

## NET-VISA: Evaluation of event location performance compared to SEL3, and NEIC PDE

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The CTBTO's International Data Centre is in the final stages of implementing NET-VISA to perform the automatic association and location steps in the next generation IDC software. NET-VISA applies a Bayesian approach with a forward physical model using probabilistic representations of the propagation, station capabilities, background seismicity and noise statistics to obtain the maximum a posteriori solution to the highly nonlinear problems of phase association and event location. NET-VISA has been running operationally at the IDC in parallel with SEL3 since August 1, 2017. We compared 17 months between August 1, 2017 and January 1, 2019 of NET-VISA and SEL3 bulletins to the NEIC PDE bulletin as well as relocations of NET-VISA and SEL3 bulletins with the iLoc location algorithm using travel-time predictions from the global 3D RSTT model to assess the performance of NET-VISA in terms of completeness of the automatic events and location accuracy.

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