

## WATER RHYTHMS LISTENING ROOM: Listening to Climate Change

### TEXT AND IMAGES FOR ARKO EXHIBIT ARCHIVE LOUNGE

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PHOTO 1: Bridge Glacier, melting (photo credit: Michele Koppes)



Susie Ibarra (composer, percussionist, sound artist) and Michele Koppes (climate scientist, geographer, storyteller) present a sonic composition in *Water Rhythms: Listening to Climate Change*.

*Water Rhythms* is the story of climate change as told by the ice and water. It is a story about the dualism of water, the universal lifeblood of both the Earth and people. It is also the acoustic story of our entanglements with a changing climate and changing landscapes of our own making. Through the *Water Rhythms* Listening Room, we invite listeners into a more embodied way of understanding how we are inextricably connected to the Earth's freshwater, by bringing art, music and science together, in dialogue.

We invite you to listen deeply to the stories the water is telling us about a changing climate and a world of increasing ecological precarity.

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PHOTO 2: Recording at Easton Glacier (photo credit: Michele Koppes)



Glaciers and ice sheets are the world's water towers. Less than 3% of water on Earth is freshwater, and of this freshwater, 99% comes from the ice. As glaciers worldwide shrink and disappear in response to a warming world, the availability and quality of freshwater is being threatened for the billions of people and our more-than-human kin who live downstream. And as the ice disappears, these water rhythms are also shifting and fading from view.

We have been sonically mapping changes in glaciers and their runoff from the source to the sink, from the mountain tops to the ocean, in some of the world's most important water towers, from the Coast Mountains of the Pacific Northwest, to the Himalayas and the Greenland Ice Sheet.

Through field recordings taken from both above and below the ice and the rivers, we follow the sounds of the water and the sediments carried within it as it flows from the mountains to the sea. We also capture the sounds of the river cultures that have been built around our lifeblood, freshwater.

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Photo 3: Ice Cave, Bridge Glacier (photo credit: Michele Koppes)



The melting of the ice and the rivers that run from glaciers to the sea is the tie that binds societies and cultures to the landscape.

The cycle starts at the glacier edge, as the ice melts from both the surface and underneath every melt season. The water that melts at the glacier surface moves through cracks and crevasses and drips down to the glacier bed, melting caves under the ice. As air temperatures rise, the drips into the cave become more frequent as the ice continues to melt. The air in the cave is warming up, and the ice is dripping faster and faster.

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PHOTO 4: Teesta River, Sikkim Himalayas (photo credit Rajesh Kumar Singh)



Contained in the water as it tumbles down the mountain slopes are air bubbles and sediments, from sand to boulders, those clicks and clacks and polyrhythms that one can hear in the water. These are indicative of the power of the water as it roars downhill. As the climate warms, these sounds are shifting, telling the story of how the amount and power of the water is changing over time.

One idea that we are trying to capture in Water Rhythms is of Peak Water. When glaciers start to shrink, at first they produce more water every summer. We hear more water moving through the system, getting louder and more cacophonous. Over time, however, those water tanks are being depleted. Hence, over the years, we hear less and less in these rivers. In some places we have already passed Peak Water, and the rivers have become quieter. Soon we may have to live in a world without these rhythms at all.

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Photo 5. People bathing at dawn along the Ganges River, Varanasi, India (photo credit Rajesh Kumar Singh)



As we move along the river from the mountain uplands down to the lowlands, the water moves from steep slopes to flat, broad floodplains, getting slower and more organized. As the water becomes more organized, so too are the communities around this water because the rivers have been more stable, more reliable. On the banks of these rivers we find sacred spaces and sacred cities where people have been engaging with the water for thousands of years.

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Photo 6. Sunset on the Ganges River, Varanasi, India (photo credit Rajesh Kumar Singh)



We are entangled with the river, with the water. The same rhythms of glacial meltwater that flow from the mountains to the sea flow through our bodies, our histories and our music. They have precise rhythms, a precise tempo. These tempos match our heartbeats at birth. They also match the sweet spot at which music from all over the world is created and played.

Hence, a world losing its flowing freshwater is not only a world of increasing climatic and ecological precarity, but a world losing its music, its culture and its humanity.

Listening to the story of the melting ice is listening to the story of ourselves.



Archive of field recordings used in composition (in chronological order):

- Bridge Glacier, BC Coast Mountains, Canada, July 2021 (sound recordings by M. Koppes)
- Greenland Ice Sheet, Kangerlussuaq, Greenland, July 2018 (sound recordings by M. Koppes)
- Illulissat, Greenland, July 2018 (sound recordings by M. Koppes)
- Zoo, Gangtok, Sikkim Himalayas, August 2018 (sound recordings by S. Ibarra)
- Lakthang Falls, Sikkim Himalayas, August 2018 (sound recordings by S. Ibarra)
- 7 Sisters waterfalls, Sikkim Himalayas, August 2018 (sound recordings by S. Ibarra)
- Blackcomb Glacier, BC Coast Mountains, Canada, August 2020 (sound recordings by M. Koppes)
- Easton Glacier, Mt. Baker, Washington State, USA, July 2017 (sound recordings by S. Ibarra and M. Koppes)
- Alungorliup, Greenland, July 2018 (sound recordings by M. Koppes)
- Birds, Sarnath, Indian Himalayas, August 2019 (sound recordings by S. Ibarra and J. Landau)
- Marmot, Easton Glacier, Mt. Baker, Washington State, USA, July 2017 (sound recordings by S. Ibarra and M. Koppes)
- Bridge Glacier outlet, BC Coast Mountains, Canada, July 2021 (sound recordings by M. Koppes)
- Zoo, Gangtok, Sikkim Himalayas, August 2018 (sound recordings by S. Ibarra)
- Morning raga, Varanasi, India, August 2019 (sound recordings by S. Ibarra and J. Landau)
- Laughing yoga, Varanasi, India, August 2019 (sound recordings by S. Ibarra and J. Landau)
- Ghats along the Ganges River, Varanasi, India, August 2019 (sound recordings by S. Ibarra and J. Landau)
- Zoo, Gangtok, Sikkim Himalayas, August 2018 (sound recordings by S. Ibarra)