase arrivals on most traces out to the most distant phase pick. Here we will report on the current status of this project.