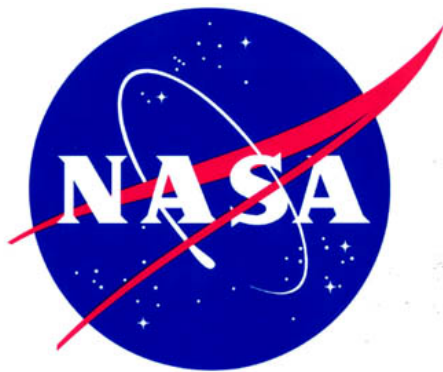




**NORTHERN
ARIZONA
UNIVERSITY**



Seasonal trends in leaf non-structural carbohydrates

Linnea Gear

Mentor: Kiona Ogle, Dept. of Informatics and
Computing

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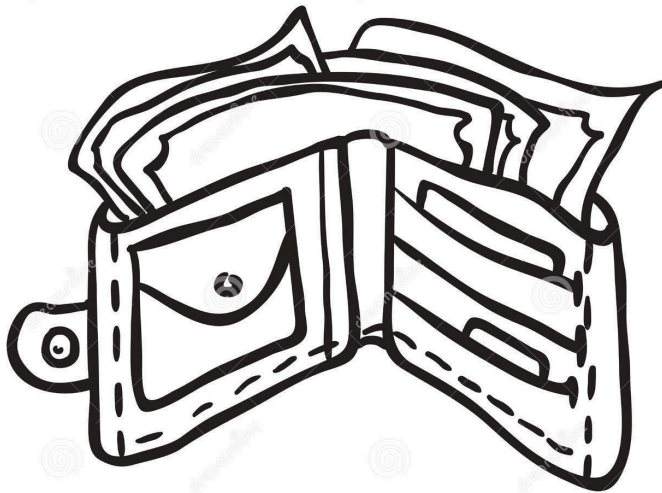
What are non-structural carbohydrates?

Soluble sugars

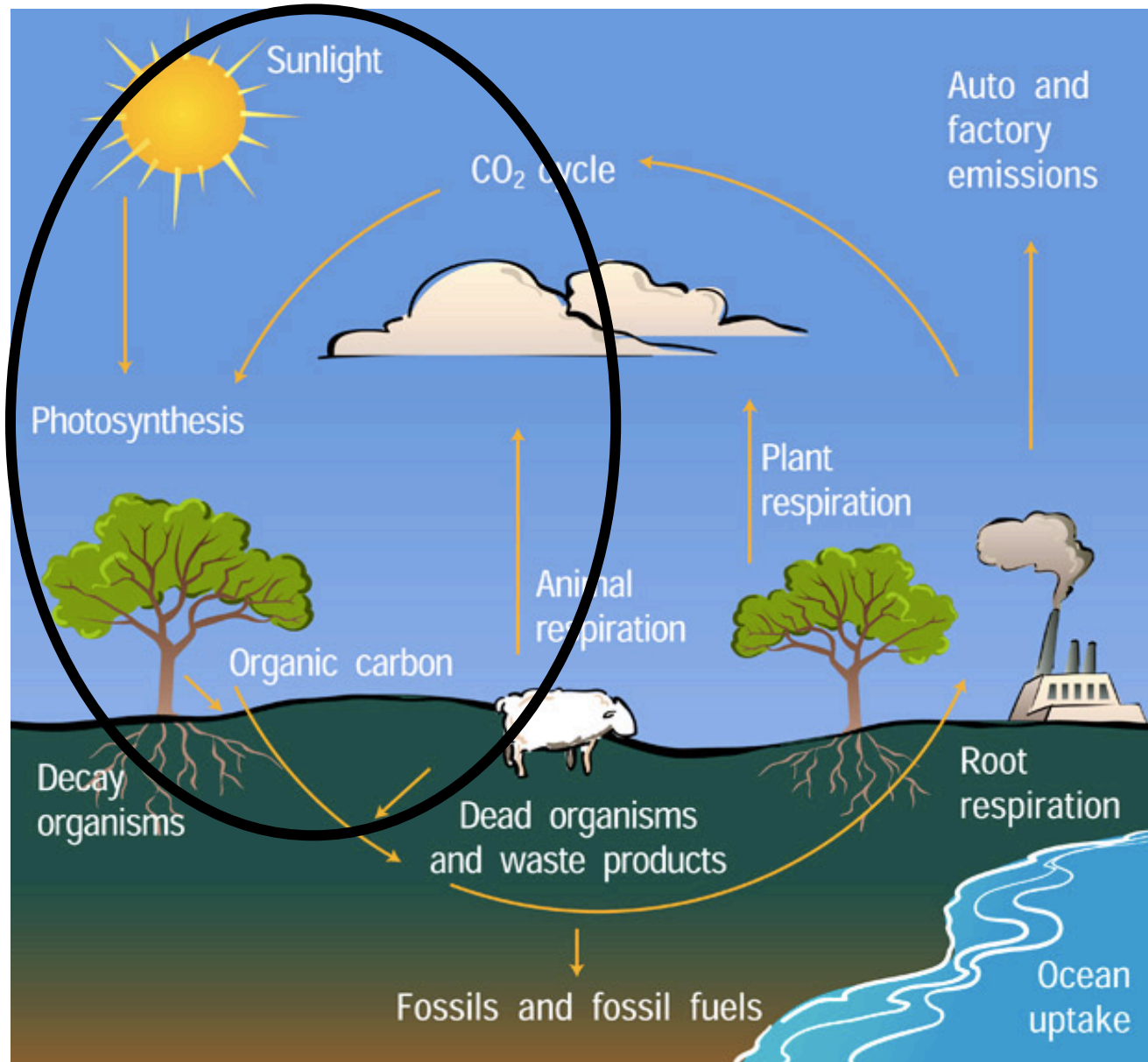
- Immediate functions
 - Regulating plant growth

Starch

- Long-term storage
 - Constructing new tissue



Why are NSCs important?

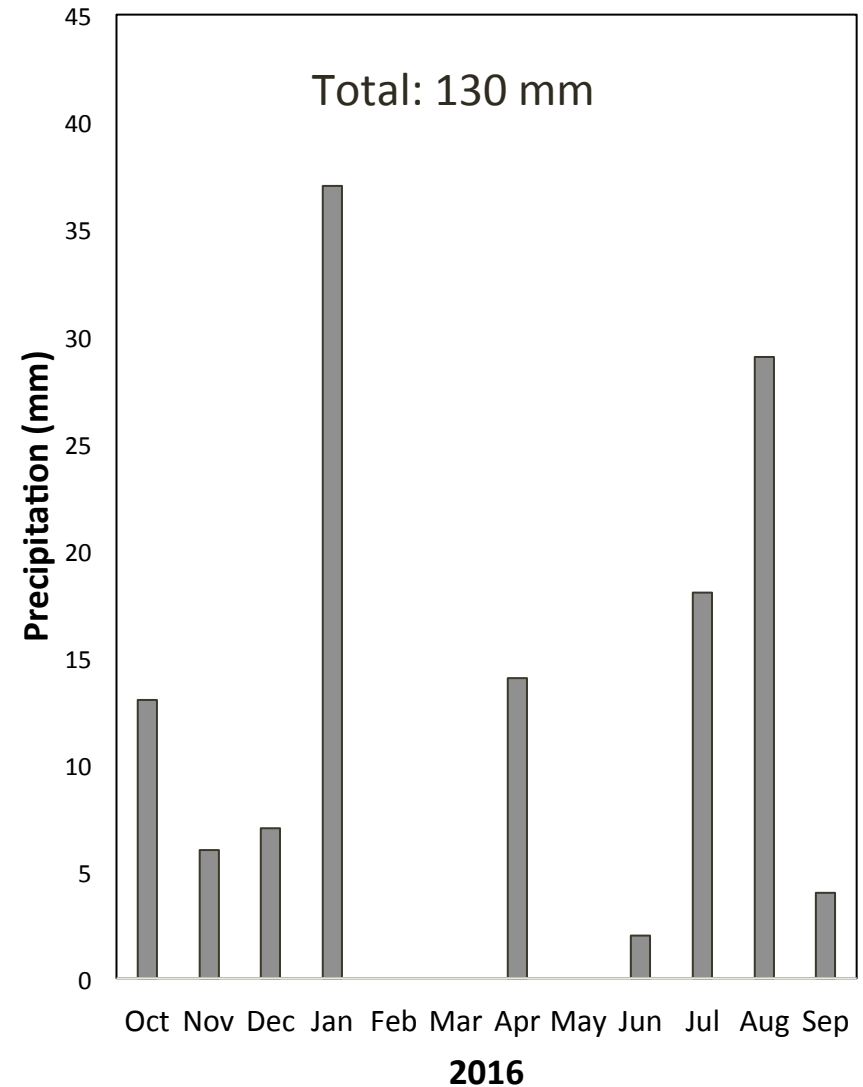
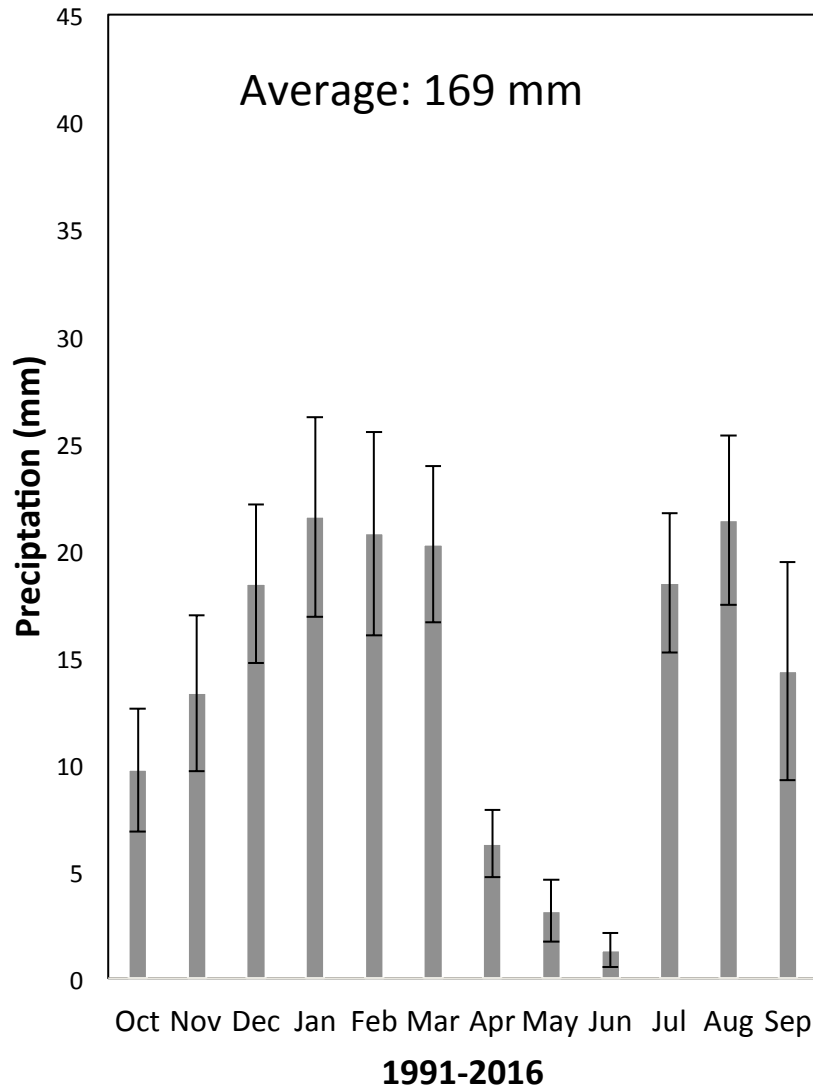


Larrea tridentata (Creosote bush)



Dominant plant of the hot deserts of the Southwest
Extremely drought-tolerant yet evergreen

Seasonal precipitation trends

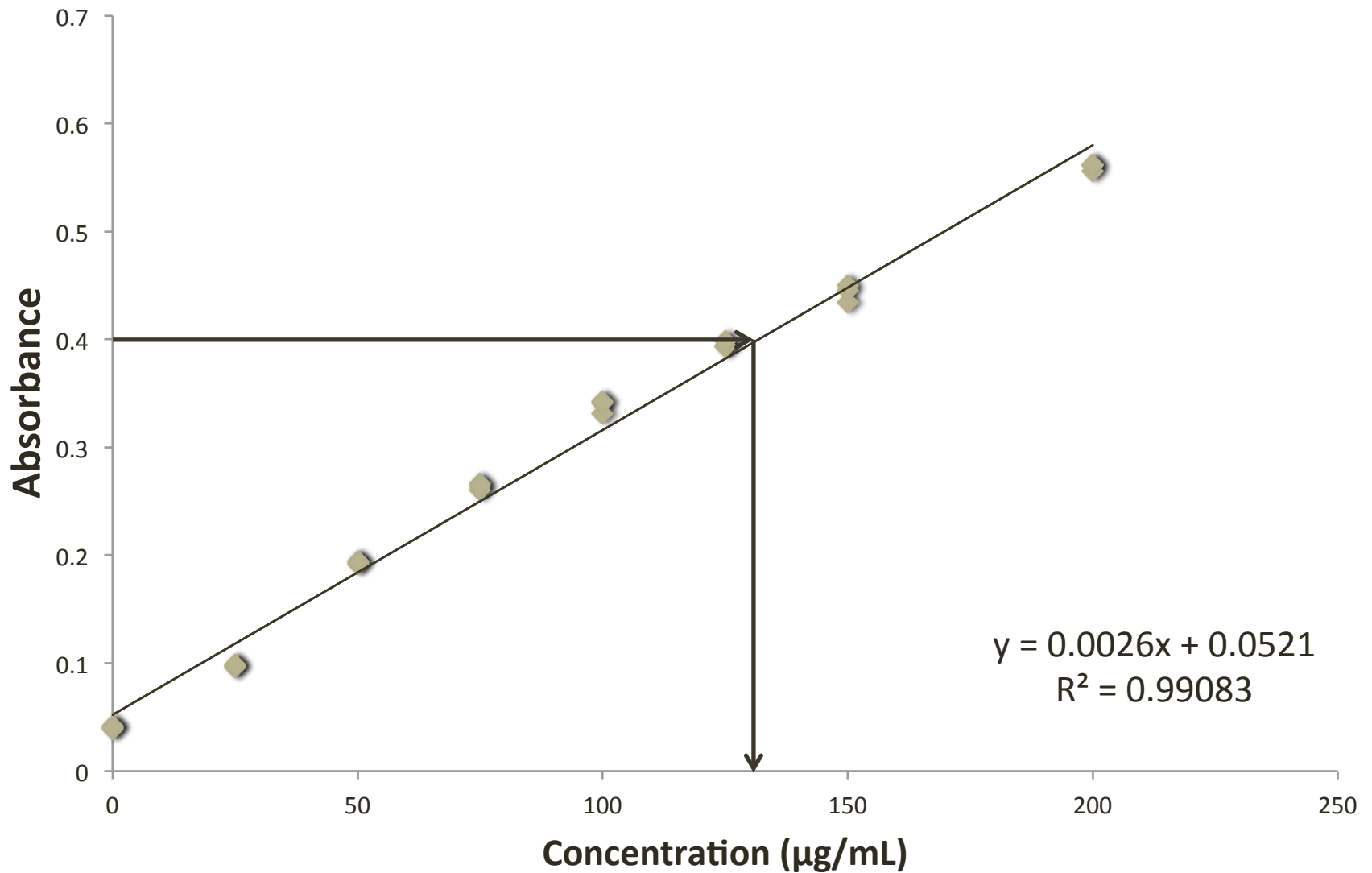


Measuring NSCs in leaves

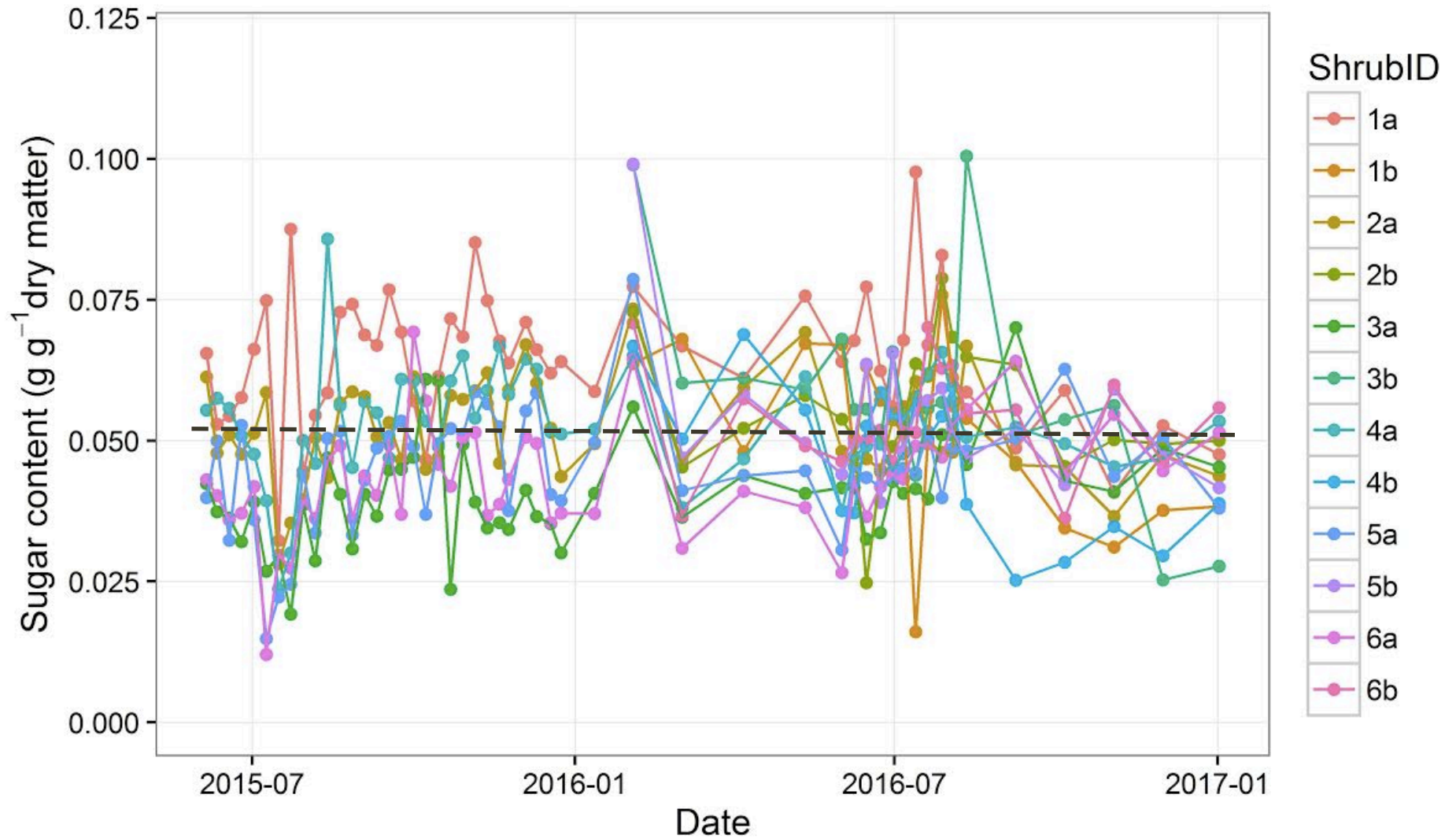
- Leaves collected weekly/monthly from 12 shrubs; 426 samples in total
- Phenol and sulfuric acid create a **color reaction**
- Absorbance of the resulting solution can be correlated to sugar/starch concentration

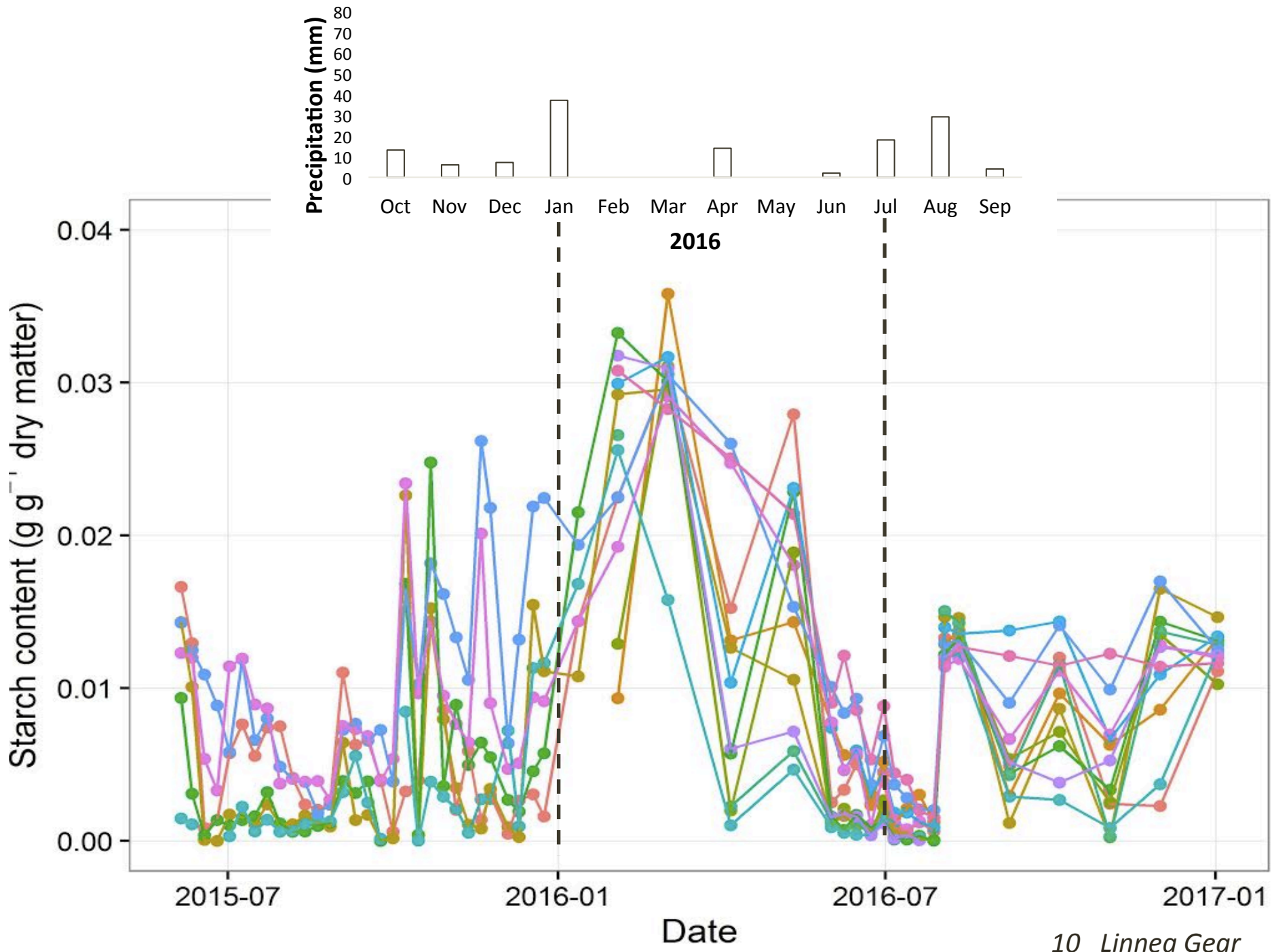


Using a standard curve

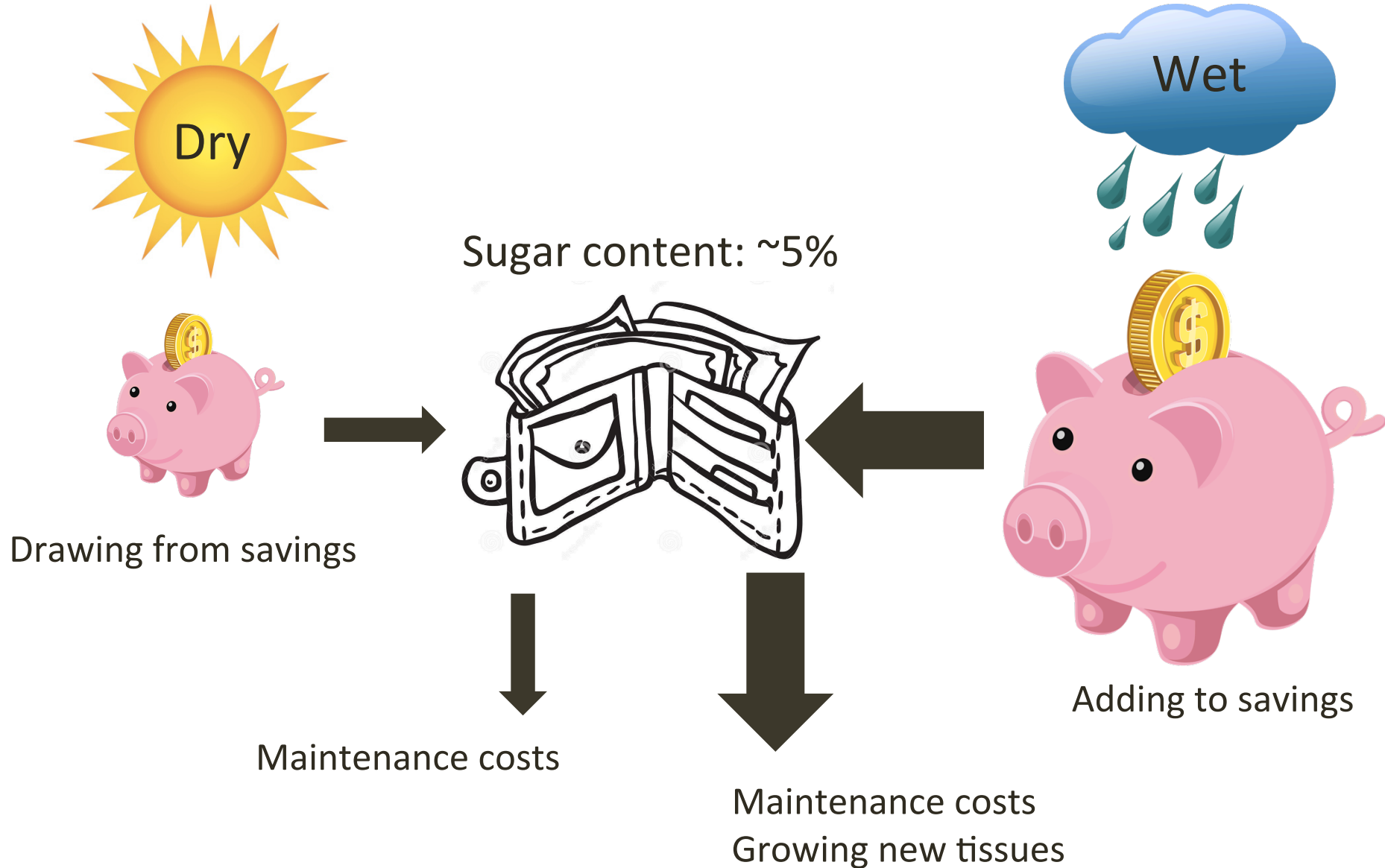


Leaf sugar content





What does this mean?



Acknowledgments

Desert Botanical Garden

Dr. Kevin Hultine

The Ogle Lab:

Dr. Kiona Ogle

Jessica Guo

Drew Peltier

Stacy Jeffereys

Ryan Bishop

Samuel Teegarden

NASA Space Grant

Dr. Nadine Barlow

Kathleen Stigmon

Questions?

