

Heat Map

Heat Map is a speculative investigation into a world altered by climate change. Presented together, the work of Bernadette Klavins and Anna Madeleine Raupach asks us to consider heat as both a material and cultural force. Drawing on data and observations of extreme heat and material processes, Klavins and Raupach provide nuanced insight into the severity of the climate crisis.

Klavins and Raupach share an interest in extreme weather events – particularly heatwaves – and the scientific systems that predict and track them. Klavins' *Rain Return* is a cross-seasonal performance that started in January 2016 and concluded on the hottest recorded day in Adelaide in 2019. The performance sees the artist collect and return rainwater from puddles around Adelaide. Klavins draws on a process of walking to map the puddle locations by memory and the Bureau of Meteorology's (BOM) forecasts to predict when to release the rainwater. As documented in a series of nine photographs, Klavins returns the puddles to the asphalt and concrete landscape of the Adelaide CBD at dawn on a day when temperatures would peak at 46.6°C. As temperatures rise in the urban microclimate, the water evaporates and its traces fade. *Rain Return* bridges both space and time, drawing attention to the cyclical loops of water and heat in climate systems.

Raupach is likewise concerned with how we map, visualise, and communicate the changing climate. In response to the January 2013 heatwave, the BOM added two new colours to represent the unprecedented extreme heat. Deep purple and deep pink were chosen to represent 50-52°C and 52-54°C respectively. Raupach's video *Off the Charts* shows a seemingly endless stream of dark purple paint colour swatches. She explores this idea further in *Future Forecasts*, a live twitter bot that algorithmically generates poetic weather forecasts based on the names of the purple and pink paint colour swatches. The tweets are unsettling and insightful gestures. They speak to how much we are unable to predict and echo the deep underlying anxiety of the changing climate. The work of both Raupach and Klavins is situated in the tension that arises between the cultural responses and the severity of the climate crisis.

Klavins and Raupach also share a focus on materiality, and process. For Klavins, this manifests as an interest in material limits, fragility, and failure, while Raupach appropriates and mimics natural phenomena – such as fire and smoke – to recontextualise the data of a changing climate.

Klavins explores the subtle ways climatic shifts impact the industrial materials of our cities. Interested in how bitumen roads respond to extreme heat and the pressure of heavy vehicles, Klavins draws on material properties and her own quiet observations. As temperatures soar, tar melts and separates from the aggregate, weakening under pressure. The road degrades and compresses, creating potholes which are further eroded by water when it rains. Through her work, *Act 1*, Klavins records this erosion and collapse of the bitumen surface with a series of three lead casts. Visible in the concave surface of the cast potholes are rings of ridges formed where the waterline settled. The rings are a subtle record of heat and the slow ebbing of water as it evaporates. *Act 1* provides insight into the way human industrial materials respond and fail in a climate of extreme heat. The fallibility of construction materials suggests a broader human fragility, and the works read as the speculative relic of human civilisation.

In response to the 2019/2020 bushfires on the east coast of Australia, Raupach takes the satellite footage of the bushfire smoke and uses the cyanotype photographic process to reproduce each frame, before reanimating to produce the video work, *Satellite Cyanotypes*. The cyanotype solution transforms the paper into a UV sensitive negative, causing everywhere sunlight touches to turn blue while the masked paper remains white. In large bushfires, UV light is blocked by the smoke and appears as irregular patches on the BOM's UV forecast maps. By using the cyanotype process Raupach mimics the real phenomena that *Satellite Cyanotypes* represents. Similarly, Raupach constructs the graphs of *Controlled Burn (Canberra, Adelaide, Alice Springs: leap years since 1999)* through a repetitious process of burning matchsticks. The matchsticks burnt thin by heat and fire represent the temperature peak for each day, tracing a material link between our changing climate and the rising risk of catastrophic bushfires. Drawing on the systems used to describe Australia's increasingly 'extreme', 'unprecedented', and 'catastrophic' climate, Raupach's work challenges the abstract scientific systems of weather forecasts, temperature graphs, and maps to reinsert the human reality of catastrophic climate change.

In their respective explorations of extreme heat, Klavins and Raupach go beyond the limits of human materials and systems. *Heat Map* asks us consider: How do we recalibrate in the face of the changing climate?



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Bernadette Klavins & Anna Madeleine Raupach

Curated by Saskia Scott

1. Bernadette Klavins, *Rain return*, 2016-2019, 297 x 420 mm each. Performance undertaken at sunrise on 24 January 2019, the hottest day on record at 46.6°C. Photographs: Kate Klavins.

Wait for rainfall and collect the water.

Walk through the city to learn the site of each puddle you encounter.

Prepare for the hottest day of summer, and in its early hours, be like a raincloud.

Reform the puddles, using the collected water and your memory.

2. Bernadette Klavins, *The softening stone*, unfired clay slip, dimensions variable
3. Bernadette Klavins, *Act 2*, 2020, pewter, 300 x 150 x 700 mm.
4. Anna Madeleine Raupach, *Controlled Burn (Canberra, Adelaide, Alice Springs: leap years since 1999)*, 2020, burnt matches and pencil on paper, 595 x 420 mm each.
5. Anna Madeleine Raupach, *Off the Charts*, 2021, video, 2:20 min.
6. Anna Madeleine Raupach, *Future Forecasts*, 2020, live Twitter bot, video, 30 min.
7. Anna Madeleine Raupach, *Satellite Cyanotypes*, 2020, animated cyanotypes, two channel video, 27 second each.
8. Anna Madeleine Raupach, *Shades of Black Summer*, 2021, video, 2 min.
9. Anna Madeleine Raupach, *Sky Swatches*, 2021, live Instagram account, video, 6:15 min.
10. Bernadette Klavins, *Act 1*, 2019, lead, concrete, each component 600 x 600 x 60 mm.

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