Supporting information for

Seismic Attenuation Tomography from Lombok 2018 Earthquakes, Indonesia

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Table 1 and Figures S1

Introduction

Local earthquake data was used to determine a three-dimensional (3D) seismic attenuation structure around the aftershock source region of the 2018 Lombok earthquake in Indonesia. The aftershocks were recorded by 13 seismic stations from August 4 to September 9, 2018. The selected data consist of 6,281 P wave t^* values from 914 events which had good t^* quality in at least four stations. Our results show that the two aftershock clusters northwest and northeast of Lombok Island have different attenuation characteristics. A low-*Qp*, low *Vp* and high *Vp*/*Vs*, which coincide with a shallower (<20 km) earthquake northwest of Lombok Island, might be associated with a brittle area of basal and imbricated faults which was influenced by high fluid content. At the same time, the high-*Qp*, low *Vp*, and low *Vp*/*Vs* which coincide with a deeper earthquake (>20 km) northeast of Lombok Island might be associated with an area that lacks fluid content. The difference in fluid content between the northwest and northeast regions might be the cause of the early generation of aftershocks in the northwest area. The significant earthquake that happened on August 5, 2018, took place in moderate *Qp*, close to the contrast of high and low *Qp* and high *Vp* which suggests that the earthquake started in a strong material before triggering the shallower aftershocks which took place in an area affected by fluid content. We also identified an old intrusive body on the northeast flank of the Mt. Rinjani, which was characterized by a high-*Qp*, high-velocity, and a high Bouguer anomaly.

Table 1 The temporary stations supplementary information

Name	Latitude (°)	Longitude (°)	Elevation (m)
6V18	-8.573	116.198	151
6V21	-8.314	116.235	161
LM03	-8.753	116.249	112
LM05	-8.495	116.657	16
LM06	-8.306	116.626	163
LM07	-8.231	116.418	40
L001	-8.633	116.515	204
L002	-8.266	116.514	158
L003	-8.380	116.687	158
L004	-8.248	116.316	132
L005	-8.358	116.523	1152
L006	-8.473	116.086	290
LM08	-8.606	116.109	35

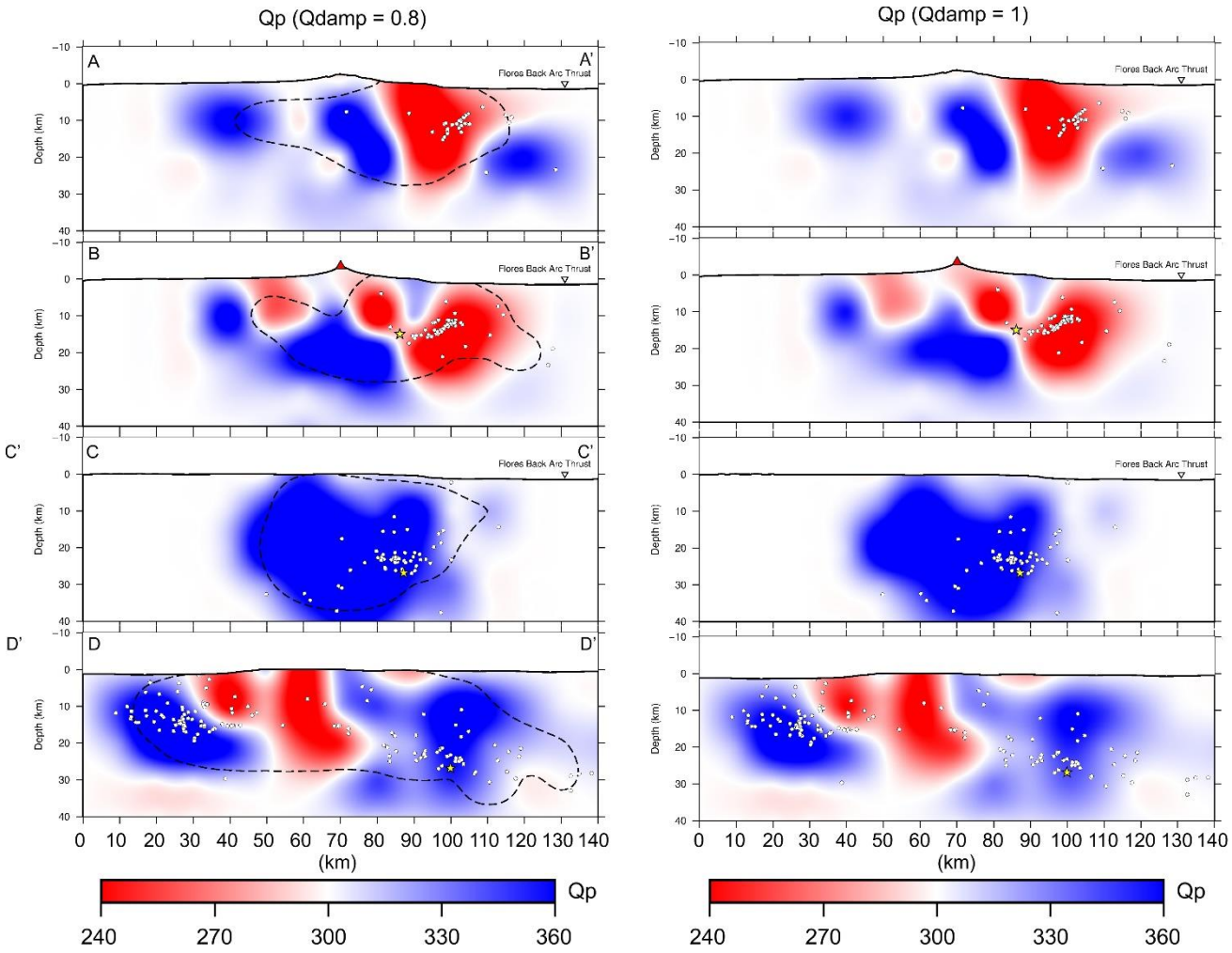

Figure S1 Comparison Qp tomogram with damping 0.8 and 1.