

Dendroarchaeology

3 types of Information

Chronological: dating

Behavioral:
wood use practices

Environmental:
species, reconstructions



The Single Most Important Factor:

PAST HUMAN BEHAVIOR



Dendroarchaeology: Sampling

- Architecture
- Arboreal
- Artifactual
- Where on the Beam?
- Charcoal
- Excavated



Dendroarchaeology: Dating



- Types of Dates
- Cutting Dates
 - B, G, L, r, c, v
- Near Cutting Dates
 - +B, +G, +L, +r, etc.
- Noncutting Dates
 - ++ dates
 - vv dates

Interpreting Dates

- Most important Factors
 - 1. Behavior of Prehistoric People
 - Species selection, wood use & modification
 - 2. Behavior of Archaeologists
 - Site selection & Sampling
 - Behavior of Dendrochronologists
 - Proper surfacing, dating



Interpreting Dates

- Date Clustering****
- Identifying Anomalous Dates
 - Beam Reuse/Recycling
 - Repair/Remodeling
 - Stockpiling
 - Deadwood use

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***** It is
CONTEXT*****
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[illegible]

Early Navajo Cutting Dates

154 00111

156 9

157 666

159 999999

160 0088

[illegible]

162 112222799

163 4

164 2

165 5

166 8

167 0235666777799

168 00000179

169 00000000112223344444444444556

170 1112555788999

171 000000011111222222223333333333444444444455555556667778889999

172 000000001111111222222222222222233333333455556666777777777777777888888888899

173 000000111111222222223333334444444444555566666666667777777788999999

174 001112222233333333334444455555555566666666677777788889999999999

175 000000111111111222223333444

176 2

Dinetah Phase

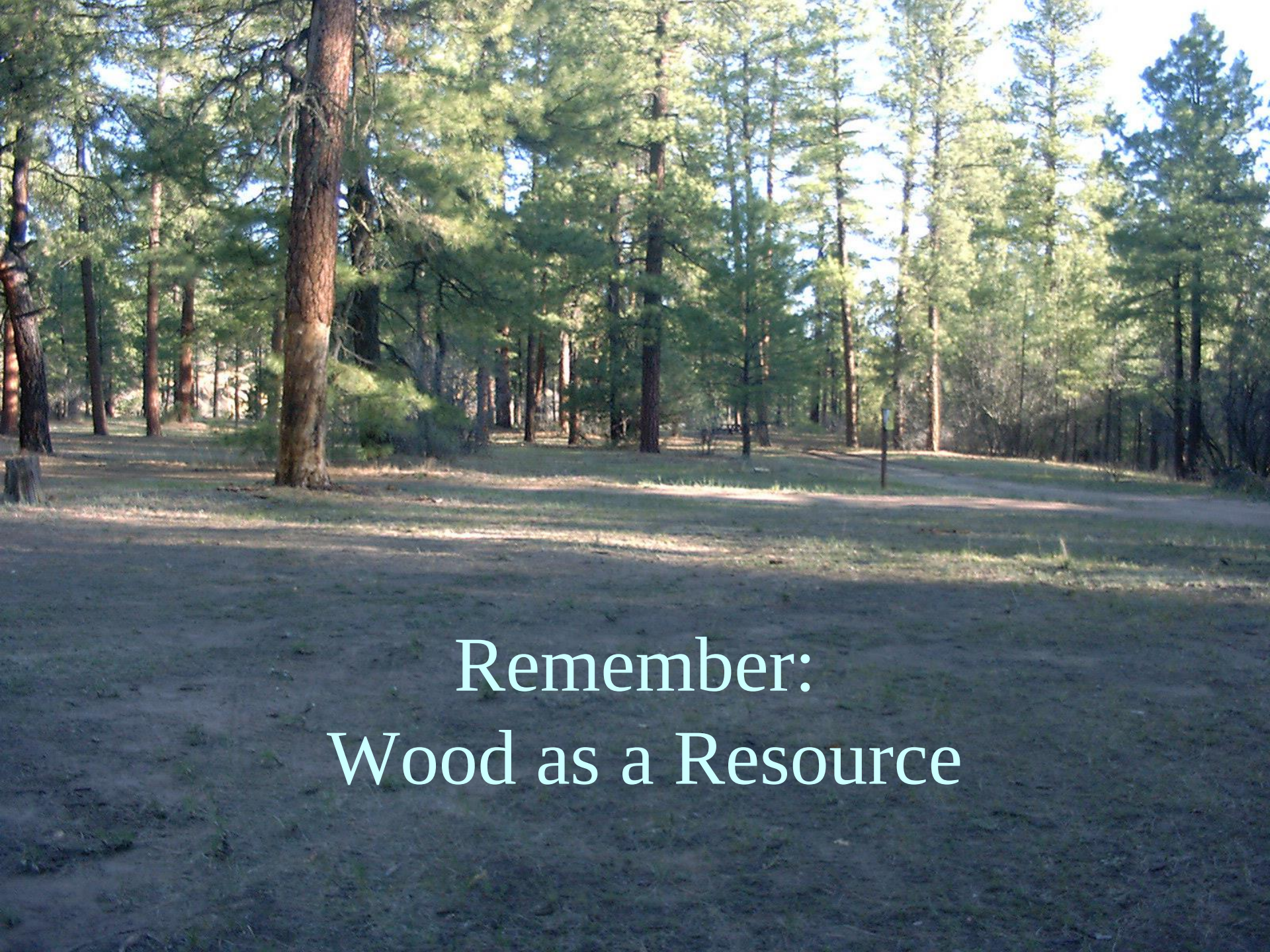
AD 1450-1630

Early Gobernador Phase

AD 1630-1690

Late Gobernador Phase

AD 1690-1765

A photograph of a forest scene. In the foreground, there is a dirt path or clearing with some sparse grass. The middle ground is filled with tall, slender pine trees with green needles. The background shows more trees and a clear sky. The lighting suggests it might be late afternoon or early morning, with long shadows cast across the ground.

Remember:
Wood as a Resource

Dendroarchaeology: Behavior



- Species Selection
 - Availability
 - Procurement Logistics
- Tree selection
 - Size
 - Shape/growth form
- Structure type/function
 - Habitation
 - Animals, etc.

Dendroarchaeology: Behavior

- Beam Procurement
 - Ax type, burn, etc.
- Beam Modification
 - Length, limb trim etc
 - -deadwood use
- Beam Stockpiling
- Beam Reuse
- Remodeling/Repair



Dendroarchaeology: Environment



- Species Selection:
 - Locally Available?
 - Different for different Elements?
 - Local Environmental Variability

Dendroarchaeology: Environment

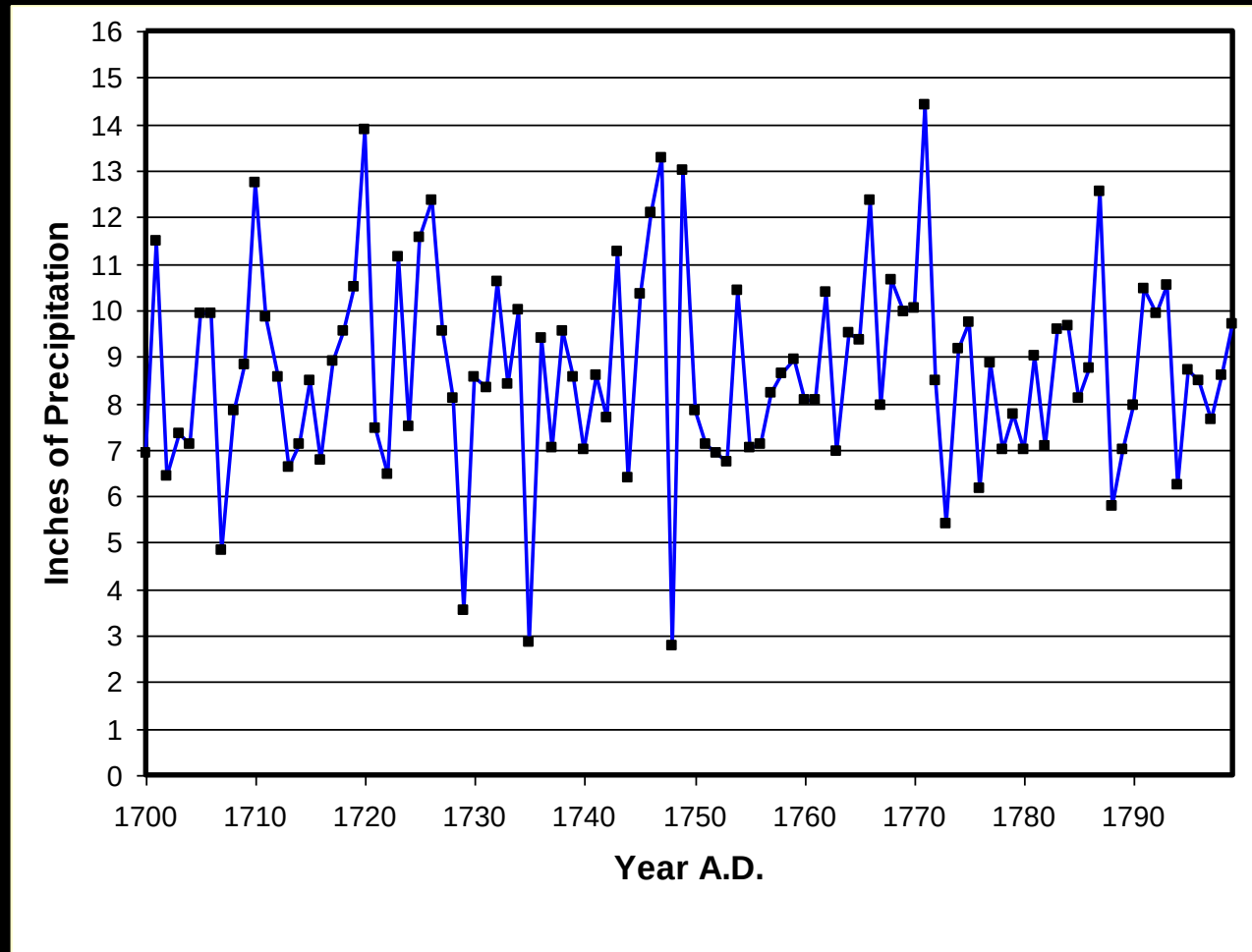
Climatic

Reconstruction

- Signal Type?
 - (Precip or Temp)

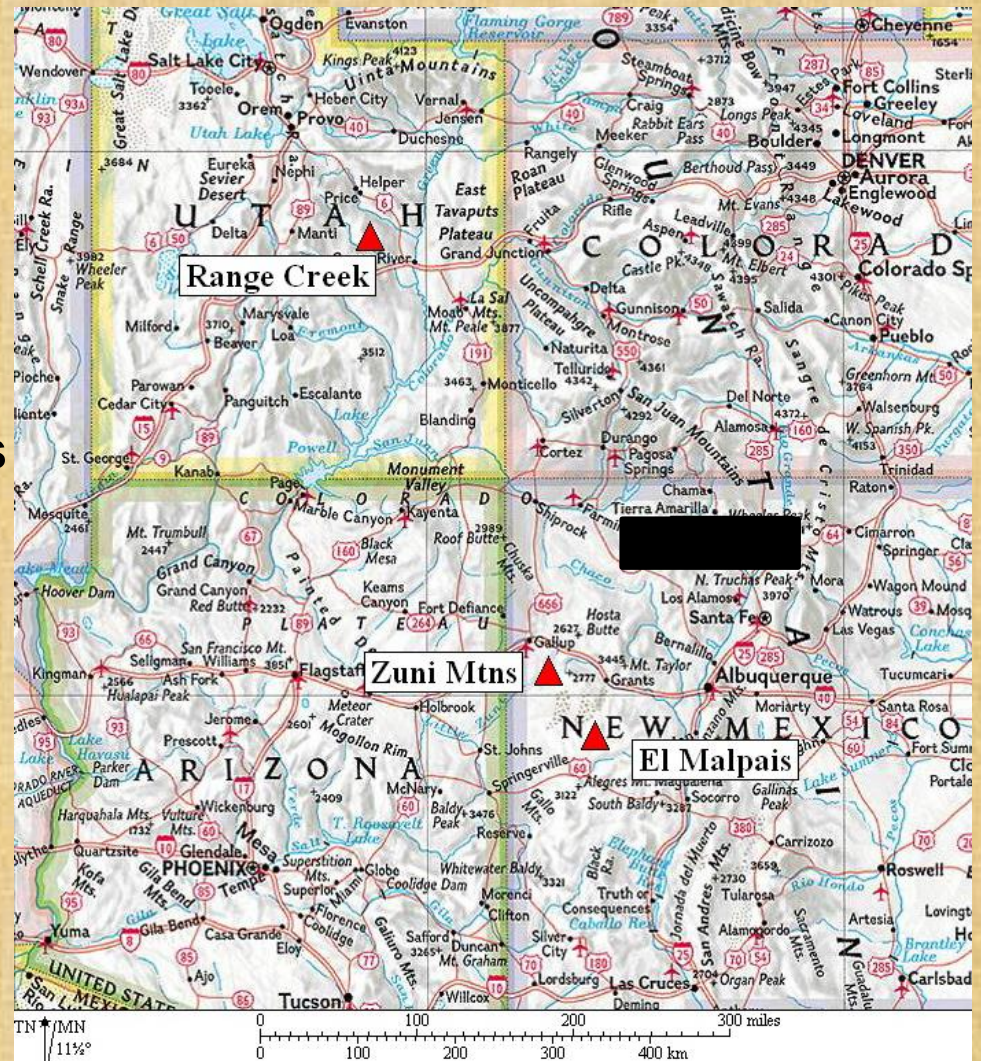
Archaeological
Wood?

Living & dead
trees?

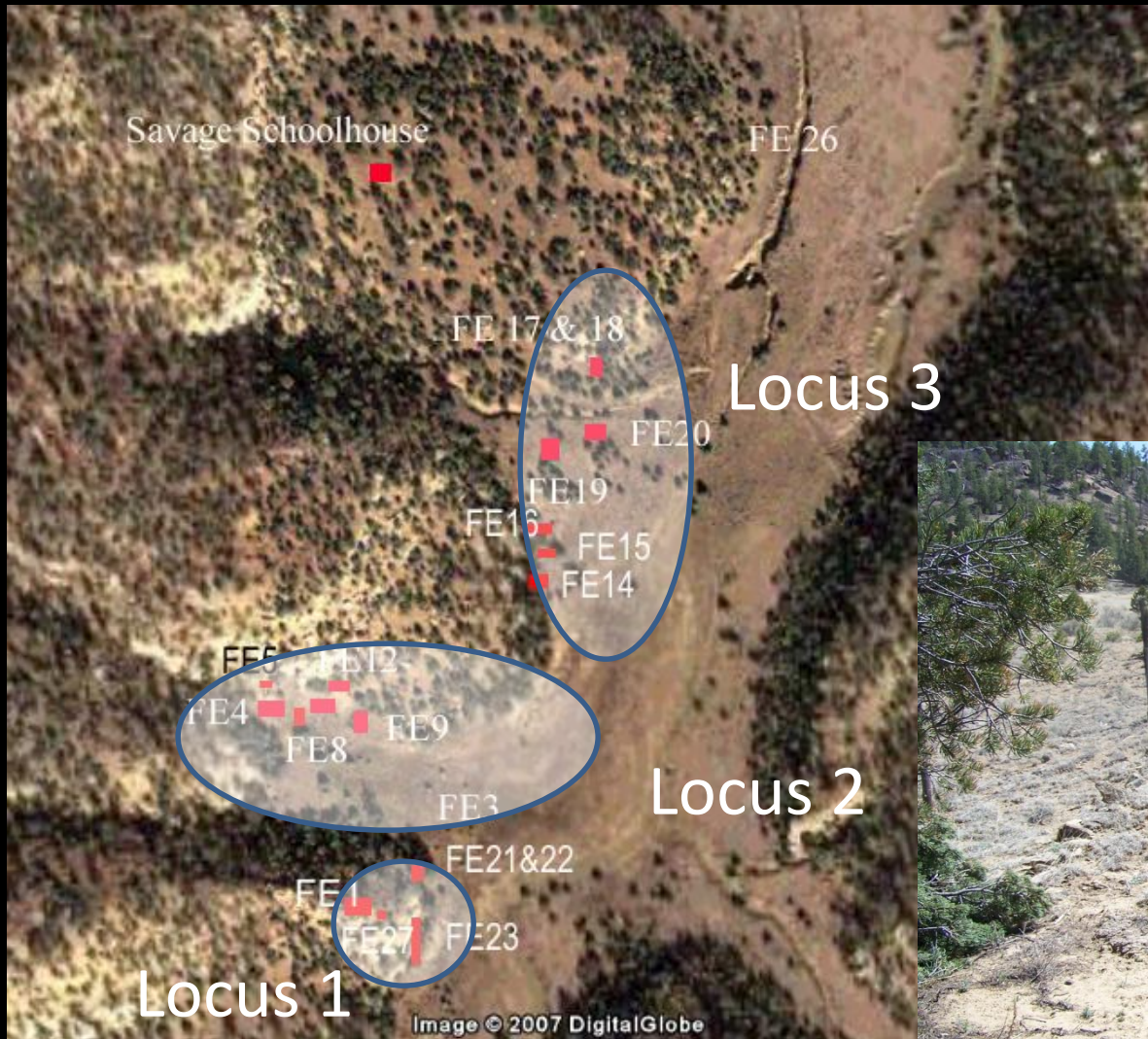


Today's Case Studies

El Malpais Historic Homesteads



The Savage Homestead





El Malpais Cabins: Sampling



Coring with the electric drill



Sawing cross sections

Species Use: Feature 8: The Dugout

Ponderosa
superstructure
Split juniper wall logs



Beam Procurement: Feature 17 The Shed

Trimming Slats from Sawmill
Frame door, windows, footers, top
All Ponderosa, except
Juniper corner posts



Savage Homestead Tree-Ring Dates

(Underline indicates cutting date)

[illegible]

Savage Homestead Sequence

Initial Construction: Locus 1
dated 1934, repair 1936

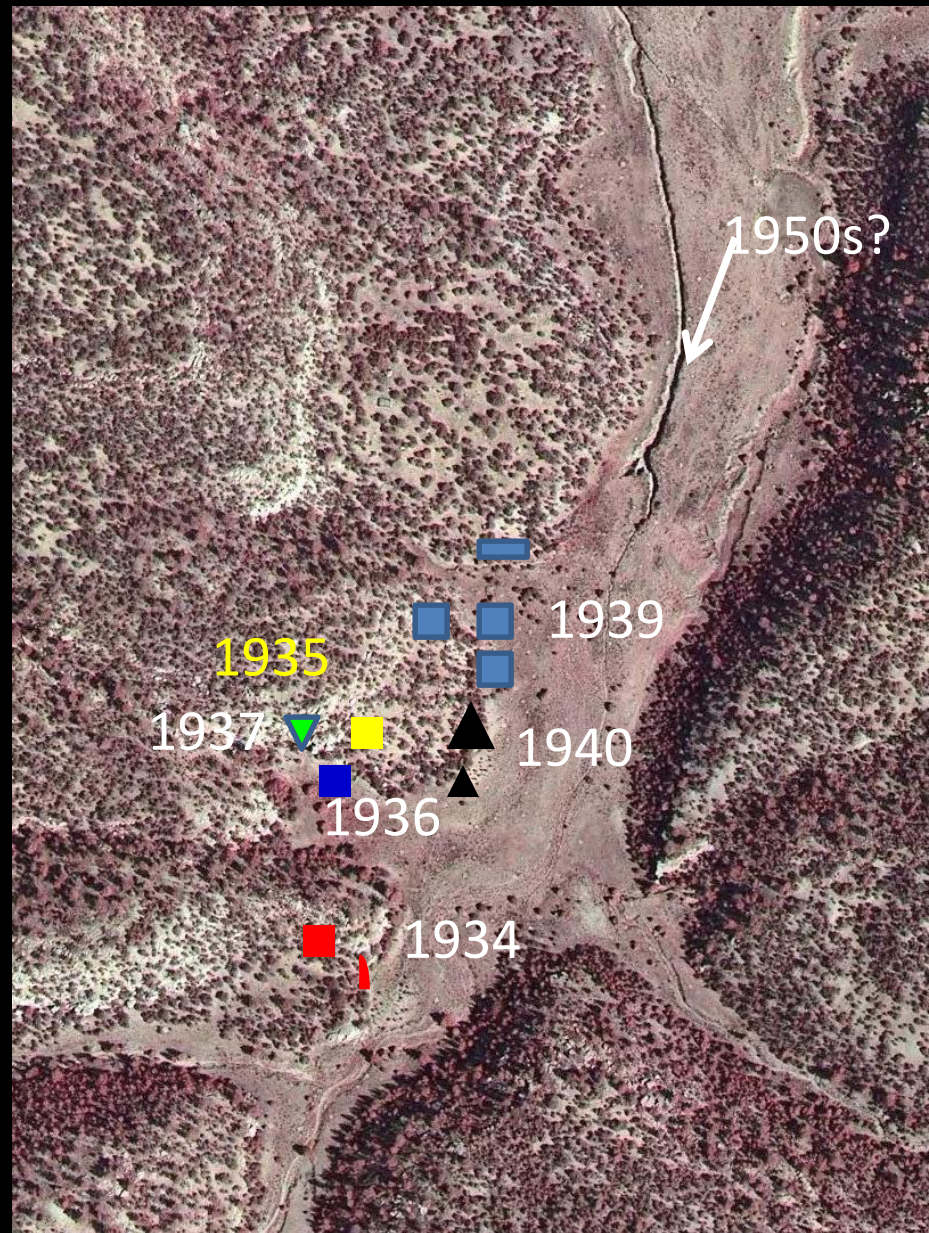
Locus 2: Initial construction
dated fall 1935 (FE12)
most construction 1936-1938

Locus 3: Construction almost all
Fall 1939

FE 14 & FE 15—Construction
Spring 1940

Site Abandonment 1940s?

Arroyo Cutting early 1950s?



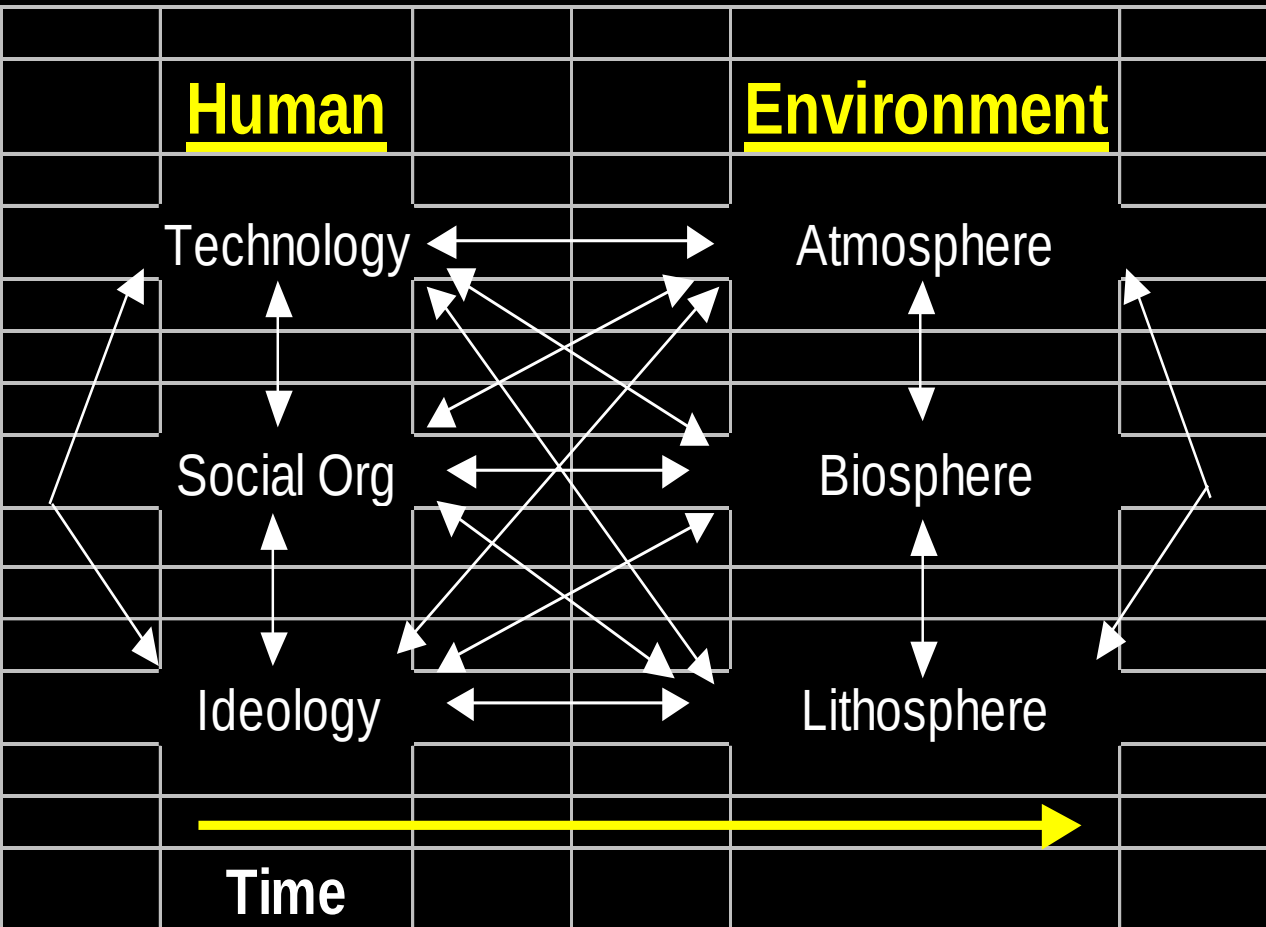
Savage Homestead: Oral History



John L. Savage

Childhood: 10-12
1935-1938

Human/Environment Interaction



- A Complex Matrix:
- Humans are complex
- Environment is Complex