

### **3.3-P36. The waveform analyst workload paradox**

'Improvements' in automatic waveform processing that would reduce analyst workload are distinguished from those that would increase it. Analysts are the most numerous specialists in CTBTO, and their tasks the most costly. So reducing their number is an important long-term goal. Nevertheless, the average time taken to analyse one hour of events (first pass analysis) has increased from 1.5 hours in 2003 to over three hours in 2014. Densification of the IMS network and the introduction of infrasound analysis are two reasons; automatic seismic data processing has changed little. Any improvement in automatic processing that increases the number of events increases analyst workload whether those additional events are 'good' or 'bad'. Genuine improvement in the performance of automatic processing through the detection and location of more real events using valid signals must be more than outweighed by a reduction in time-wasting analyst actions such as retiming signal onsets, re-beaming array signals and discarding 'bad' events. It is therefore concluded that improvement should focus on station-specific tuning of processing parameters, automatic onset timing, and signal association, rather than (say) introducing algorithms designed to build more events automatically.

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