

Supplementary information for “Seismic fingerprint predicts ground motions during the 2018 Kīlauea collapse sequence”

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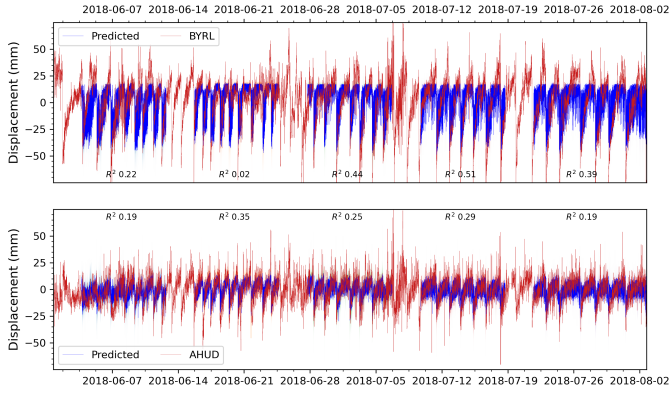
2 *Seismic fingerprint at Kīlauea*

Fig. S 1 Model predictions for ground displacements at GNSS station BYRL (top) and AHUD (bottom). The R^2 value is shown for each block.

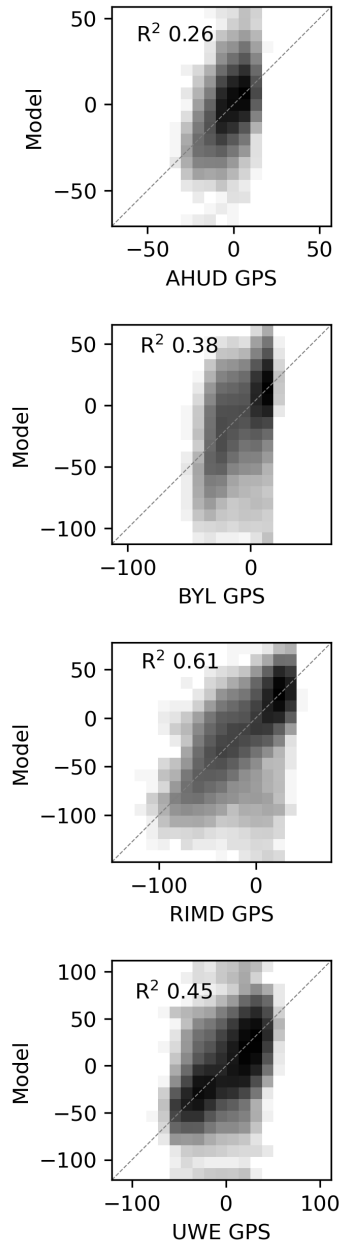


Fig. S 2 Model predictions for ground displacements vs the GNSS measurements for all stations. The R^2 value is listed for each panel.

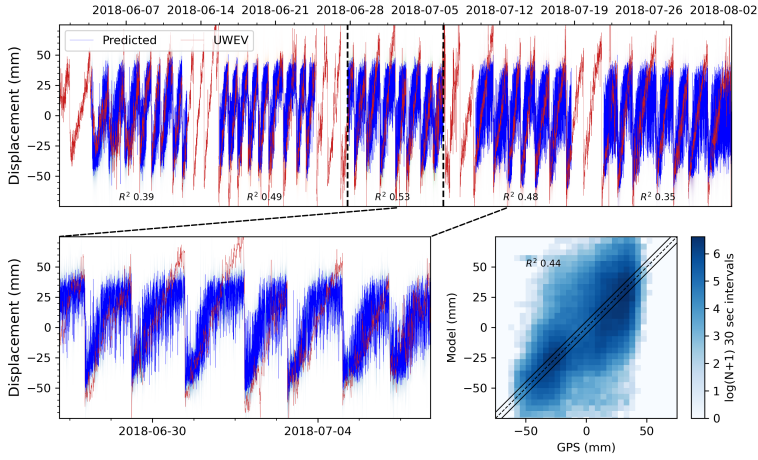
4 *Seismic fingerprint at Kīlauea*

Fig. S 3 Model predictions for GNSS station UWEV using data features using only band-pass filters $> 1\text{Hz}$ and removing the 0.1 Hz minimum bandpass presented in Fig. 2. The inset shows an expanded view of a single block of test data and the correlation plot with the R^2 value is for all testing data.

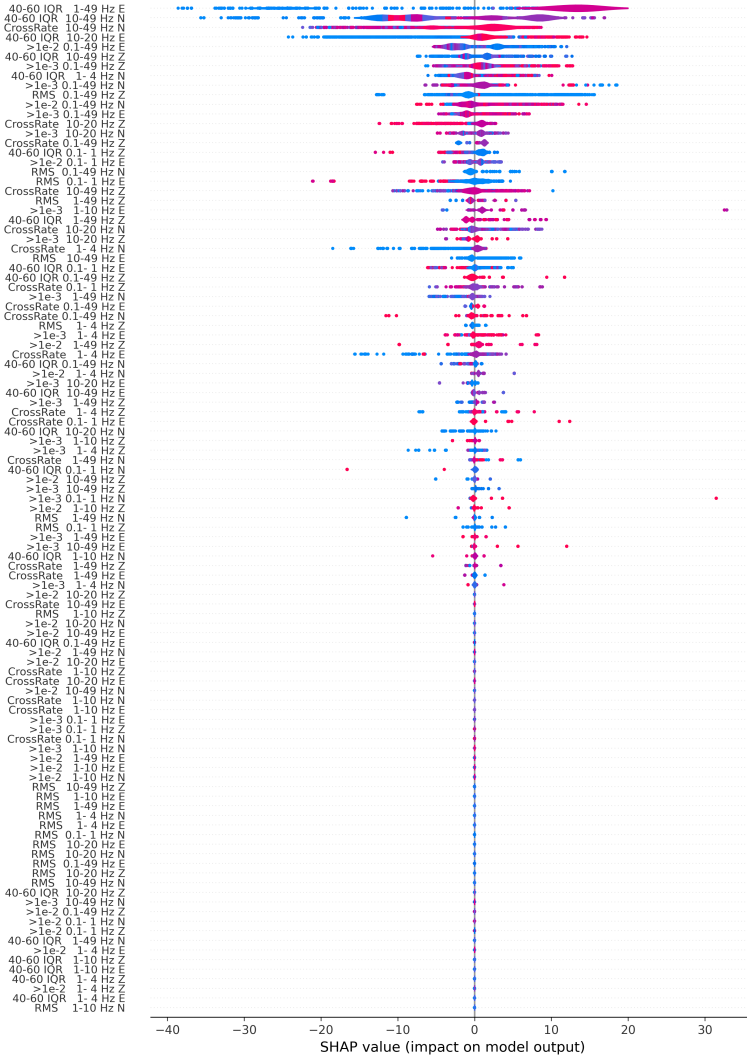


Fig. S 4 SHAP values as the impact on the model output in violin plot for all 105 features used to predict ground displacements at GNSS station UWEV. Red indicates a high feature value and blue is a low feature value.

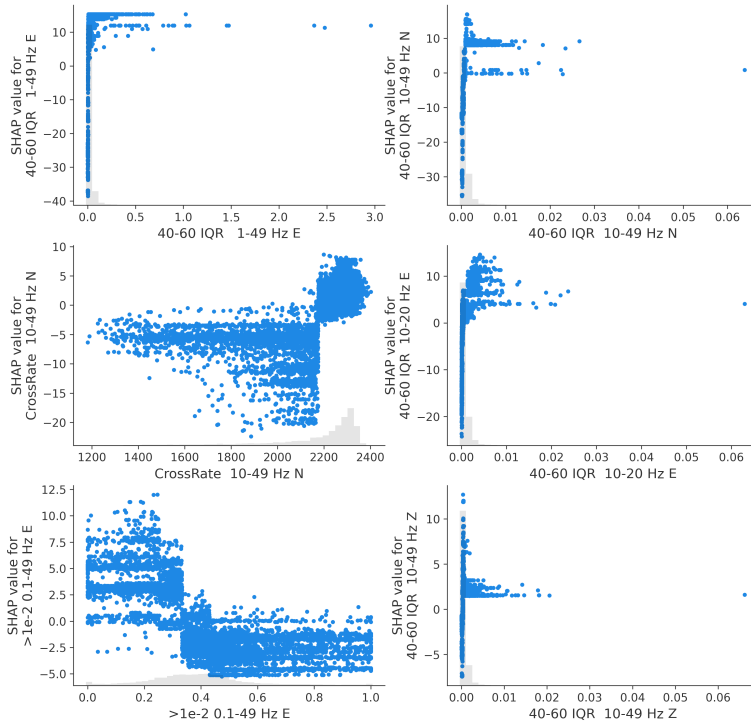
6 *Seismic fingerprint at Kīlauea*

Fig. S 5 Scatter plot of SHAP values for the best 6 features from the UWEV displacement model shown in Fig. 4 and S4. The vertical axis is the SHAP value and the horizontal axis the the feature value. In light gray is the distribution of feature values.