Supplementary Videos

Here are brief descriptions of the supporting videos to the manuscript titled *Solving a seismic mystery with the audio from a diver's camera: A case of shallow water T-waves in the Persian Gulf* by Salaree *et al* (2023) in Geophysical Research Letters. The main data used in the study is a diver's recording of the acoustic waves from the earthquake. The epicenter and topography data used in this study are publicly available as cited in the manuscript.

All the included files are videos in MPEG-4 or more commonly known as MP4 formats. This is a common container file which may include both audio and video. As of 2023, MP4 files can be read on a large variety of platforms such as OSX, Windows, Linux distributions, Android, and iOS using mostly non-commercial software.

1. **SV1.** The June-July 2022 earthquake sequence in southern Iran. No audio is included. Earthquakes are from the Iranian Seismological Center (IRSC) catalog and are shown as yellow circles the sizes of which are proportional to their magnitude. The background is topography obtained from GEBCO (GEBCO, 2021). The bottom panel shows the seismic energy released each day.

2. **SV2.** The CCTV footage of the 25 June 2022 Kish Island earthquake recorded at a local shop. The footage includes both audio and video. The video is obtained from the Hormozgan Young Journalists Club of Iran.

3. **SV3.** A diver's recording of the 25 June 2022 Kish Island earthquake. The footage includes both audio and video. The video was provided by Saeed Parvin of the Iran-Marina Diving School in the Kish Island (`http://www.iranmarina.com`), and was recorded at latitude 26.59556N and longitude 54.10806E.

4. **SV4.** Motion tracking of the fish in a portion of the diver's recording (SV3) of the 25 June 2022 Kish Island earthquake. No audio is included.

5. **SV5.** Animation of the ray-tracing model of the three trapped acoustic phases (i.e., $P \rightarrow T$ and $S \rightarrow T$ at the receiver, and $P \rightarrow T$ at the source). The audio track was created from a time series of reflections over time, followed by modulating the result over a 2000 Hz carrier sine wave so it would be in the audible range. The conversion of time series to audio was carried out using SoX available at `https://sox.sourceforge.net`.

6. **SV6.** 3D topographic map of the Kish Island from the GEBCO model (GEBCO, 2021).

References

GEBCO, 2021. GEBCO Compilation Group: GEBCO 2021 Grid, *The General Bathymetric Chart of the Oceans*, doi:10.5285/c6612cbe-50b3-0cff-e053-6c86abc09f8f.