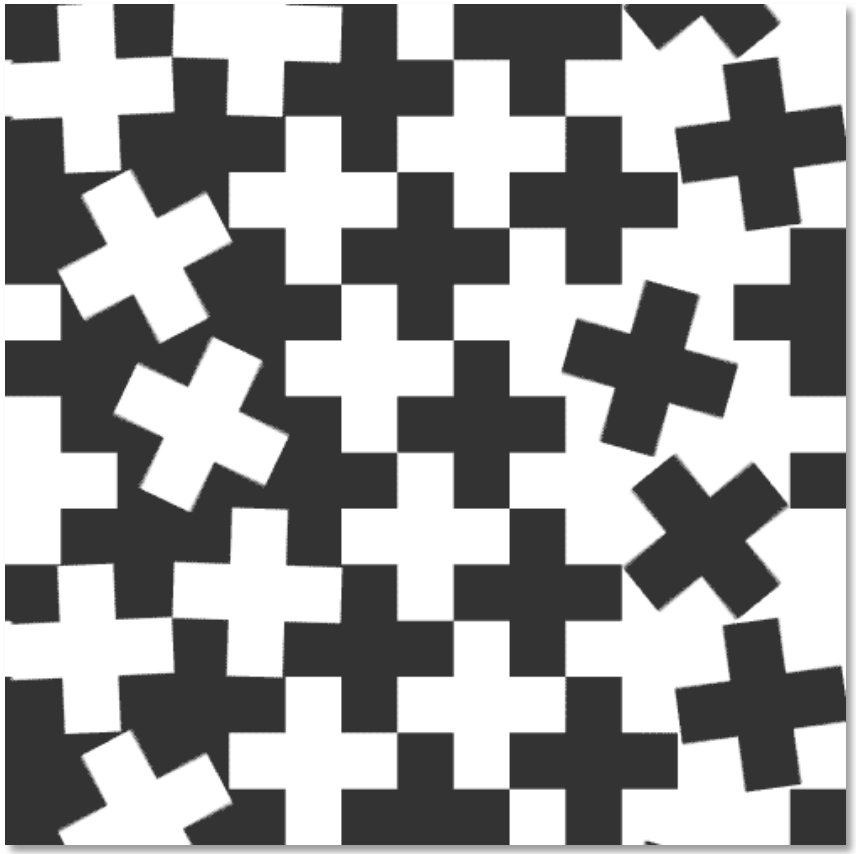
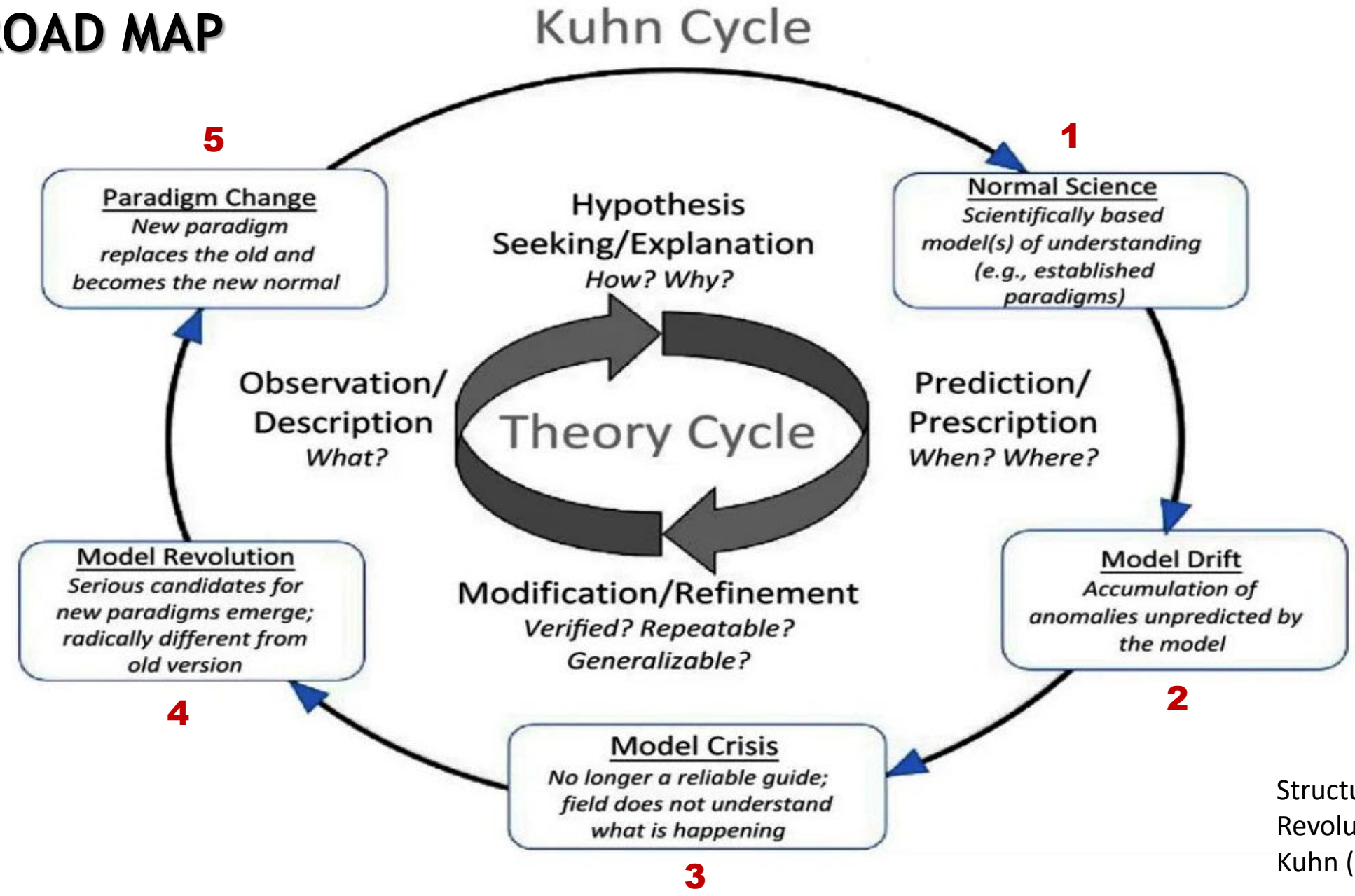


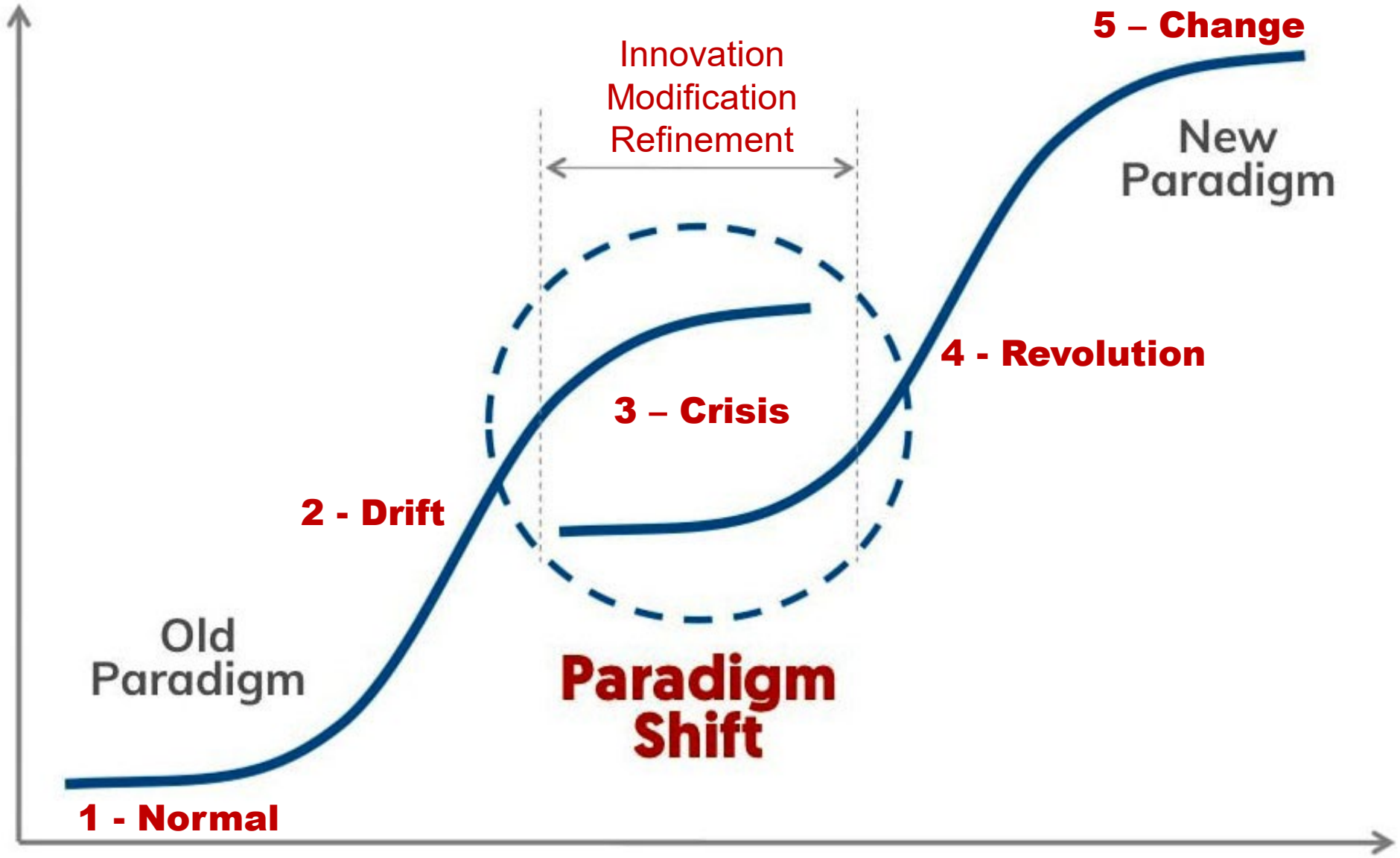
IN AND OUT OF THE BOX: SHIFTING VIEWS AND PARADIGMS IN CRM GEOARCHAEOLOGY

JACK MEYER M.A.
SWCA ENVIRONMENTAL CONSULTANTS,
DAVIS, CA 95616

A ROAD MAP



Structure of Scientific Revolutions – Thomas Kuhn (1962)


5 – Change
Innovation
Modification
Refinement
New
Paradigm
4 - Revolution
3 – Crisis
2 - Drift
Old
Paradigm
Paradigm
Shift
1 - Normal

Academic Geoarchaeology is

. . . a contextual approach that uses existing geologic and archaeological data to understand the temporal, spatial, and landscape contexts of archaeological sites (Butzer 1980; Waters 1992).

Relation between sites, strata, landforms, and landscapes

CRM Geoarchaeology is

. . . a project-driven task that attempts to identify the landscape context of known sites and/or assess the potential for buried archaeological sites in a prescribed area with insufficient funding, inconvenient schedules, and inadequate datasets (Jack Meyer 2024)

Study entire project area landscape with or without sites

Academic Paradigm or "Top-Down Approach"

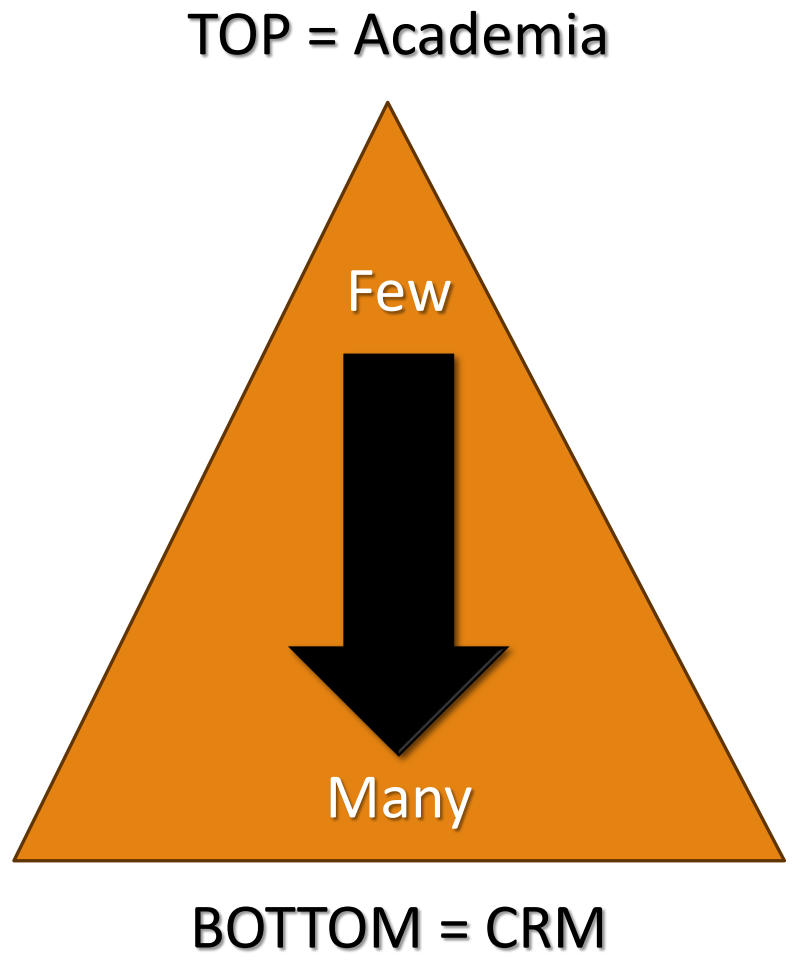
Requires years of upper-level education (higher learning)

Only educated professionals can practice GEOARC

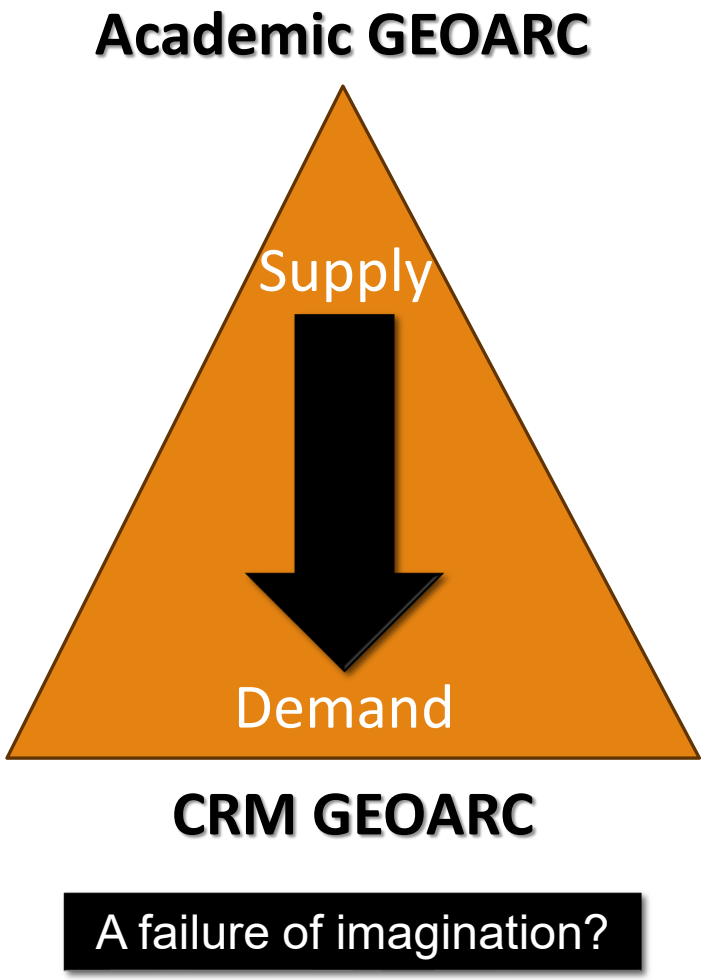
Special study within archaeology and CRM projects

Average archaeologist or CRM's does not need to know

Very few GEOARCS compared to the number of projects



Narrow Output =
Death by specialization?



Academic Geoarc constitutes an Exclusive “Top-Down” Supply Structure

Existing programs are not designed nor scaled to meet the growing market in CRM

Cannot expect Academia to add enough GEOARC professors and/or programs to meet the CRM demand in near future

State-Level Geoarchaeological Guidance Status

Most Geoarchaeological Contracts

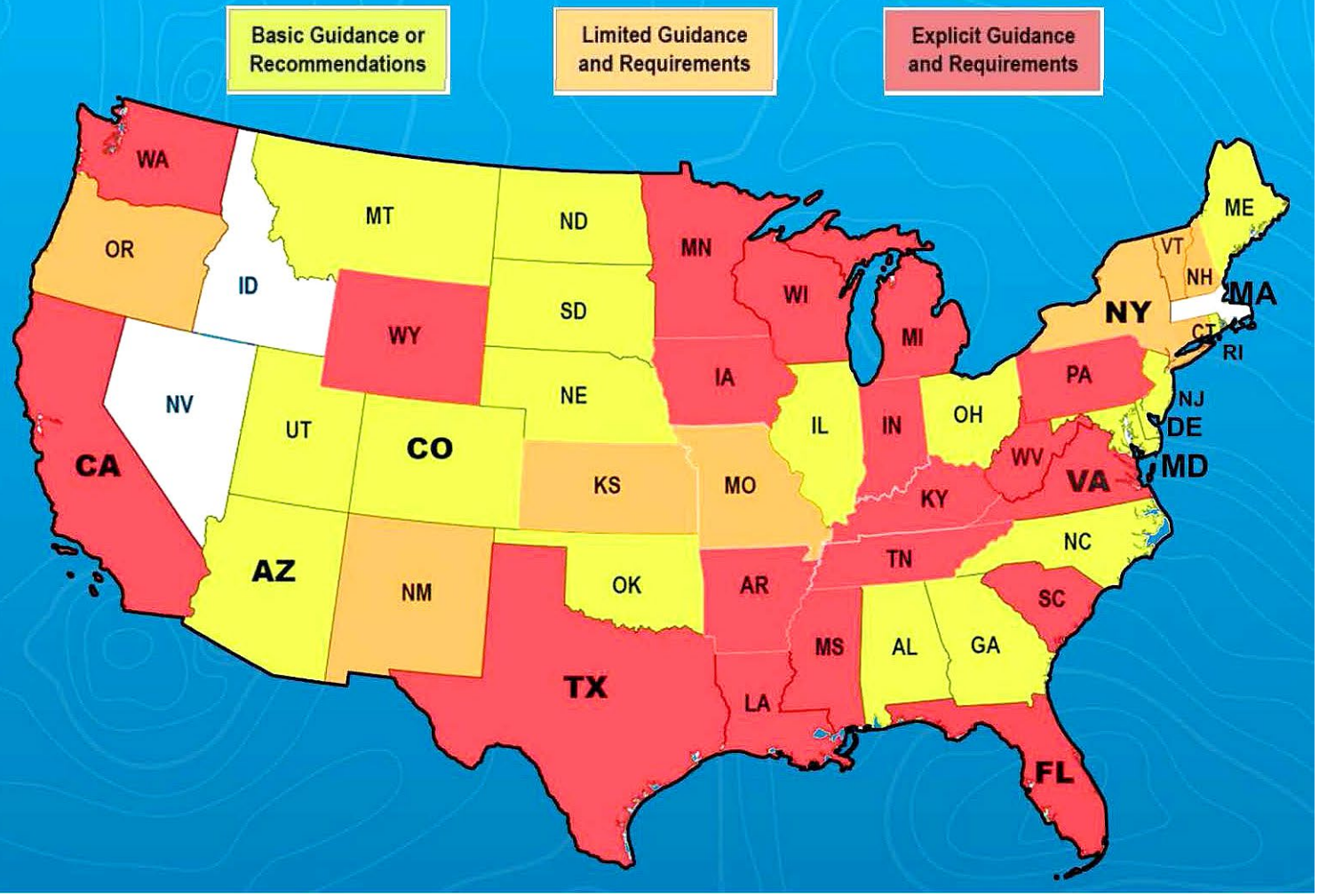
State	% of Specified Geoarch-Contracts
California	14.7%
Texas	12.2%
Virginia	8.2%
Colorado	7.1%
New York	7.0%
Florida	6.3%
Massachusetts	5.9%
Maryland	5.5%
Arizona	4.4%
Total	71.2% of 8,300 CRM contracts

More than 8,000 CRM contracts in 5-years

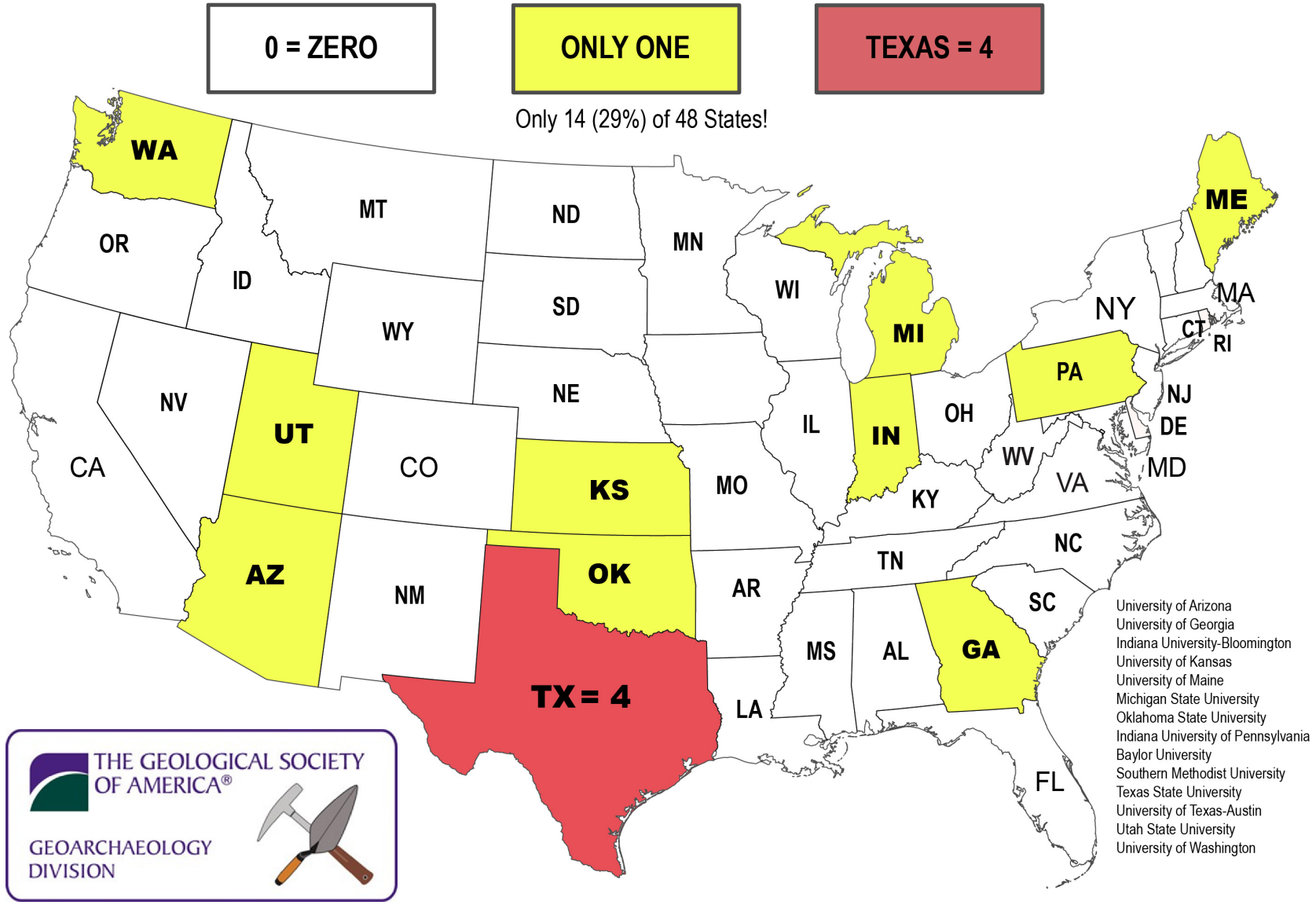
Nine states make up more than 70 percent

Only three states without guidance

Data as of 2023

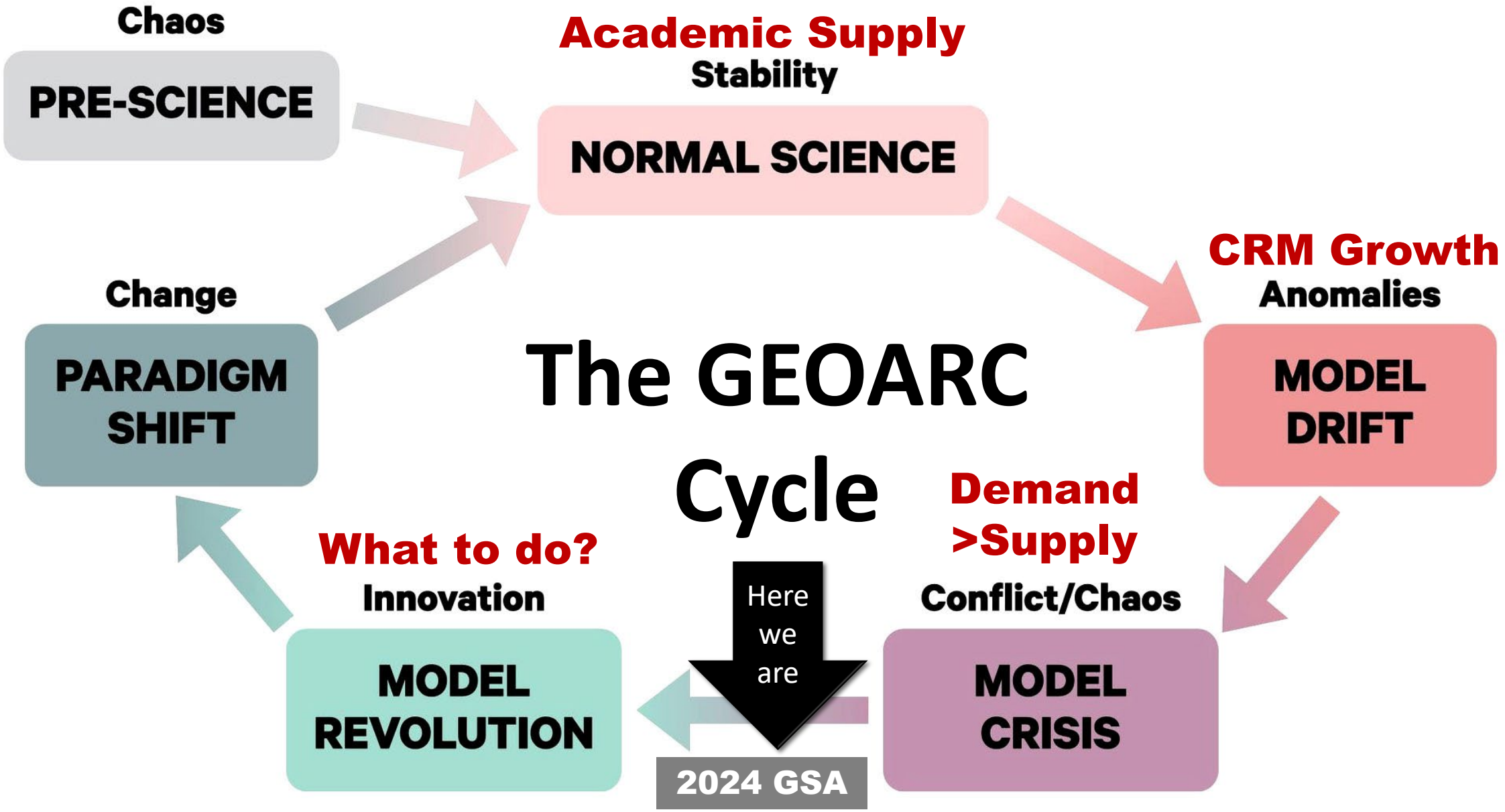


Geoarchaeological Graduate Programs by State



THE GEOLOGICAL SOCIETY OF AMERICA®

GEOARCHAEOLOGY DIVISION


Chaos
PRE-SCIENCE
Academic Supply
Stability
NORMAL SCIENCE
CRM Growth
Anomalies
MODEL DRIFT
Change
PARADIGM SHIFT
The GEOARC Cycle
Demand >Supply
Conflict/Chaos
MODEL CRISIS
Here we are
What to do?
Innovation
MODEL REVOLUTION
2024 GSA

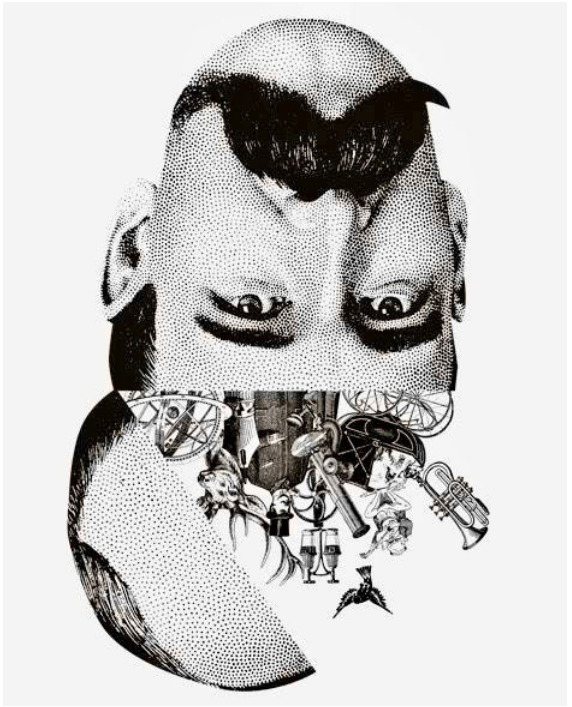
WHAT IS BROKEN?

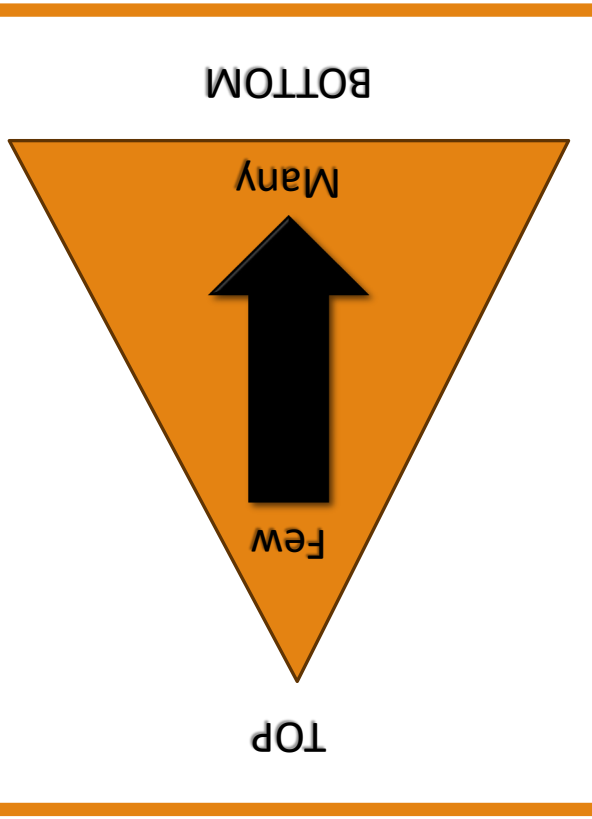
CAN IT BE FIXED?

CHANGES NEEDED?

HOW DO WE GET THERE?

WHAT IF . . . . . .





Inclusive Structure “Bottom-up Approach”

COMMUNICATE USING PLAIN LANGUAGE – LESS JARGON IS MORE

APPLY COMMON-SENSE GEOARC-CONCEPTS TO EVERYDAY MATTERS

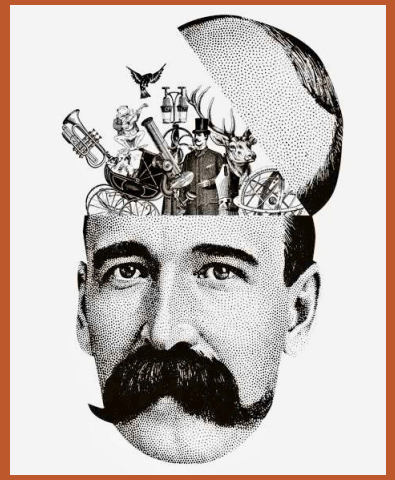
REFRAME ISSUES IN TERMS OF PAST LANDSCAPE CHANGES

ENCOURAGE OTHERS TO THINK “GEOARCHAEOLOGICALLY”

BROADEN BASE OF SUPPORT IN PRACTICE OF GEOARCHAEOLOGY

GEOARC NO LONGER A “SPECIAL STUDY” BUT GOOD ARCHAEOLOGY!

A Few Basic Geoarchaeology Concepts



GEOARC relies on proven principals derived from long-term observations of the physical world – **Laws that hold true**

GEOARC concepts provide a framework that helps people to recognize and understand **how the world and archaeological record are put together**

An awareness and knowledge of past changes is necessary to realistically **anticipate future landscape changes**

Many concepts overlap with other disciplines, but **are rarely taught in schools** as part of a rounded educational curriculum – Why Not?

Proper use and understanding of the concepts is needed to help **correct mistaken personal views and flawed world perspectives**

For example . . . .

Elementary and Secondary Schools

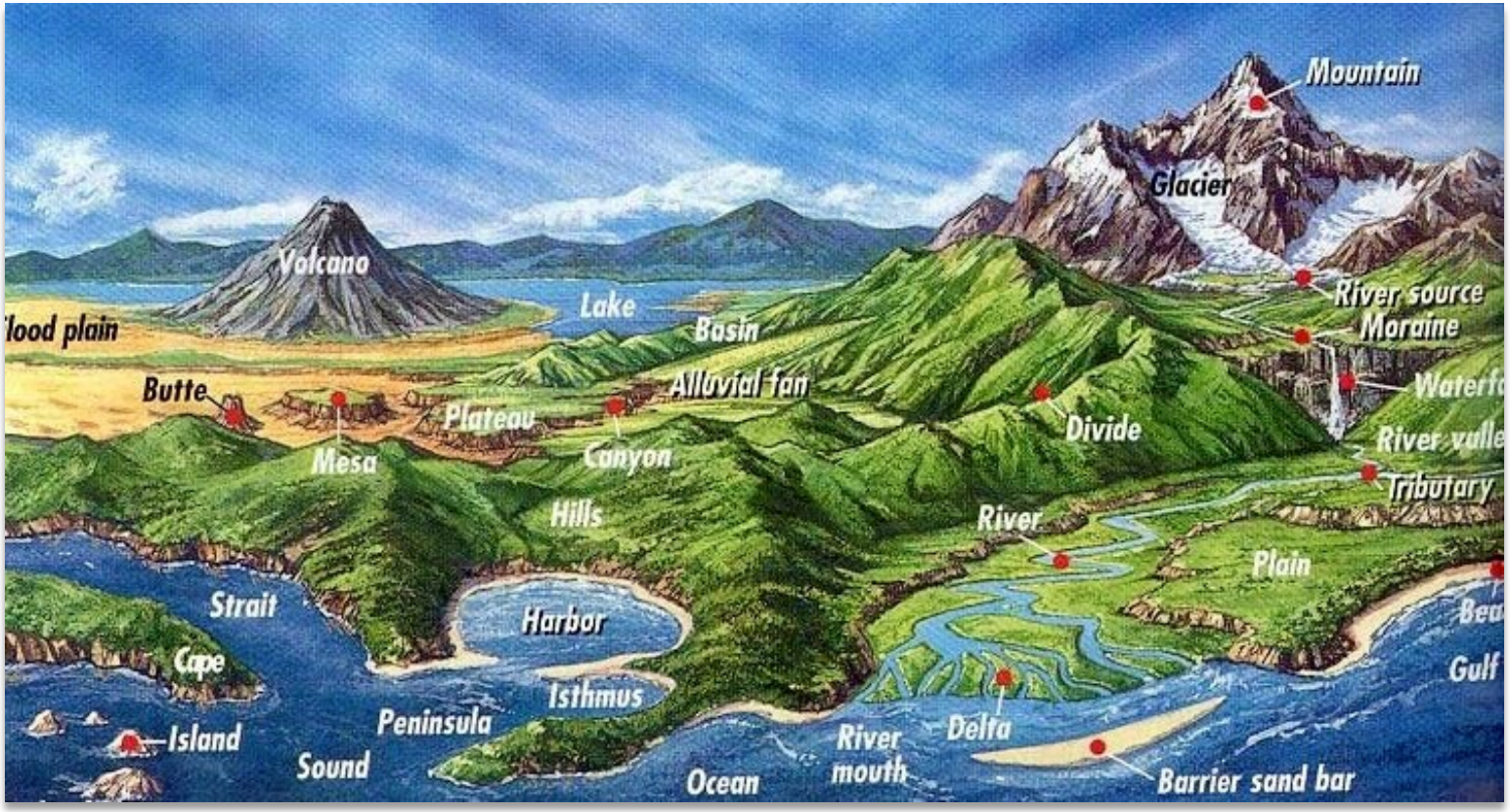
What landforms could you find in Middle Earth?

What landform do you live on today?

High School Graduate

Identify the landforms in this map.

Which landforms are being eroded and which are being deposited?

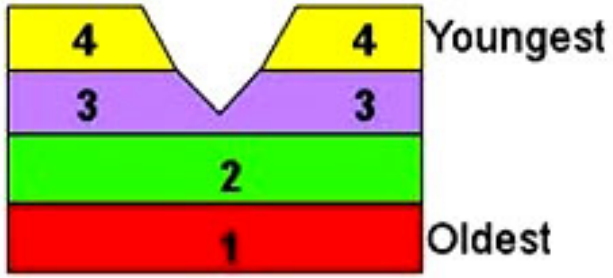


Steno's Laws, Principles of Stratigraphy

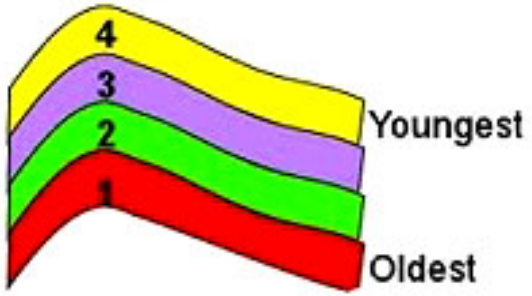
Nicolas Steno
(1638-1686)

Law of Superposition

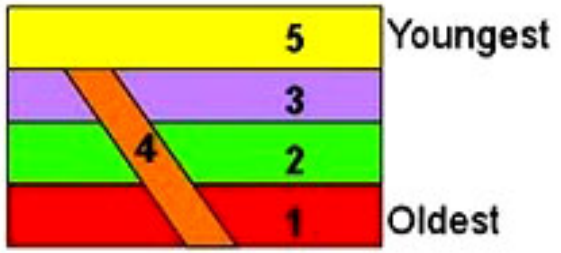
Law of Lateral Continuity



Law of Original Horizontality (Once like figure at left)



Cross-Cutting Relationship



It is a 3D World
THINK VERTICALLY!

How do you think the world formed?
Catastrophism vs Uniformitarianism

Sudden or Rapid Changes

Earthquakes

Fires

Floods

Volcanic Eruptions

Meteor Impacts

Gradual or Steady Changes

Sediment deposition

Soil formation

Landscape changes

Climate changes

"Present is the key to the past"

Both are true!

NEW PARADIGM
Geoarc Supply = Demand

PARADIGM SHIFT
Improved access, knowledge, and hands-on training to increase supply

MODEL ANOMALY
Increased demand due to CRM Growth

Th RC

MODEL INNOVATION
Adopt more inclusive bottom-up structure

MODEL CRISIS
Reduced supply does not meet demand

2024 GSA

A PARADIGM SHIFT?

Try a Bottom-up Approach

Teach Learners & Mentor Users

Explain using Plain Language

Broaden the Knowledge Base

Try to Change & Open Minds

Stay engaged to be Relevant

Educate, Innovate, and Integrate