

Nez Perce Tribe Water Resources Division

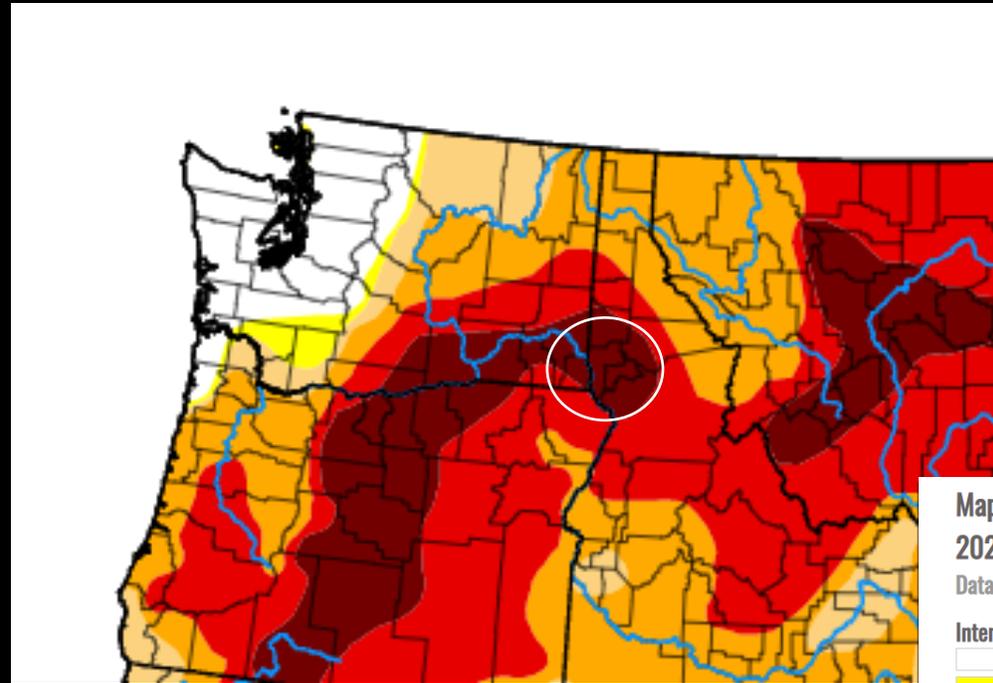
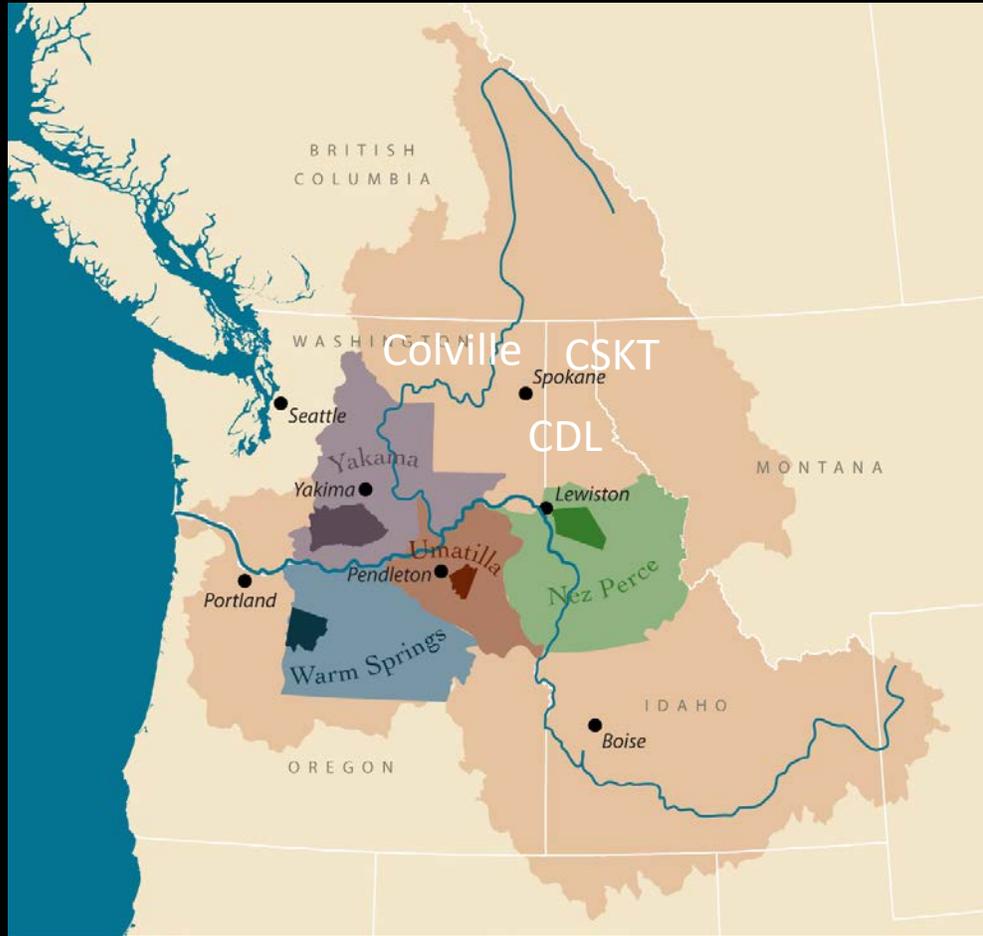
Planning for the Unique Impacts of Climate Change on the Tribe, and a Summary of 2021 Drought Impacts

OR-WA Water Year 2021 Recap and 2022 Outlook

November 16, 2021

Stefanie Krantz, Climate Change Coordinator





Map released: Thurs. November 11, 2021

Data valid: November 9, 2021 at 7 a.m. EST

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

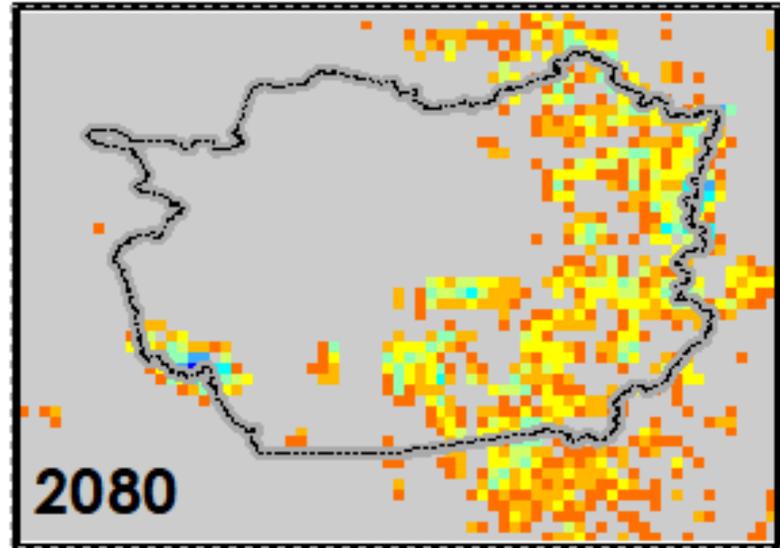
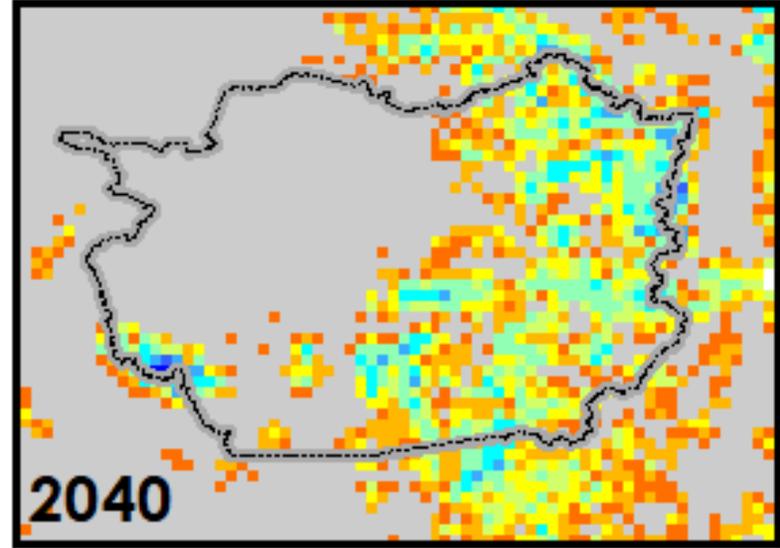
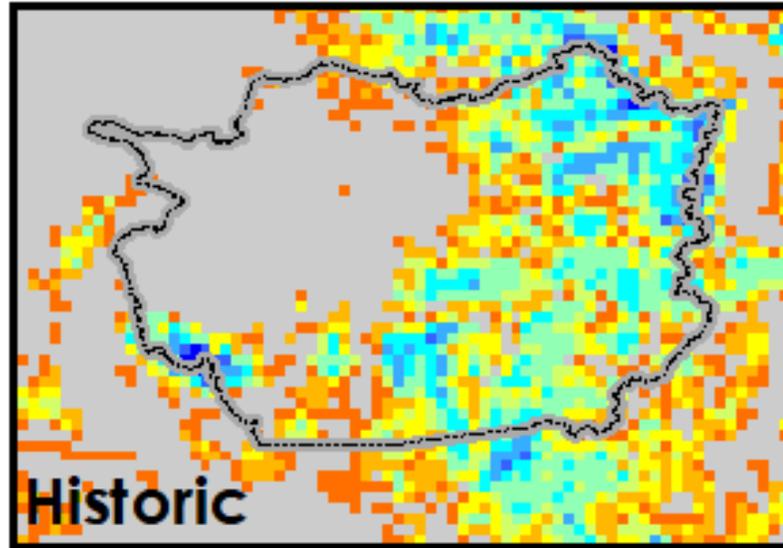
Authors

United States and Puerto Rico Author(s):
 Curtis Riganti, National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):
 Richard Tinker, NOAA/NWS/NCEP/CPC

LESS SNOW,
 LESS FLOW,
 HOTTER, DRIER
 SOILS,
 MORE FIRE,
 MORE
 VARIABILITY,
 BIODIVERSITY
 IMPACTS

April Snow Depth for Historic and A1B Scenario

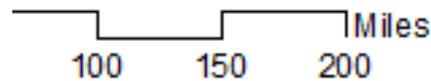


Legend

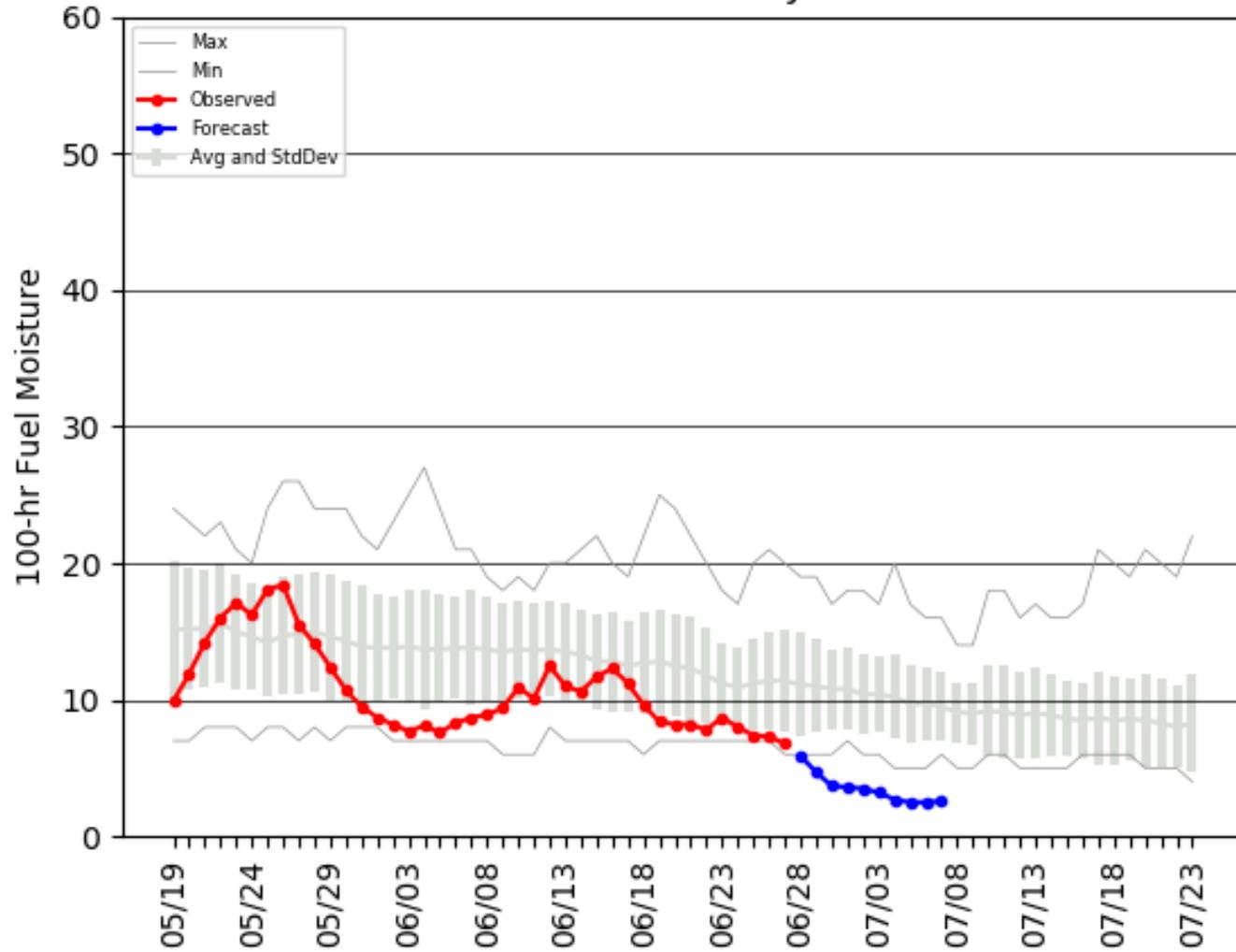


April Snow Depth

April Snow Depth



100-hr Fuel Moisture for PSA NW11 for 2021
Run Date: 28 June



©Tei TallBull



Many species of traditional plants were impacted by the drought



Idaho Fish and Game confirm hemorrhagic disease in multiple dead deer in Kamiah area

Young Salmon Are Traveling by Truck Instead of Swimming, Due to Deadly Water Temperatures

This unfortunate "fish out of water" story is being written by climate change.

By Mike Pomranz | July 16, 2021



EXAMPLE OF ONGOING RESTORATION WORK AT TRIBE

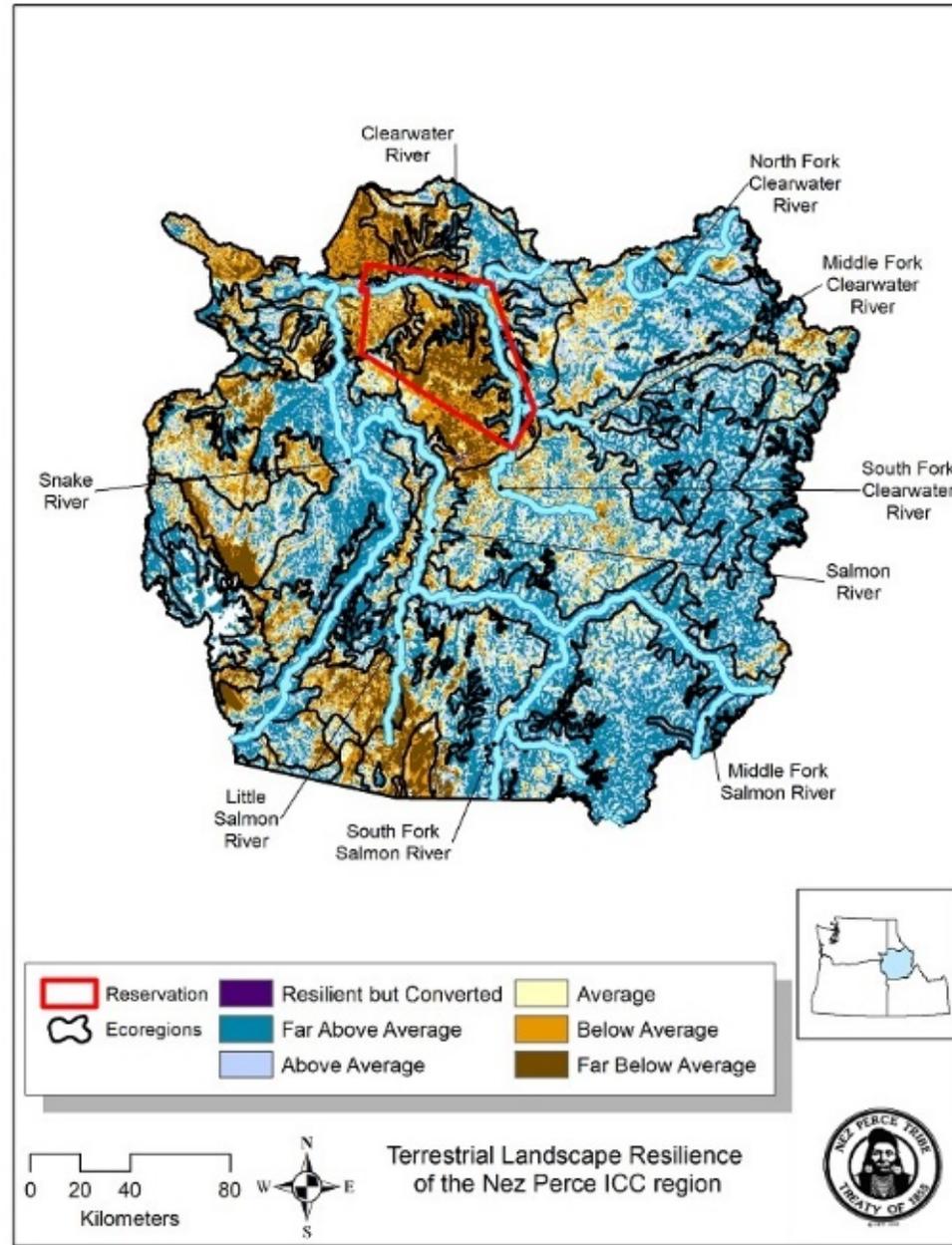
Threats

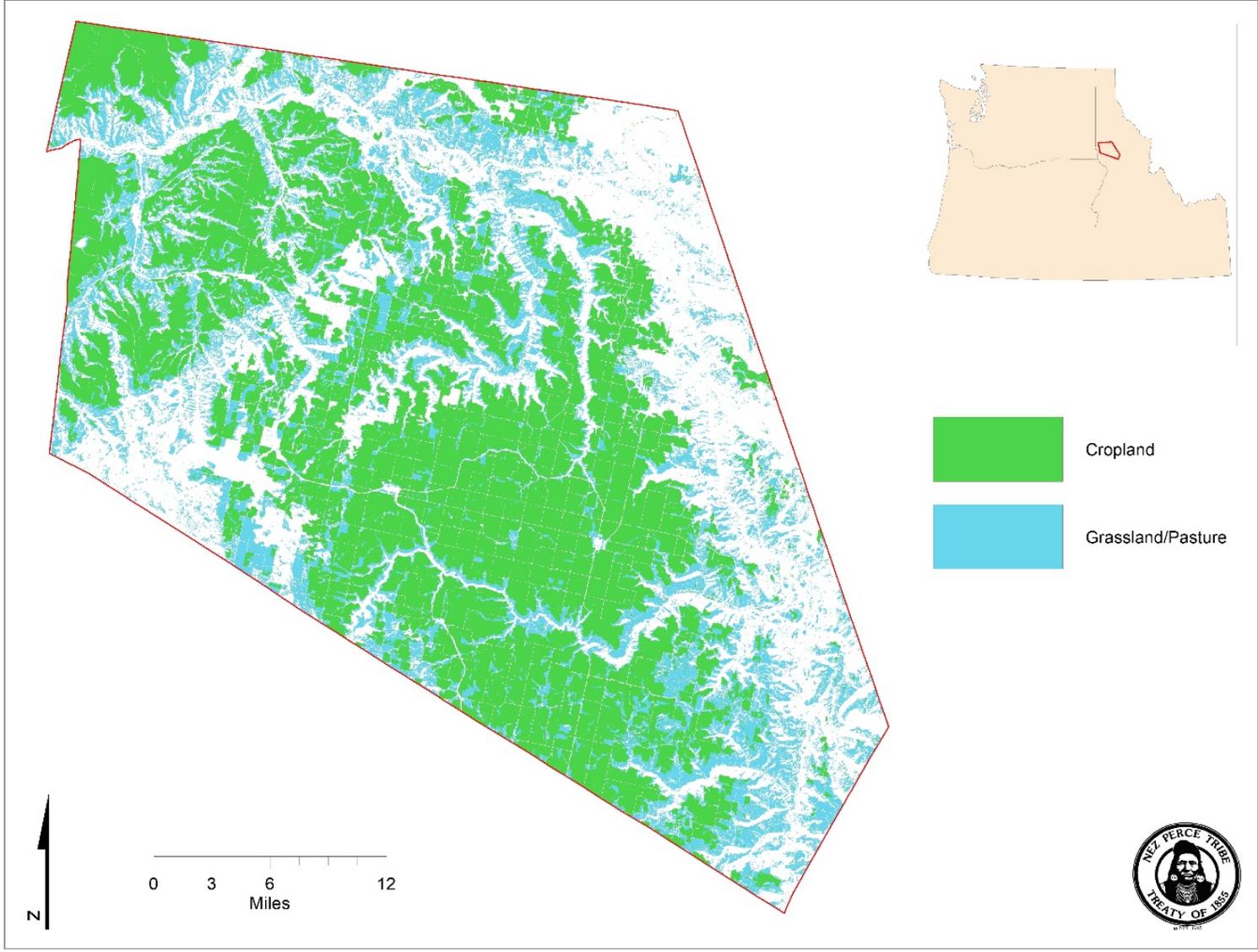
- Reduced habitat, survival of fish
- Altered hydrology (spring storage & summer quantity)
- Increased temperature
- Reduced camas (footprint)

Actions

- Install BDA's
- Planting of riparian areas
- Improve roads surrounding meadow



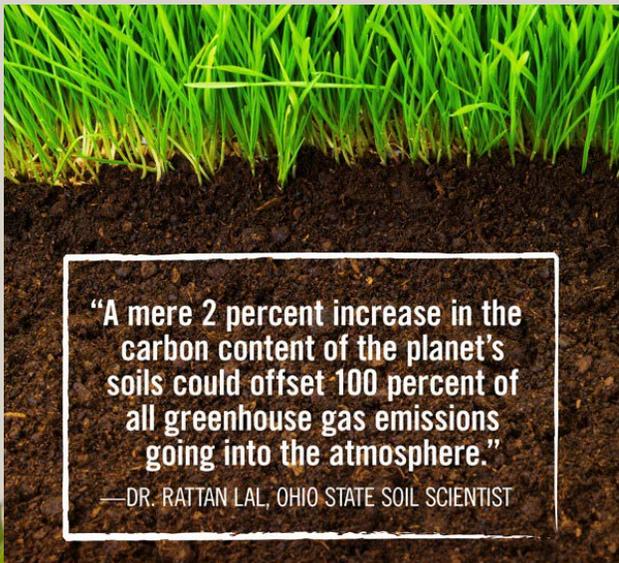




WHAT ARE THE TOP WAYS TO REDUCE OUR IMPACT TO THE CLIMATE?

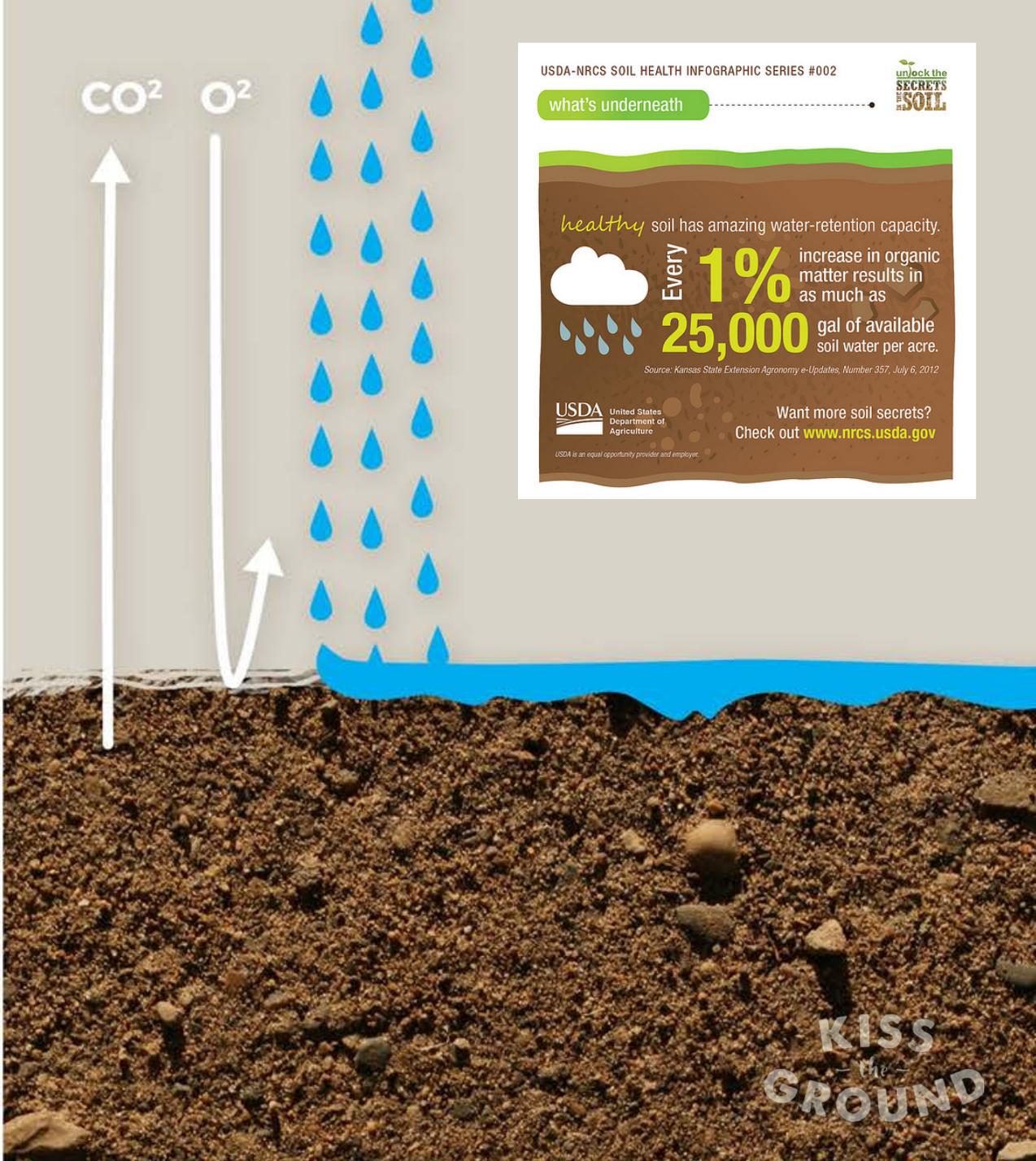
1. Refrigerant Management
2. Wind Turbines (Onshore)
3. Reduced Food Waste
4. Plant-Rich Diet
5. Tropical Forests (stop cutting them down)
6. Educating Girls
7. Family Planning
- ★ 8. Solar Farms
- ★ 9. Silvopasture
10. Rooftop Solar ★
11. Regenerative Agriculture ★
12. Temperate Forests ★
13. Peatlands
14. Tropical Staple Trees
15. Afforestation ★
16. Conservation Agriculture ★
17. Tree Intercropping ★
18. Geothermal
19. Managed Grazing ★
20. Nuclear





“A mere 2 percent increase in the carbon content of the planet’s soils could offset 100 percent of all greenhouse gas emissions going into the atmosphere.”

—DR. RATTAN LAL, OHIO STATE SOIL SCIENTIST



healthy soil has amazing water-retention capacity.

Every **1%** increase in organic matter results in as much as **25,000** gal of available soil water per acre.

Source: Kansas State Extension Agronomy e-Updates, Number 357, July 6, 2012

USDA United States Department of Agriculture

Want more soil secrets? Check out www.nrcs.usda.gov

USDA is an equal opportunity provider and employer.

KISS
-the-
GROUND

Climate Smart Agriculture Project

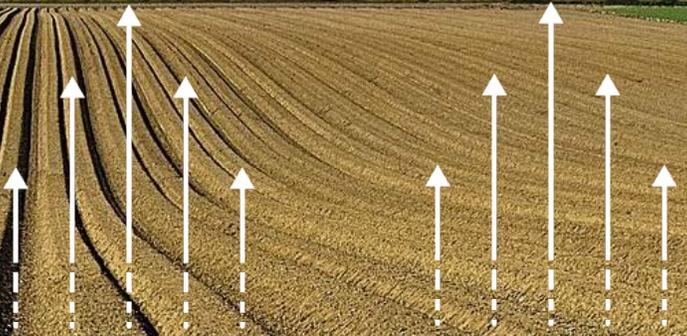
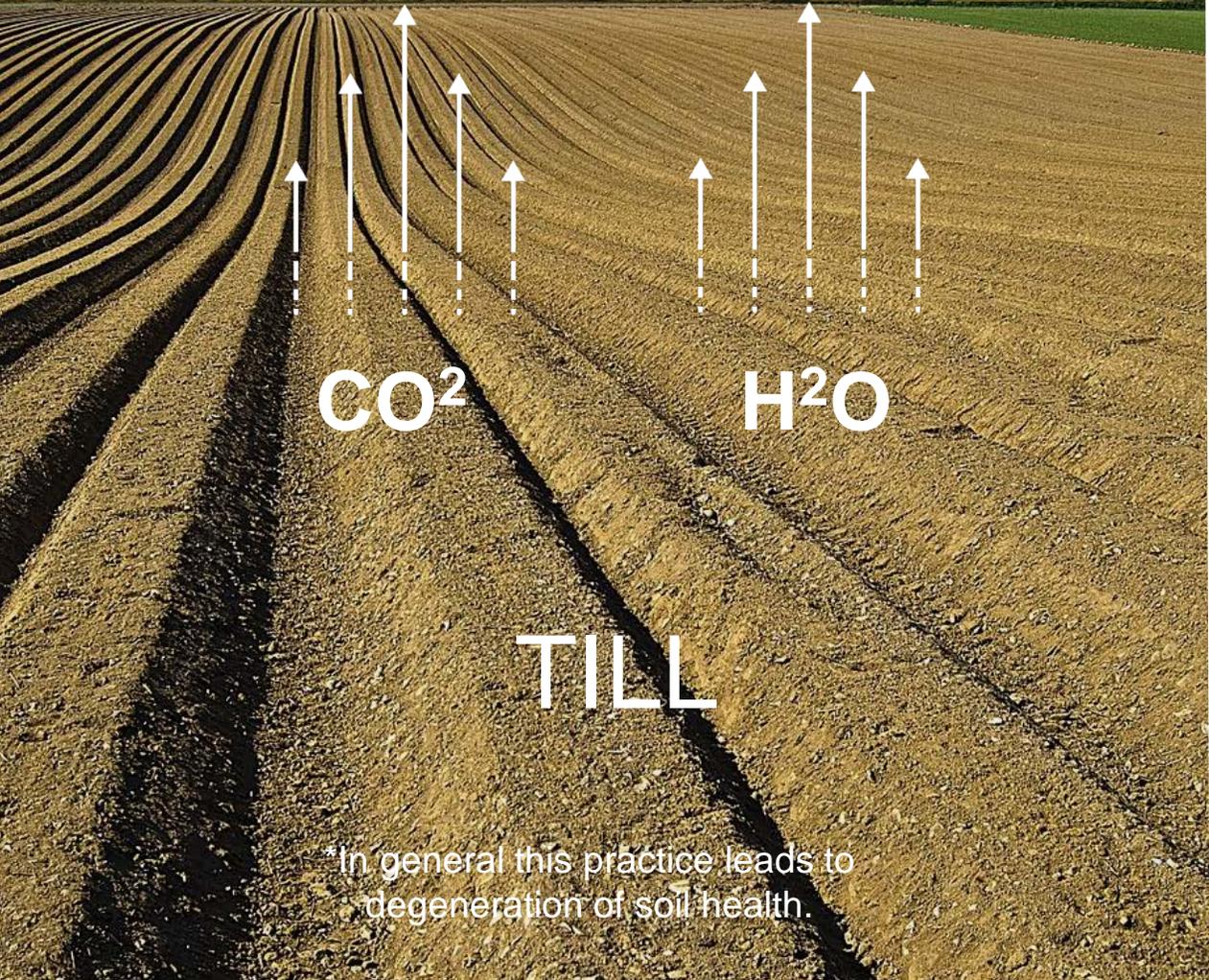
Working with local farmers, extension agents, and Tribal staff to reduce barriers to adopting regenerative/conservation ag practices

- Soil quality
- Ecosystem biodiversity
- Farm productivity
- Minimize/eliminate non-natural inputs
- Economic resilience





Degenerative*



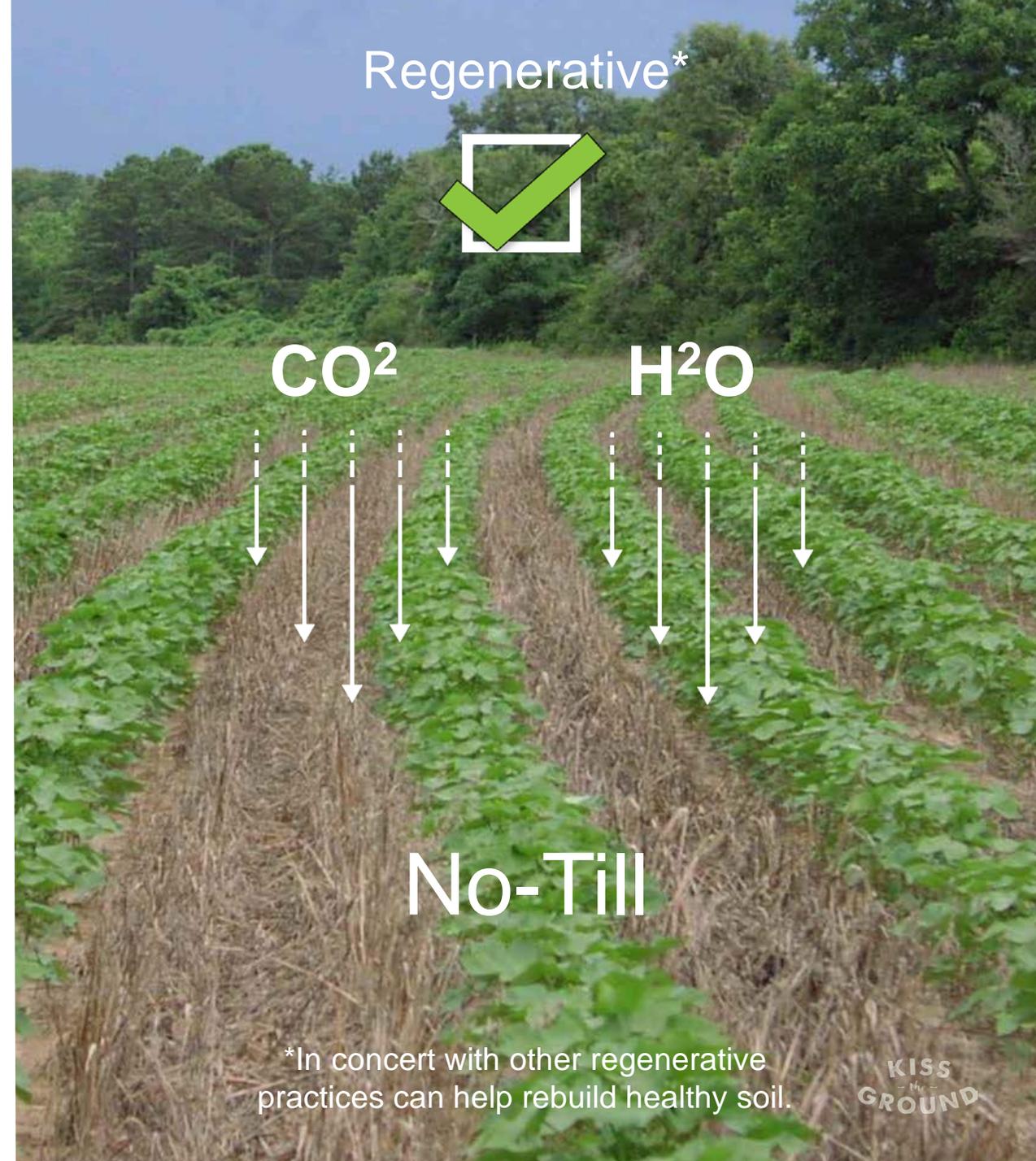
CO₂

H₂O

TILL

*In general this practice leads to degeneration of soil health.

Regenerative*



CO₂

H₂O

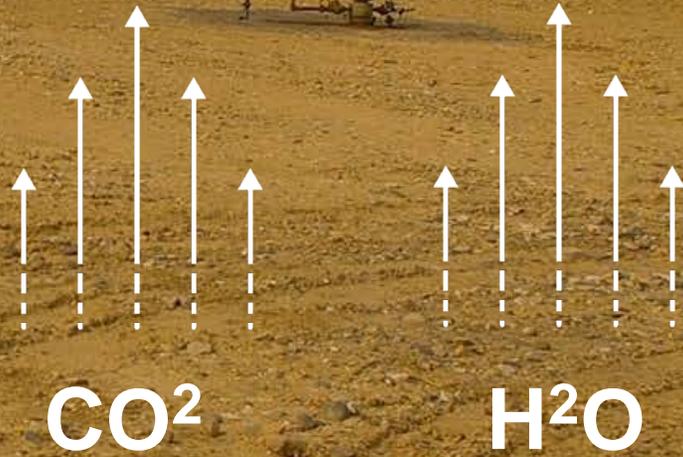


No-Till

*In concert with other regenerative practices can help rebuild healthy soil.



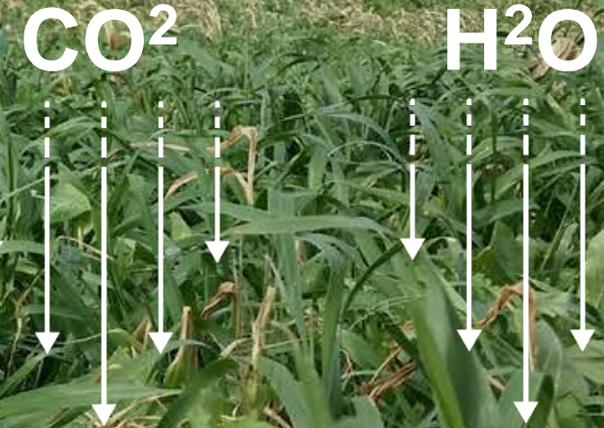
Degenerative*



Bare Soil

*In general this practice leads to degeneration of soil health.

Regenerative*



Cover Crops

*In concert with other regenerative practices can help rebuild healthy soil.



Water Resources Division at Tribe has already had great success reducing barriers to help farmers shift to No Till



NOAA NWS Drought Statement

- Drought Information Statement
- National Weather Service Spokane WA
- 1120 PM PDT Thu Jul 22 2021

Washington Governor Jay Inslee has declared a statewide drought emergency.

SUMMARY OF IMPACTS:

Agricultural impacts...

In Nez Perce county, wheat is about 25-50% of normal. There is talk of not harvesting bluegrass. Spring crops are not doing well with below normal yields. There is no pasture for feed.

In Lewis County, hay is 1/3 of normal. Some are trying to find pastures for livestock. There have been some animal deaths (sheep) due to the heat. Some farmers are taking their wheat as a complete loss and are having animals come graze the land instead of the harvest. People are estimating 20 bushels of wheat (60 is considered bad).



Hasselstrom Farm

Producer



Hasselstrom Farm

April 11 · 🌐



Biologically Harrowing our Hay ground. Testing the system. Diesel comes from the earth and we are returning it to the earth. Carbon sequestrating, feeding our soil Microbes and playing with cool equipment!



12

2 Comments 2 Shares

Hasselstrom got 23 bushels of garbanzos vs. 13 for his neighbor per acre this year, and his wheat grain protein was below 10.5 percent.

Qe'ci'yew'yew'
Thank you!



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