Geophysical Research Letters

Supporting Information for

Bedload transport monitoring using seismic observations in a low-gradient rural gravel-bed streams

Julien Barrière[1, 2], Adrien Oth[2], Renaud Hostache[3], Andreas Krein[3]

[1] National Museum of Natural History, Walferdange, Grand Duchy of Luxembourg [2] European Center for Geodynamics and Seismology, Walferdange, Grand Duchy of Luxembourg, [3] Luxembourg Institute of Science and Technology, Environmental Research and Innovation Department, Esch-sur-Alzette, Grand Duchy of Luxembourg

Contents of this file

Introduction

This supporting information provides additional illustration of the test site, the seismic data processing and results.

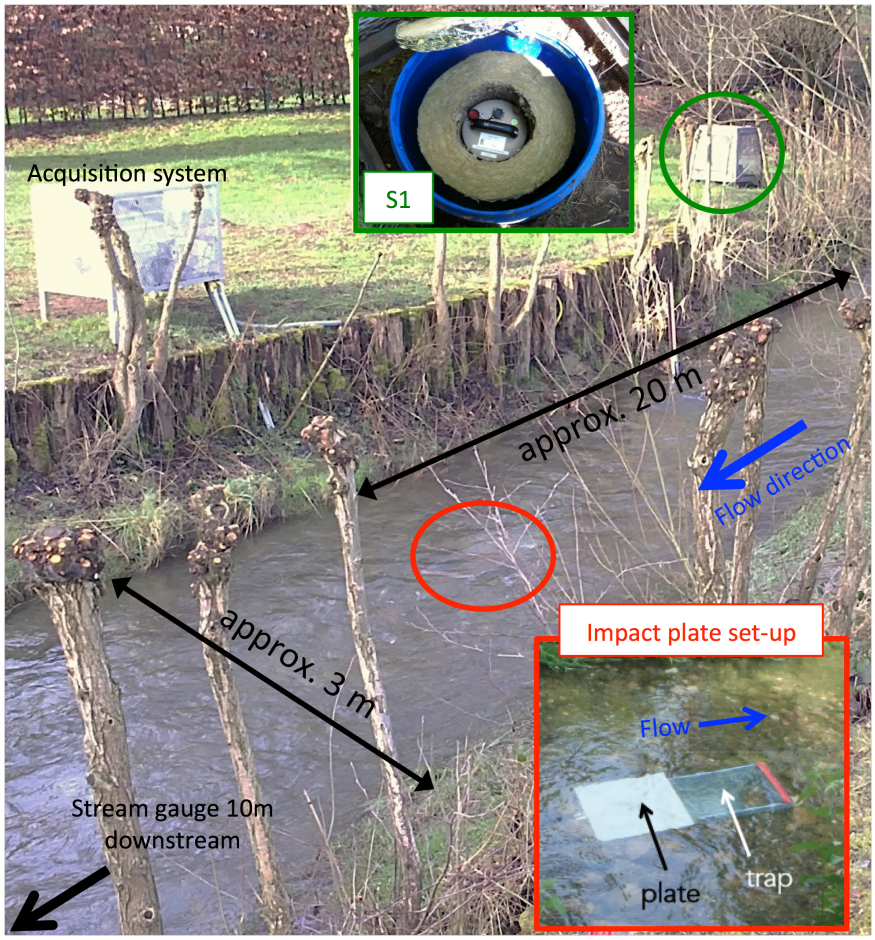

Figure S1: Overall equipment installed close to the stream gauge.

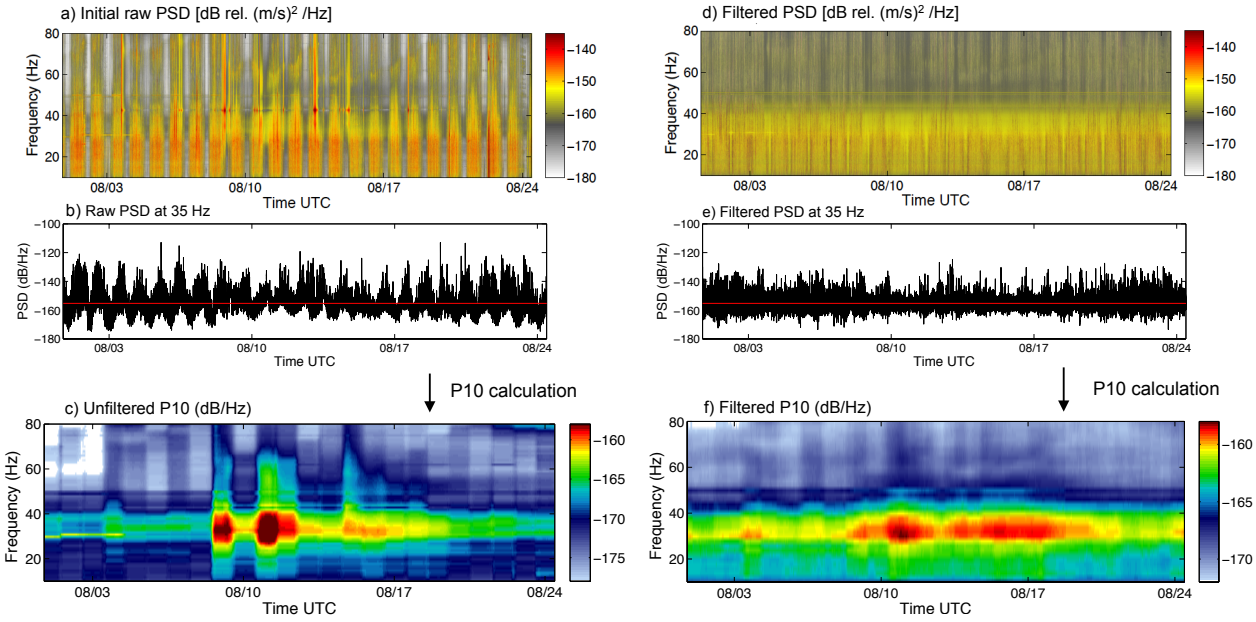

Figure S2: Seismic processing: **a)** Initial raw PSD map, **b)** example of raw PSD for f=35 Hz**, c)** P10 extracted from a), **d)** PSD map with filtered diurnal cycles, **e)** example of filtered PSD for f=35 Hz, **f)** P10 extracted from d), which corresponds to the final seismic attribute used in this study. The red line in b) and e) corresponds to the mean PSD over the entire time period.

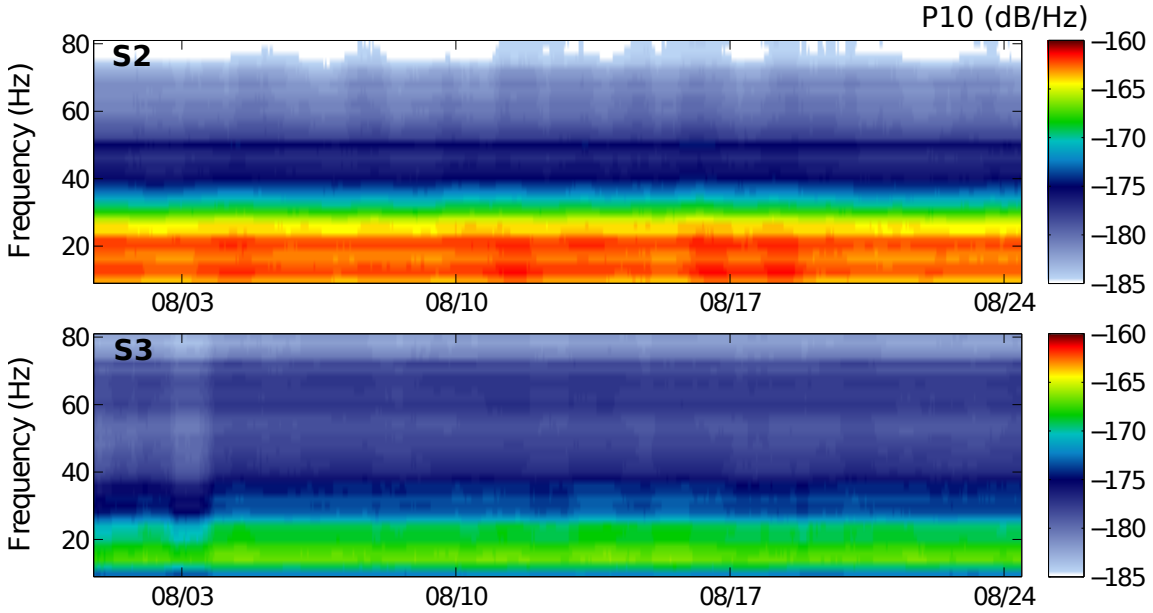

Figure S3: P10 for the vertical component at S2 and S3 during the August flood event, showing that no river-related signals are recorded at the two seismometers further from the stream.

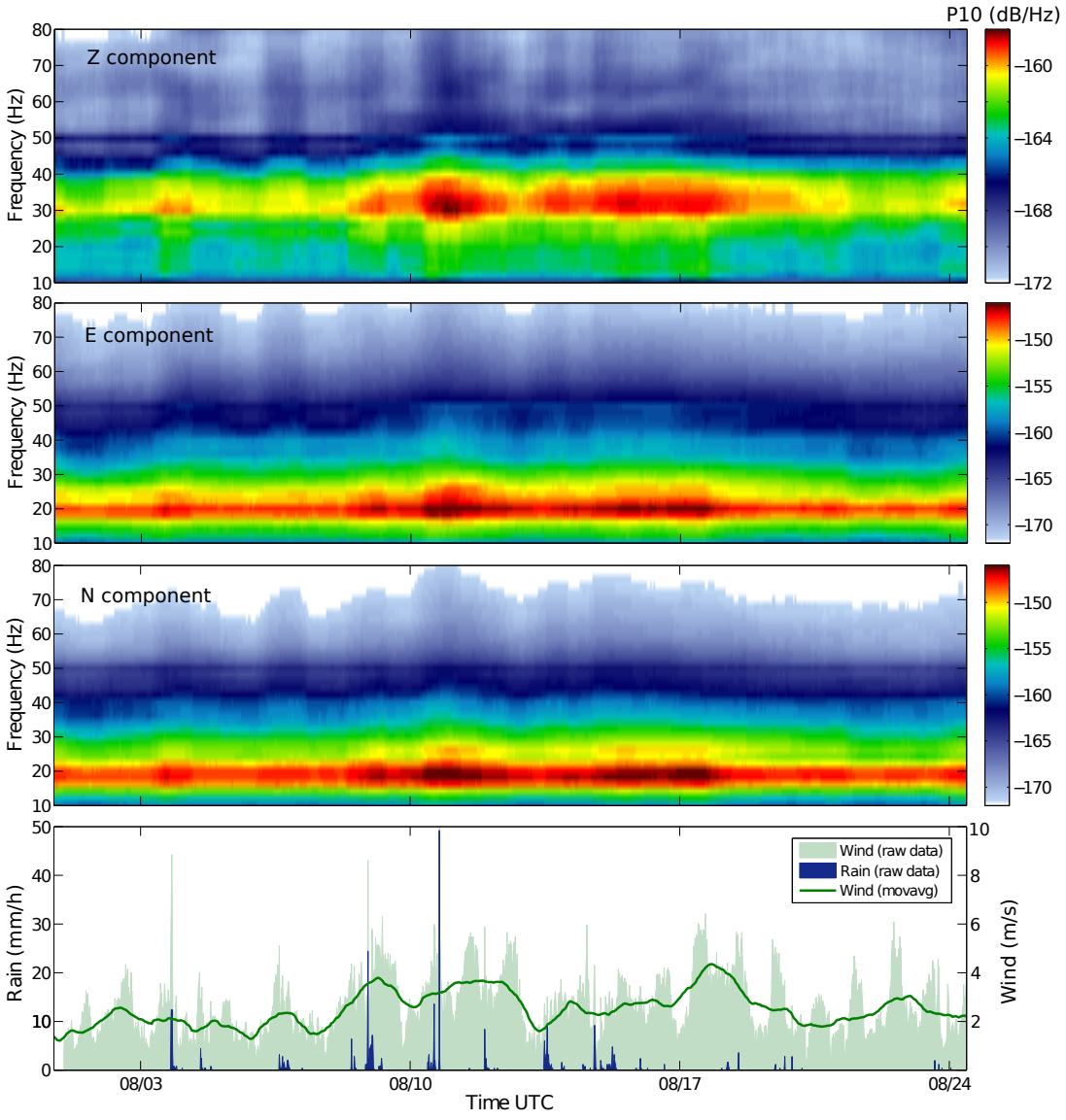

Figure S4: P10 for the vertical and horizontal components at S1, and wind/rain data recorded 4 km away from the area of investigation.