

# The Future Of Seismic Bulletins

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Seismic bulletins are services that seismologists provide to each other by making measurements required for the bulletins, contributing data collected for other purposes, and encouraging financial contributions to agencies that publish bulletins. Use of digital data has changed the services that might be affordable and that most benefit seismologists. Digital waveforms create a capacity, for example, to routinely make a wide variety of phase measurements. But cataloging such measurements may not be a priority. Seismologists prefer bulletins to include moment tensors, for example, even though moment tensors are not based on measurements that are expressed concisely and independently from an earth model. Bulletin agencies might be charged with computing new earthquake parameters from waveforms, but in an era of rapid change any particular parameter may become outdated quickly.

An alternative is better integration of research products, such as incorporation of Harvard moment tensors and Engdahl hypocentres into the ISC Bulletin. If appropriate protocols were adopted this could be made dynamic so that when Engdahl, say, recomputes magnitudes with a new attenuation model the next user querying the ISC on-line Bulletin would retrieve the latest results. Databases of phase measurements such as shear-wave splitting and normal mode spectra that already exist might be linked, making it easier to discover for which events in an independent bulletin such measurements exist.

Another possibility is offering seismologists more capabilities in manipulating existing data types. Given a selection from a bulletin of absolute hypocentres, a seismologist might want to introduce additional measurements or a different travel time model and re-compute relative locations. Such an approach may help to combine the advantages of standardisation (the new locations were computed using an algorithm that the community accepts as trustworthy) with flexibility (the locations were computed with a unique new set of data).