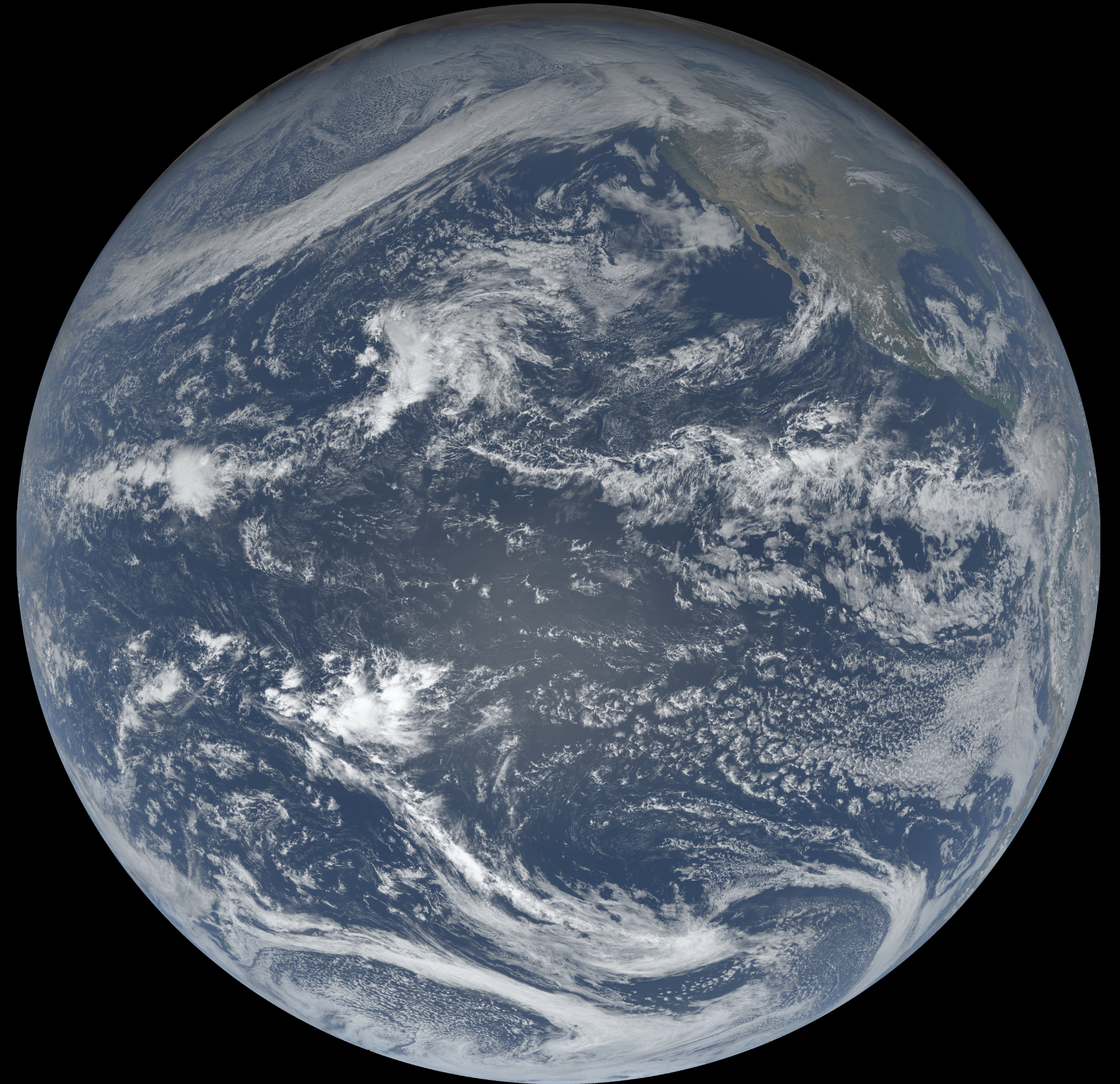
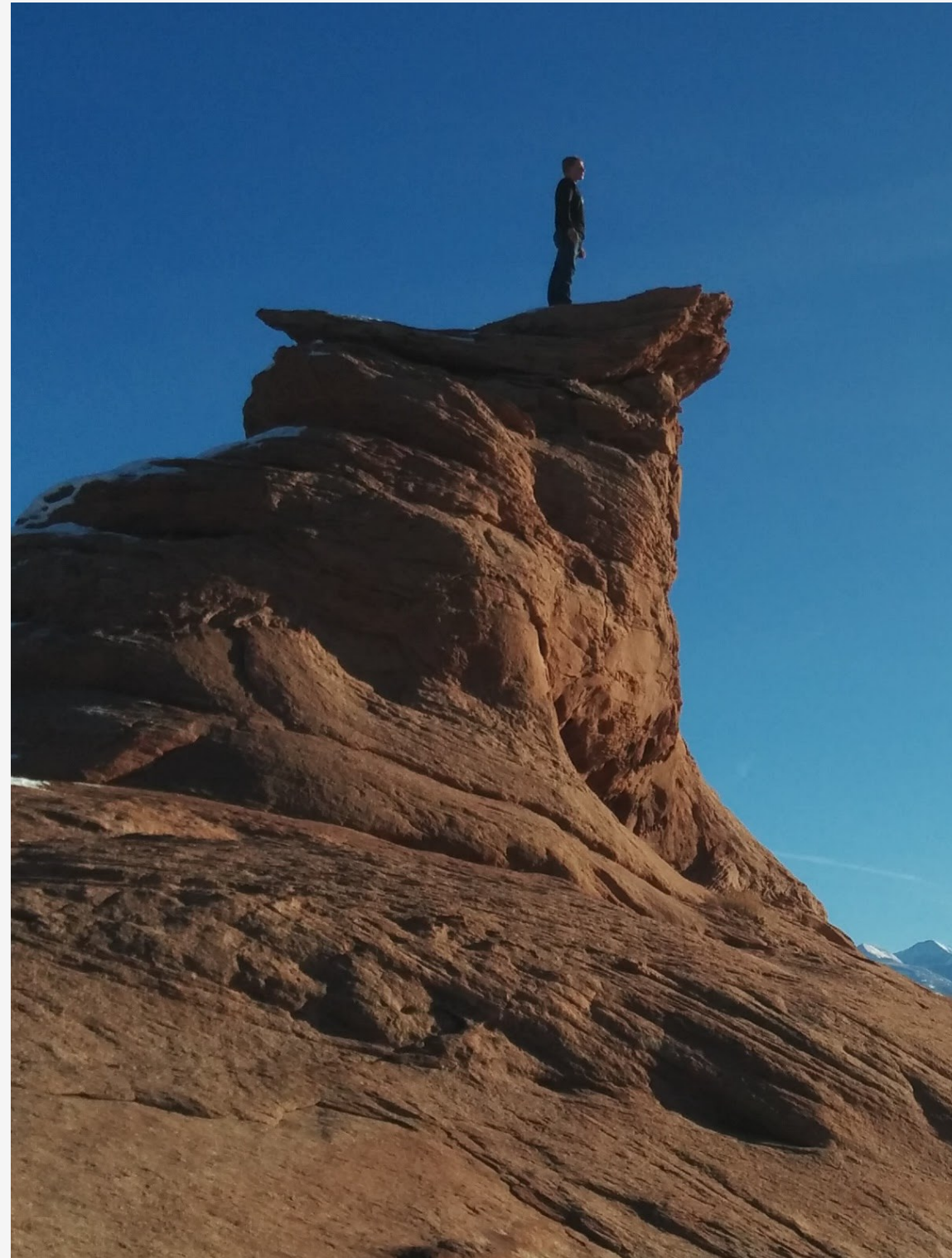


How big is a big
cloud?



About me

- Moab, Utah

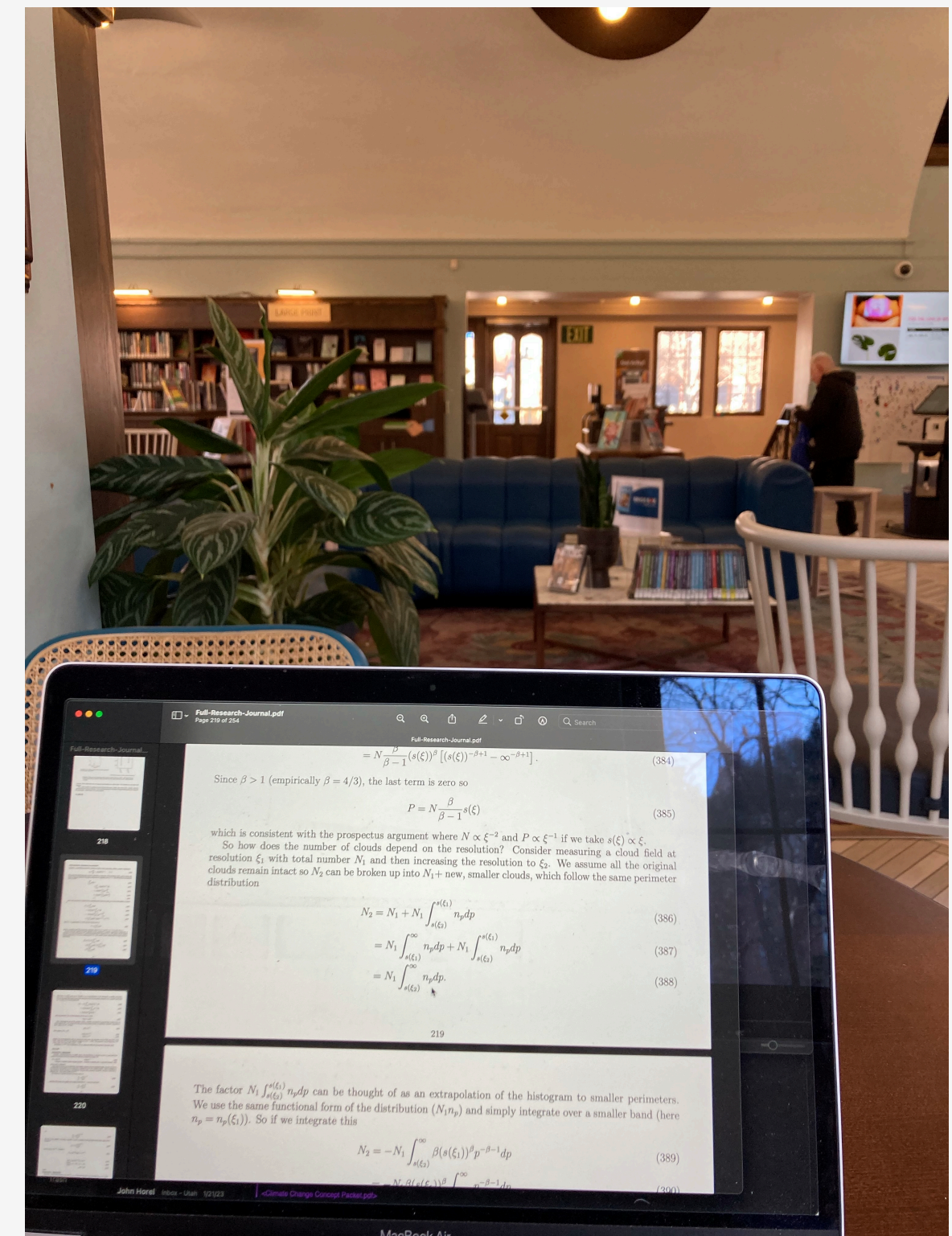




When I'm not working



Day-to-day work



Thermodynamic Constraints on Cloud Geometry.pdf
☐ ☐ ☐ ☐

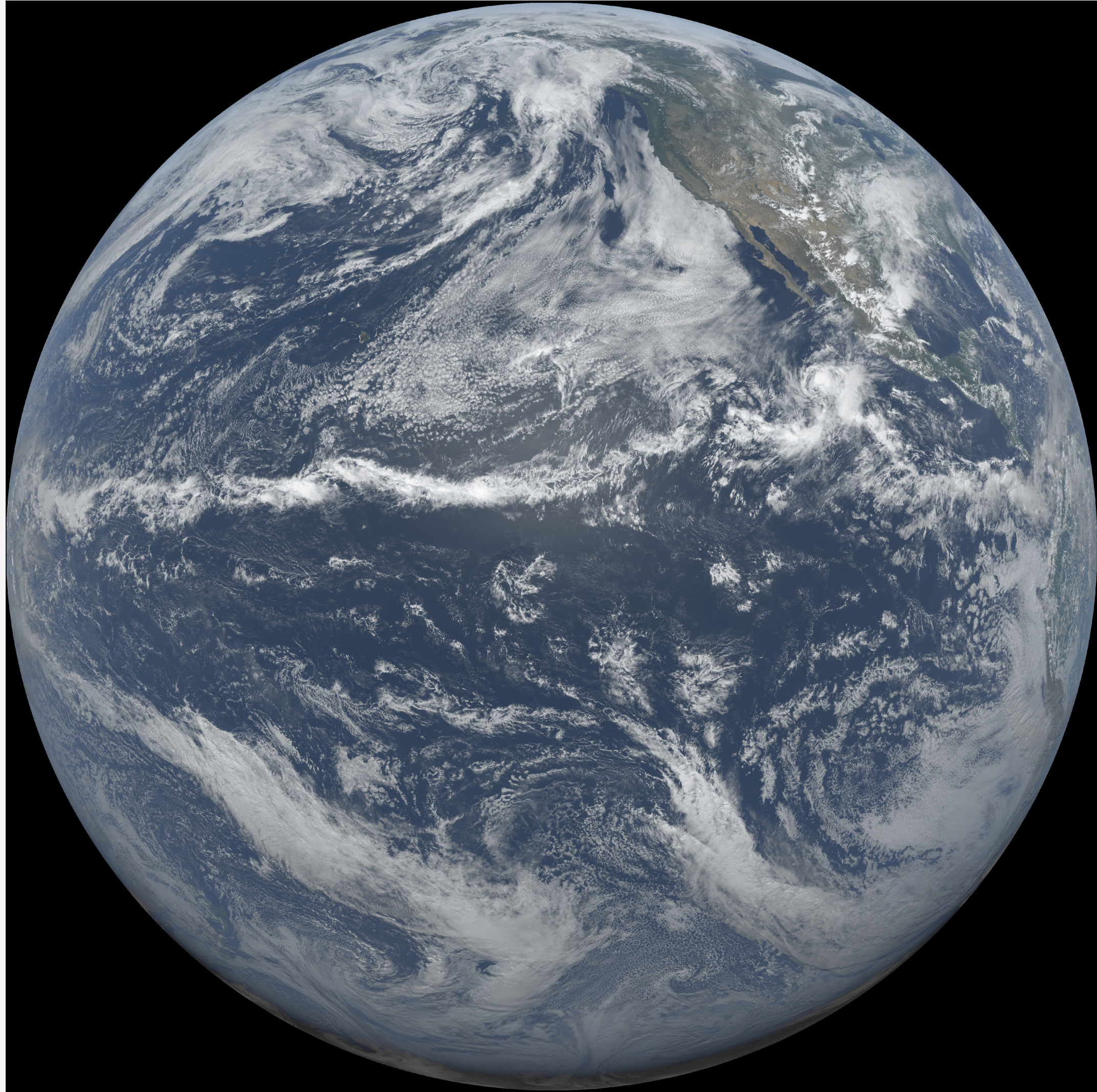
```

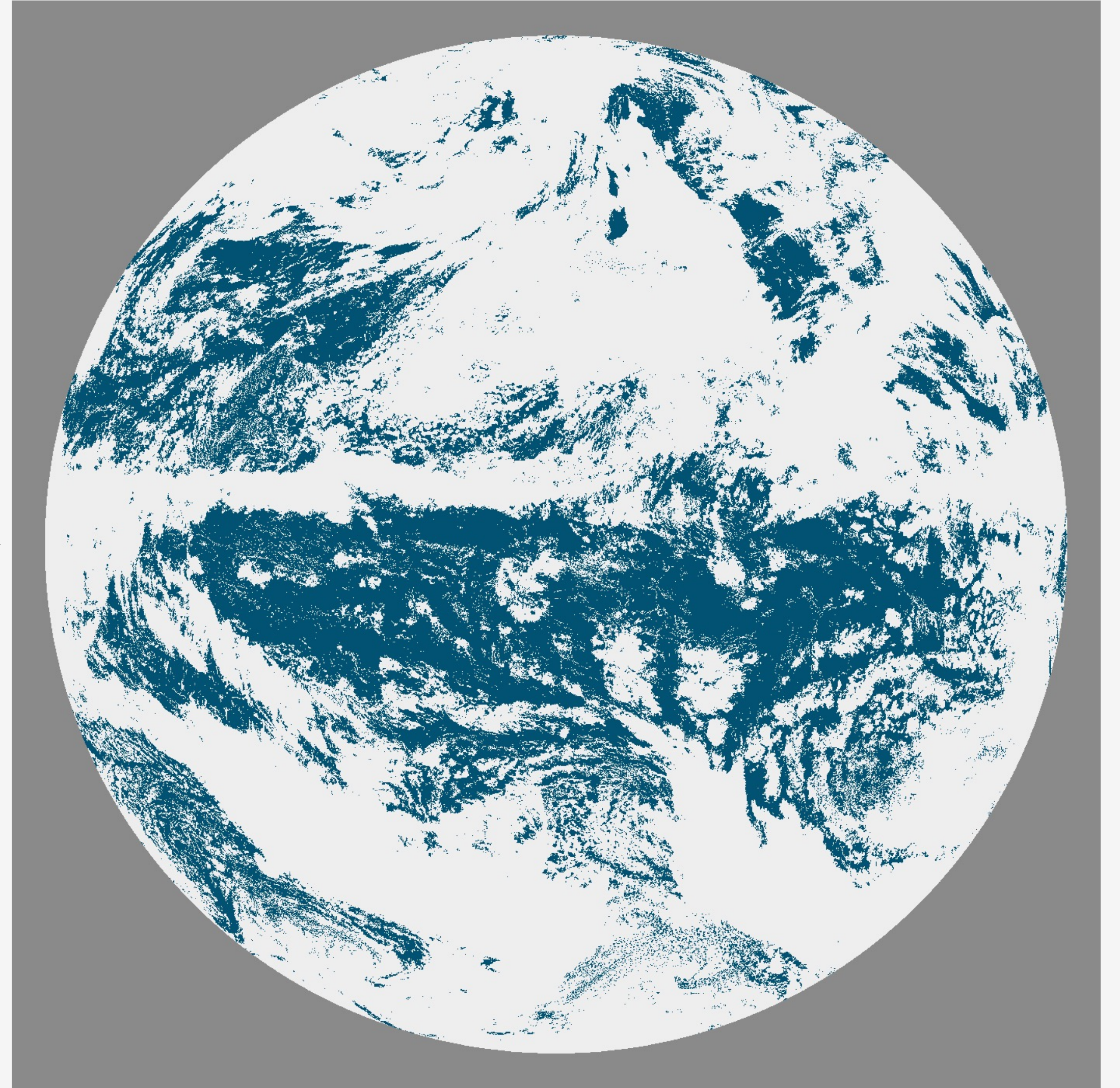
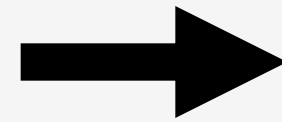
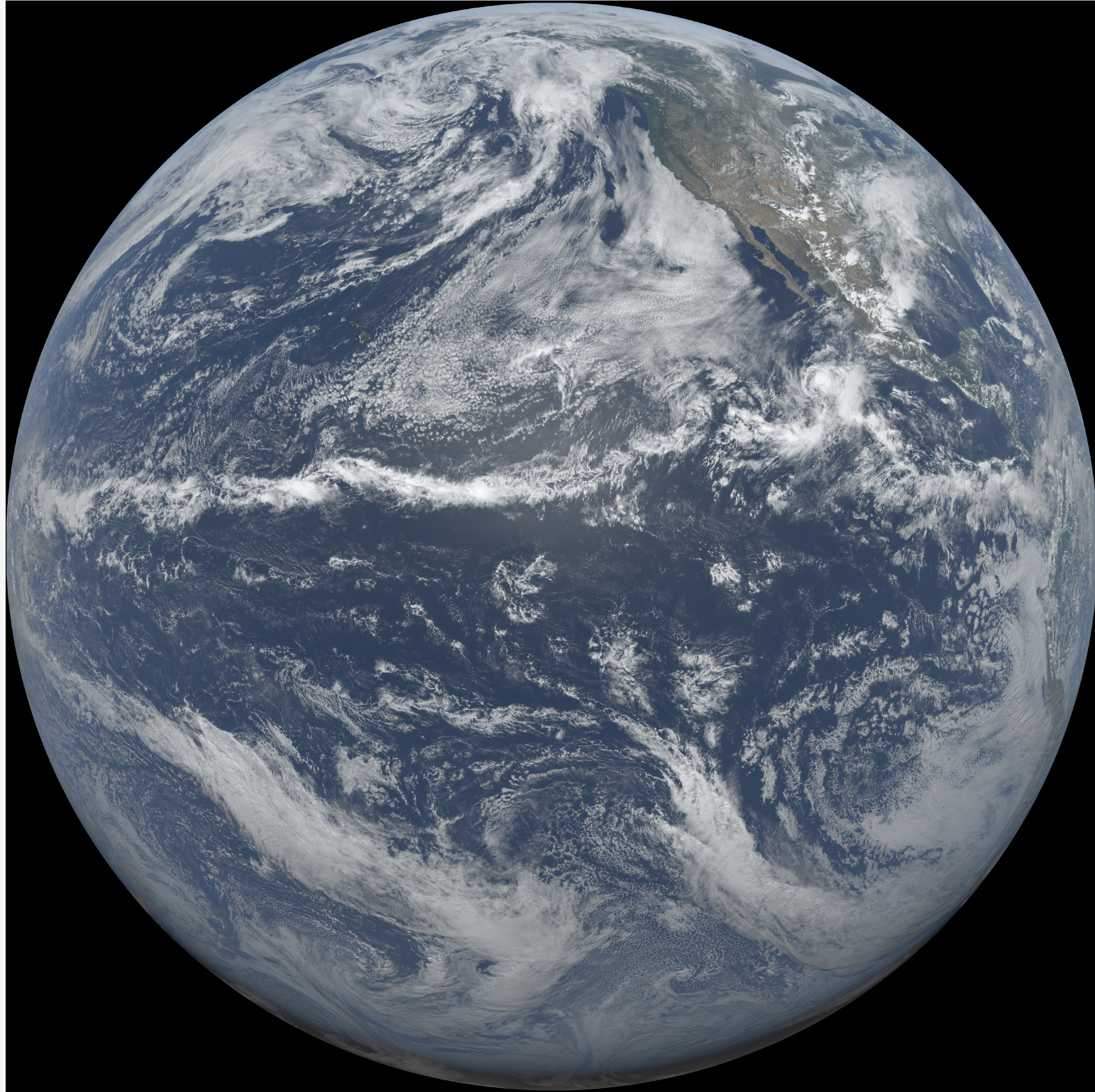
and add a further affiliation: "\affil[*]{These authors contributed equally to
this work.}".
48
49
50 \correspondence{NAME (EMAIL)}
51
52 \runningtitle{TEXT}
53
54 \runningauthor{TEXT}
55
56
57
58
59
60 \received{}
61 \pubdiscuss{} %% only important for two-stage journals
62 \revised{}
63 \accepted{}
64 \published{}
65
66 %% These dates will be inserted by Copernicus Publications during the typesetting
process.
67
68
69 \firstpage{1}
70
71 \maketitle
72
73
74
75 \begin{abstract}
76 TEXT
77 \end{abstract}
78
79
80 \copyrightstatement{TEXT} %% This section is optional and can be used for
copyright transfers.
81
82
83 \introduction %% \introduction[modified heading if necessary]
84
85 The dynamic complexity of cloud fields presents a significant challenge to
modeling the earth's climate, but the past decades have seen tremendous
improvements to model representations of cloud interactions at ever finer
resolutions. The next generation of $\unit{km}$-scale climate models will be able
to resolve far more detail than ever before \cite{osber2020}. While this

```

Figure 1. Left: Logarithmically-binned histograms of cloud perimeters for each satellite dataset and SAM. Right: Measured values of β (the negative slope of the histogram on the left) compared to Eqn. 3. The grey line represents the mean value of β for all satellites. Uncertainties are derived from the linear regression standard error as 95% confidence intervals.

master* 0 0 6054 words ✓
☎ ☔

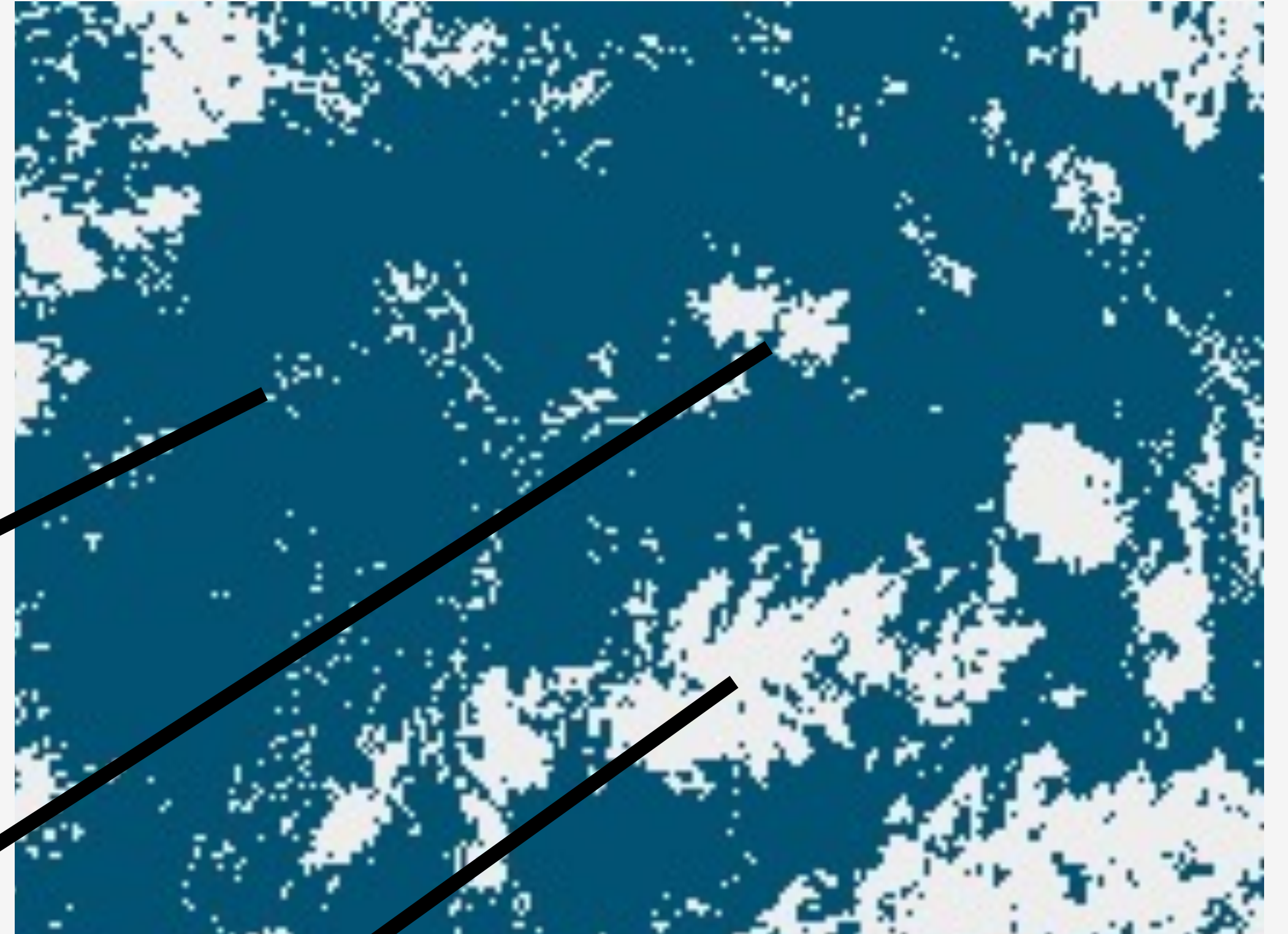
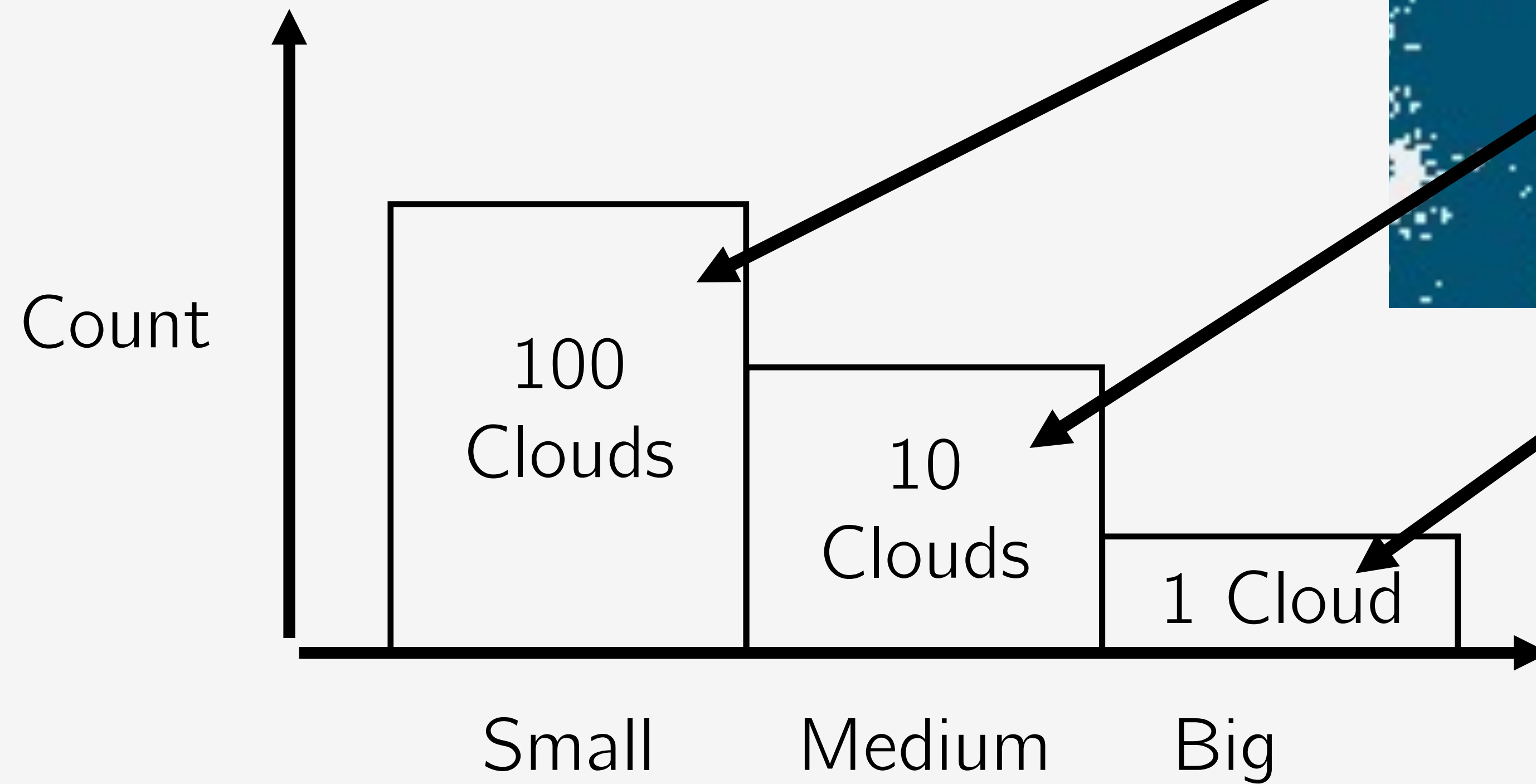




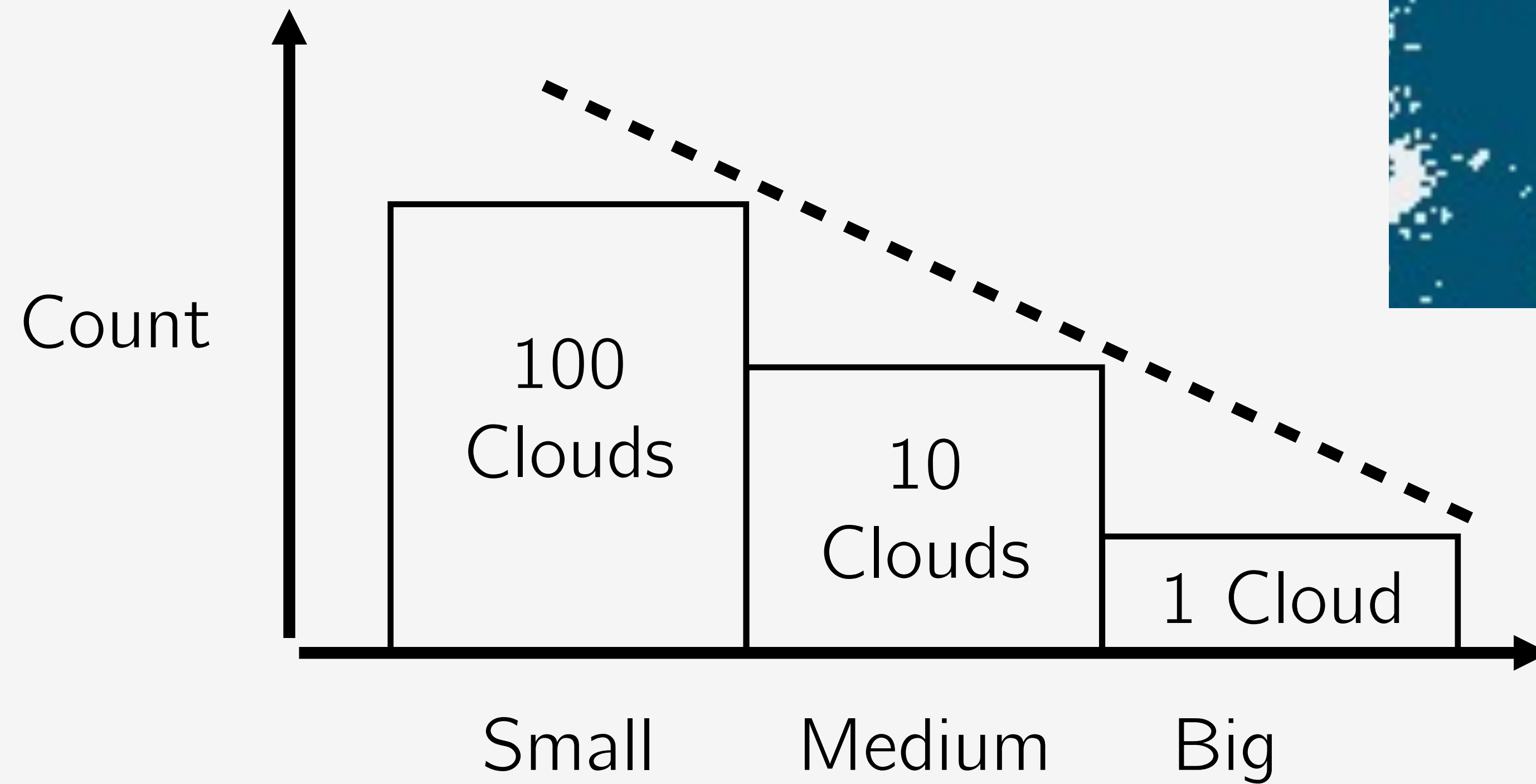
Cloud “Distribution”



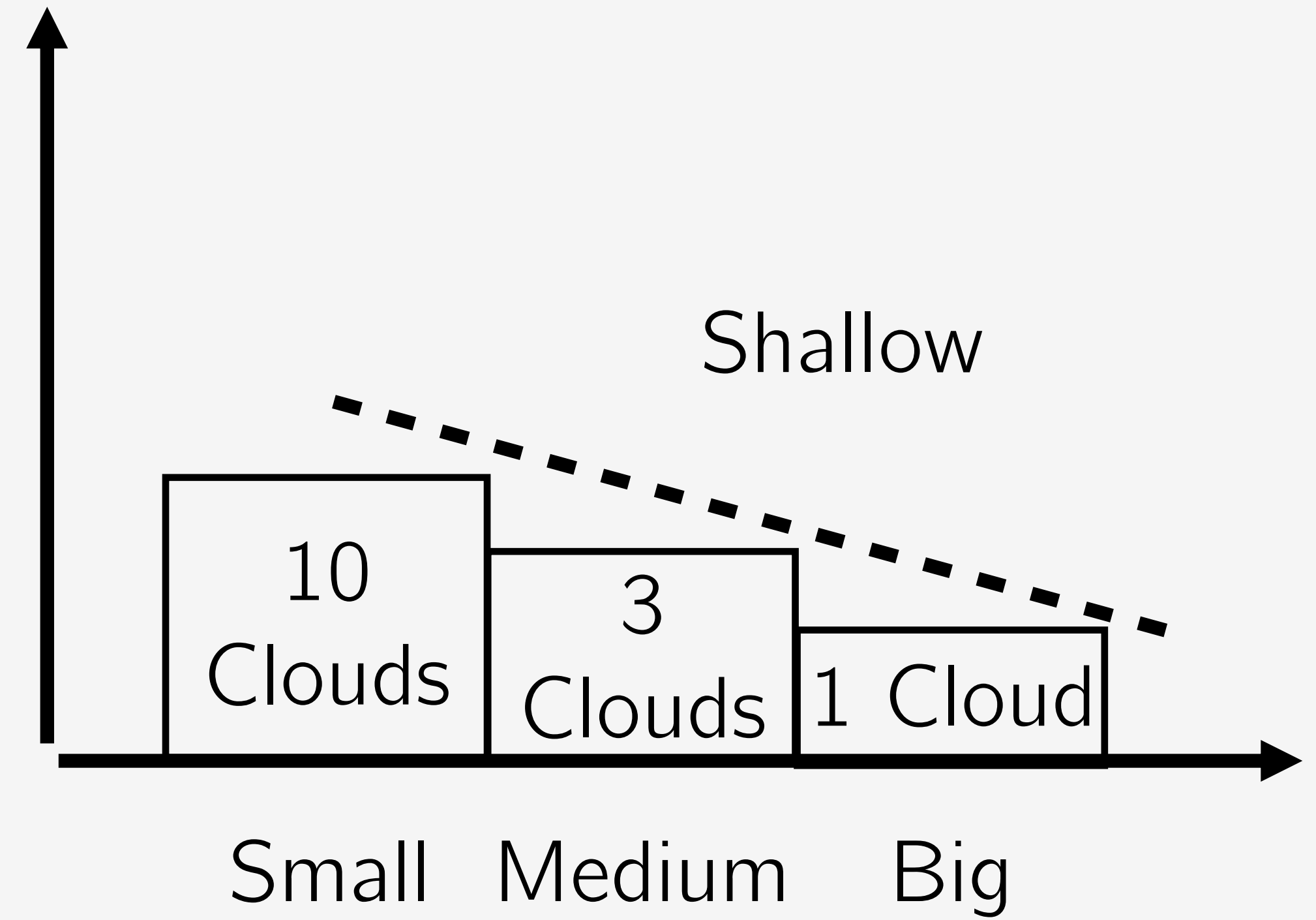
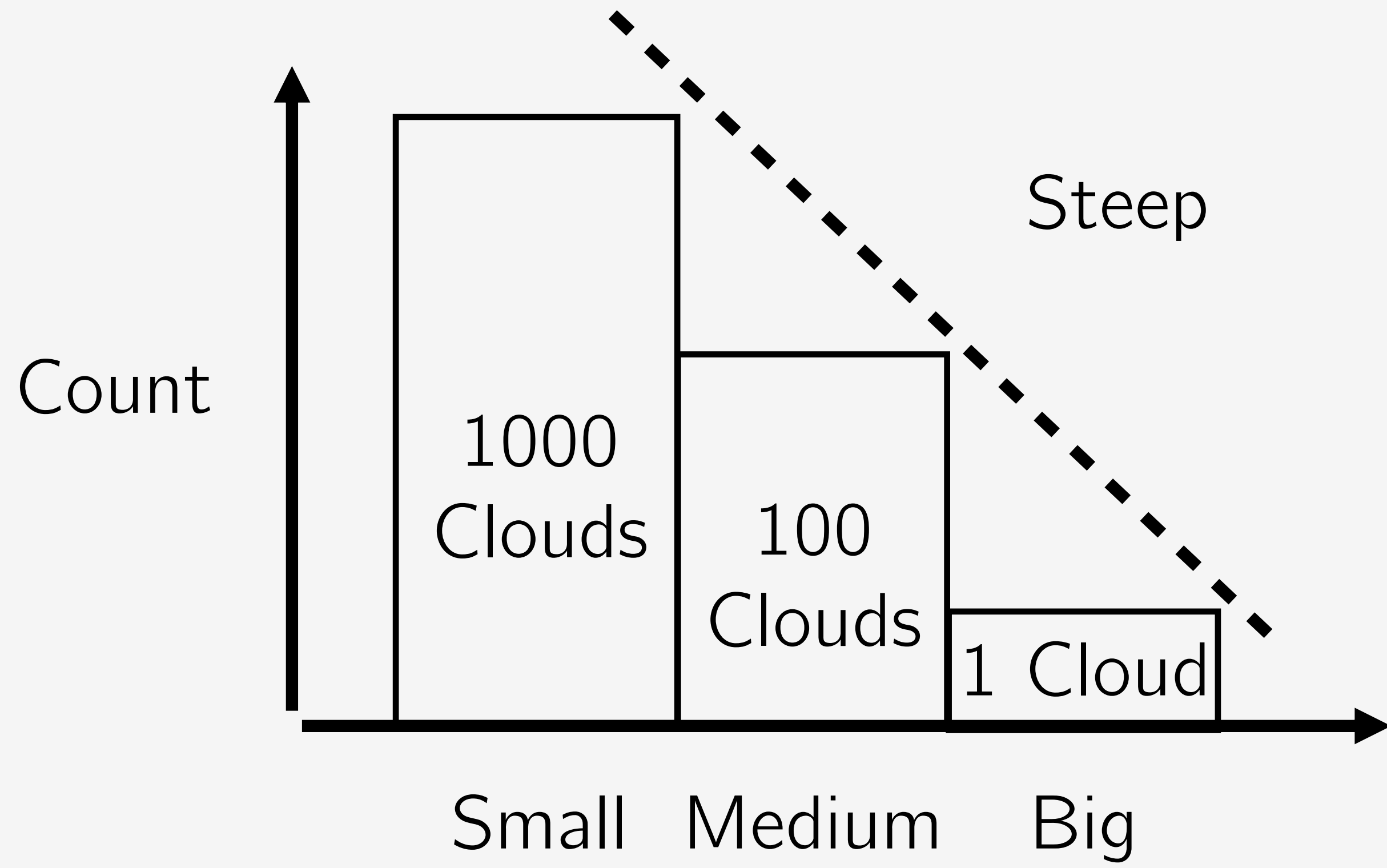
Cloud "Distribution"



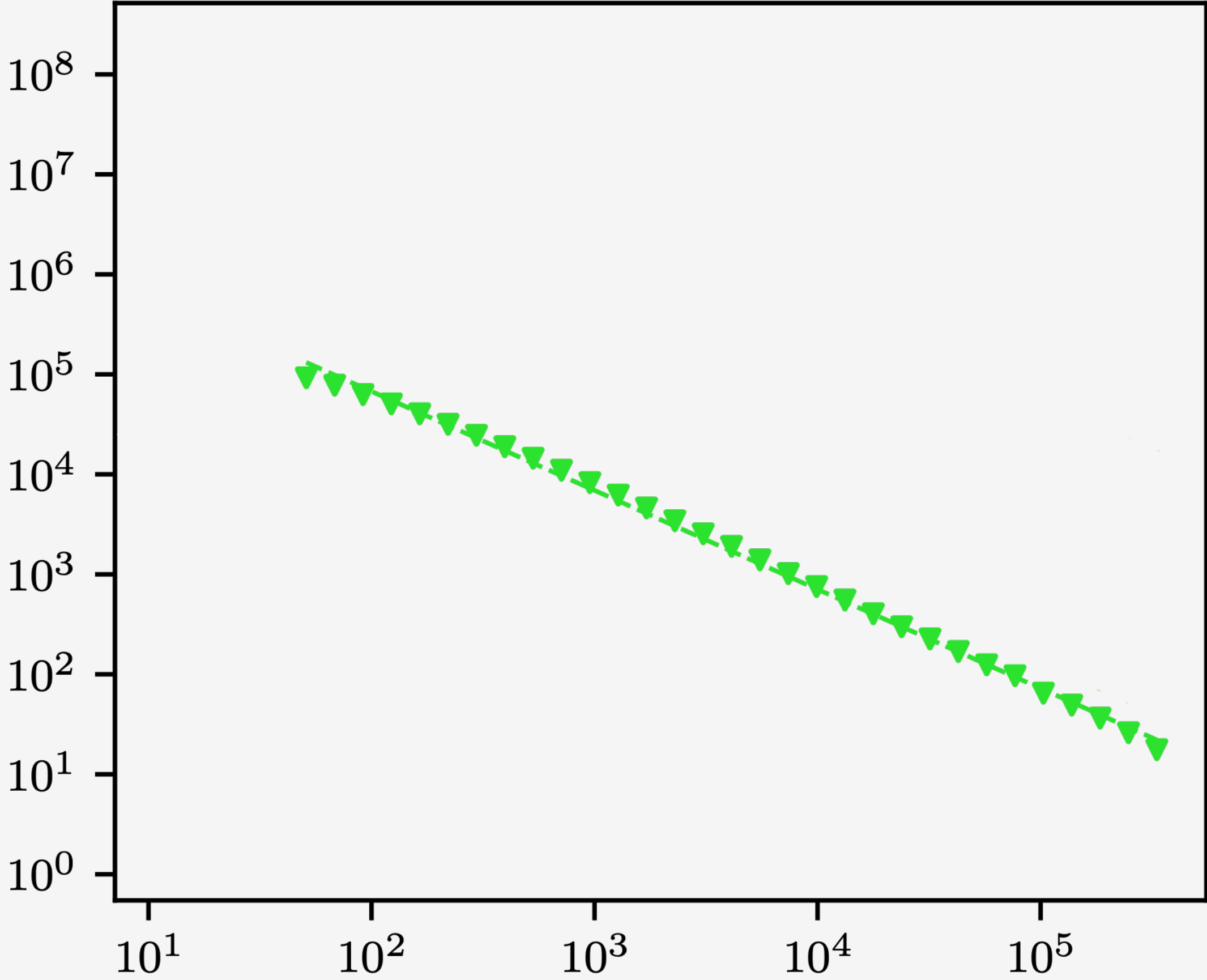
Cloud “Distribution”



Cloud "Distribution"



Count



Small Medium Big
(Cloud Area)

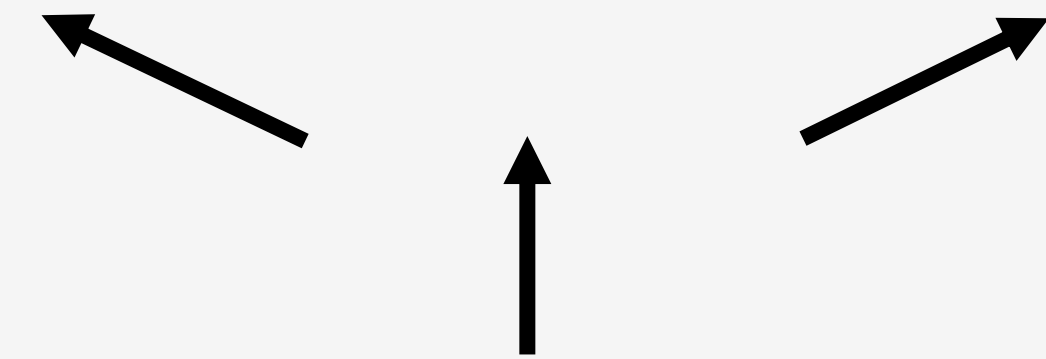
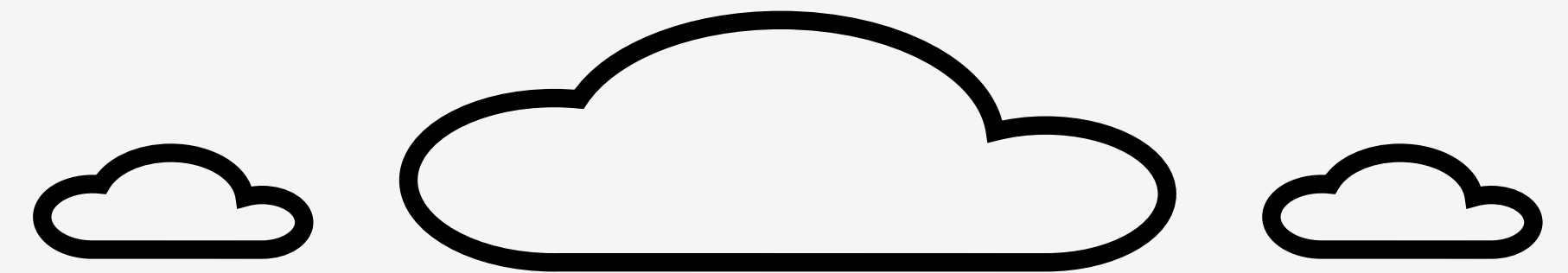
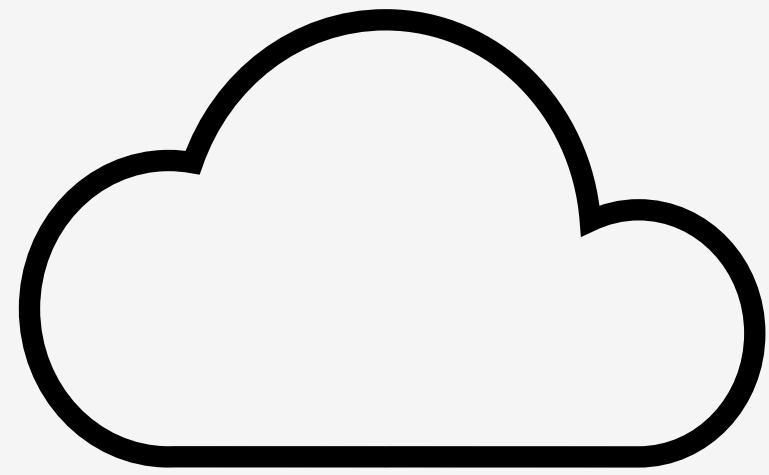


We hypothesize more clouds

Today

Warmer climate

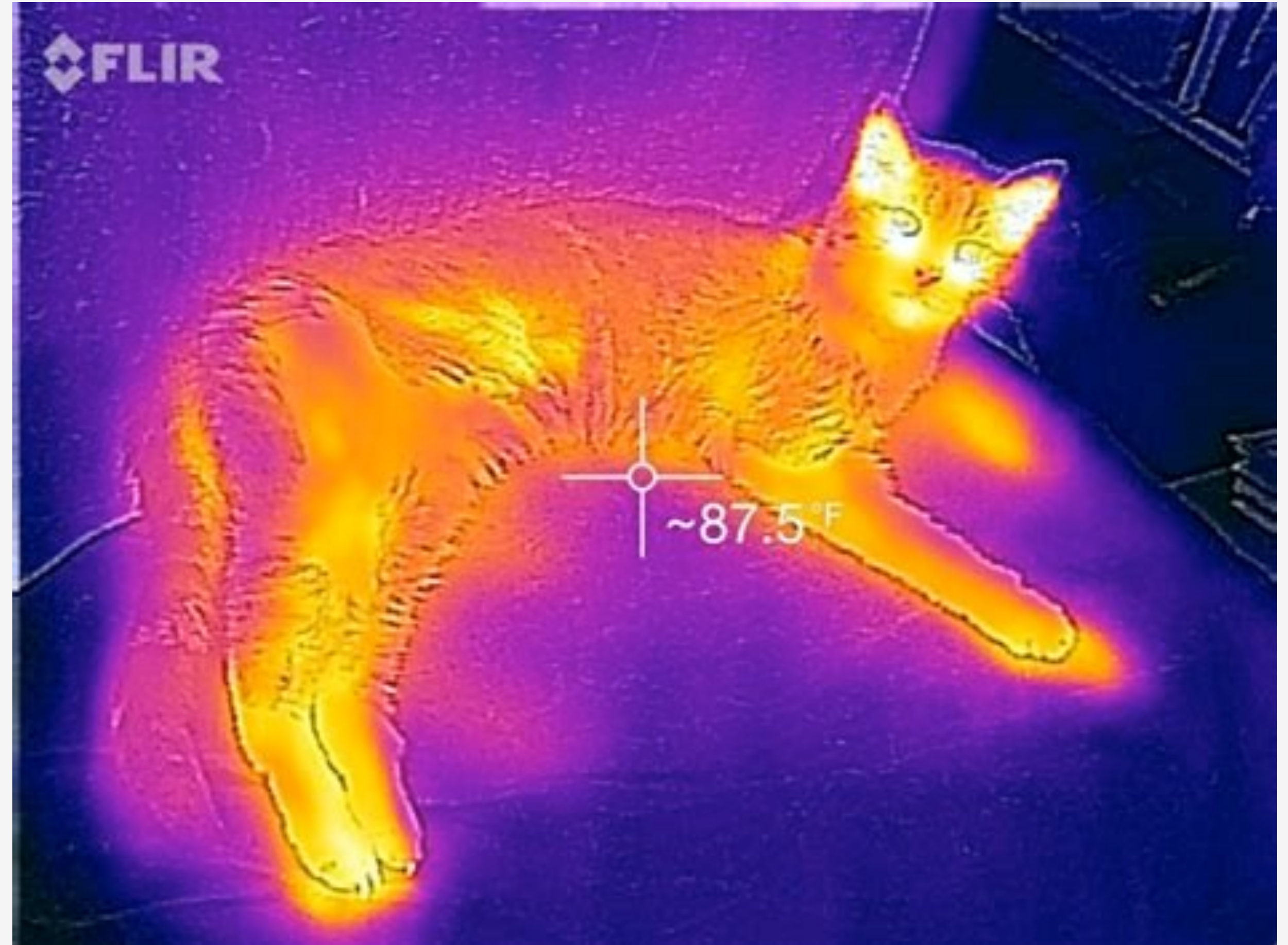
→ Atmosphere gets WAY warmer →

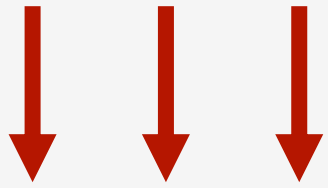
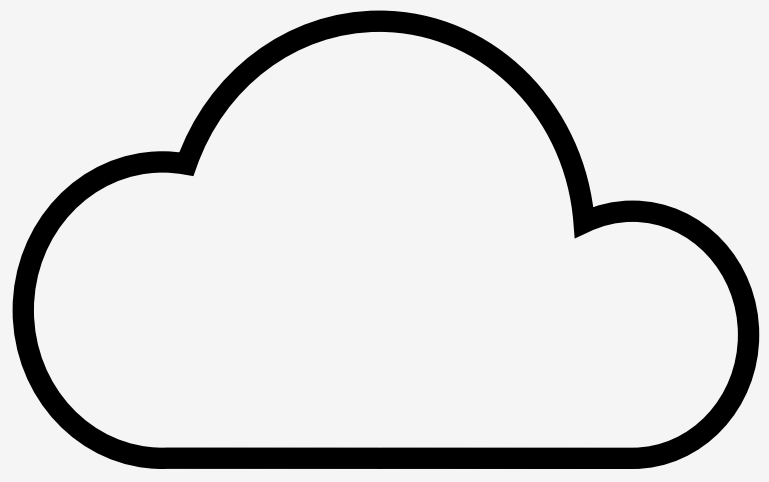


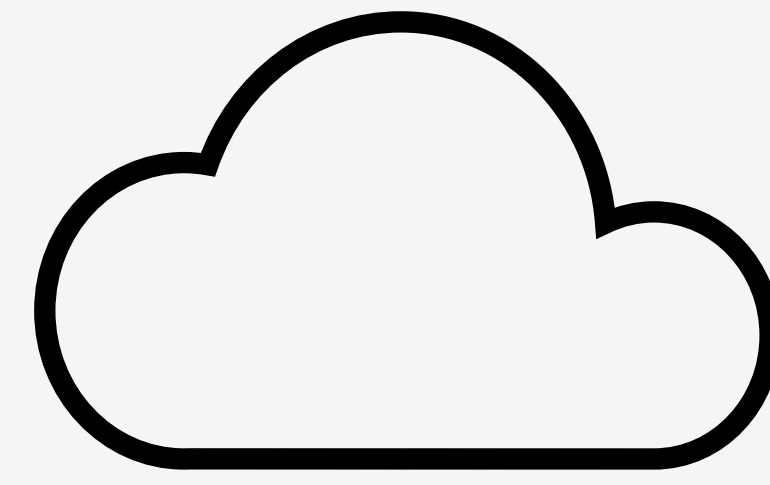
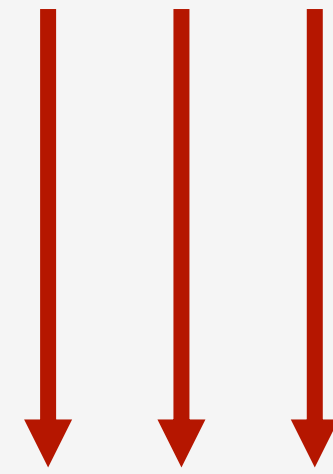
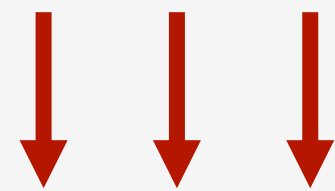
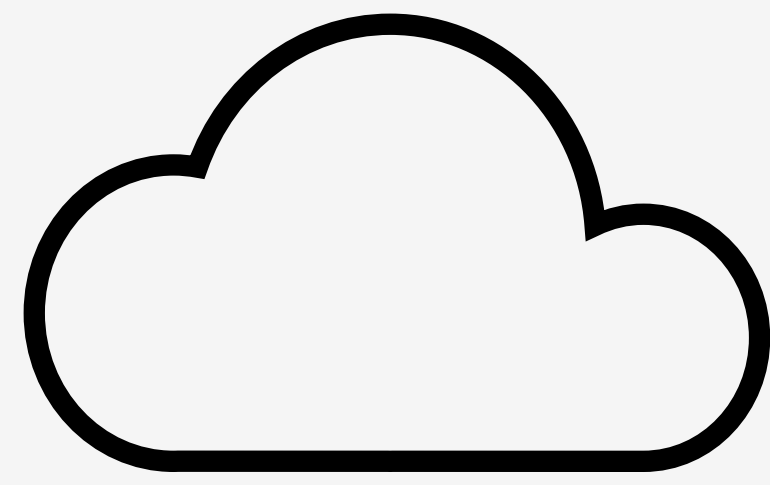
→ Surface gets warmer →

Radiation

- Everything glows with heat







How do clouds affect the climate?

- Clouds warm the surface,
- but block sunlight, cooling the surface.
- Can you hypothesize what the total effect will be?