

Sounding Soil

Z

hdk

Zürcher Hochschule der Künste
Zürich University of the Arts



Eine Zukunft für alle, natürlich
Un avenir pour tous, naturellement
A future for all, naturally



Eidg. Forschungsanstalt für Wald,
Schnee und Landschaft WSL

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

NABO

nationale bodenbeobachtung



Sounds of the underworld





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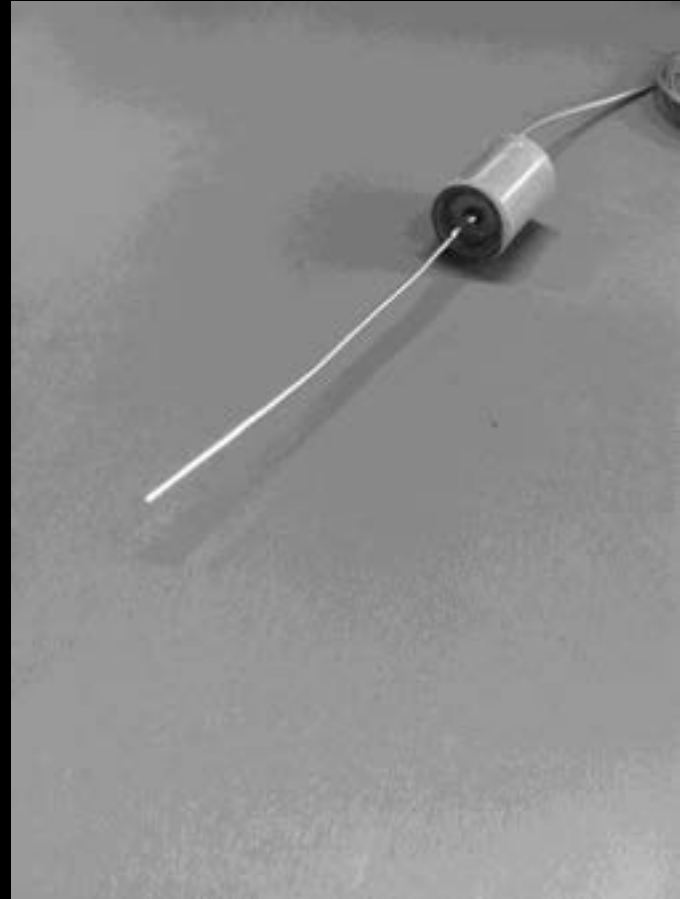
Sounds of the underworld



The Sounding Soil project



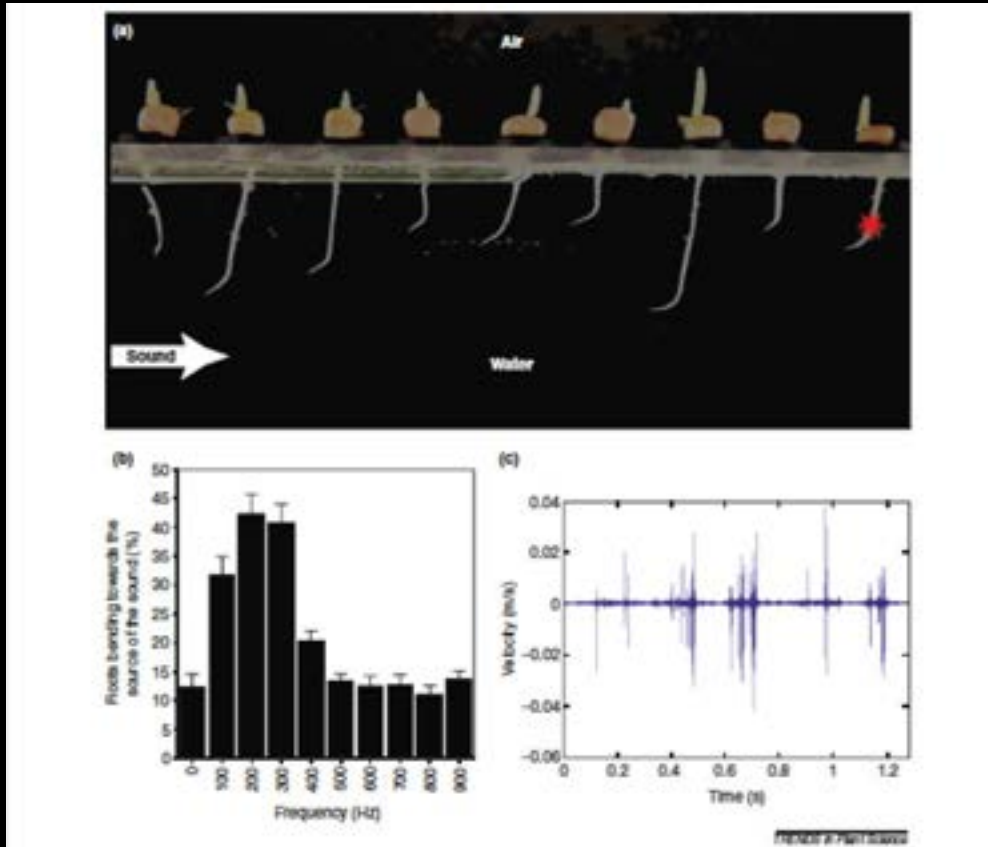
Adaption of sensors and recording technology from the “trees” project



Investigating root activity



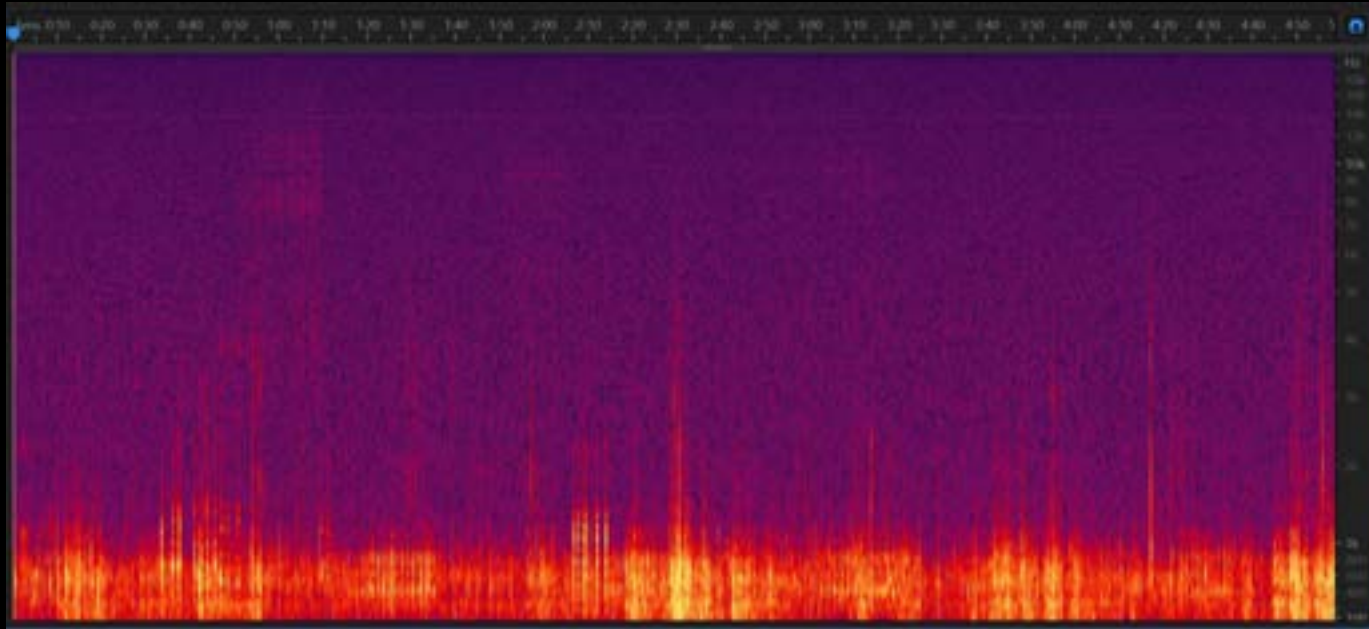
Plant bioacoustics – investigating root activity



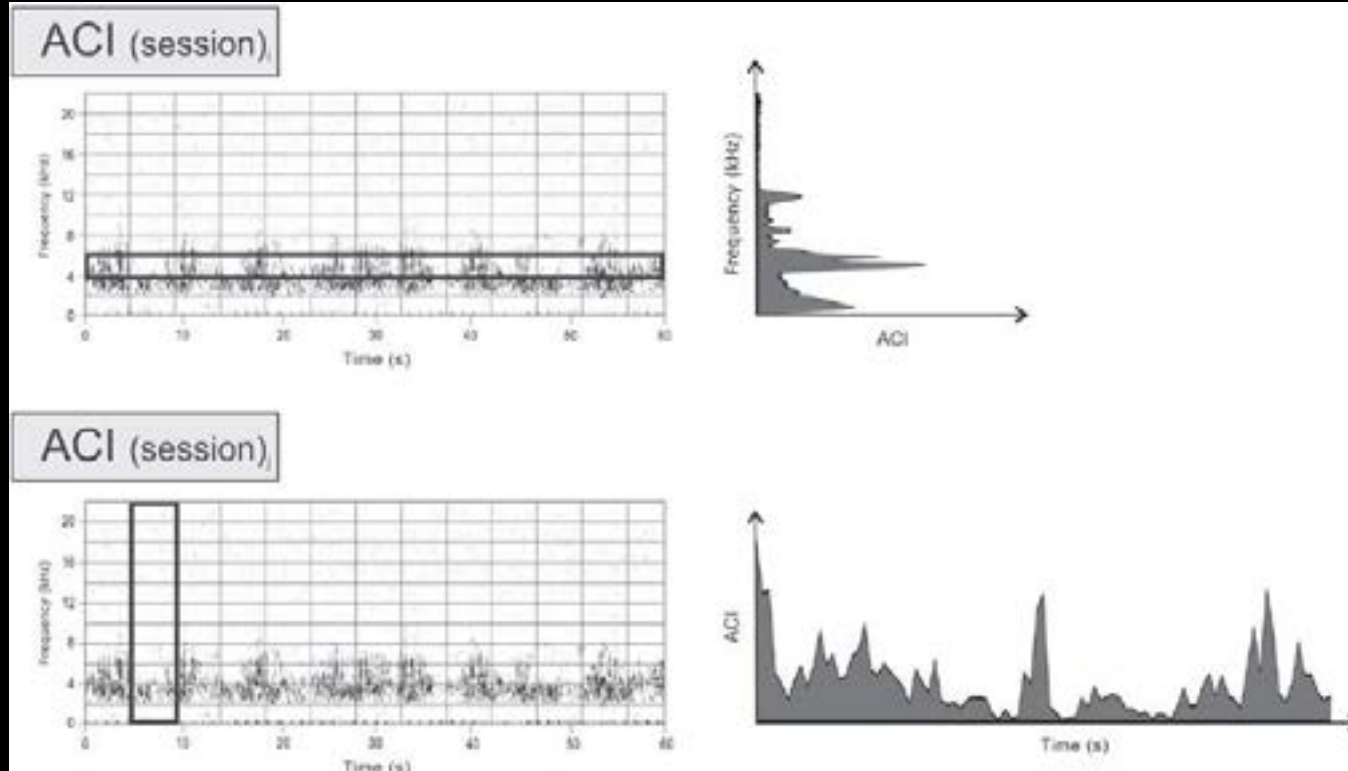


Species specific forms of acoustic emissions in roots?

Investigating/observing soil biodiversity acoustically



Acoustic Complexity Index ACI – quantification of the soundscape structure

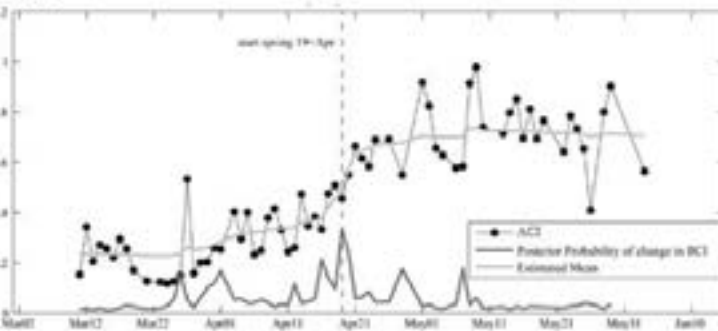


Acoustic monitoring of biodiversity

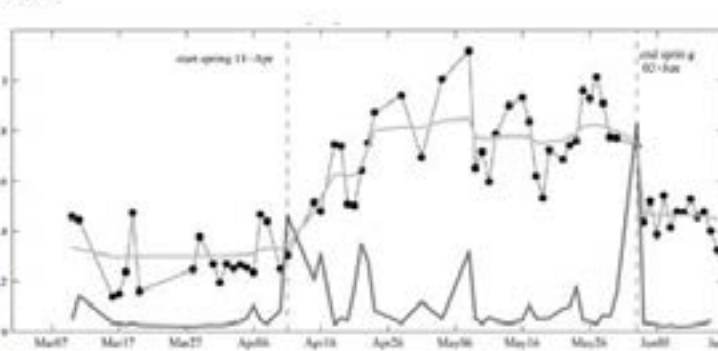
Figure 1: Acoustic Complexity Index in Glacier Bay National Park



2012

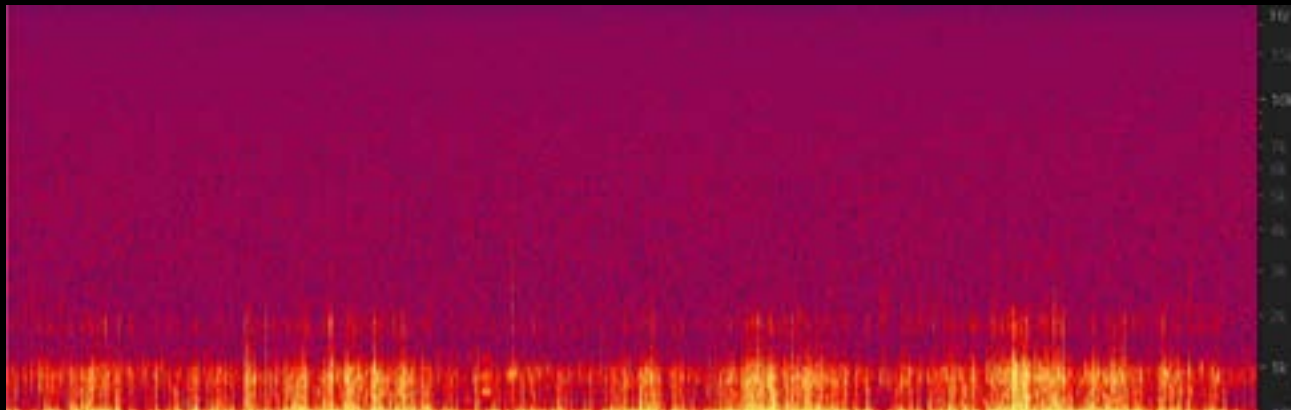


2013

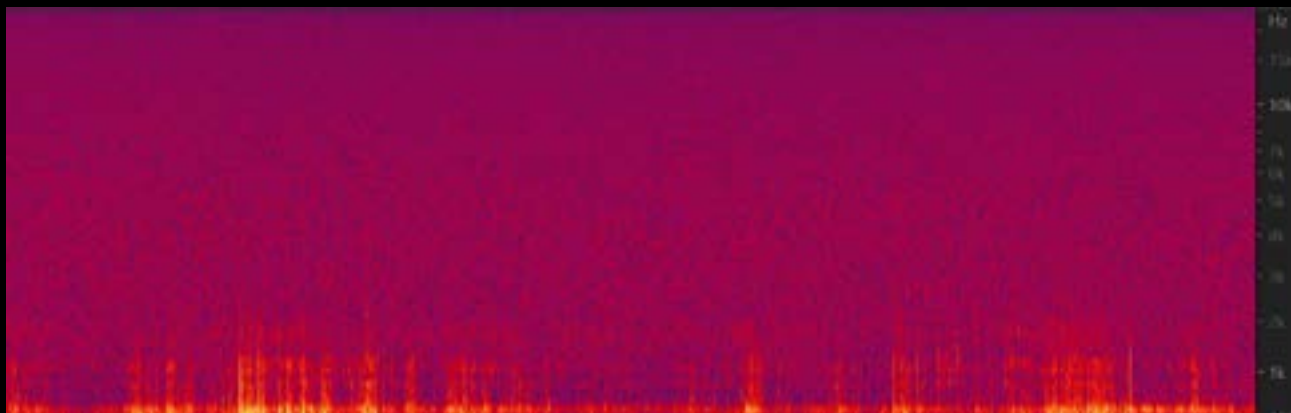


Acoustic monitoring of biodiversity





Trub: Arable soil with organic agricultural management



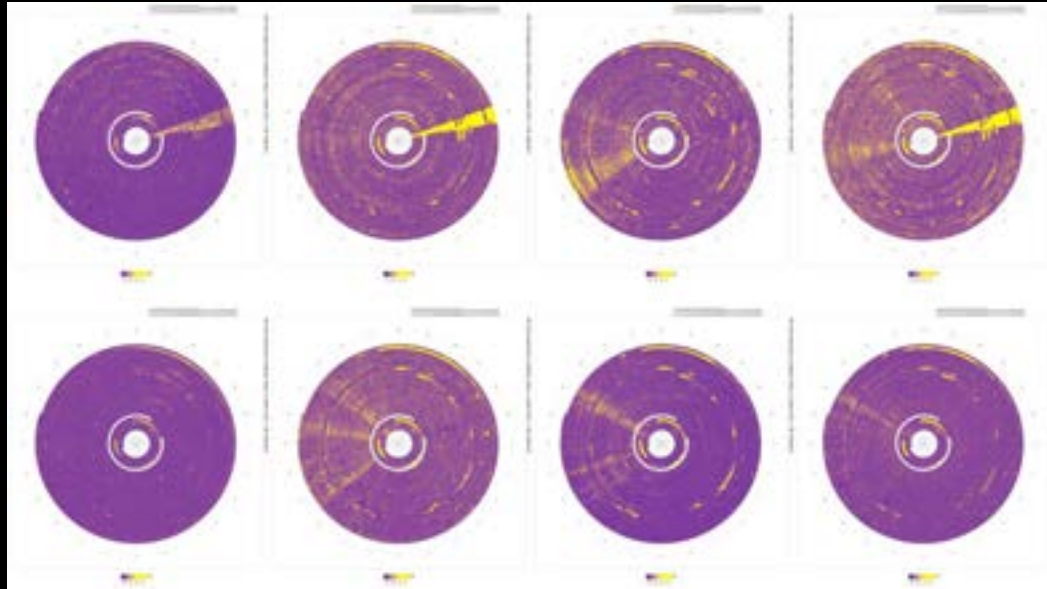
Möhlin: Arable soil with conventional management



Spatial and temporal dynamics of soil biodiversity: Pfywald VS

Dynamics of soil fauna diversity – Pfywald experiment (WSL)

Acoustic Complexity Index (an indicator of biodiversity), soil Pfywald



Irrigated plot

Control plot

Guo, 2019.



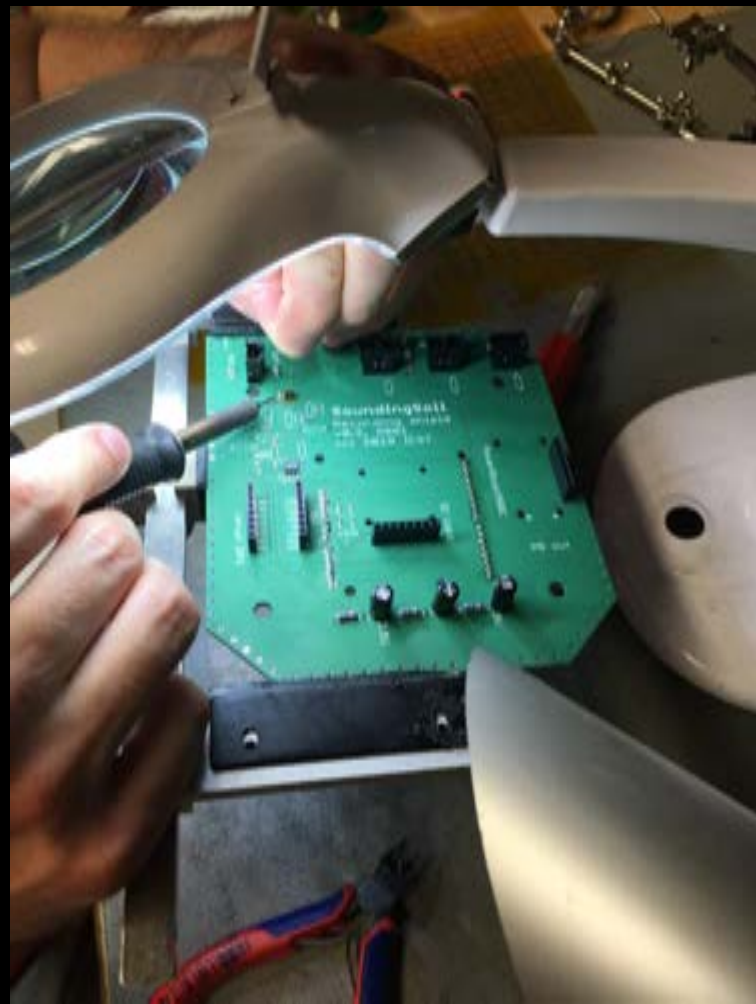
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Sounding
Soil



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Rainforest soils: The AmazonFace project



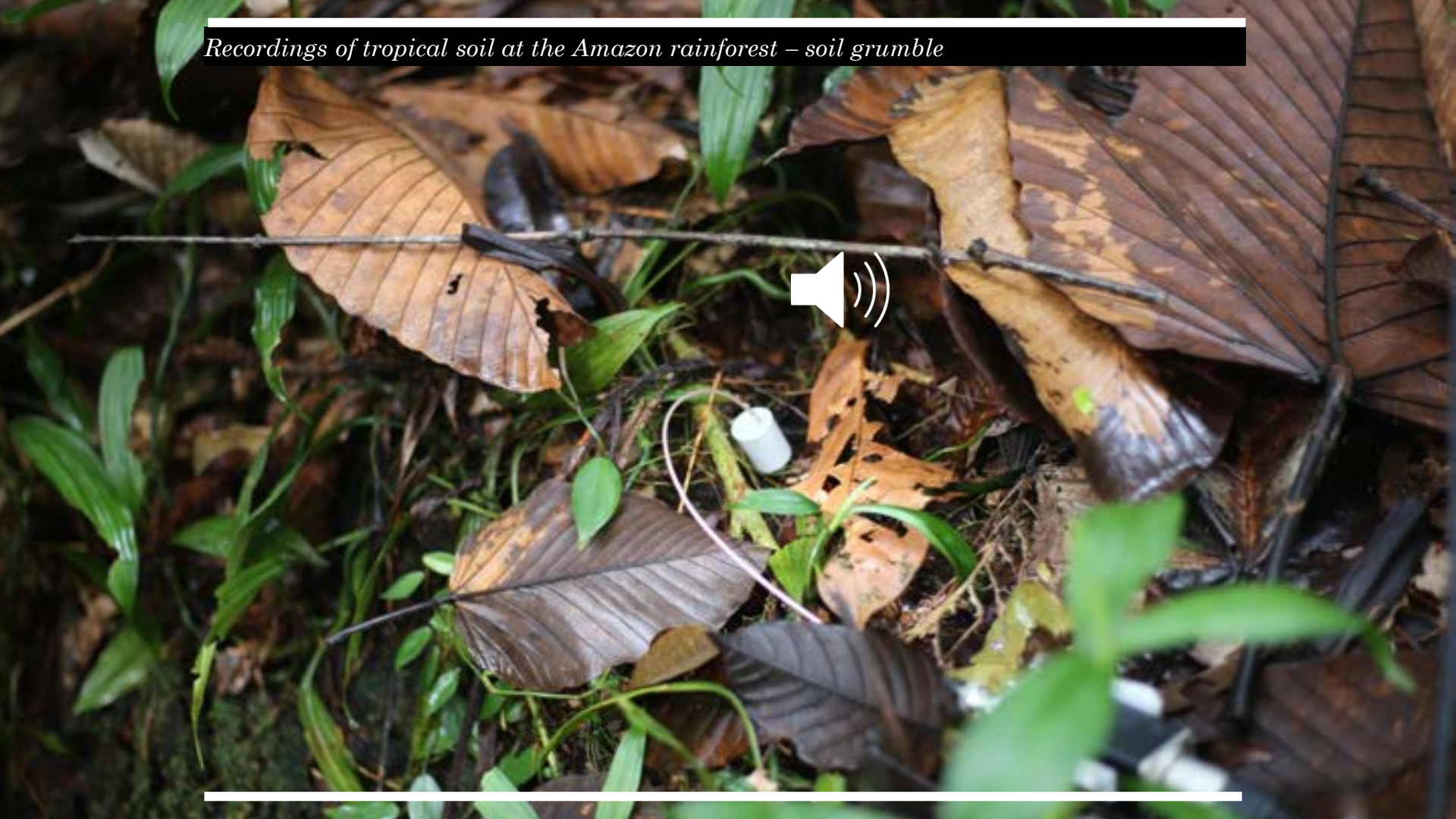


AmazonFace: Field recordings and sonification

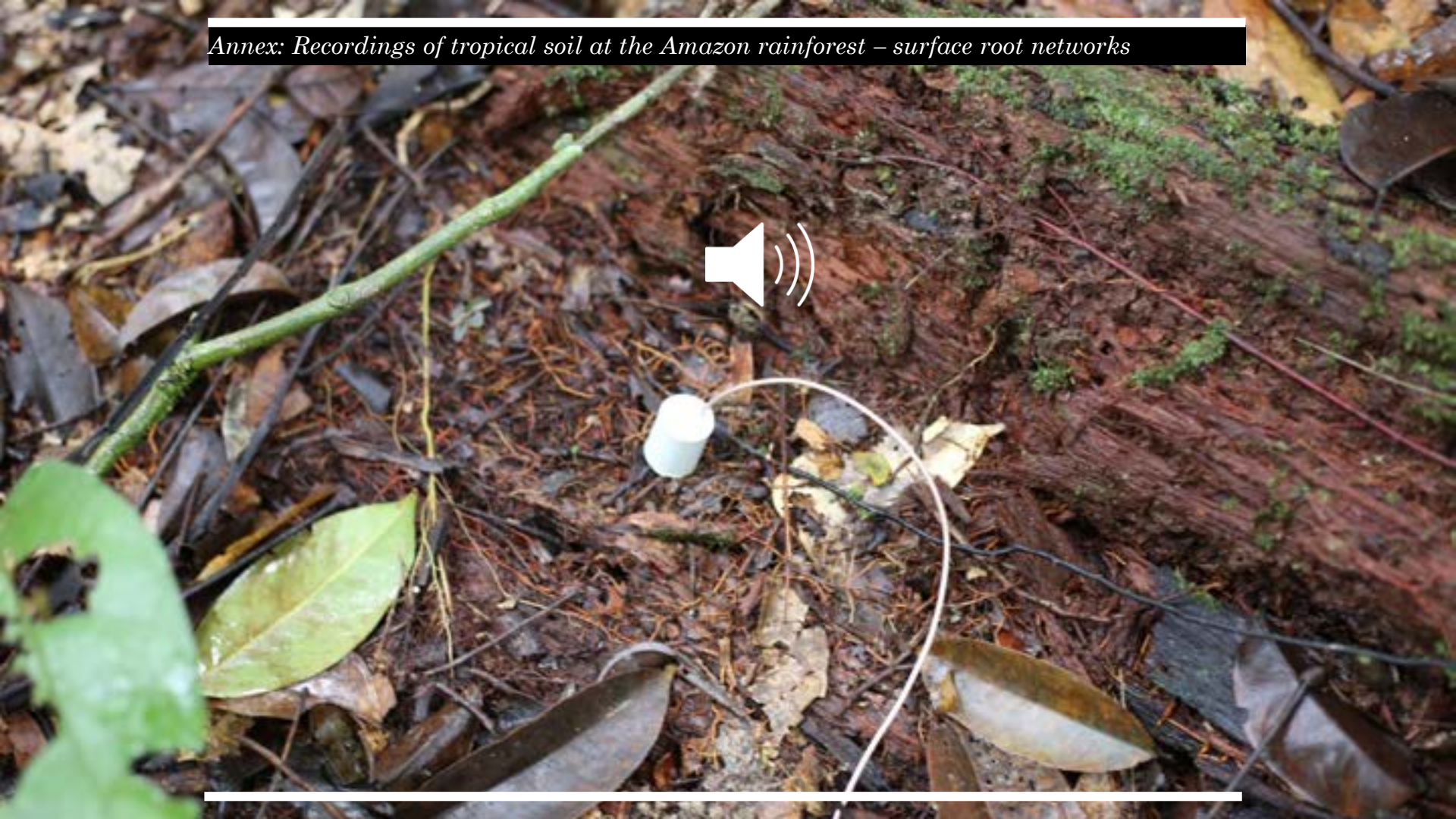
AmazonFace: Ocotea – Field recordings



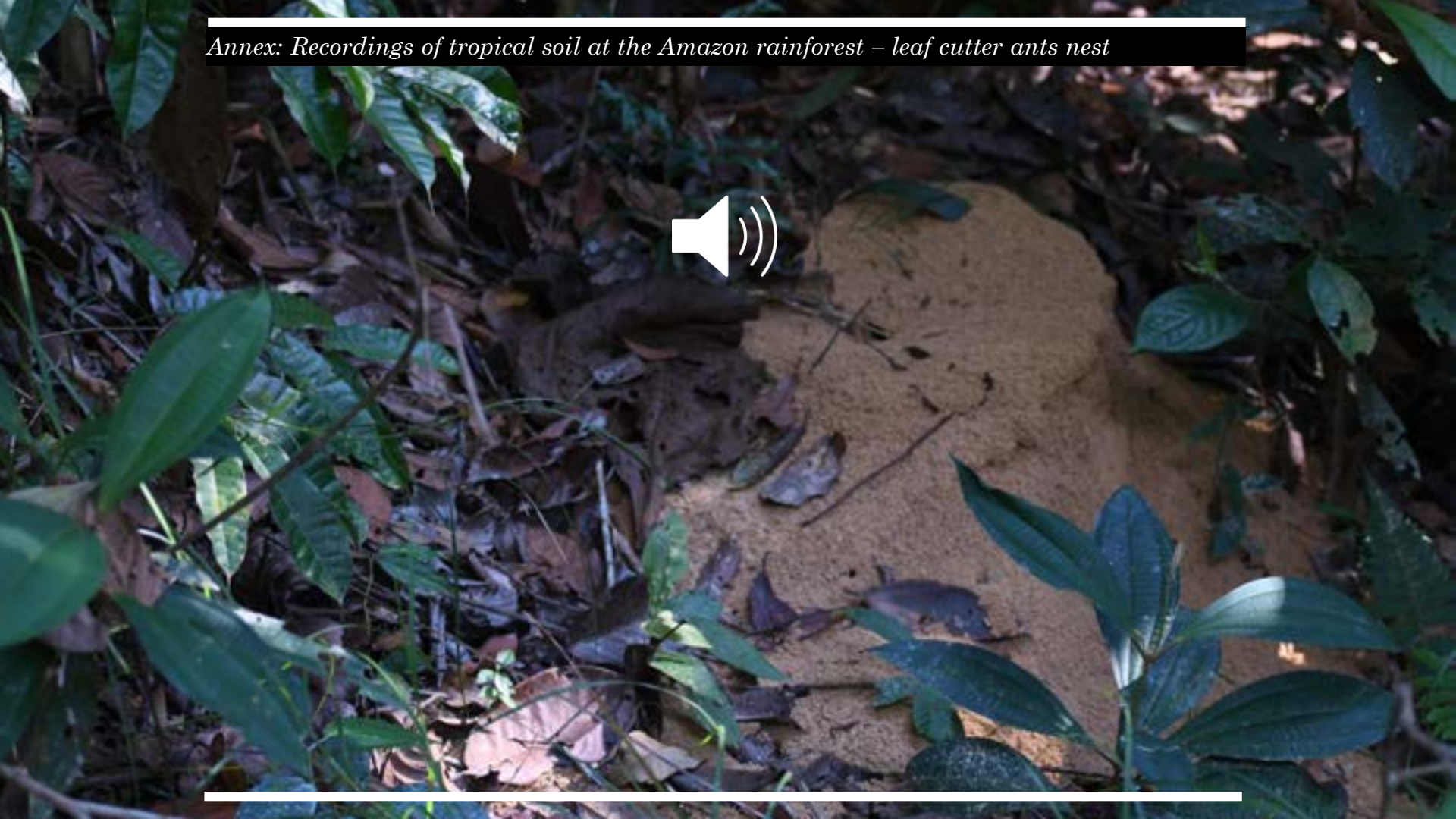
Recordings of tropical soil at the Amazon rainforest – soil grumble



Annex: Recordings of tropical soil at the Amazon rainforest – surface root networks

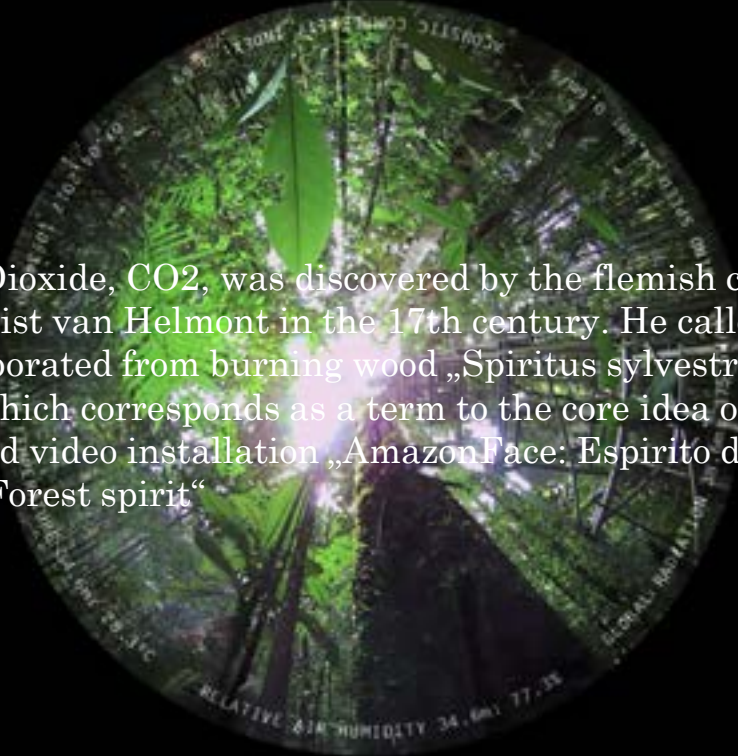


Annex: Recordings of tropical soil at the Amazon rainforest – leaf cutter ants nest



AmazonFace: Espirito da floresta / Forest spirit





Carbon Dioxide, CO₂, was discovered by the Flemish chemist Jan Baptist van Helmont in the 17th century. He called the gas that evaporated from burning wood „Spiritus sylvestre“, „forest spirit“, which corresponds as a term to the core idea of the sound and video installation „AmazonFace: Espirito da floresta/Forest spirit“

Thank you!

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