

Menu entry mb

Determines body wave magnitude for teleseismic signals. It needs an amplitude measurement on one or more P waves before, by convention read from **WWSSN-SP** simulated traces. The steps to perform to come to a magnitude determination are:

- Make a source location (e.g. using [Locate Tele](#)) or enter a known location into the [analysis parameter box](#).
- Apply the WWSSN-SP [simulation filter](#).
- Measure amplitudes of **P** waves ([Ampl & Period auto Peak](#), [Ampl & Period auto Zero](#))
- Select the menu entry **mb**.

From all P amplitudes determined a magnitude will be computed. The formula applied is

$$mb = \log_{10}(\text{ampl}/\text{period}) + \text{sigma}(\text{distance})$$

where sigma is (from 16 deg to 120 deg in steps of 1 deg):

```
5.9,5.9,5.9,6.0,6.0,6.1,6.2,6.3,6.3,6.5,6.4,6.5,6.6,
6.6,6.6,6.7,6.7,6.7,6.7,6.7,6.6,6.5,6.5,6.4,6.4,6.5,6.5,6.5,6.5,
6.7,6.8,6.9,6.9,6.8,6.7,6.7,6.7,6.7,6.8,6.8,6.8,6.8,6.8,6.8,6.8,
6.6,7.0,6.9,7.0,7.0,7.0,7.0,7.0,7.0,6.9,6.9,6.9,6.9,6.8,6.8,6.9,
6.9,6.9,6.8,6.7,6.8,6.9,7.0,7.0,7.0,6.9,6.9,7.1,7.0,7.0,7.1,7.1,
7.2,7.1,7.2,7.3,7.4,7.5,7.5,7.4,7.3,7.4,7.5,7.6,7.7,7.8,7.9,7.9,
8.0,8.1,8.2,8.2,8.4,8.6,8.7,8.8,8.9,9.0,9.0,9.0
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