

# EPA Region 8 Headquarters CSU Research Site



# EPA Green Roof Research

- Boussetot, J., J. Klett, + R. Koski. 2010. ***Extensive green roof species evaluations using digital image analysis.*** HortScience: 45(8).
- Boussetot, J., J. Klett, + R. Koski. 2012. ***Evaluating a natural zeolite as an amendment for extensive green roof substrate.*** J. Env. Hort., 30(4).
- Boussetot, J., T. Slabe, J. Klett, + R. Koski. 2017. ***Photovoltaic array influences the growth of green roof plants.*** J. of Living Arch.
- Slabe, T. and Boussetot, J. 2013. ***Implications of the Stefan-Boltzmann law for green roofs.*** Proceedings paper for Green Roofs for Healthy Cities conference.

# Solar + Green Roof Conclusions

- Cooler beneath PV than the exposed area
- Temperature variation was less too
  - Winter – less “in and out” of dormancy
- More plants overwintered near PV
- PV protection = increase in plant cover
- Substrate moisture  $\uparrow$  in the protected area



# Denver Botanic Gardens Green Roof



## High and Dry = Survive

- Schneider, A., Fusco, M., and Bousselot, J., 2014. Observations on the survival of 112 plant taxa on a green roof in a semi-arid climate. *Journal of Living Architecture*, 1(5), 10-30.



# Denver Botanic Gardens



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