

The When and Where of Worms in Wheat Fields



REACCH Regional Approaches to Climate Change – PACIFIC NORTHWEST AGRICULTURE

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- 1. Who is here?
- 2. Where are they?
- 3. What limits their distribution?
- 4. When are they active?

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## Previous surveys

- 4 species
  - Aporrectodea trapezoides
  - Aporrectodea tuberculata
  - Aporrectodea turgida
  - Lumbricus terrestris



From (James, 2000)

## 2011-2013 survey

- 2 species
  - Aporrectodea trapezoides
  - Aporrectodea tuberculata
  - Aporrectodea turgida
  - Lumbricus terrestris



### 2011-2013 Survey



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### Threshold 330-370mm MAP



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Soil Moisture —Soil Temperature



### N D J F M A M J J A S O N D J Month

#### Six sites in 2 precipitation zones



#### April 10th

**C** Walsh

Soil Moisture: 20.2% Soil Temp: 11.2°/8.1° EW Biomass: 66.3 g m<sup>-2</sup>

#### July 30th

C. Walsh

Soil Moisture: 6.3% Soil Temp: 28°/19° EW Biomass: 37.8 g m<sup>-2</sup>

October 30th

C. Walsh

Soil Moisture: ~6% Soil Temp: *12*° @1200 EW Biomass: ~*1.8 g m*<sup>-2</sup>













**Volumetric Soil Moisture** 

# Summary

- *A. trapezoides* was the primary species identified
- *L. terrestris* may be underrepresented at some sites
- Aestivation began in early June.
- Still inactive as of October 30<sup>th</sup>.
- Interaction between soil moisture and temperature are likely to determine onset of aestivation.
- Additional sampling in the fall of 2014 and spring of 2015.