Ice core boreal fire records - Murat Aydin, Jennifer Campos-Ayala

- Fires are an important source of atmospheric gases and aerosols, change surface albedo, and impact climate.
- Ice sheets preserve an archive of atmospheric gases and aerosols.
- Boreal fires have a very strong influence over Greenland compared to fires in low latitudes (tropics).
- Low latitude fires impact Arctic and Antarctic atmospheres similarly.
- We can quantify changes in boreal fires by contemporaneous ice core gas measurements from Greenland and Antarctica, but what are the causes?

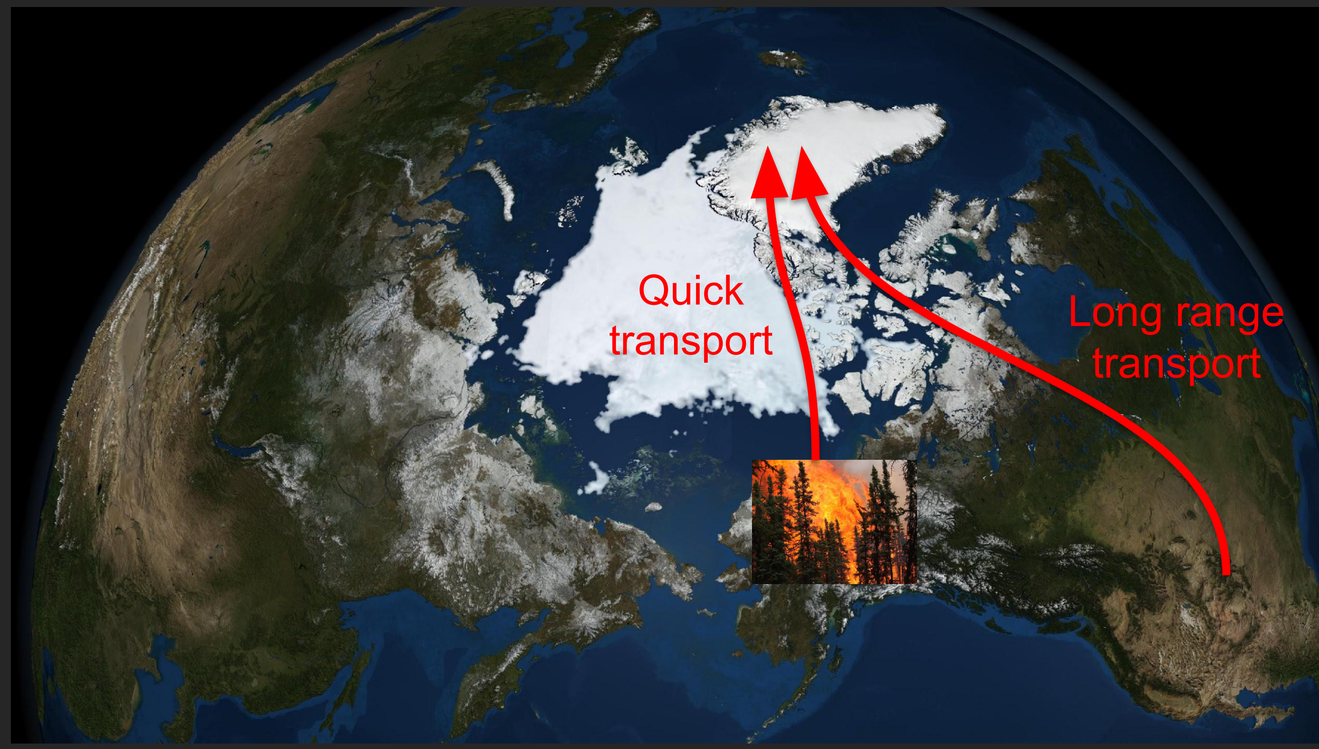
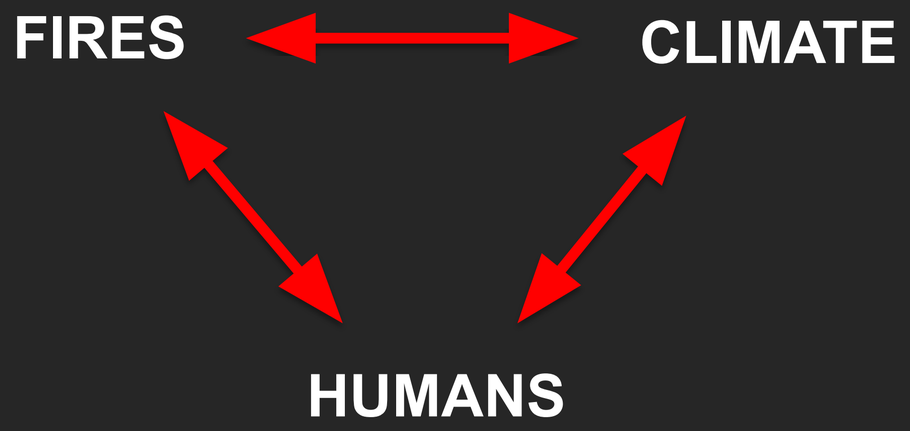


Image: nasa.gov

Feedbacks between fires, climate, and humans

- Past changes in fires can be driven by climate and human activities.
- Most fires today are linked to human activity (agriculture, land use, unintentional), although fires also happen naturally: climate impacts fire regimes.
- Climate, fires, human activities are interlinked.
  - Fire emissions impact humans directly via health impacts and indirectly via climate
- What are the causes of boreal fire variability in the past, what were the contributions of humans vs. climate, how does this interaction evolve over time and into the future?



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