

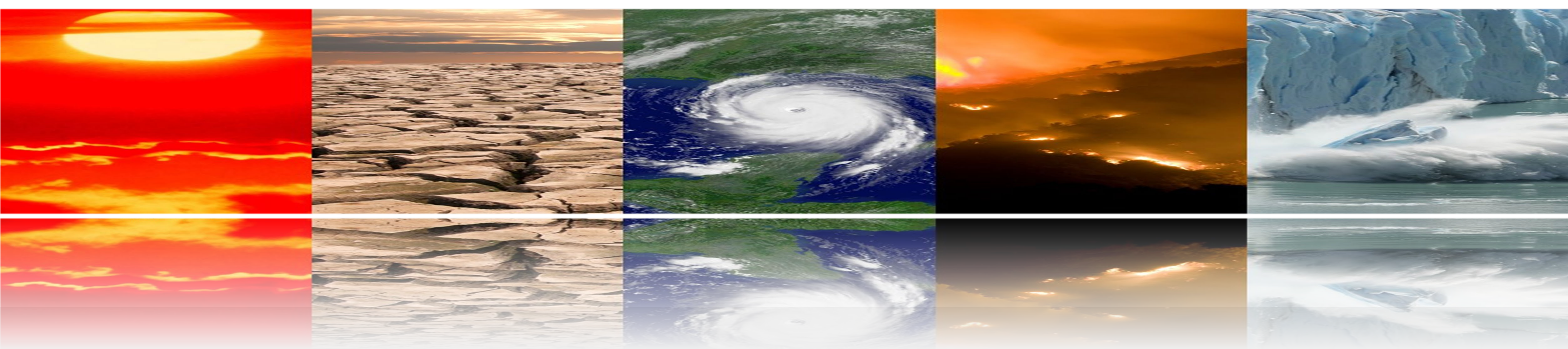
Drought legacy effects on plant soil-feedbacks of range expanders and related natives

Keli Li

Dept. of Terrestrial Ecology
(NIOO-KNAW) &
Dept. of Nematology (WUR)



I want to improve my research proposal, deepen my knowledge on soil ecology, and also meet colleague PhD-students and established soil ecology researchers

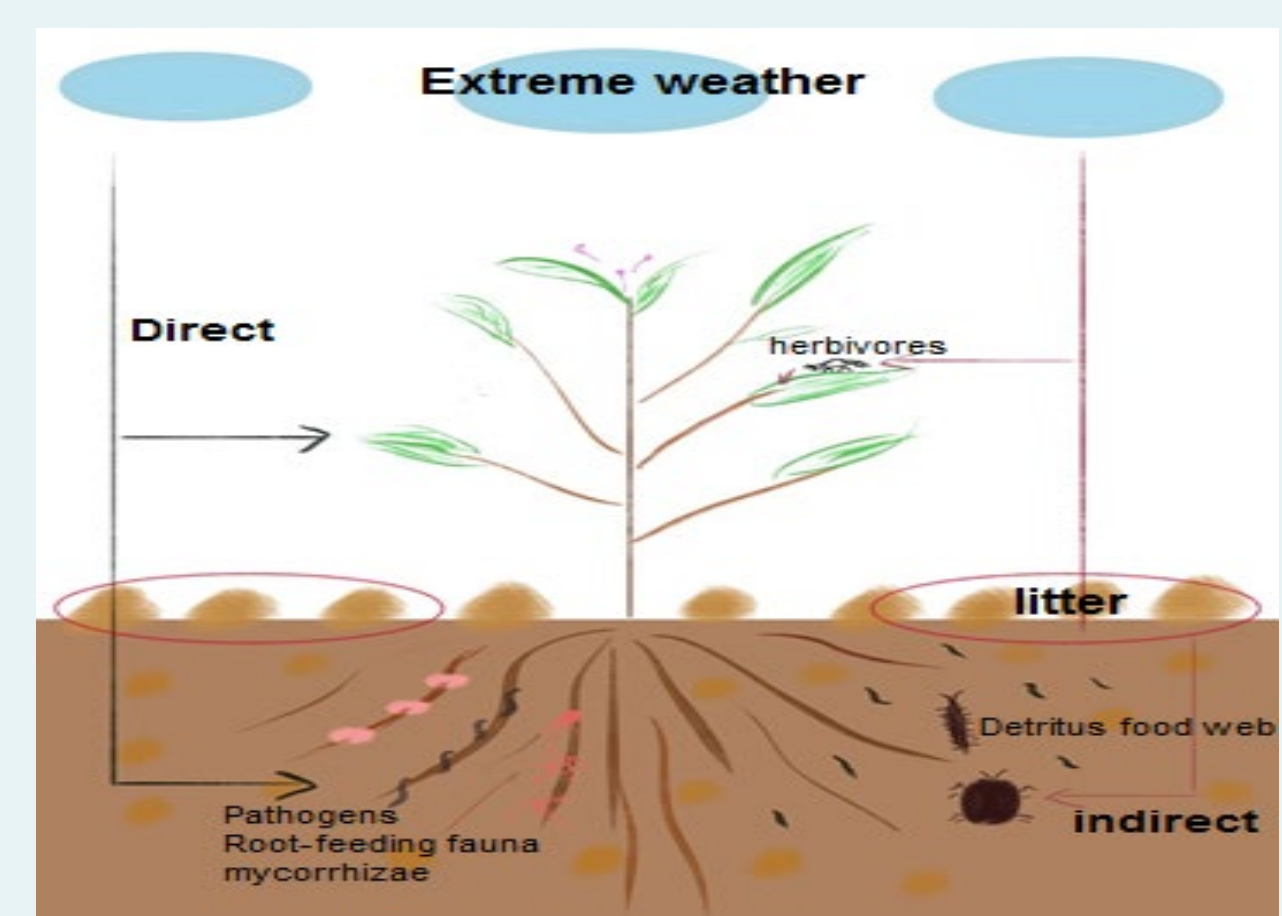


Currently rapid **climate change** is expected to strongly influence **plant and soil** composition and function. The distribution of many terrestrial plants, microbes and other organisms are **expanding their ranges** to previously colder areas in response to climate warming. Climate change also increases the incidence of **extreme weather** events, such as drought and flooding, which have direct or indirect impacts on **above-belowground biota** and their **legacy effects**.

What I expect to find in my study is how soil legacy effects of extreme weather events influence belowground-aboveground interactions of range-expanding versus native plant species.

Measurements:

- Aboveground biomass
- Soil bacteria, fungi, protists community, soil nematode
- Litter decomposition rate
- Soil respiration
- Soil physicochemical characteristics



In my proposed study, we expect that after a previous year's drought, range expanders may have a differently active soil microbial community, and decompose the litter more quickly than related native plant species. The range expanders are expected to have more positive plant-soil feedbacks, which would enhance adaption to the new habitats.