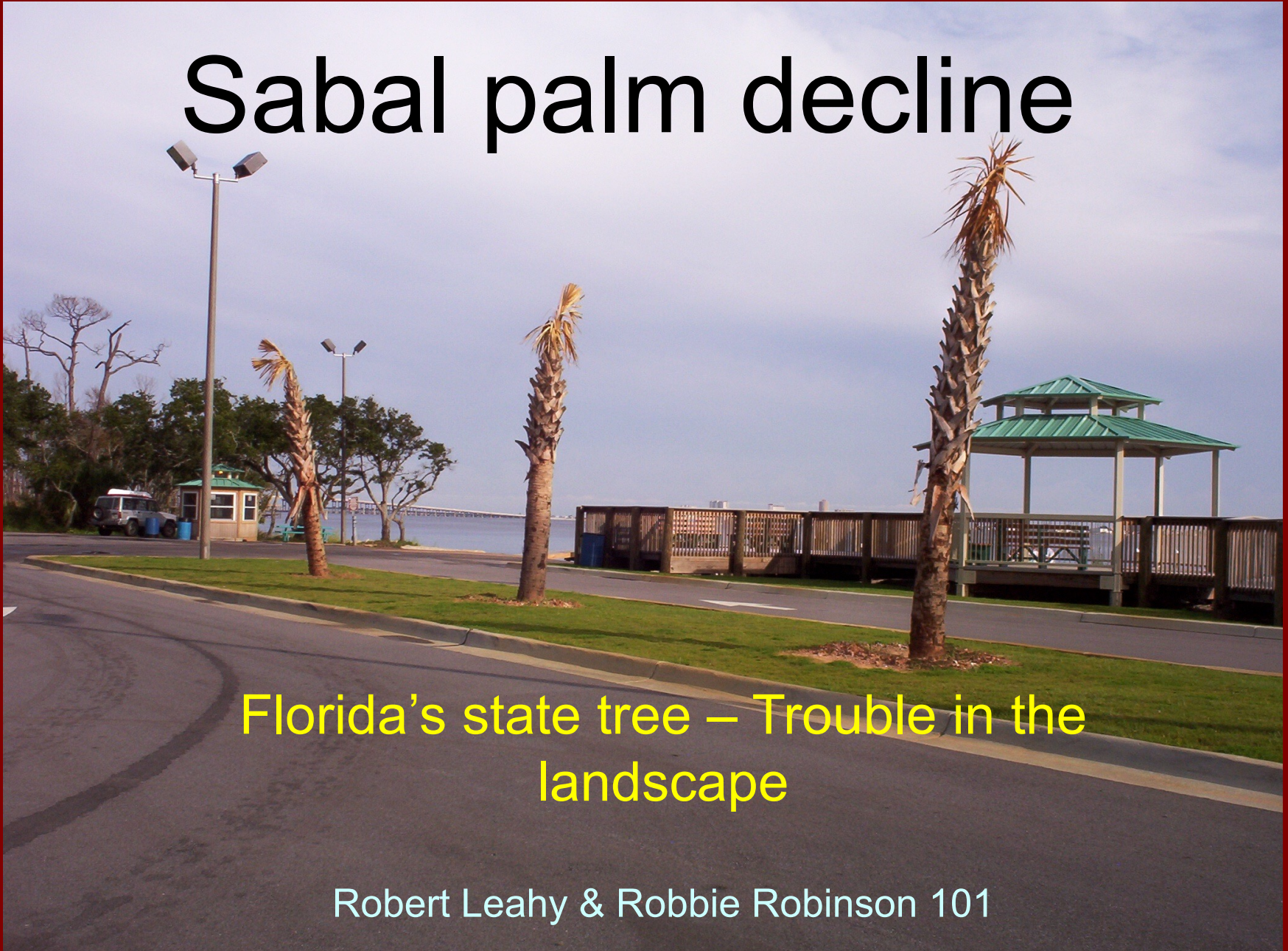


Sabal palm decline

Florida's state tree – Trouble in the landscape

Robert Leahy & Robbie Robinson 101



The Mystery

Hundreds – probably thousands of recently transplanted sabal palms dying in the landscape. Close to 100% mortality.

Replants also dying at a alarming rate.

Declining palms exhibit wilt and bleeding cankers.

Two species of Thielaviopsis recovered from rotted trunk and root tissue. Thielaviopsis not common on Sabal palm.

New palm disease of epidemic proportions?

Initial symptoms – progressive wilt & necrosis
of remaining canopy from the bottom up.









Bleeding trunk cankers and fermented odor caused by opportunistic *Thielaviopsis* fungal infection.



**Trunk integrity compromised –
eventual collapse of palm.**







Poor root development and rotted roots of declining sabal palms.



Cull pile of dead sabal palms providing inoculum and contamination source.

Other Important Facts

Severe drought conditions in Florida (particularly north Florida) for the past 2 years (at least).

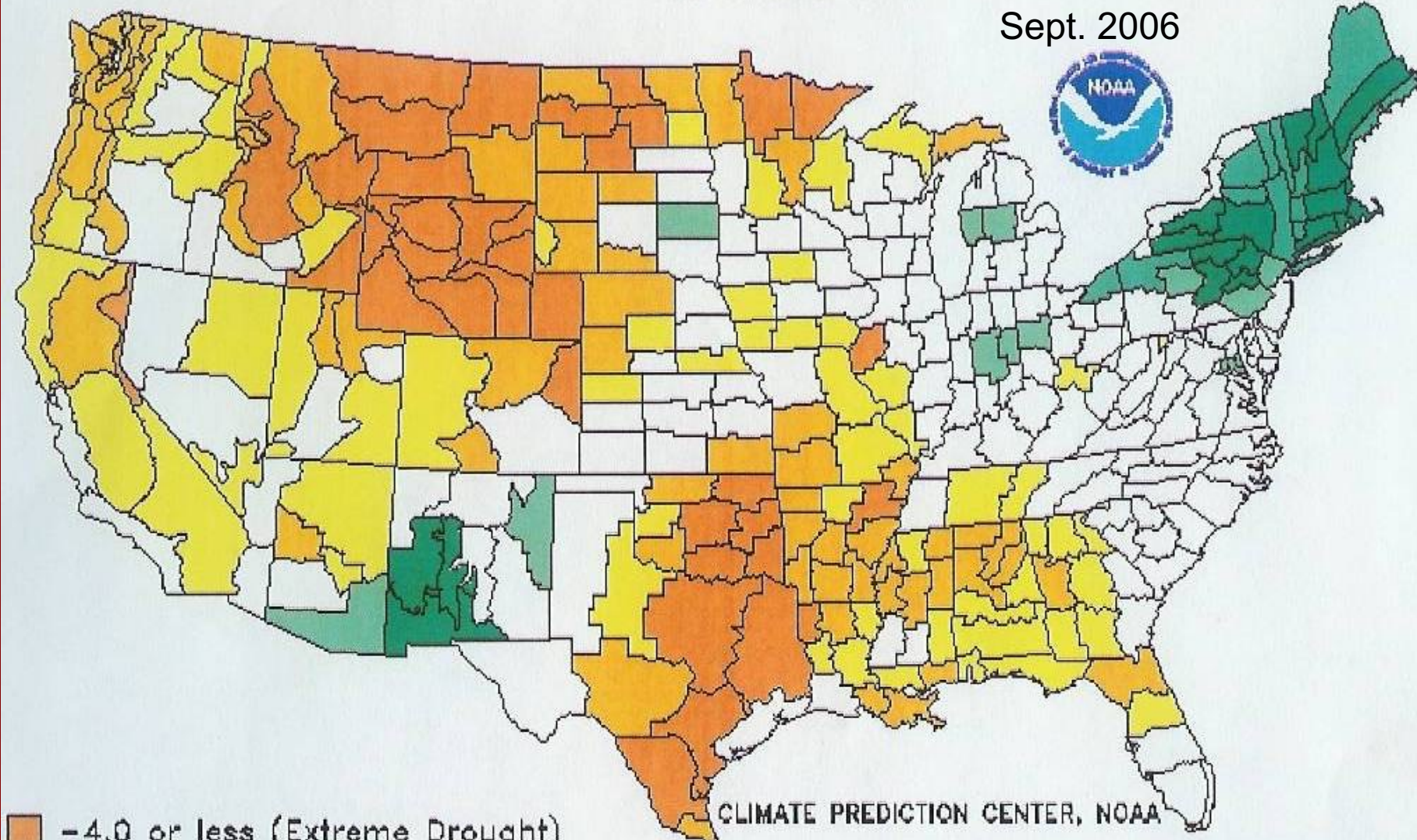
Harvested palms are drought stressed.

Sabal must regenerate root system after harvest (transplant shock).

**Natural wounds – shriveled trunk develops cracks (drought related).
Mechanical wounds – boot removal.**

Long Term Palmer

Sept. 2006

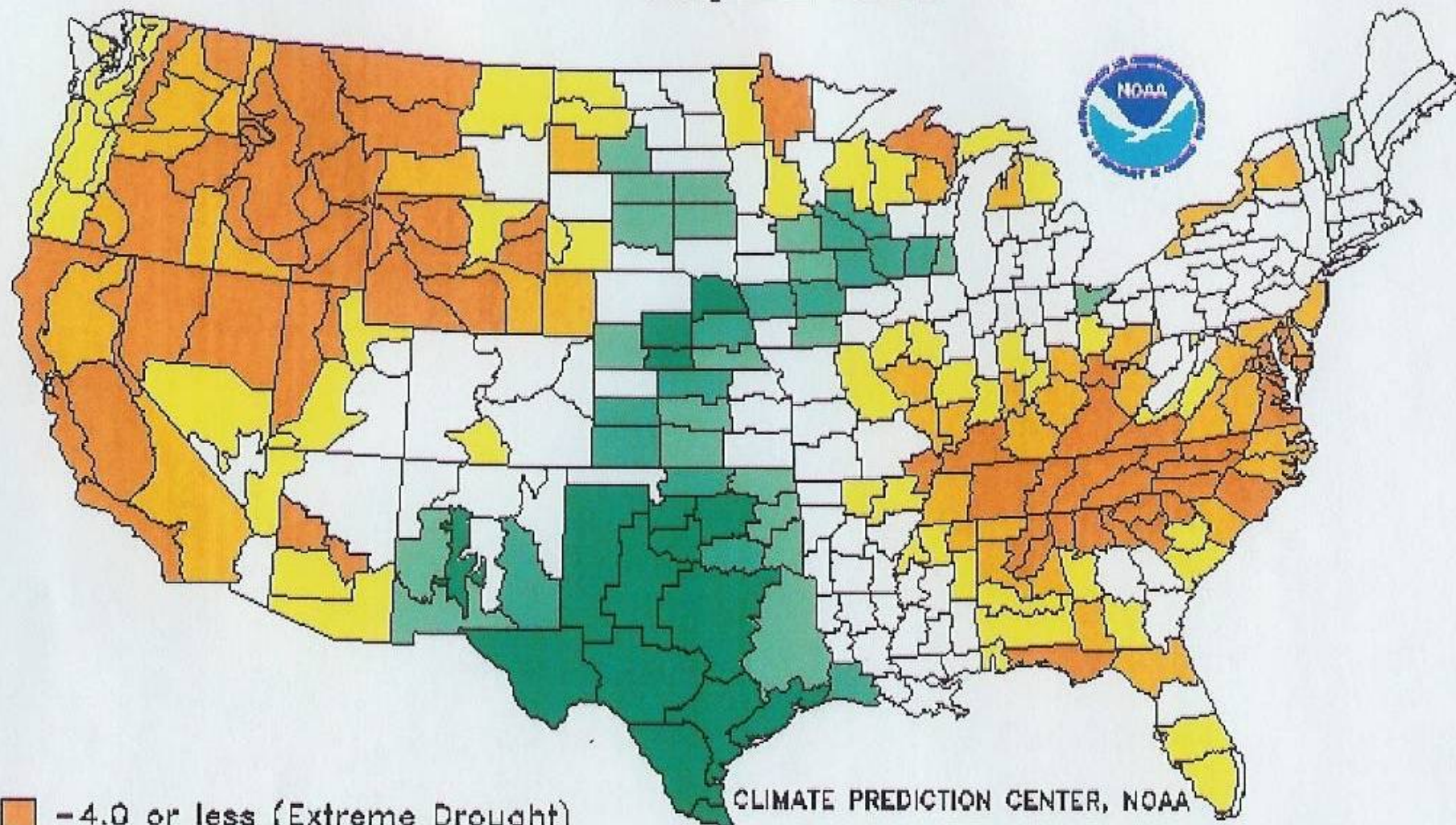


- 4.0 or less (Extreme Drought)
- 3.0 to -3.9 (Severe Drought)
- 2.0 to -2.9 (Moderate Drought)
- 1.9 to +1.9 (Near Normal)

- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)

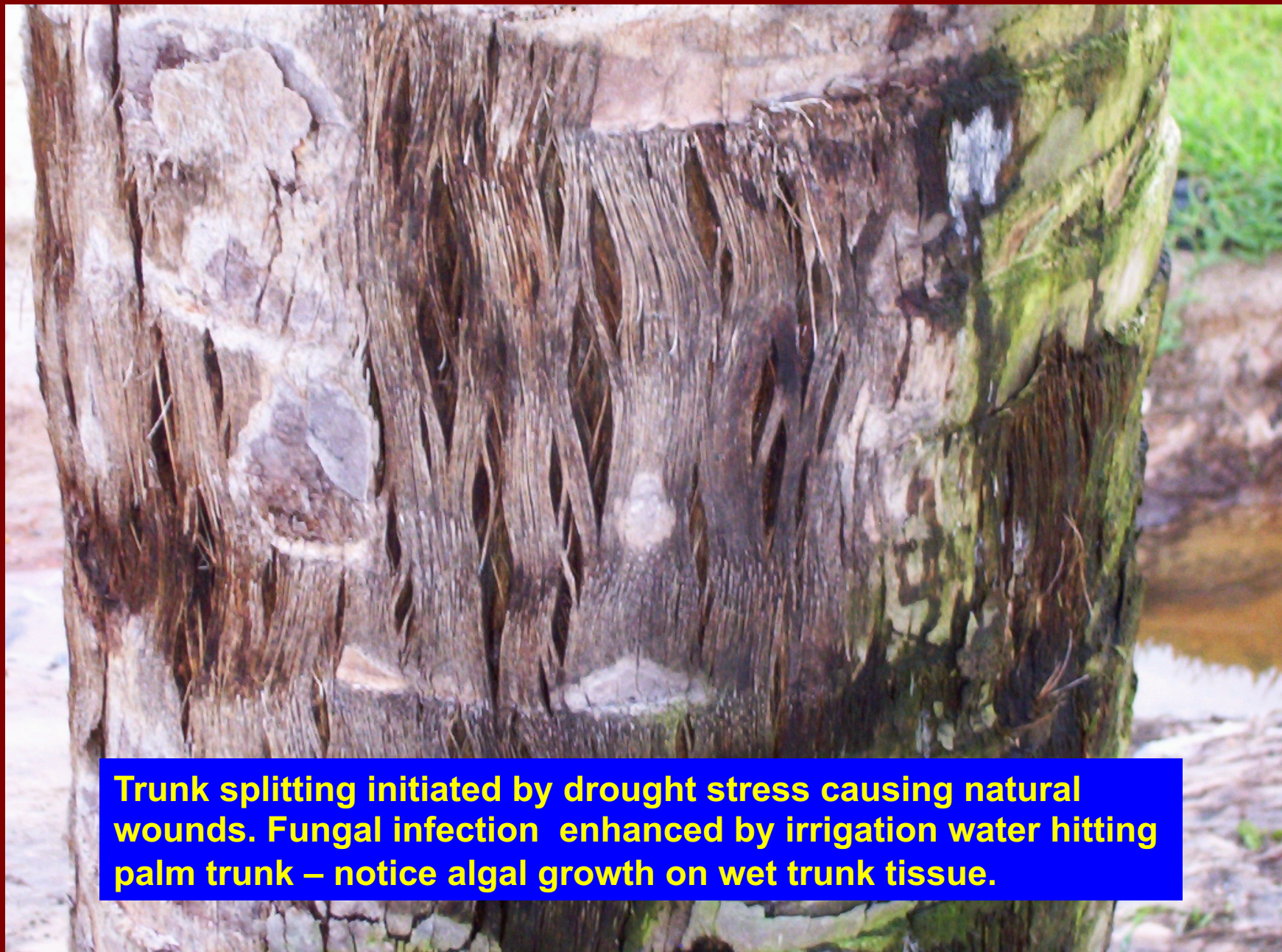
Weekly Value for Period Ending 29 SEP 2007

Long Term Palmer

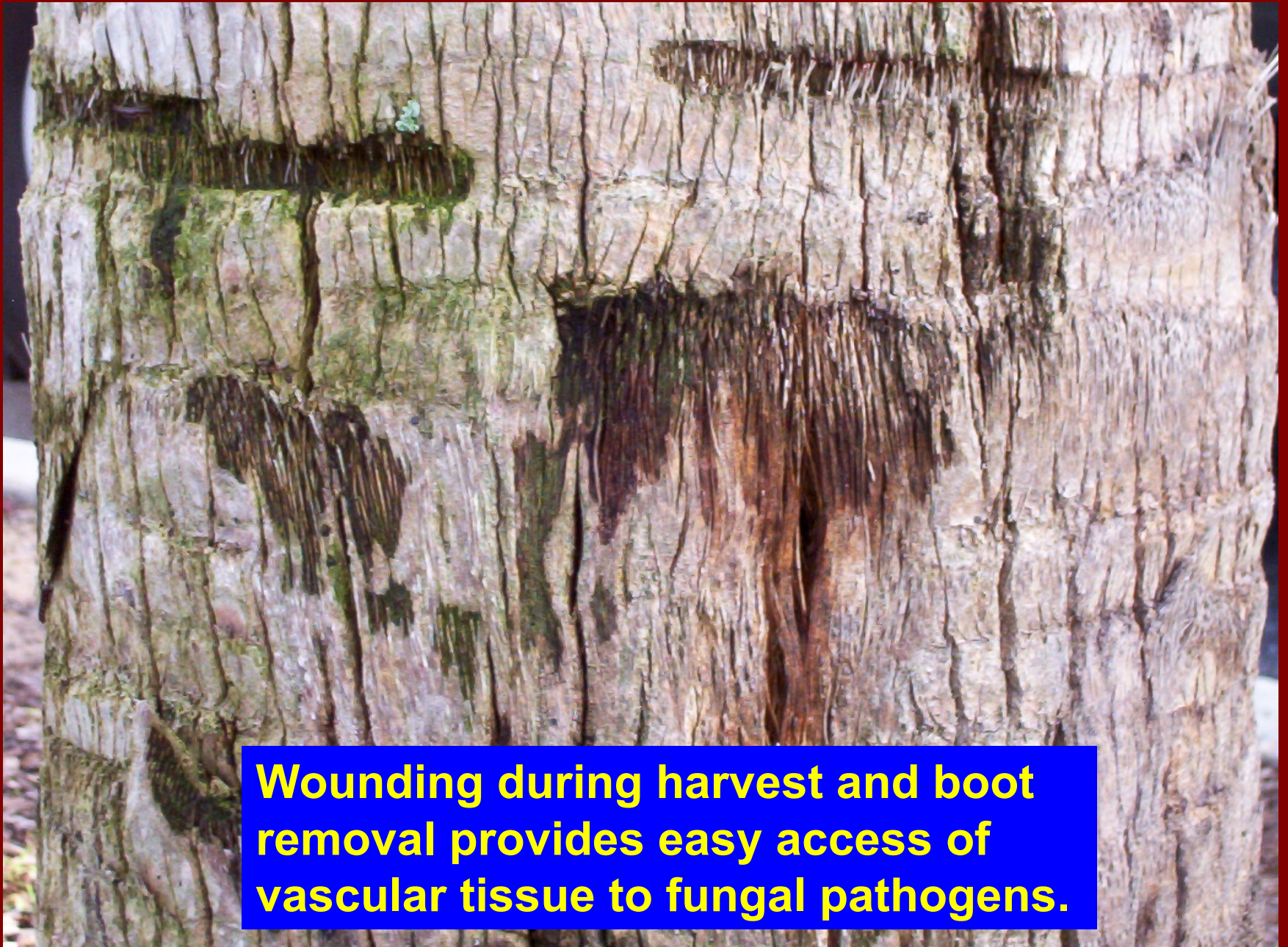


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Trunk splitting initiated by drought stress causing natural wounds. Fungal infection enhanced by irrigation water hitting palm trunk – notice algal growth on wet trunk tissue.



Wounding during harvest and boot removal provides easy access of vascular tissue to fungal pathogens.

Transplant shock



Desiccated transplants

Internal moisture reserves not sufficient to sustain palm viability and produce root system.

Opportunistic Pathogens associated with Sabal palm decline

- *Thielaviopsis* spp.
- *Ganoderma* spp.
- *Polyporus* spp.





Thielaviopsis spp. – most commonly associated with transplanted sabal palm decline

Ganoderma sp. - opportunistic trunk rot





Polyporus sp. – opportunistic wood rotting fungus

Causes for Sabal transplant decline

- Environmental (Drought) Stress
- Wounding during Harvest
- Transplant shock
- Presence of opportunistic pathogens