

# Monitoring System Station Performance Over Time Using Reported Parametric Data from the International Seismological Centre Bulletin

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Many of the primary and auxiliary seismic stations of the International Monitoring System (IMS) have been in operation for more than 20 years. Tracking changes in station performance for this duration can prove challenging, requiring continuously reported data across the time period. Using phase picks reported to the International Seismological Centre (ISC) it is possible to evaluate historical changes in individual stations performance. Metrics which are used to track changes at the stations include; average monthly travel time residuals, evaluation of travel time residuals by distance and hypocentre location and comparison of reported polarities with available earthquake mechanism solutions. These metrics can indicate when a station polarity was inverted or highlight an improvement in travel time residuals occurring over a short time period. We will show how best to access this information using the CTBTO link to the ISC database and highlight historical examples of changing station performance. Additionally, where station response files are publicly available for IMS stations we will demonstrate independent response file checks currently being developed by the ISC.

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## Promotional text

Parametric data from the ISC Bulletin can be used to identify changes in IMS station performance providing the opportunity to evaluate station quality metrics and demonstrating constructive outcomes from the exchange of knowledge between the CTBTO and broader scientific community

## Oral preference format

in-person

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