

## Research Highlights

- C mineralization rate in soil followed the climate trend: semi-arid > arid > hyper-arid
- C mineralization rate increased after the addition of simulated fog or rainfall
- Some mineralization occurred under hyper-arid conditions (water activity,  $a_w = 0.05$ )
- Mineralization was limited by low enzyme activity in the humid and hyper-dry soils
- Microbial C uptake and use followed the trend: hyper-arid > arid > semi-arid