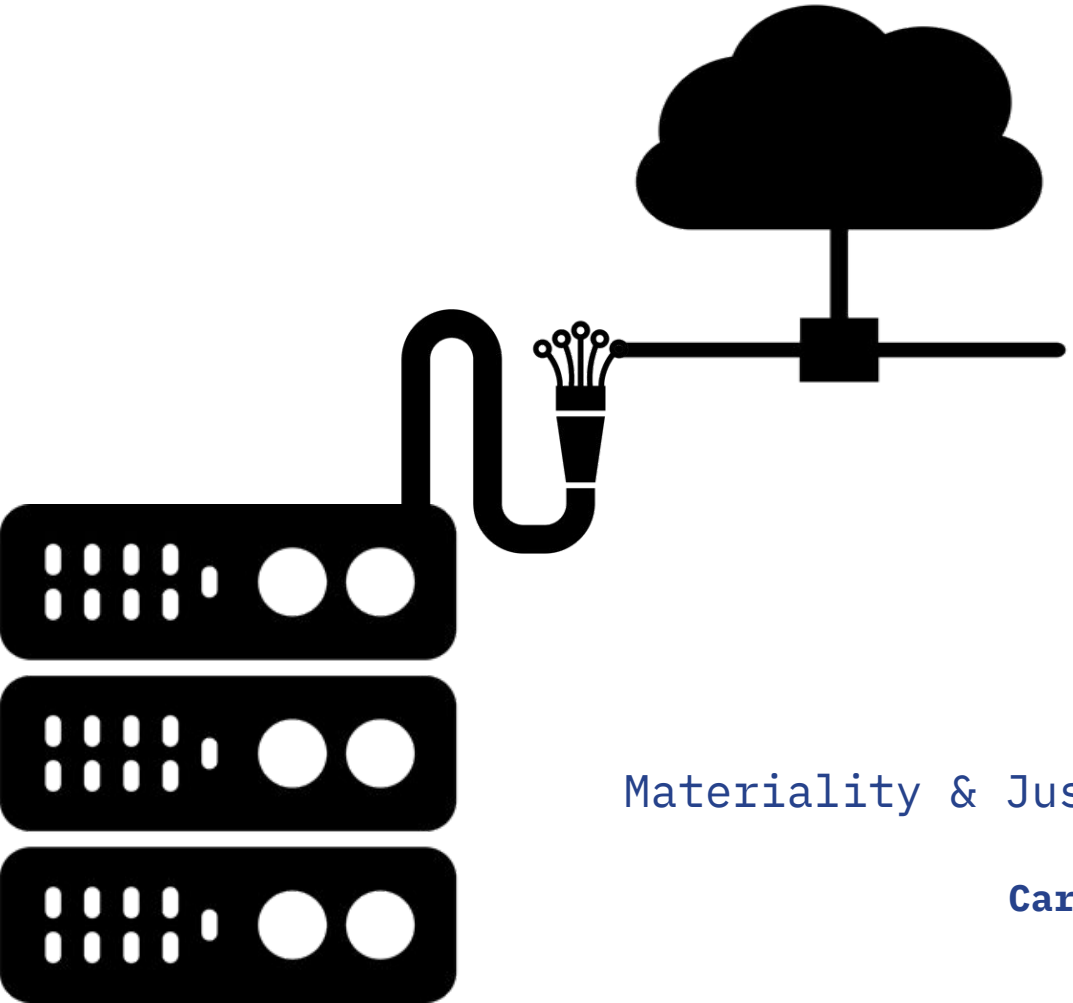


LOCATING THE CLOUD

Materiality & Justice in a Computational World

Carrie Hamilton (Environmental Studies)
Kellie Petersen (Sociology)

WHAT is “the Cloud”?

The **sharing, processing, and storing** of information across multiple computers in cloud computing–and the **system of networks or ‘internetwork’** that makes these computing operations possible.

“The Cloud appears to have endless space, as our data are sent to live in an invisible sky. Yet, I knew there had to be some material impacts big data companies do not allow us to see. All the things that go into the cloud seemed to disappear into the abyss, but that could not be the end of the story.” (Ipsen 2018:5)

WHERE is “the Cloud”?

The Cloud is **ubiquitous, but physical.**

To make the Cloud ubiquitous, **physical data centers** host **computing and storage infrastructures** that run 24/7.

“...the whereabouts of ‘unseen computers’ is not unknown at all, but rather the cloud is actualized in data centres, located in places with plentiful land, favourable tax rates, affordable energy, water for cooling, and proximity to the main trunks of the network.” (Amoore 2018:8)

KEY DIMENSIONS

INFRASTRUCTURES:
the material infrastructures & networks of large-scale computing

NATURAL RESOURCES:
the materials drawn into and discarded from the manufacture and operation of the Cloud

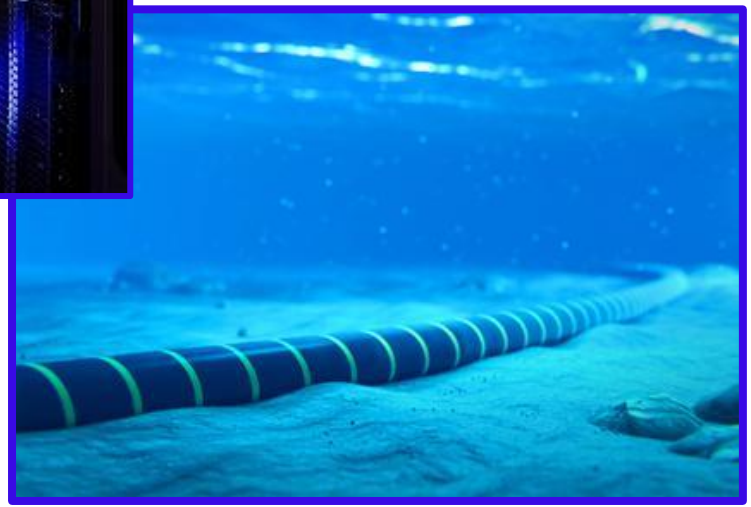
LABOR:
the workers that makes cloud computing possible

INFRASTRUCTURES

(Google)

Physical infrastructures (e.g. fiber optic cables) make cloud computing possible, **yet they can be overlooked.** These infrastructures, in turn, rely on and are situated within **pre-existing infrastructural networks** (e.g. energy grids). Our project will focus on **data centers and the servers they house.**

"On the one hand…visions of data conjure images of ethereal and immaterial cyberspace. On the other hand, although data are intangible, data require storage and communication, which necessitates material and tangible infrastructures." (Levanda and Mahmoudi 2019)



(Acacia Communications)

undersea Internet fiber cable

NATURAL RESOURCES

protesting a fb data center (Albuquerque Journal)

Data centers require a **massive amount of energy**. Even those that use renewable energy are **land-** and **h20-intensive** and produce **noise pollution** and **toxic wastes** across data center tech supply chains.

New Albany Data Center, Ohio (fb)

"To get at the matter of the Cloud…We must attend to its material flows of electricity, water, air, heat, metals, minerals, and rare earth elements that undergird our digital lives. In this way, the Cloud is not only material, but is also an ecological force." (Gonzalez Monserrate 2022)

LABOR

“Yet this idea of a virtual economy also masks the slow movement of electronics that power the cloud’s data centers, and the workers who must unload this equipment at the docks…our imagination of a virtual ‘cloud’ displaces the infrastructure of labor within digital networks.”(Hu 2019)

(The Verge)

(Reuters)

Server technician jobs pay relatively well, but they are increasingly **contract work**. There are jobs in **mining**, **manufacturing, construction**, **transportation**, **recycling,** and much more throughout data center supply chains. Additionally, the **digital interactions of users,** logged as data, are lucrative.

PROPOSED EVENT

Topic: data centers

Format: panel discussion

What is the Cloud? Why does it matter?

Why are Cloud infrastructures built in particular places? What resources and labor make them possible? How do they transform communities and ecologies? To whose benefit and at whose expense?

Where are we headed? What key questions might guide our thinking as we envision a more just Cloud? What role could researchers play in enacting it?

KEY QUESTIONS/CONCERNS

How might this project contend with the massive **scale** of ‘the Cloud’? What **object or focus** might be most feasible and engaging?

→ We have proposed data centers. Thoughts/feedback? Other possibilities?

What might be the most feasible and engaging **medium** for this work? Target **audience**?

→ We have proposed a panel as our final product/project. Thoughts/feedback? Other possibilities?

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