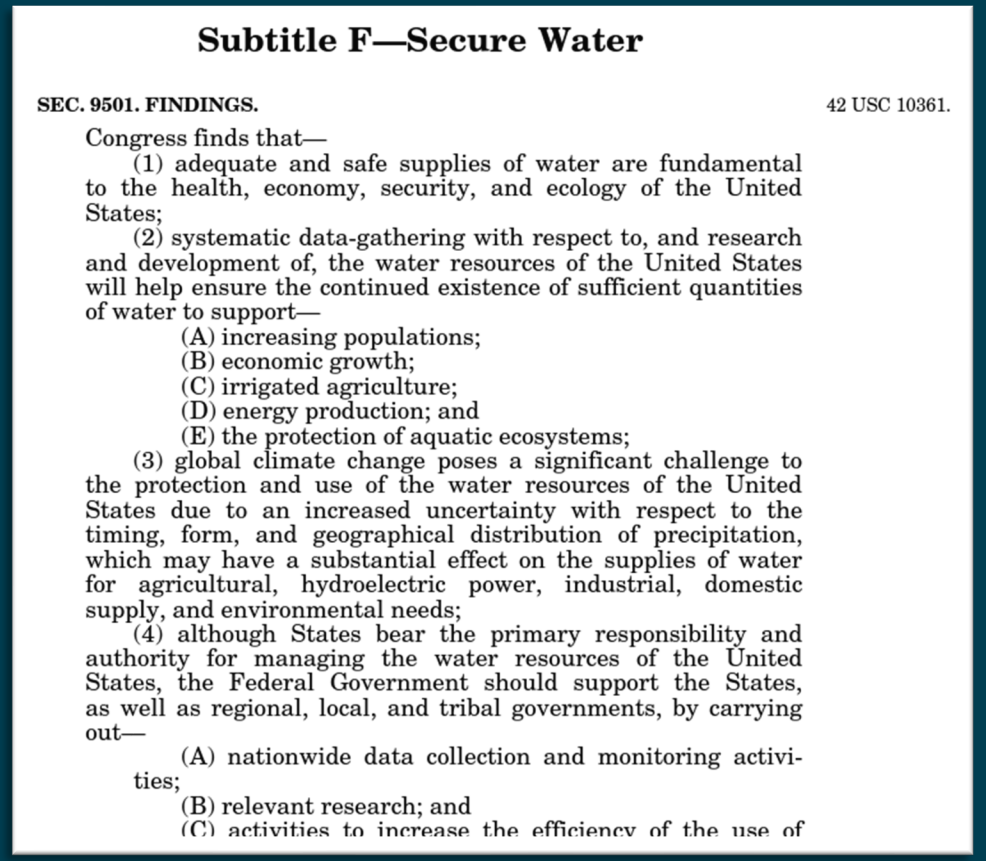
BUREAU OF RECLAMATION

Rio Grande Basin Study: Lobatos Gage to Elephant Butte Dam

Water Leaders Workshop
Ghost Ranch, NM
May 22-24, 2024

Basin Study Program Overview

- Collaborative studies
- Cost-shared with non-Federal partners
- Evaluate water supply and demand
- Identify strategies to address imbalances in water supply and demand



Subtitle F—Secure Water

SEC. 9501. FINDINGS. 42 USC 10361.

Congress finds that—

(1) adequate and safe supplies of water are fundamental to the health, economy, security, and ecology of the United States;

(2) systematic data-gathering with respect to, and research and development of, the water resources of the United States will help ensure the continued existence of sufficient quantities of water to support—

(A) increasing populations;
(B) economic growth;
(C) irrigated agriculture;
(D) energy production; and
(E) the protection of aquatic ecosystems;

(3) global climate change poses a significant challenge to the protection and use of the water resources of the United States due to an increased uncertainty with respect to the timing, form, and geographical distribution of precipitation, which may have a substantial effect on the supplies of water for agricultural, hydroelectric power, industrial, domestic supply, and environmental needs;

(4) although States bear the primary responsibility and authority for managing the water resources of the United States, the Federal Government should support the States, as well as regional, local, and tribal governments, by carrying out—

(A) nationwide data collection and monitoring activities;

(B) relevant research; and

(C) activities to increase the efficiency of the use of

Secure Water Act Language. Bureau of Reclamation.

Basin Study Program Required Elements

State-of-the-art projections of future supply and demand by river basin

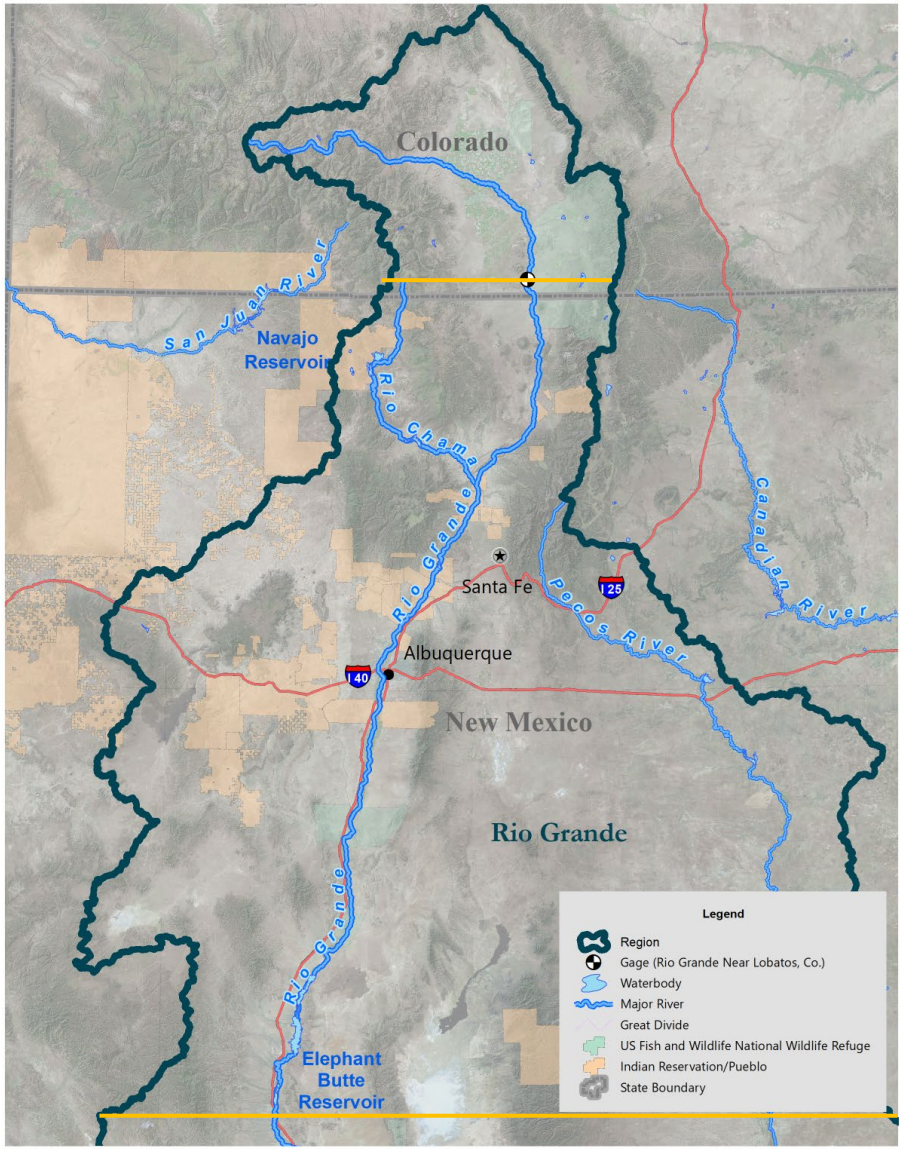
Analysis of how existing water and power operations and infrastructure will perform

Development of strategies to meet current and future water demands

Trade-off analysis of strategies identified

Rio Grande Basin Study:
Lobatos Gage to Elephant Butte

- Rio Grande Basin from the Colorado/New Mexico state line to Elephant Butte Dam in south central New Mexico.
- Includes San Juan – Chama Project tributary basins (importation from the Colorado River Basin).
- Officially initiated January 24, 2023
- 38 official signatories.

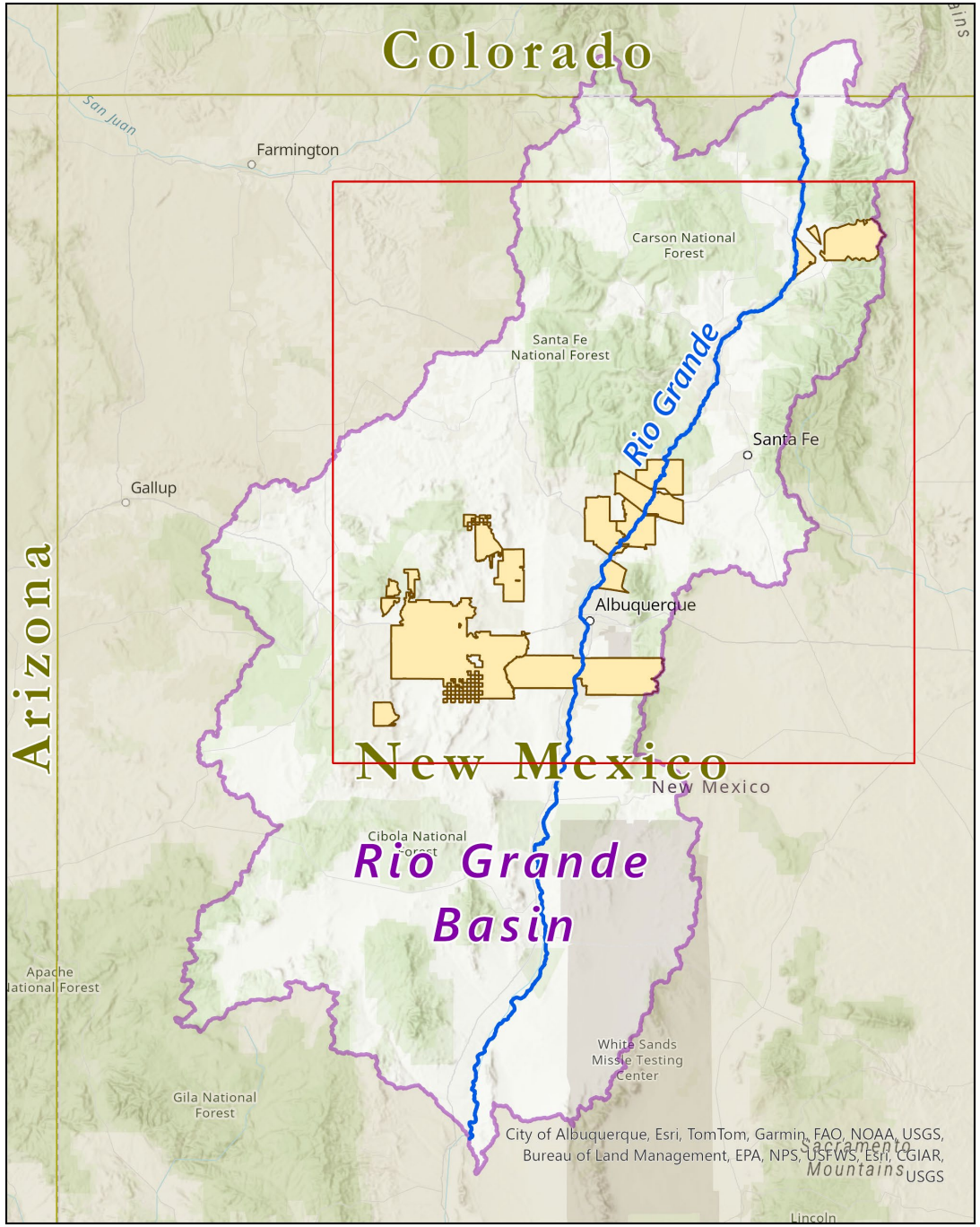


Map of Rio Grande Basin Study: Lobatos Gage to Elephant Butte Study Area. 2019. Bureau of Reclamation.

Memorandum of Agreement Signatories

	Organization
1	American Rivers
2	Amigos Bravos
3	Audubon Southwest
4	Bernalillo County
5	Bosque Ecosystem Monitoring Program
6	Center for Social Sustainable Systems
7	Coronado SWCD
8	Embudo Valley Regional Acequia Association
9	Friends of the Bosque del Apache NWR
10	Las Acequias de Placitas
11	Middle Rio Grande Conservancy District
12	Middle Rio Grande Water Advocates
13	National Wildlife Federation
14	New Mexico Environmental Law Center
15	New Mexico Interstate Stream Commission
16	New Mexico Healthy Soils Working Group
17	NM Wild
18	Pueblo of Cochiti
19	Pueblo of Isleta

	Organization
20	Pueblo of Laguna
21	Pueblo of San Felipe
22	Pueblo of Sandia
23	Pueblo of Santa Ana
24	Pueblo of Santo Domingo
25	Pueblo of Taos
26	Rio Grande Restoration
27	Sandoval County
28	Save Our Bosque Task Force
29	Sierra Club, Rio Grande Chapter
30	South Valley Regional Association of Acequias
31	The Nature Conservancy
32	The Wilderness Society
33	Trout Unlimited
34	Valencia SWCD
35	Water Culture Institute
36	Western Resource Advocates
37	Wild Earth Guardians
38	World Wildlife Fund



Tribes participating in the Rio Grande Basin Study

Taos Pueblo

Santo Domingo Pueblo

Santa Ana Pueblo

Pueblo de Cochiti

San Felipe Pueblo

Laguna Pueblo

Isleta Pueblo

Sandia Pueblo

Rio Grande

Jemez River

Rio Puerco

Nacimiento Mountains

Santa Clara Pueblo

Albuquerque

Santa Fe

Texas Parks & Wildlife, Esri, TomTom, Garmin, FAO, NOAA, USGS, Management, EPA, NPS, USFWS, Esri,

Governance Structure

Steering Committee:

- Consists of 1 representative from each sector
- Programmatic decisions about Study

Sectoral Committees:

- Assesses values, historic/expected supply and demand, and infrastructure for sector

Technical Committees:

- Explores adaptation strategies

Modeling Team:

- Provides projections and modeling runs

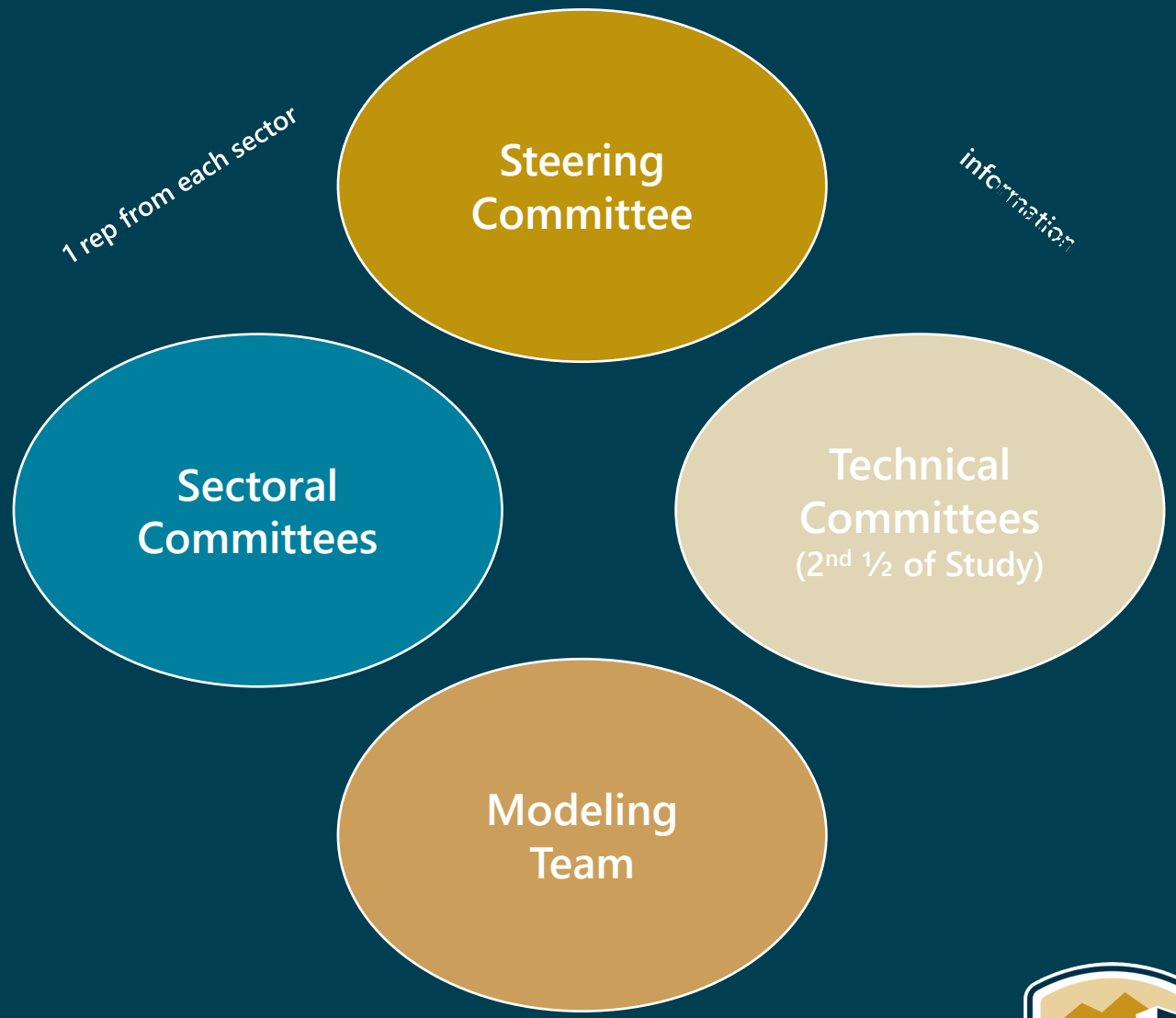
Agriculture

Community Organizations

Local Governments

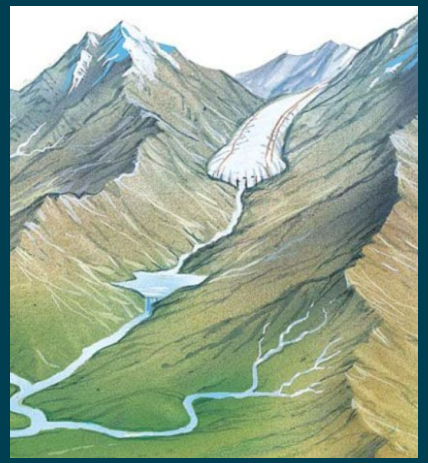
Non-Governmental Organizations

Tribal



Model Projections

Climate → Hydrologic → Operations



- Projection development
  - University of Massachusetts Hydrosystems Research Group partnership
    - Weather generator tool
    - UMass-developed statistical runoff model

Upper Rio Grande Water Operations Model (URGWOM)
URG Futures Model (UMass)

Current work by Sectoral Committees

1. Historic/future water supply and demand
2. Infrastructure, operations, and system components
3. Values with signposts and thresholds
4. Baseline projection impacts

Model Projections

Adaptations

Climate

- Precipitation
- Temperature
- Evaporation

Hydrologic

- Headwater gage flows
- Tributary Flows
- Local/Overland flows

Operations

- Reservoir operations
- Policy
- Irrigation
- River routing
- Etc.

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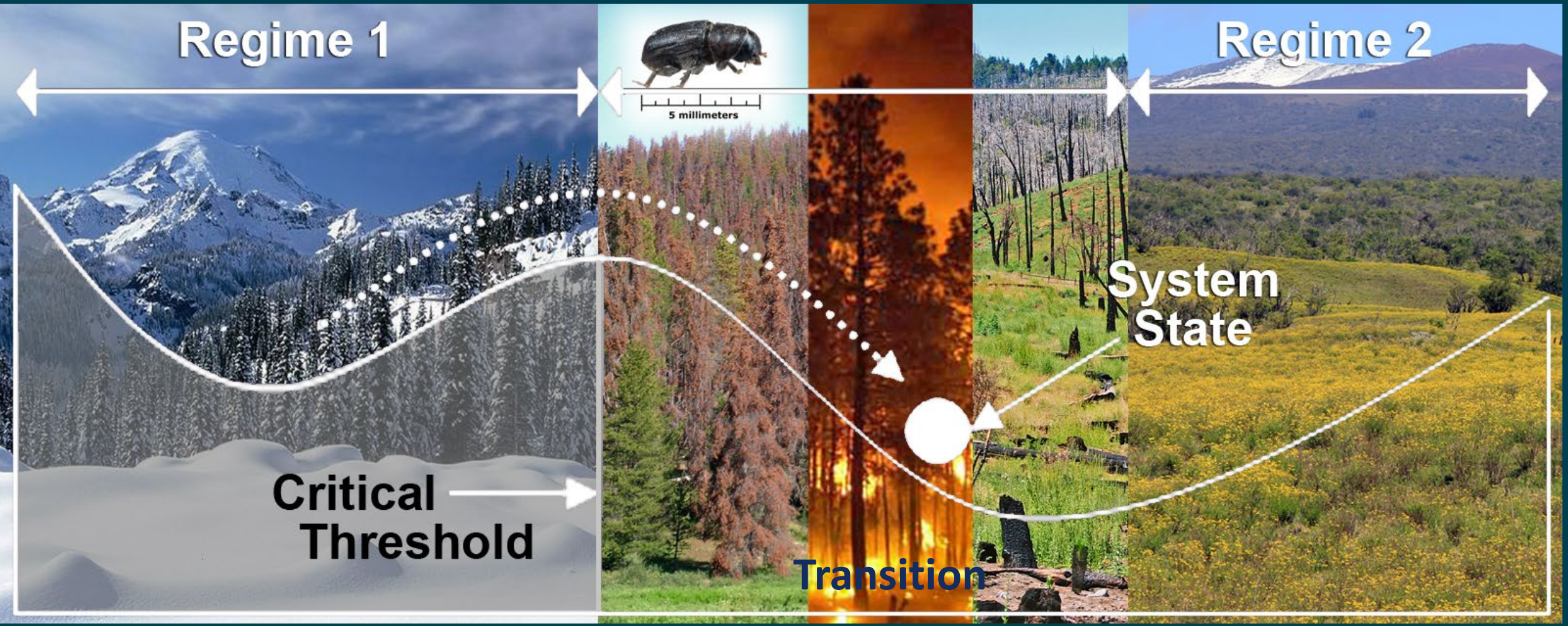

Regime 1

Regime 2

Photo: Erich Schlegel/Dallas Morning News/Corbis

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