



Colorado Department  
of Public Health  
and Environment

# The Colorado Plagues

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# Just 'cause I like Chuck



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# Resources



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# My Little State



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# My Not So Little State



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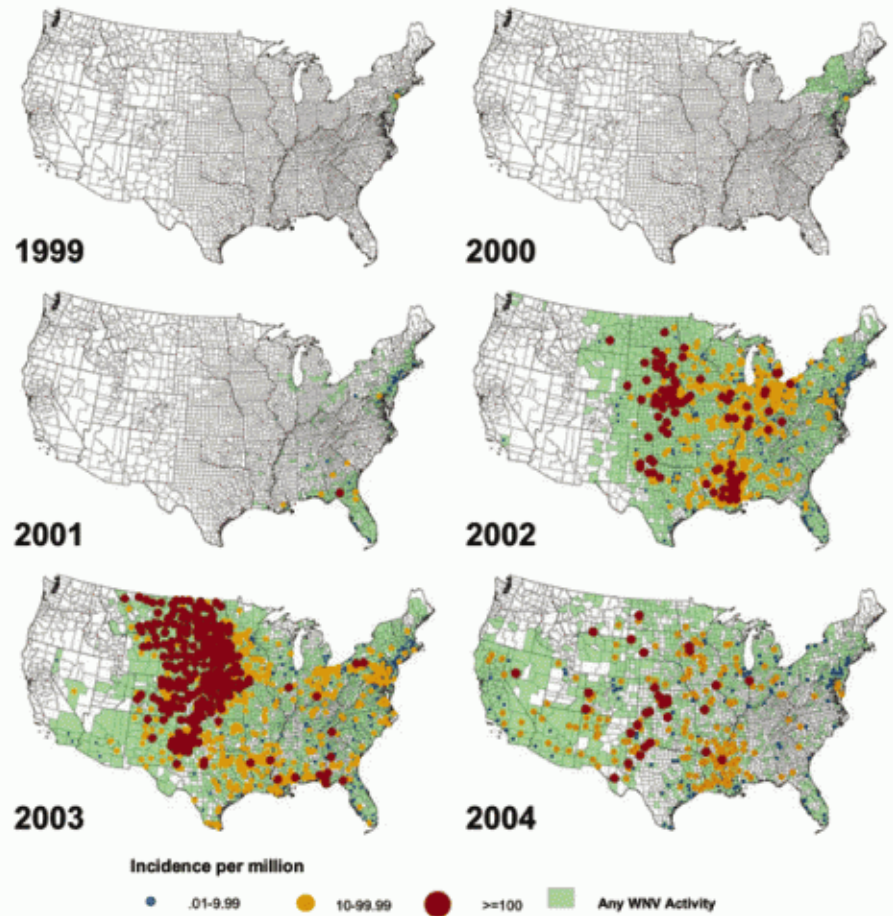
- ▶ Population 4.1 M
- ▶ Projected 10 M by 2050
- ▶ 30M currently rely on the CO River for water
- ▶ 80% of water comes from snow melt



# West Nile Virus



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# Public Health and Environmental Consequences

30–70% bird population reduction

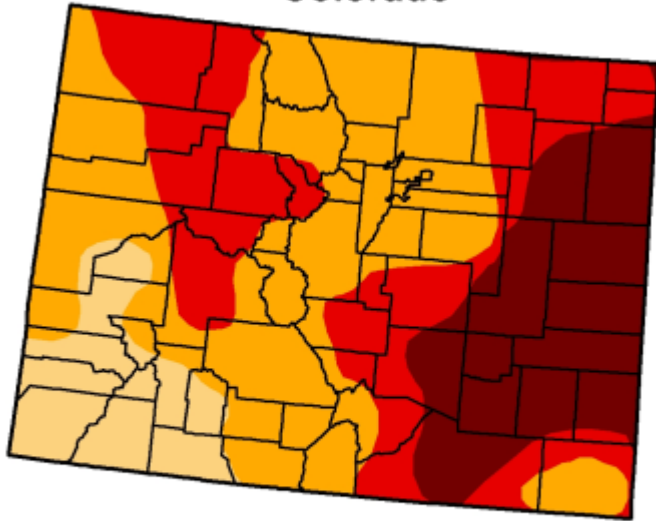
204 known species infected

Increased pesticide application



# Drought

Colorado



- |  |  |
|--|--|
|  D0 Abnormally Dry     |  D3 Drought - Extreme     |
|  D1 Drought - Moderate |  D4 Drought - Exceptional |
|  D2 Drought - Severe   |  |



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# Public Health and Environmental Consequences



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- ▶ Colorado ranks first nationally in production of millet.
- ▶ Colorado's production of sunflowers ranks fourth in the nation.
- ▶ Colorado produces more than 100 million pounds of pinto beans each year.
- ▶ Colorado's leading vegetable crops are potatoes, cabbage, and onions.
- ▶ Peaches, apples, and cantaloupe are Colorado's largest fruit crops.
- ▶ Cattle and Calves is Colorado's number one agricultural commodity with 2.6 million head of cattle in the state.
- ▶ Colorado's sheep, lamb and wool production rank fourth in the nation.
- ▶ Colorado's 130,000 dairy cows produced more than 2.5 billion pounds of milk. Moo...
- ▶ Over 4 million layers in Colorado producing more than 1 billion eggs each year.
- ▶ There are over 40 aquaculture producers (or fish farmers).
- ▶ There are 36,000 bee colonies in Colorado producing 2.7 million pounds of honey every year (Killer bees have arrived).
- ▶ Agriculture contributes over \$7 billion dollars to the Colorado state economy annually.

# Pine Beetles



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# Public Health and Environmental Consequences

- ▶ Increased Insecticide Application
  - Carbaryl
  - Permethrin
  - Bifenthrin
  
  - Piperonyl butoxide (synergist)



# Wildfires



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2002 – Owens said “It looks as if all of Colorado is burning today”

# Wildfires



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- ▶ 2002 Hayman Fire – 137,760 acres
  - Destroyed 133 homes
- ▶ 2012 High Park Fire – 87,284 acres
- ▶ 2012 Waldo Canyon Fire – 18,247 acres
  - Destroyed 364 homes
- ▶ 2013 Black Forest Fire – 14,280 acres
  - Most destructive – 511 homes
- ▶ 2013 Royal Gorge Fire – 3,800 acres
- ▶ 2013 East Paark Fire – 13,572 acres
- ▶ 2013 West Fork Fire – 110,405 acres

# Public Health and Environmental Consequences



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Increased PM10  
Water Quality

# Flooding



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# Public Health and Environmental Consequences

- ▶ Emergency Response
- ▶ Laboratory Considerations



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# Blizzards



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31.8 inches

March 17-19, 2003

20.7 inches

December 20-21, 2006

# Public Health and Environmental Consequences



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## ► Sheltering



# Tornadoes



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# Hantavirus



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# Impacts to Colorado

- ▶ Water
- ▶ Wildlife, ecosystems and forests
- ▶ Electricity
- ▶ Agriculture
- ▶ Tourism and outdoor recreation



# Water



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- ▶ No snowpack by 2100



# Wildlife, Ecosystems, Forests

- ▶ Envelopes collapsing



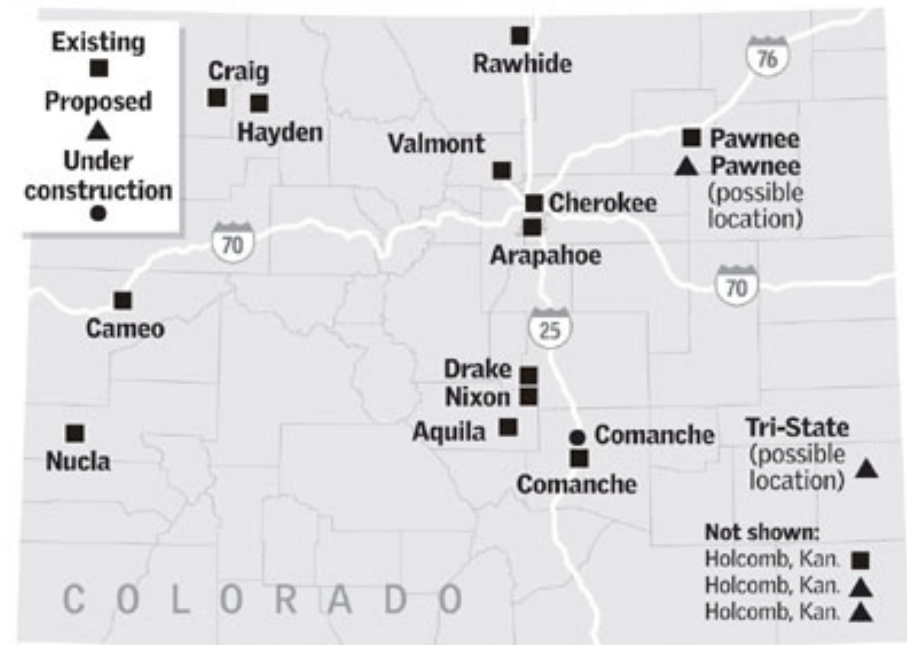
# Energy

- ▶ Coal – 57%
- ▶ Natural Gas – 27%
- ▶ Wind and Solar – 7%
- ▶ Hydroelectric – 5%



## Coal-burning power plants

The majority of Colorado's electricity comes from 13 coal-fired plants in the state. Xcel Energy and Tri-State Generation and Transmission are proposing five new coal plants at a cost of \$7 billion, three in Colorado and two in western Kansas. Construction is underway on one.



Sources: Xcel Energy; Tri-State Generation and Transmission; Colorado Energy Forum The Denver Post



# Agriculture

- ▶ Invasive Weeds
- ▶ Increased Growing Season
- ▶ Heat Stress



# Tourism, Outdoor Recreation



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Downhill Skiing – 2.6B

Rafting – 142M

Parks – 571M

Hunting/Fishing – 1.8B

Wildlife Viewing – 1.2B

# My Thanks

- ▶ APHL
- ▶ CDPHE
- ▶ Colorado Climate Preparedness Project
- ▶ The Internet
- ▶ Citizen Scientists Everywhere!

