

GEZONDE
BODEM,

GEZONDE
SAMENLEVING?

EEN BODEMVERHAAL DOOR
PROF. KAREN VANCAMPENHOUT
KU LEUVEN



EVEN VOORSTELLEN

Karen Vancampenhout

- Professor bodemkunde
- Praat graag (en veel...)
- Houdt van verhalen



- praatjes, boeken, cursussen
- 7 tentoonstellingen
- 2 outdoor kunstinstallaties
- 4 educatie- en erfgoed projecten
- 2 educatieve websites
- curator van de Belgische collectie bodemmonolieten



<https://ees.kuleuven.be/soil-monoliths/>





garden plant cartoon clay types pollution loam organic texture red sand water compost clipart conservation humus earth



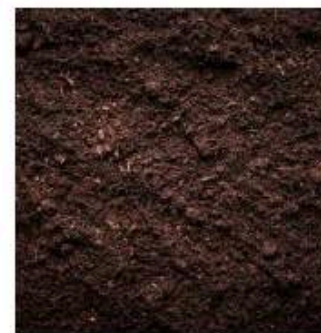
Lightweight Soil | Woodland ...
odlandhp.co.uk · **In stock**



What Is Topsoil? | Online Soil
onlinesoil.co.uk



Soil - It's Impact on Life - CHEC ...
checinternational.org



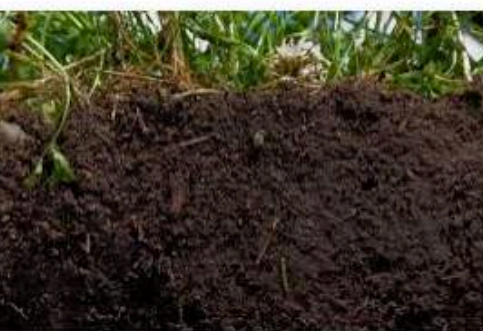
Soil is the key to our planet's...
theconversation.com



Our very existence depends on soil, so ...
euractiv.com



15 Things You Didn't Know About Soil
treehugger.com



...r Soil Is Bad. Are We Doomed ...
dernfarmer.com



Four Simple Do-It-Yourself Soil Tests
thespruce.com



Soil probiotics' promise bigger ...
phys.org



How to Test Your Garden Soil
goodhousekeeping.com



soil en español | Traductor inglés ...
nglish.com



requently Asked Questions about Soils ...
ocares.com



All About Soil | Co+op, welcome to the ...
welcometothetable.coop



Veggie & Garden Soil
jeffries.com.au · **In stock**



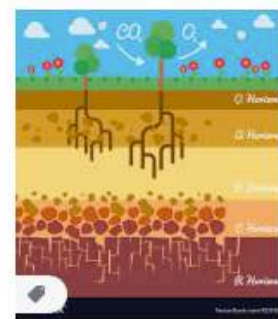
Care of the Soil | Chelsea Green Publishing
chelseagreen.com



why soil smells so good after it rains
theconversation.com

EEN VERHAAL VAN HET LELIJKE BRUINE KLODDERTJE?

international year healthy plant soil testing soil erosion soil formation ecosystem soil science climate change biodiversity soil conservation urban gardening ➤



Flat design Soil Infograp...
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6 Fabulous Infographic...
holganix.com



Infographics | 2015 Internatio...
fao.org



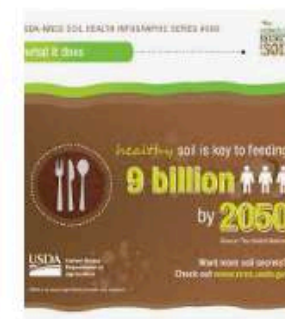
6 Fabulous Infographic...
holganix.com



Infographics | 2015 Internati...
fao.org



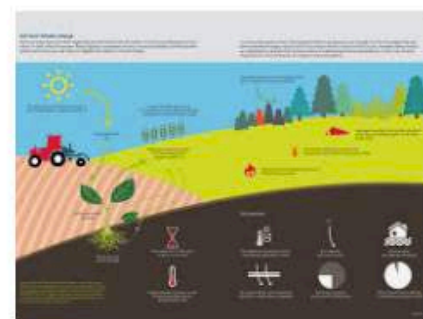
6 Fabulous Infographics about Soil ...
holganix.com



Newspaper/Magazine In...
nrcc.usda.gov



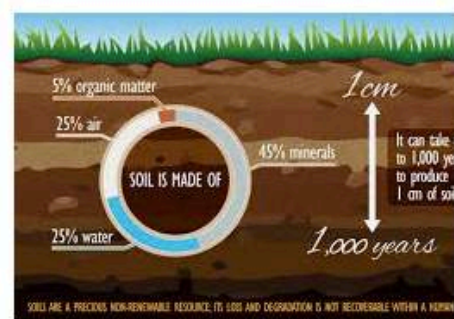
Soils and Biodiversity
fao.org



Soil and climate change — European ...
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Great Infographics: Co...
envisionfrederickcounty...



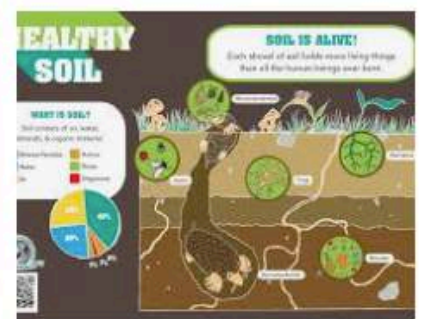
Soil Carbon : Infographics
reddit.com



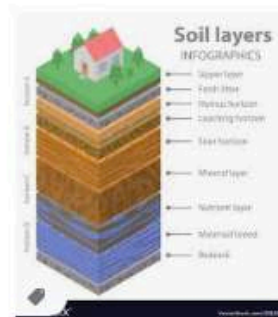
International Year of Soils 2015, CEH
ceh.ac.uk



How soil erosion destroys "Chernozems ...
visual.ly



Soil conservation ...
pinterest.com



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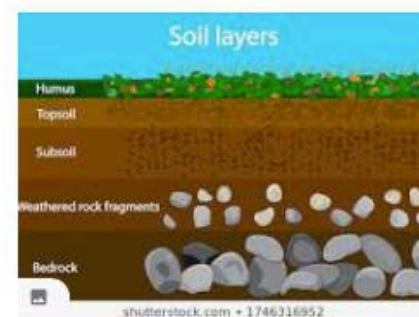
4 Steps to Building Soil...
agfuse.com



Soil functions
fao.org



6 Fabulous Infographic...
holganix.com



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shutterstock.com



Soil Pollution Charts... Royal...
123rf.com



Signs Of Healthy Soil I...
pinterest.com



soil Infographics | Visu...
visual.ly

A heart shape is drawn with thick red paint on a surface of cracked, dry, yellowish-brown earth. The cracks in the earth are deep and black, forming a network across the entire surface. In the center of the heart, a small white flower with five petals and a yellow center is growing, accompanied by several green leaves. The overall image conveys a message of hope and resilience, suggesting that life can flourish even in the most arid and broken conditions.

www.DirtTheMovie.org

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KISS THE GROUND

**IAN
SOMERHALDER**

[illegible]

WIE IS ER BANG VAN HET GROTE BOZE BODEMPROFIEL?

NIET te moeilijk!!



Gezonde bodem, gezonde samenleving ?

Gezonde bodem = gekende bodem

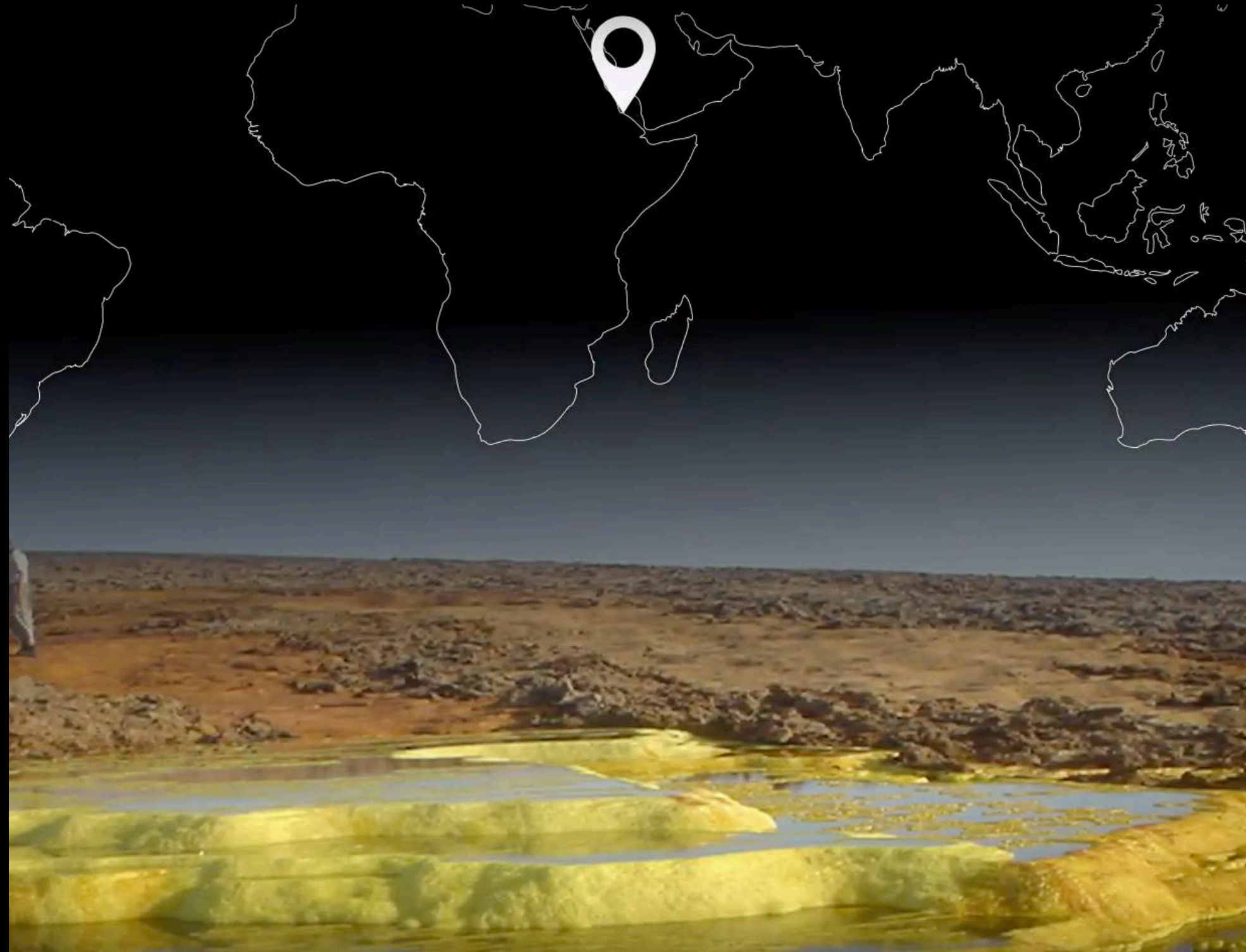
AFAR

ca. 3.2 miljoen jaar BP

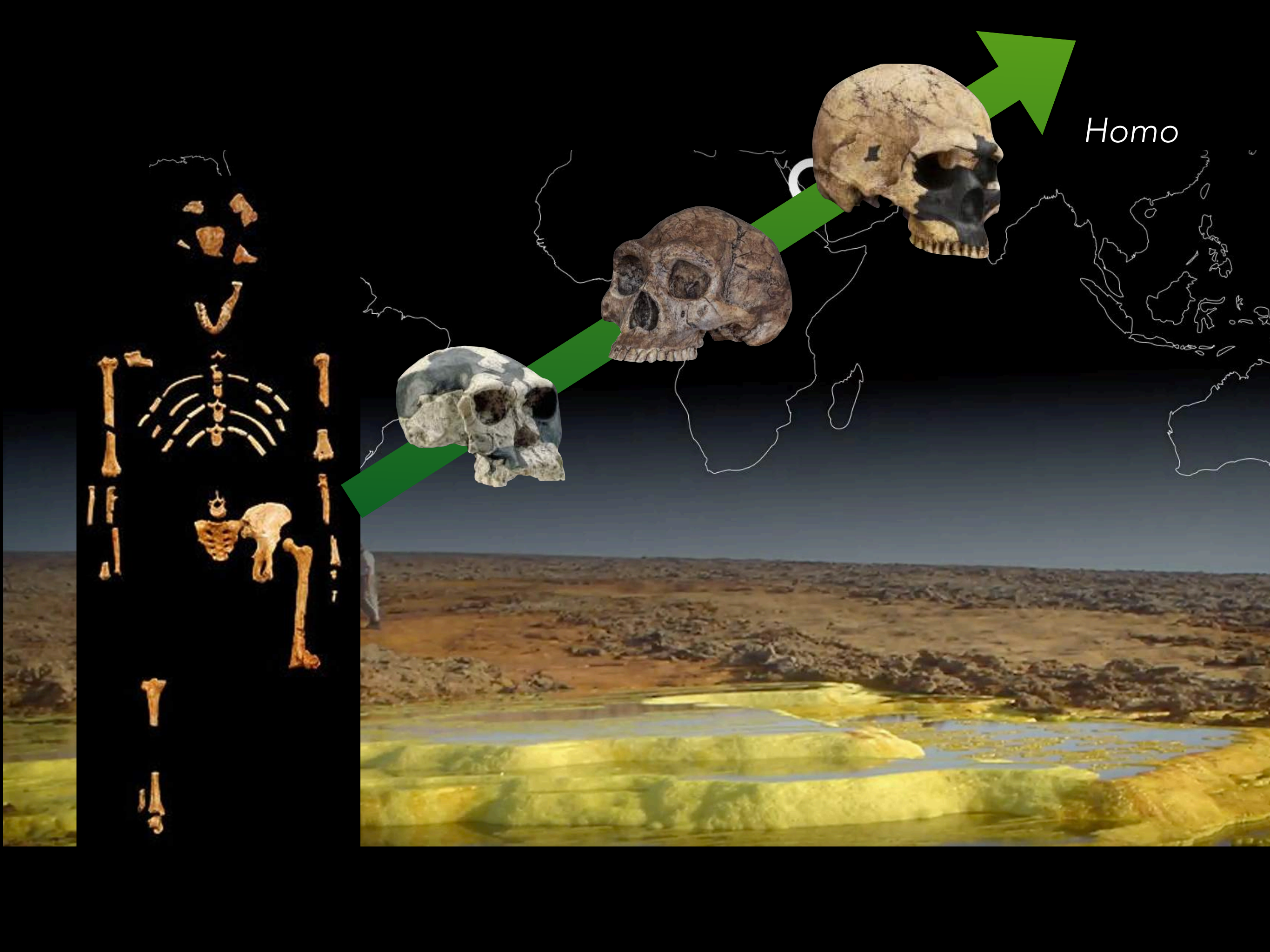


AFAR

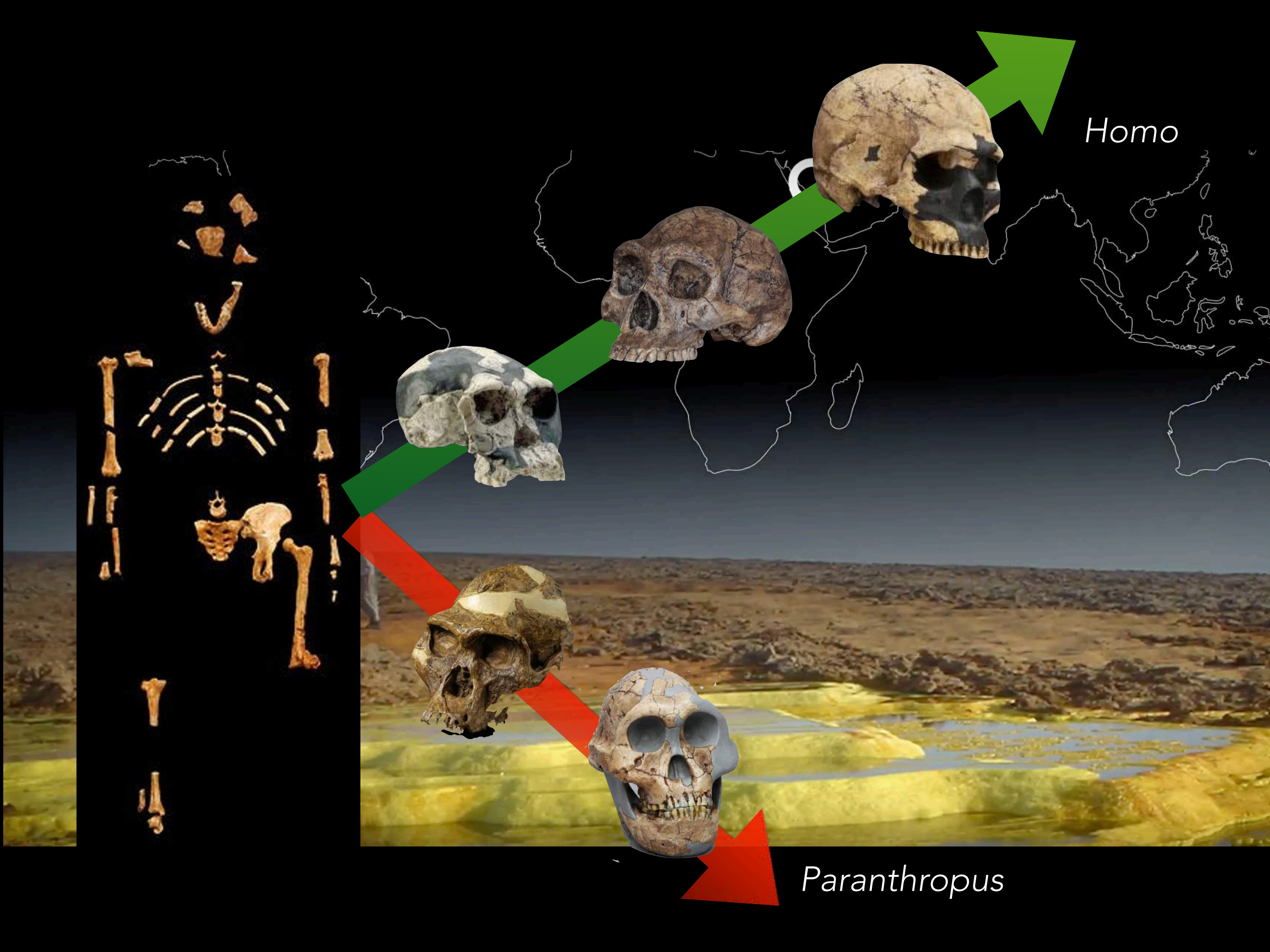
ca. 3.2 miljoen jaar BP



Australopithecus afarensis (AL 288-1 aka Lucy)



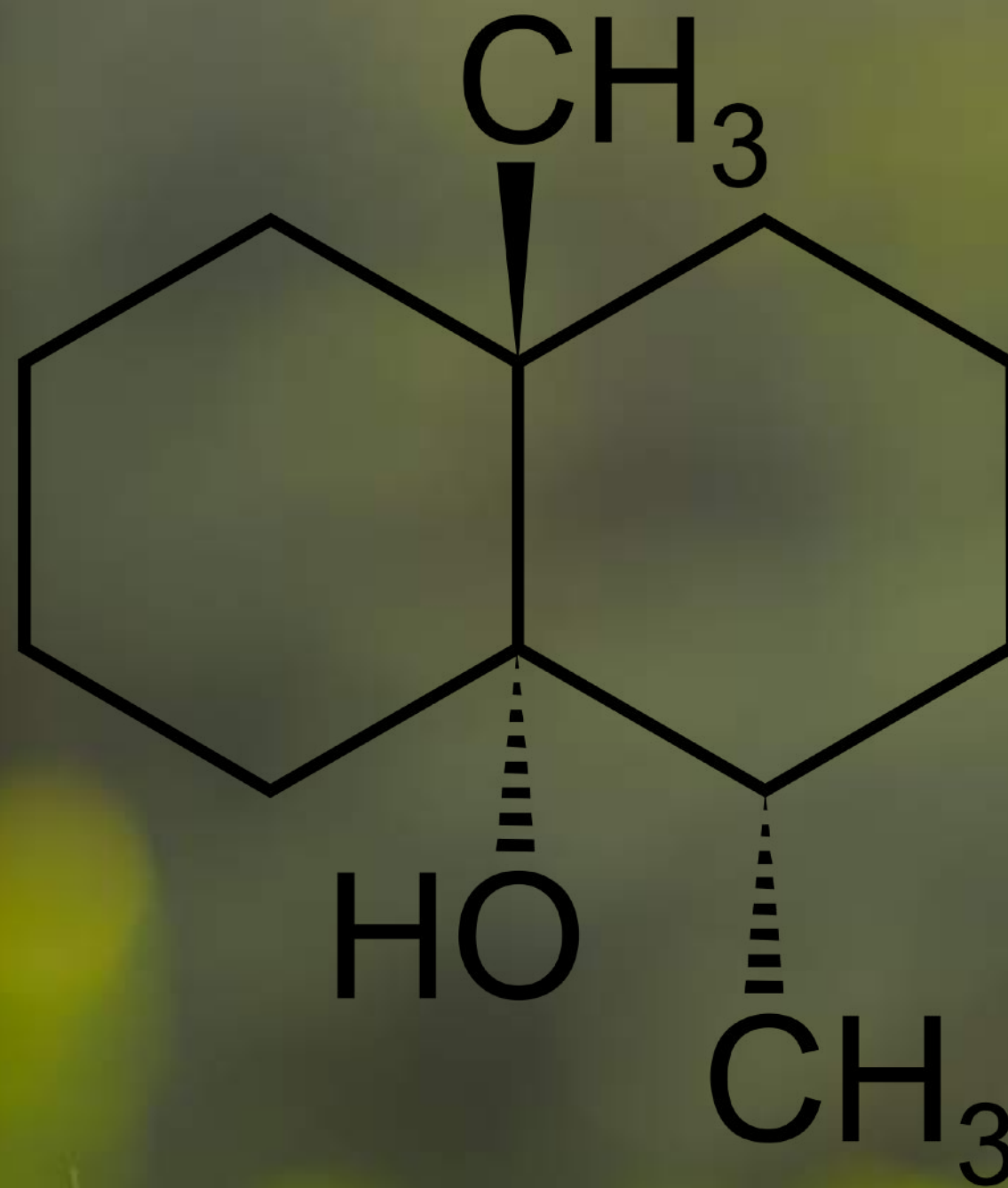
Homo



Homo

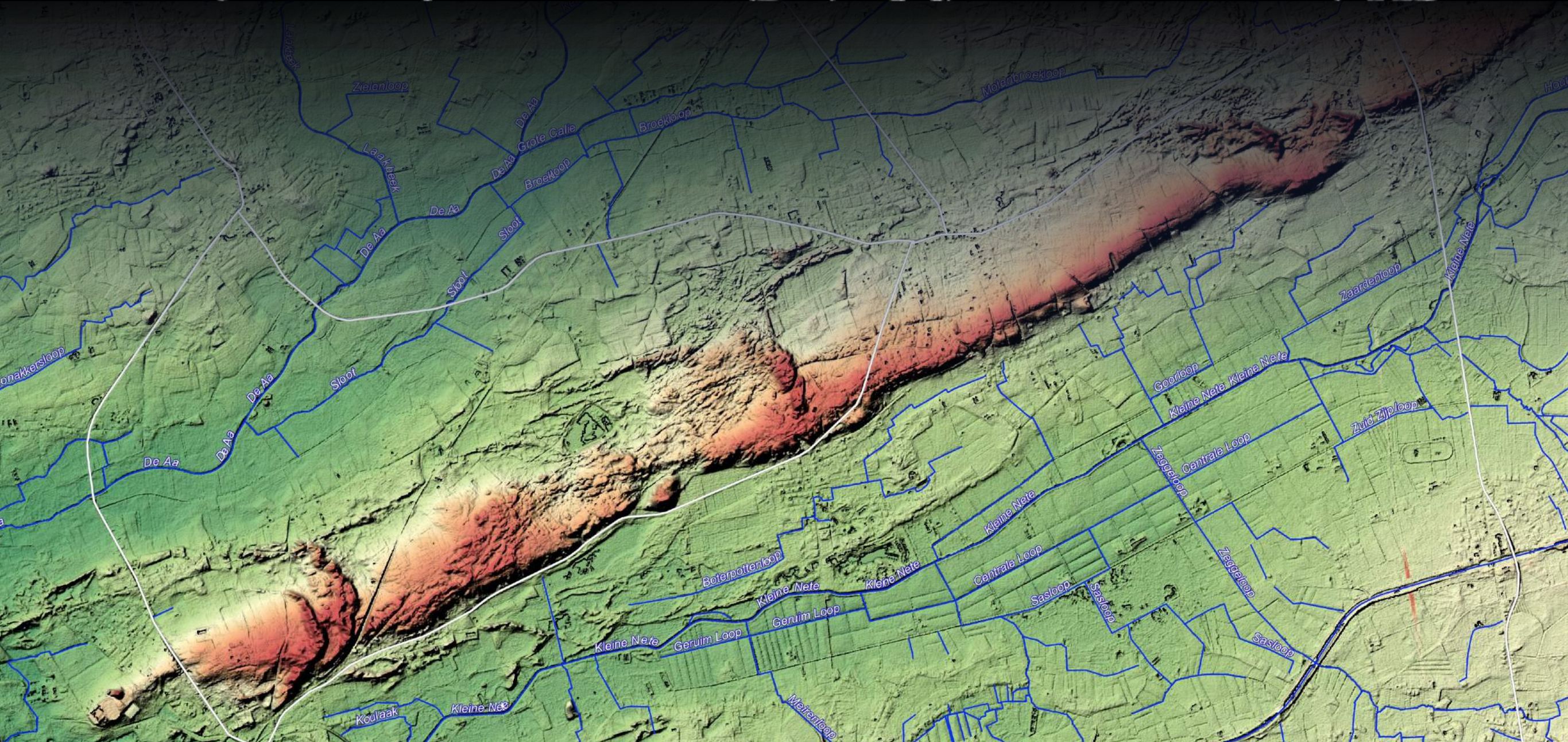
Paranthropus

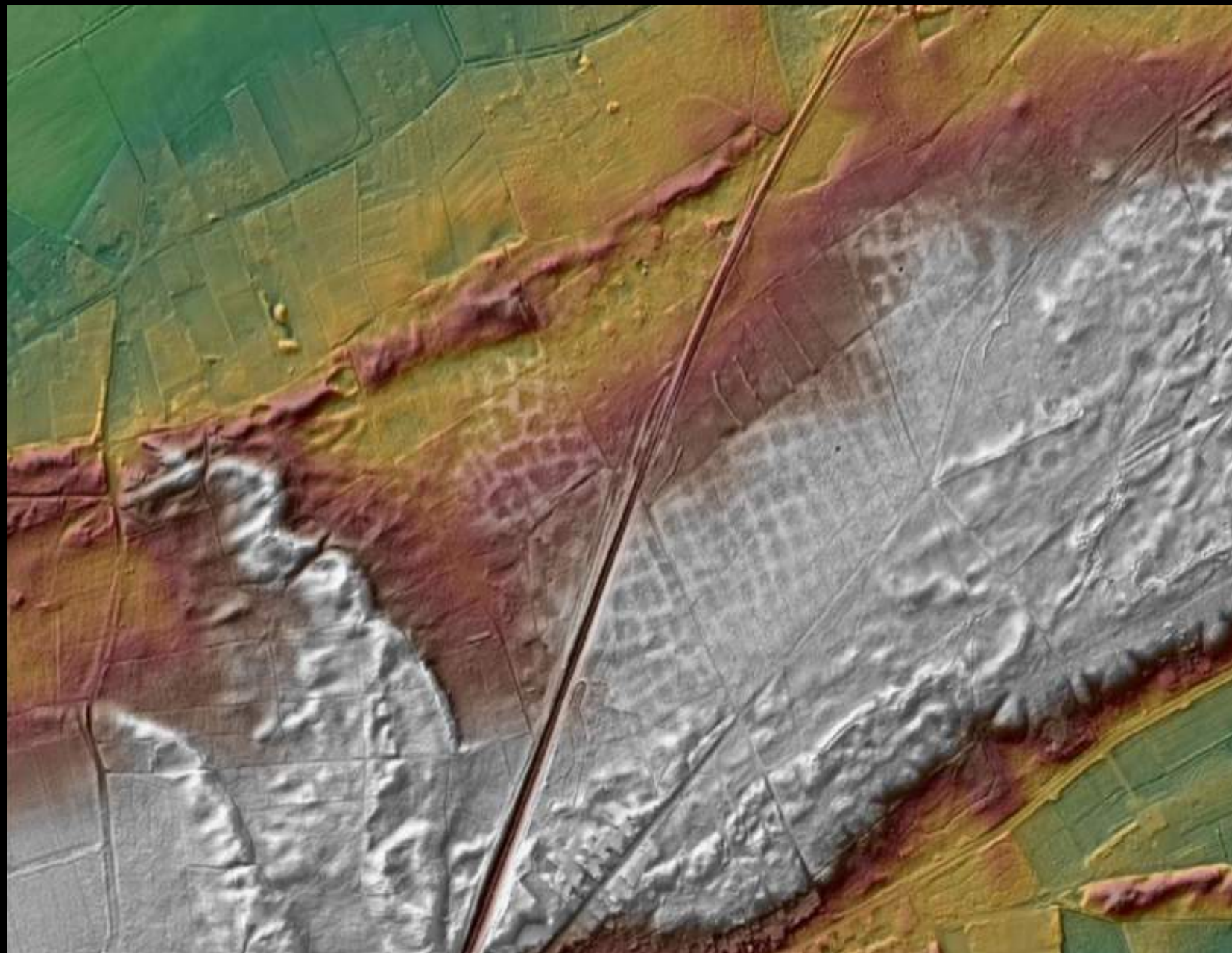
Geosmine



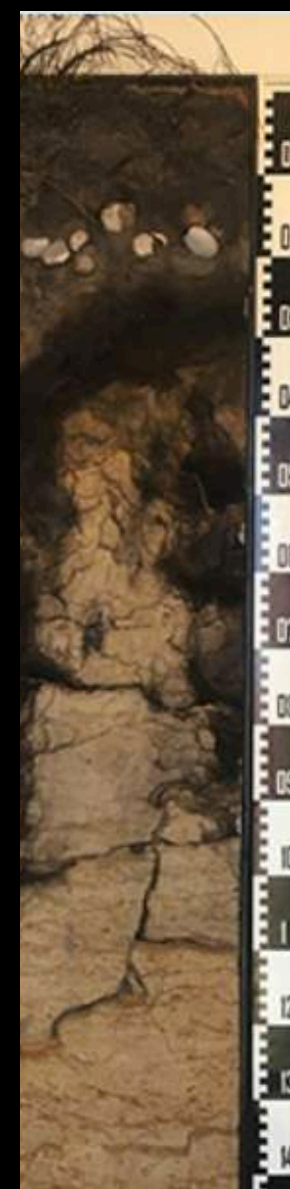
DE KEMPEN

Brons/IJzertijd





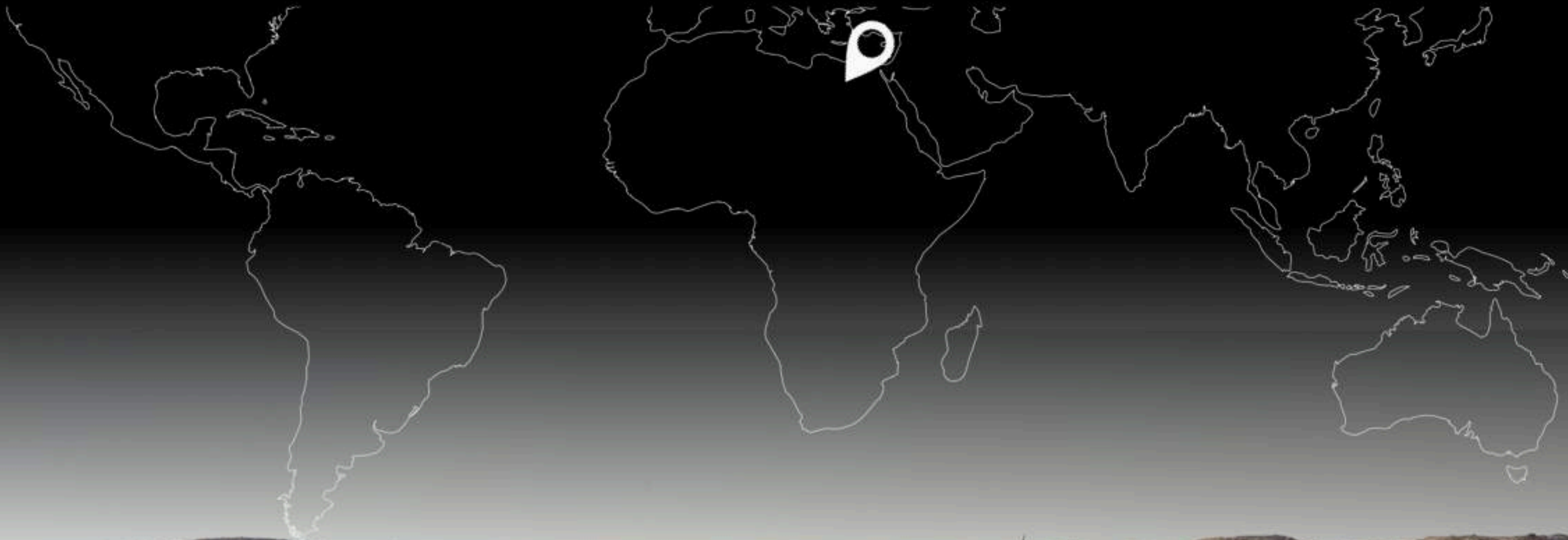
CAMBISOL



PODZOL

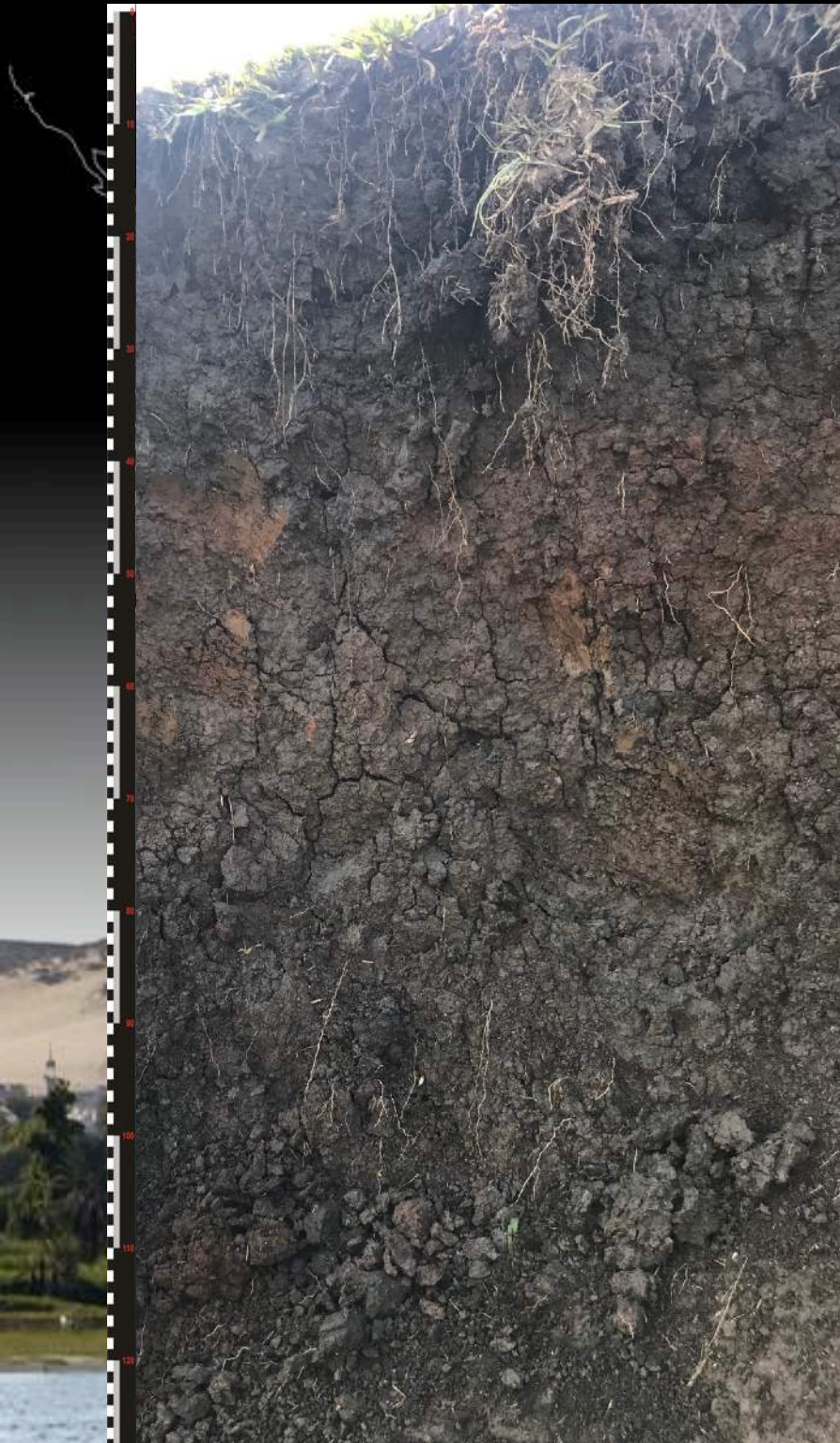
EGYPTE

ca. 2500 BC



EGYPT

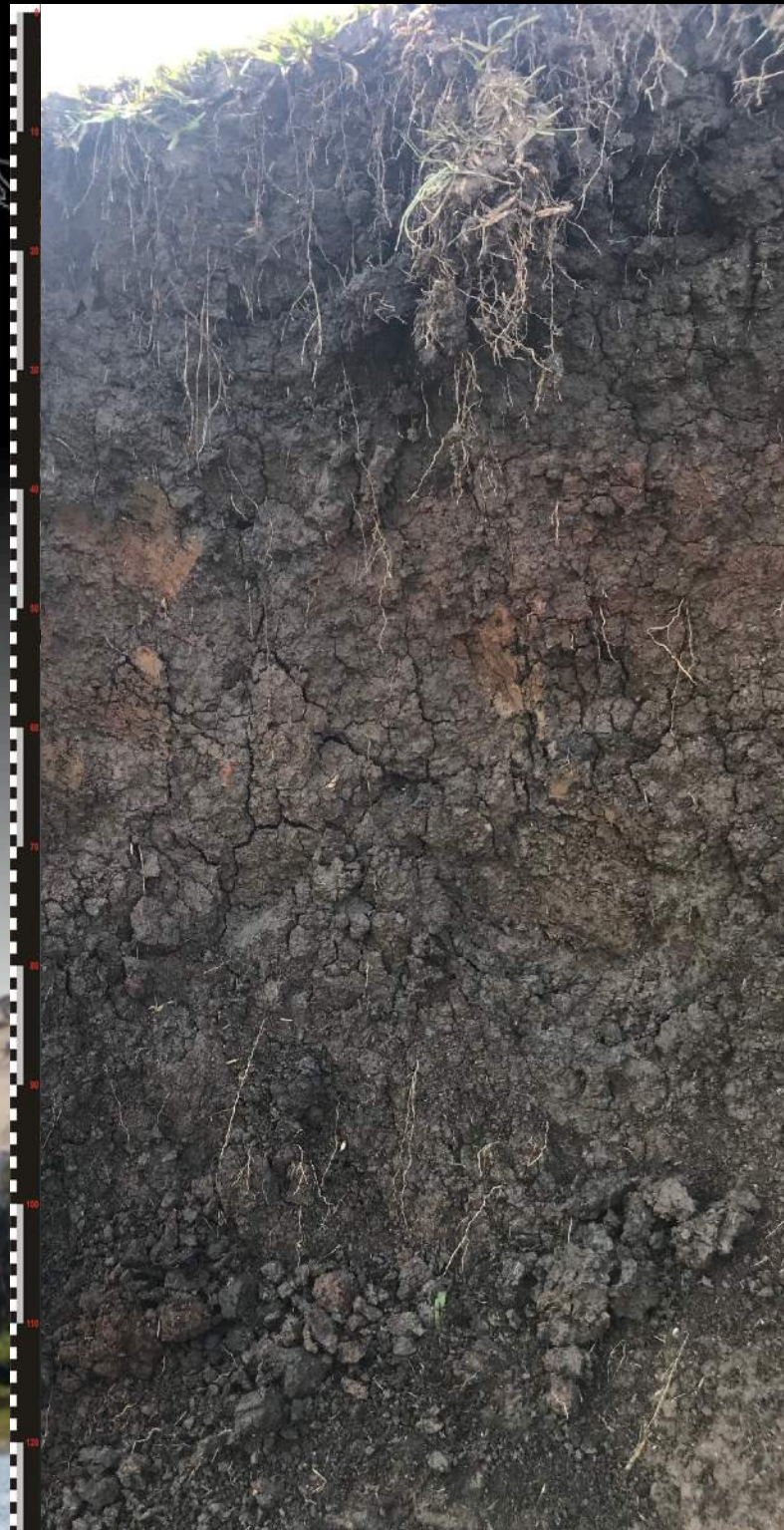
ca. 2500 BC



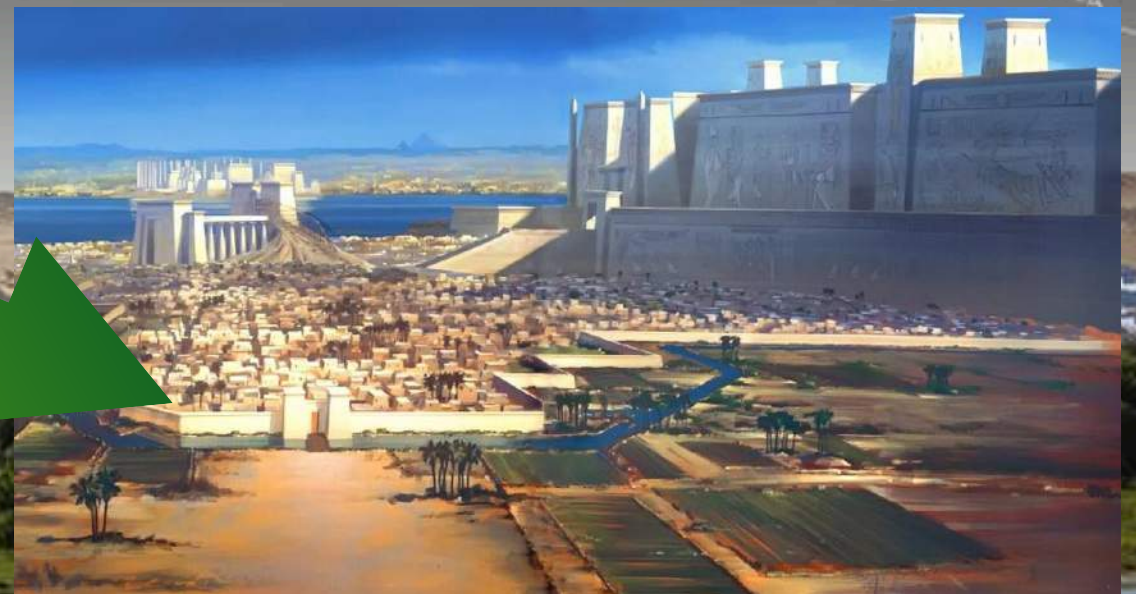
FLUVISOLS

EGYPTE

ca. 2500 BC

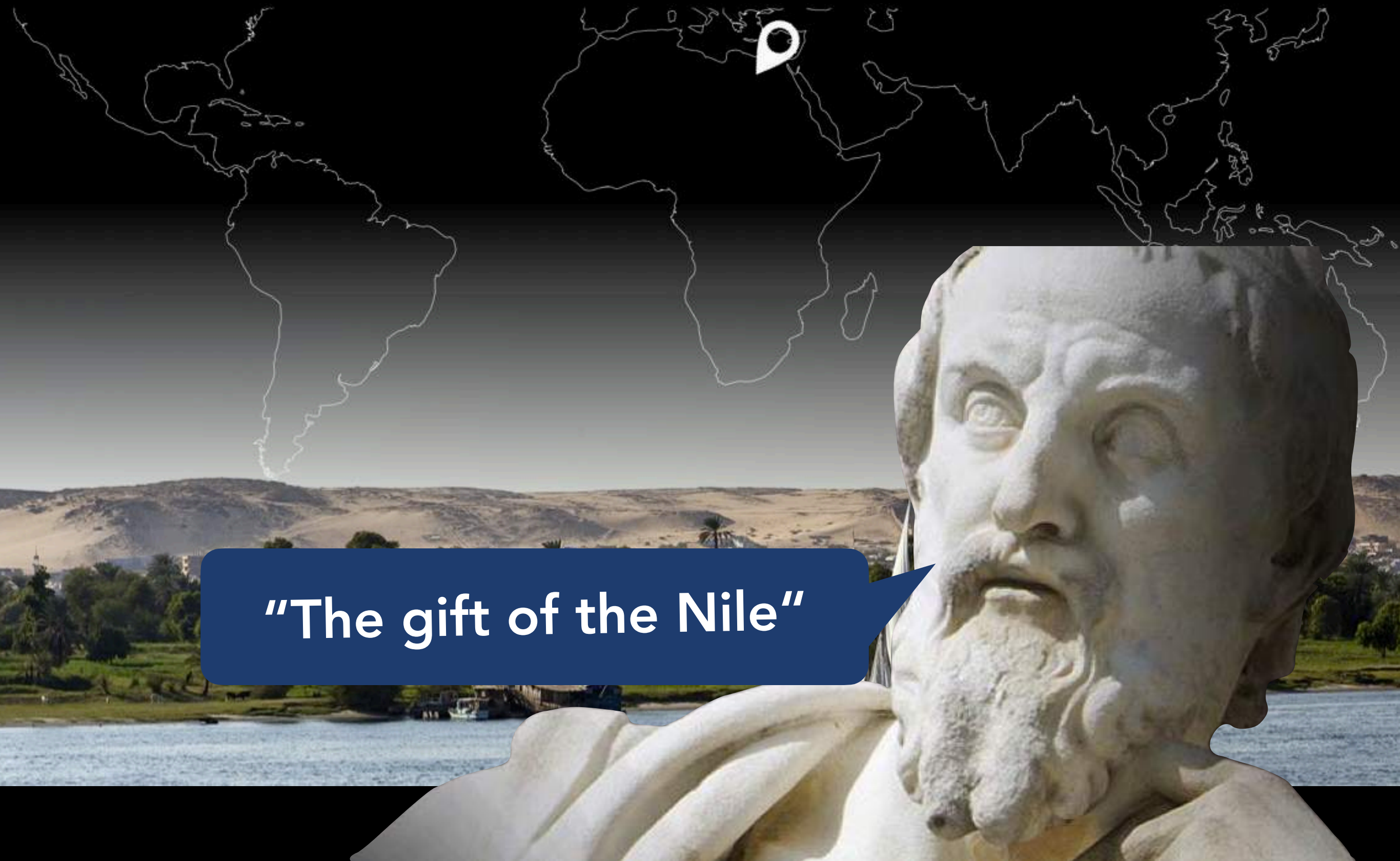


FLUVISOLS



EGYPTE

ca. 2500 BC



"The gift of the Nile"

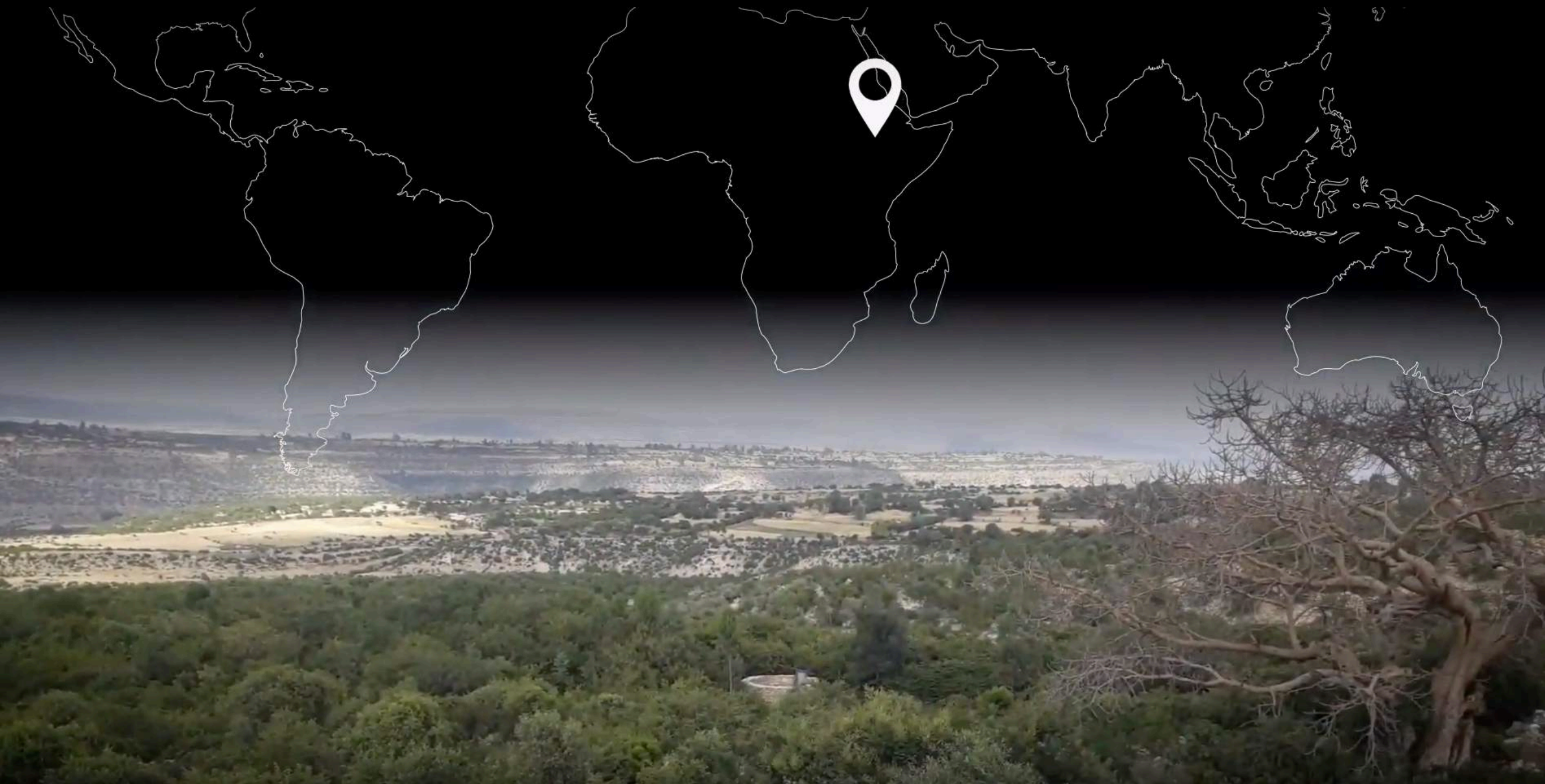






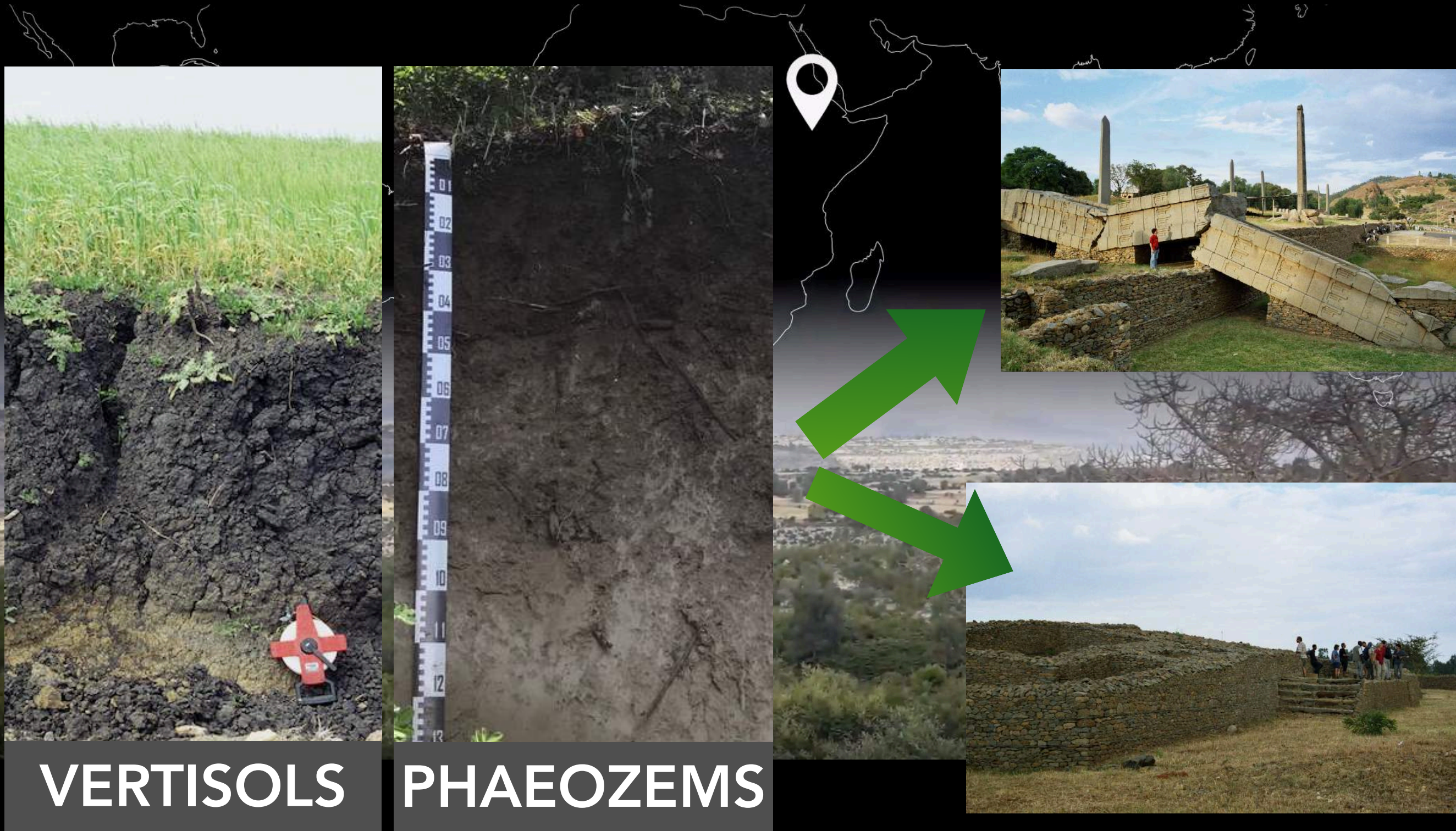
AXUMITISCHE RIJK

ca. 100 - 950 AD



AXUMITISCHE RIJK

ca. 100 - 950 AD



MAYA - TIKAL

ca. 200 - 900 AD



MAYA - TIKAL

ca. 200 - 900 AD



VERTISOLS



PHAEOZEMS



CONCLUSIE 1

Bodem = de grondslag van onze beschaving

David R. Montgomery

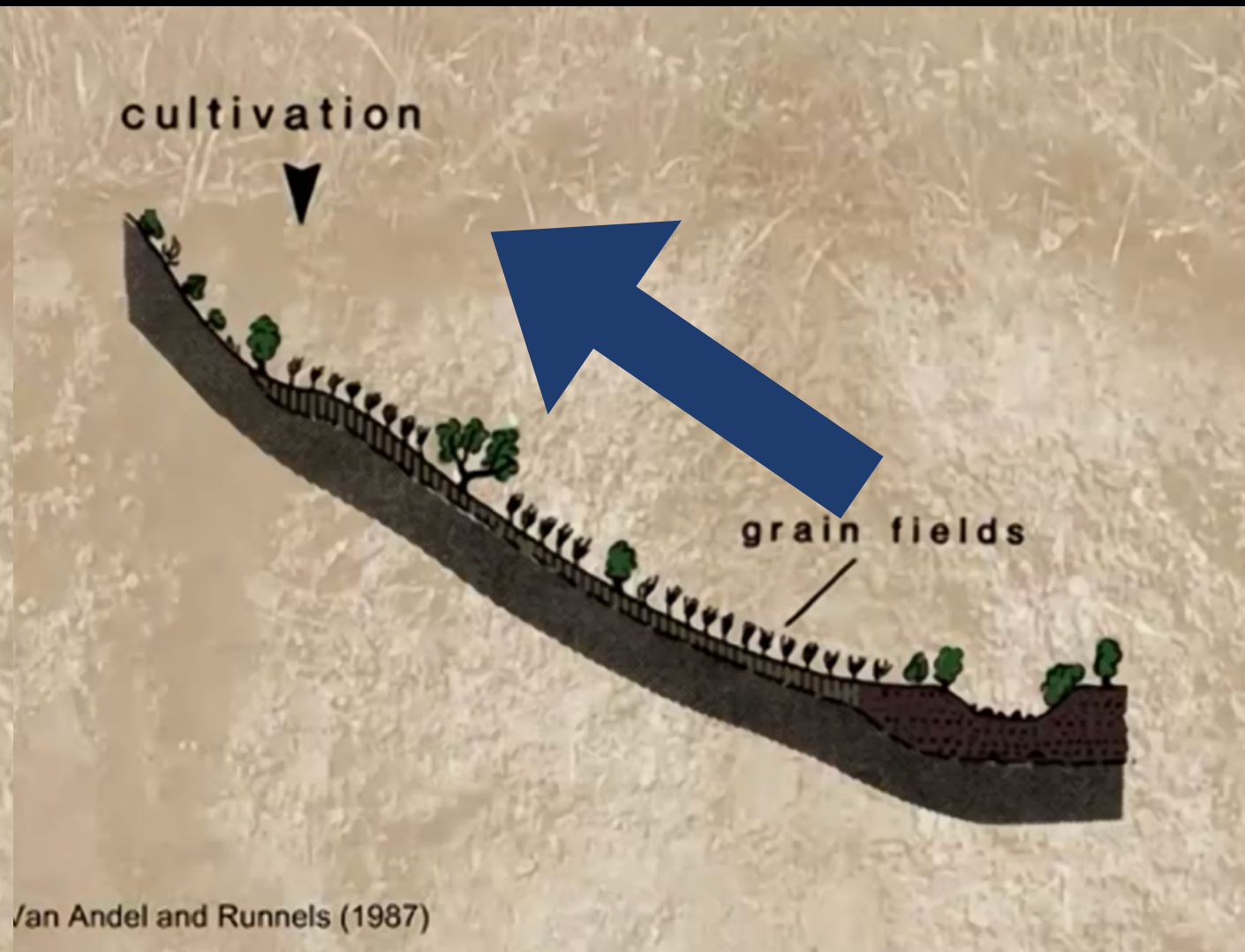
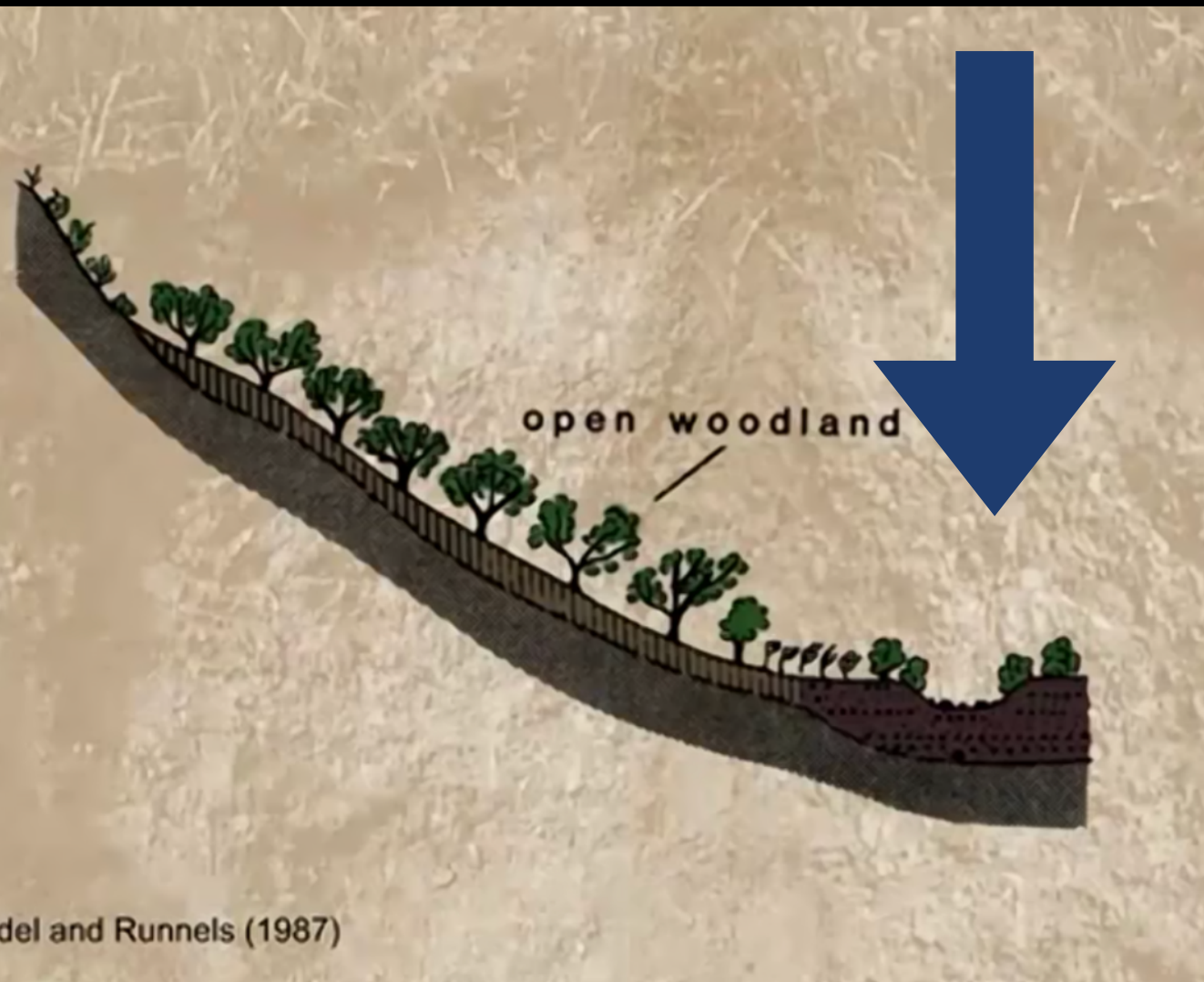
"A story which we cannot afford to ignore. . . . Well and eloquently told."—*Financial Times*

With a New Preface

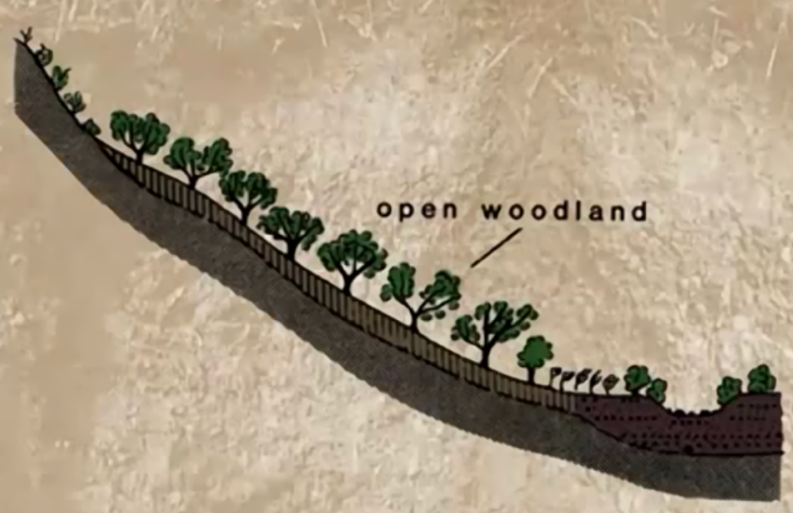
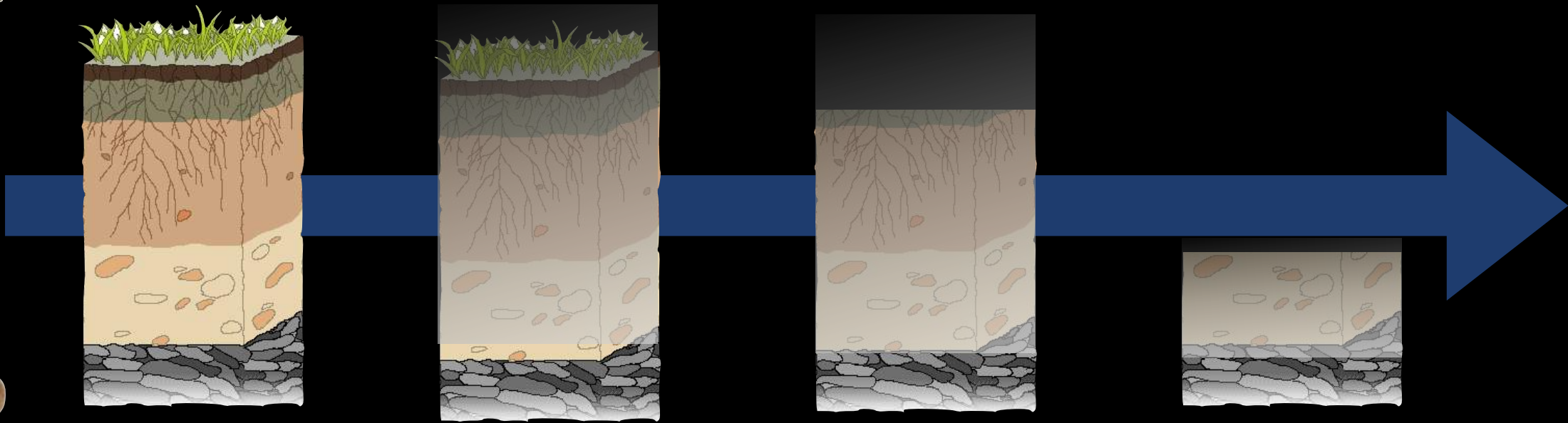
dirt

The Erosion of Civilizations



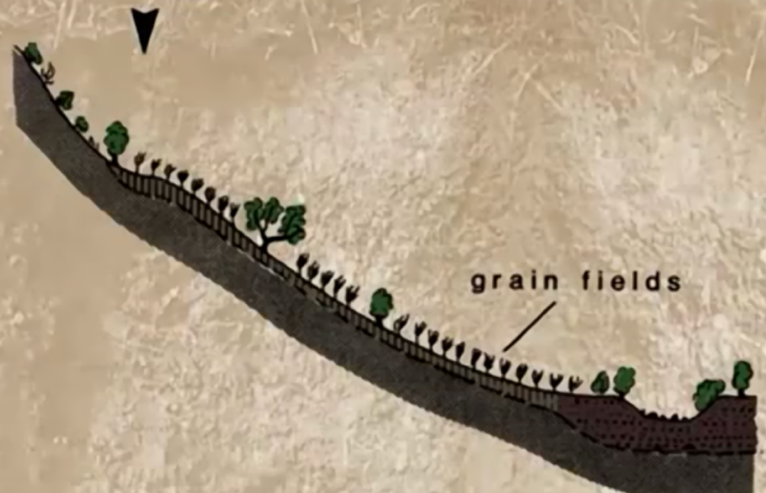


Montgomery, 2007



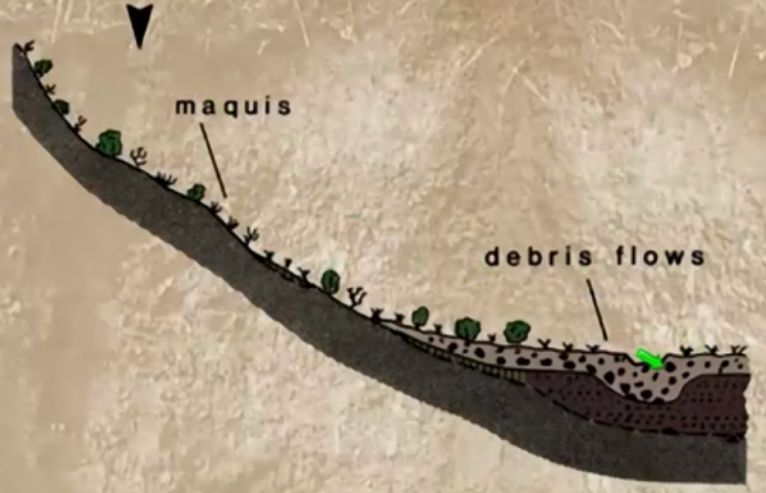
Van Andel and Runnels (1987)

cultivation



an Andel and Runnels (1987)

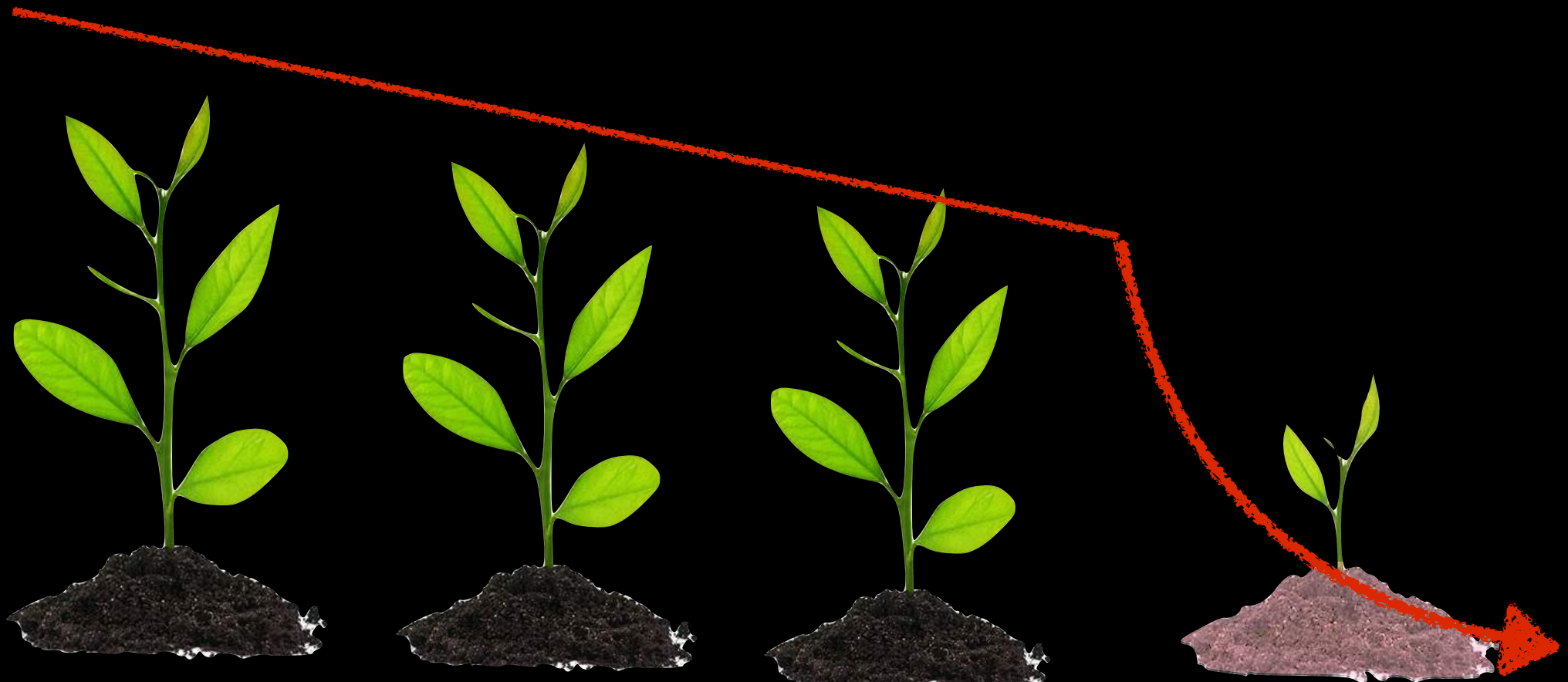
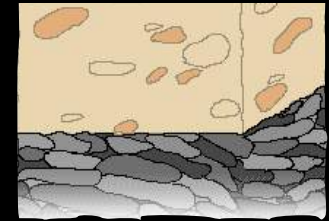
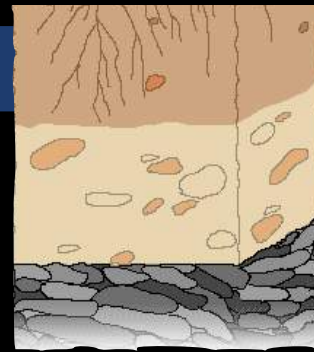
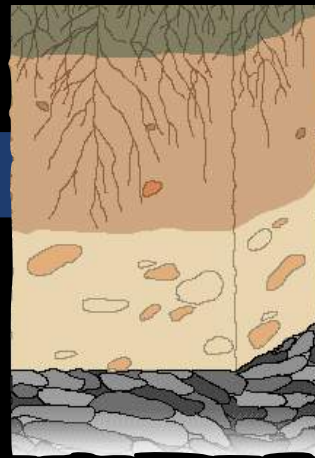
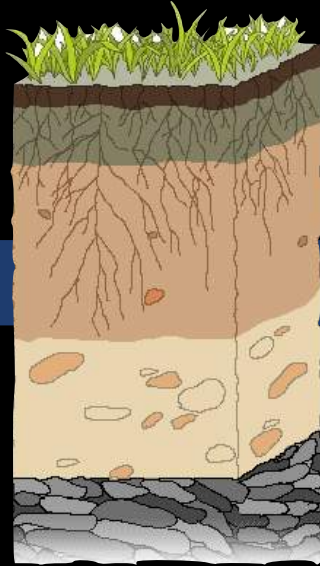
soil erosion



an Andel and Runnels (1987)



500 - 1000 jaar



ROMEINSE RIJK

ca. 27 BC - 476 AD



ROMEINSE RIJK

ca. 27 BC - 476 AD



LUVISOLS

ROMEINSE RIJK

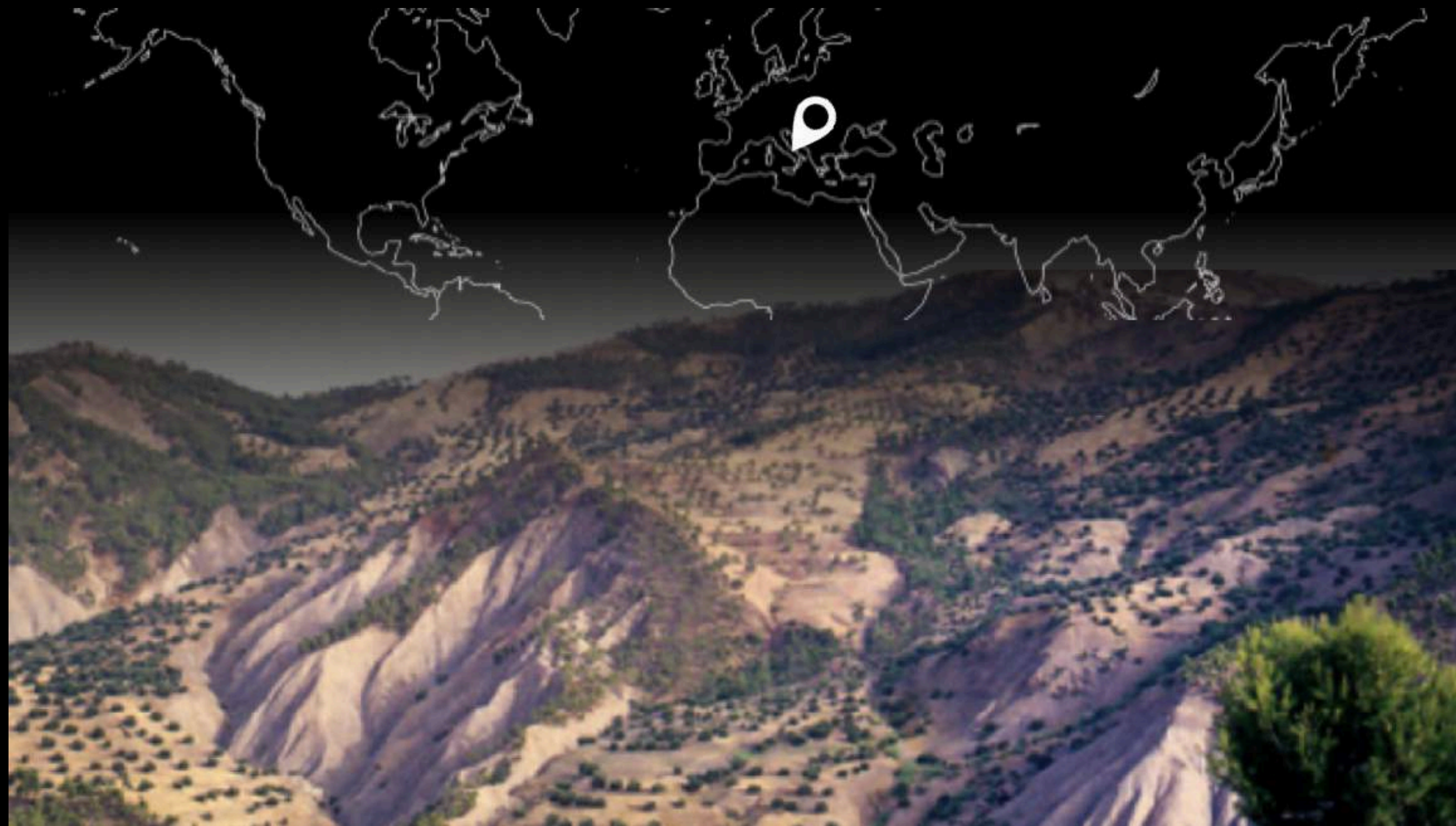
ca. 27 BC - 476 AD

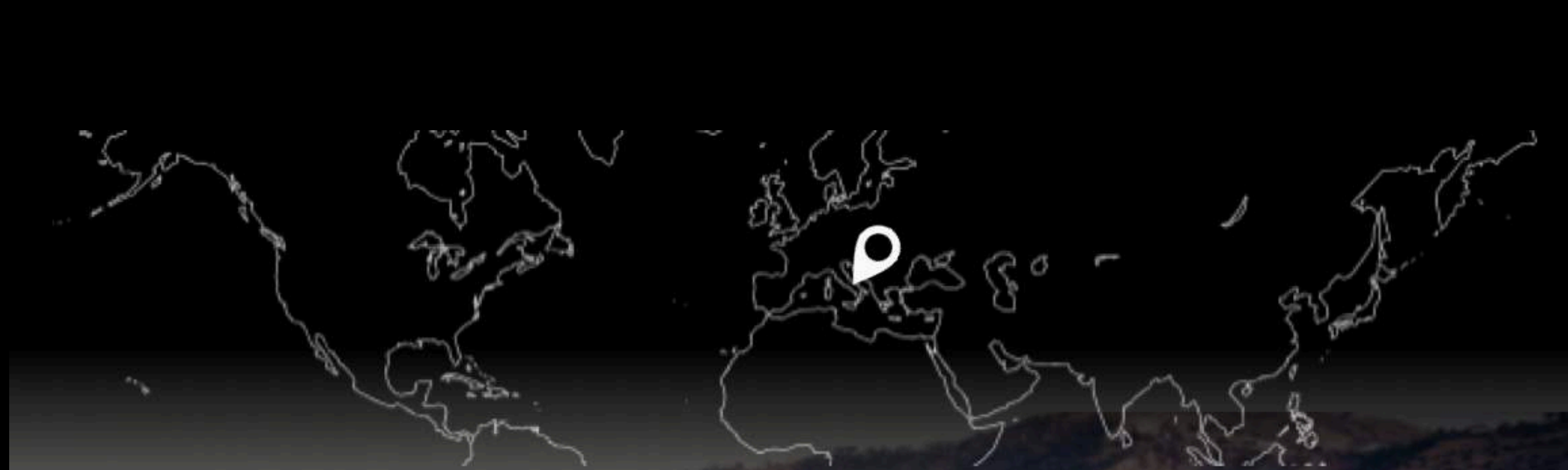


Ravijnerosie

ROMEINSE RIJK

ca. 27 BC - 476 AD





Plato

427-347 B.C.

The rich, soft soil has all run away leaving the land nothing but skin and bone. But in those days the damage had not taken place, the hills had high crests, the rocky plain of Phelleus was covered with rich soil, and the mountains were covered by thick woods, of which there are some traces today.



PROBLEEM

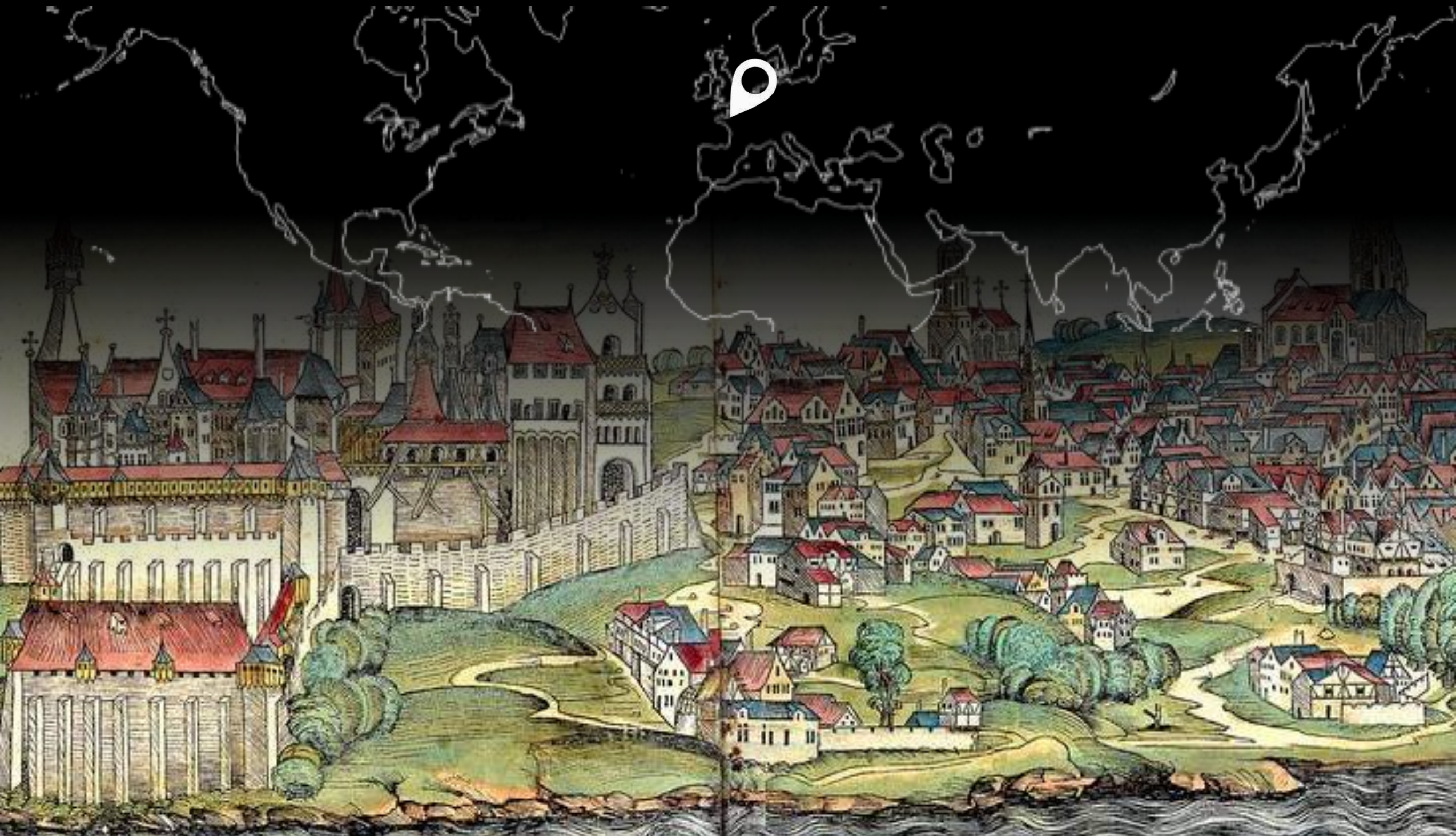


LANDDEGRADATIE

RAMP

EUROPA

waaninnige 14de eeuw



20-50 MILJOEN DODEN

PROBLEEM



LANDDEGRADATIE

RAMP

GREAT PLAINS

1930's



GREAT PLAINS

1930's

MOLLISOLS



**CHERNOZEMS
KASTANOZEMS
PHAEOZEMS**



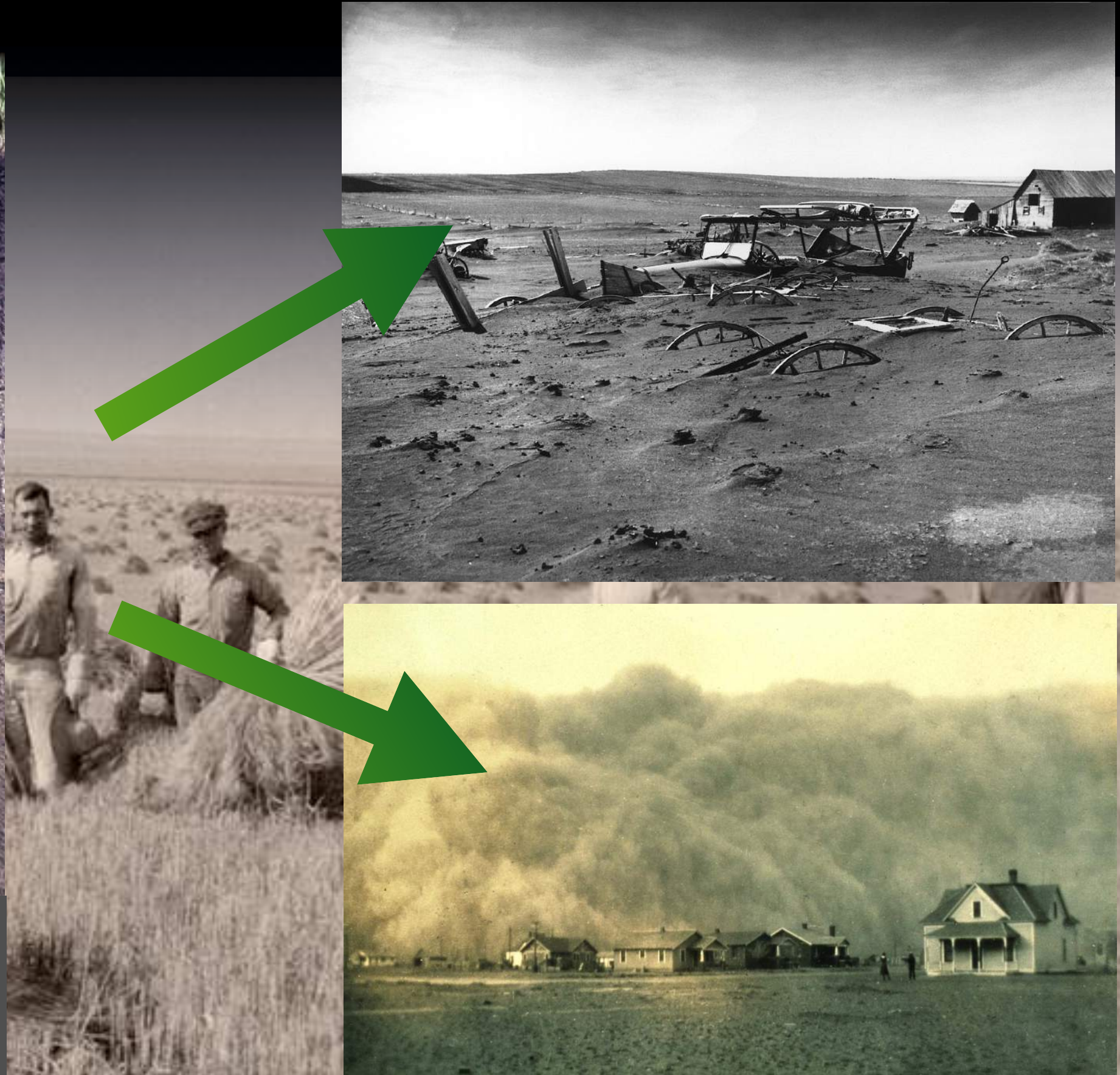
GREAT PLAINS

1930's

MOLLISOLS



CHERNOZEMS
KASTANOZEMS
PHAEOZEMS



3.5 MILJOEN MENSEN MOETEN DE STREEK VERLATEN

PROBLEEM



LANDDEGRADATIE

RAMP

CONCLUSIE 2

**Beschavingen worden niet omver geworpen,
ze worden ondergraven**

EN VANDAAG?



Food and Agriculture Organization
of the United Nations

Status of the World's Soil Resources

1/3 van de bruikbare bodem verloren

**De kwaliteit van de rest is bijna overal
matig, slecht of heel slecht**



itps
INTERGOVERNMENTAL
TECHNICAL PANEL ON SOILS



2015
International
Year of Soils

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SUSTAINABILITY

Only 60 Years of Farming Left If Soil Degradation Continues

Generating three centimeters of top soil takes 1,000 years, and if current rates of degradation continue all of the world's top soil could be gone within 60 years, a senior UN official said

COLLAPSE

HOW SOCIETIES CHOOSE
TO FAIL OR SUCCEED

JARED DIAMOND

Author of GUNS, GERMS, and STEEL

Winner of the PULITZER PRIZE



COLLAPSE

HOW SOCIETIES CHOOSE
TO FAIL OR SUCCEED

JARED DIAMOND

Author of GUNS, GERMS, and STEEL

Winner of the PULITZER PRIZE



ENKELE VOORBEELDEN UIT ONZE PROJECTEN

DE KEMPEN

ca. 3000 BC tot nu

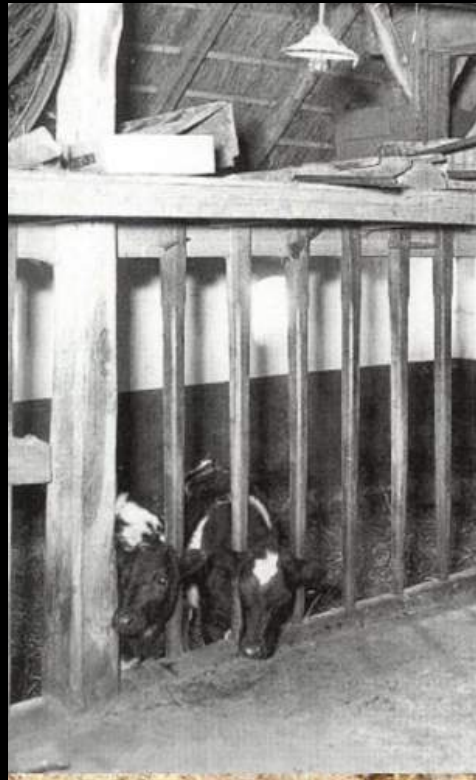




PODZOLS

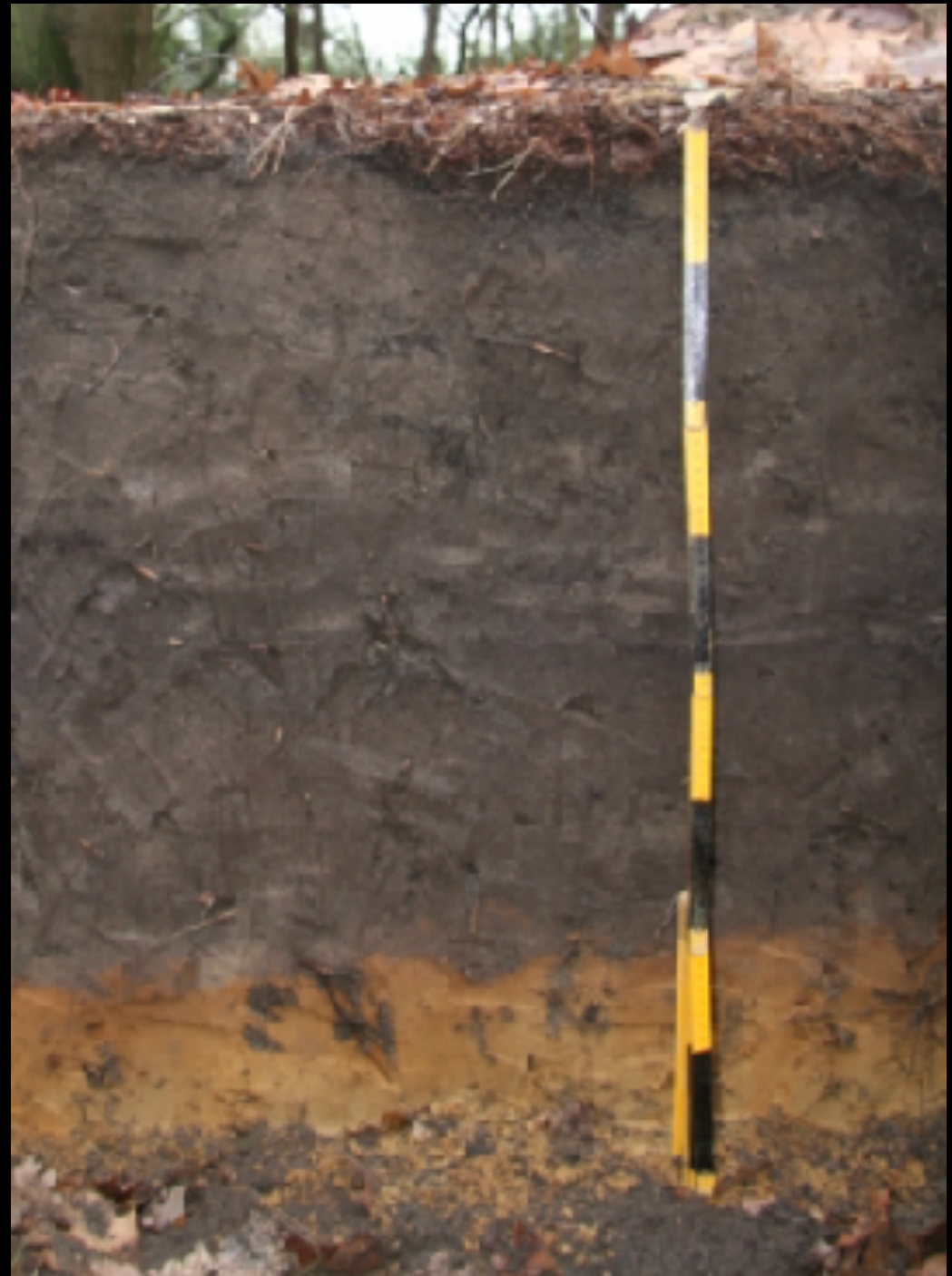
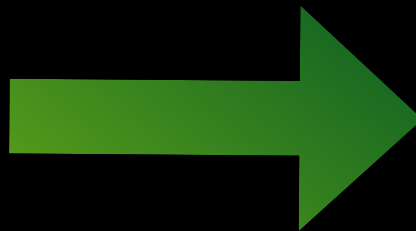


vanaf 3000 BC: DE EERSTE GROTE LANDBOUWREVOLUTIE





PODZOLS



ANTROSOLS

ZAND OF NIET, DE KEMPEN BLEKEN
UITZONDERLIJK CRISISBESTENDIG!

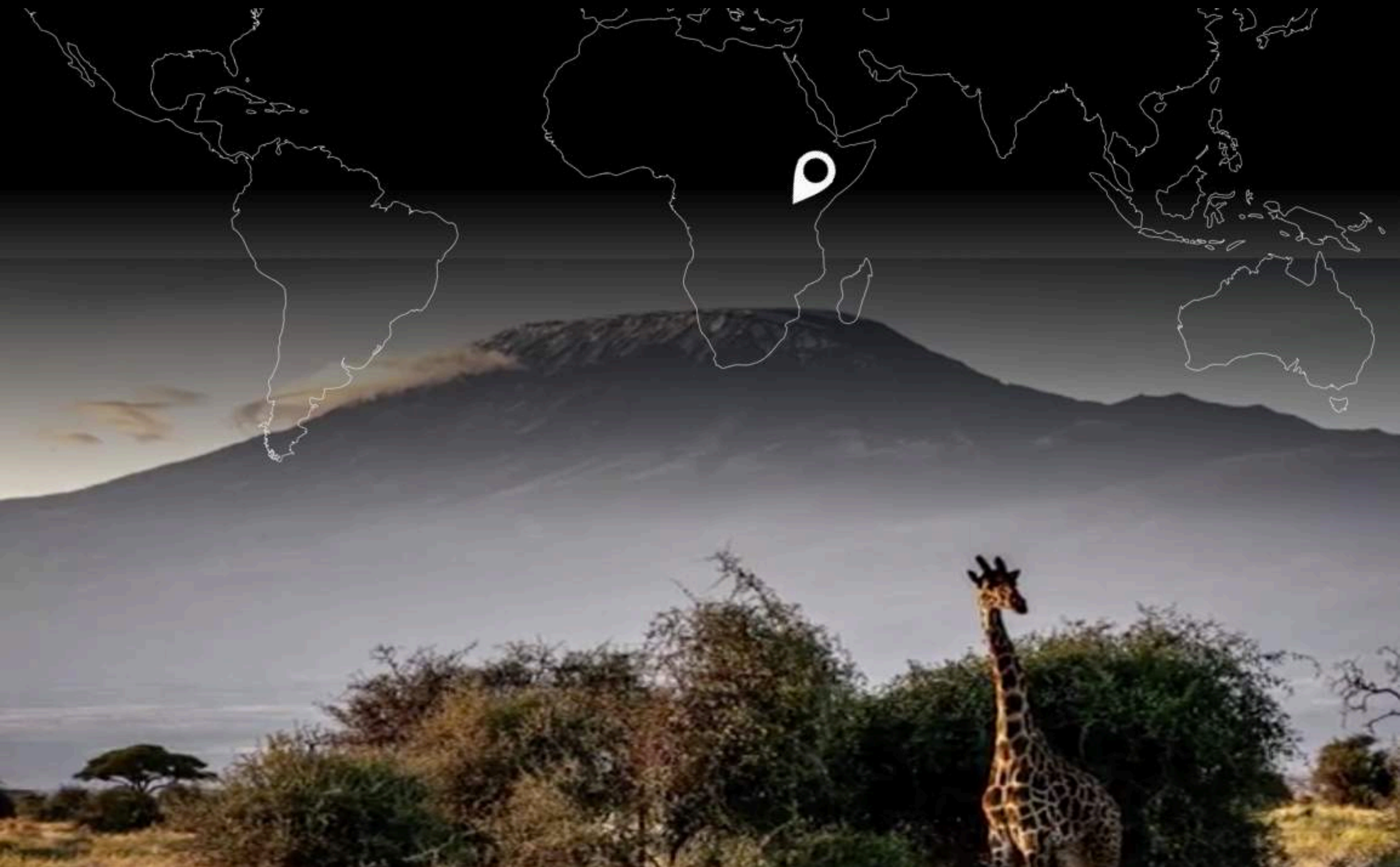
PROBLEEM



RAMP

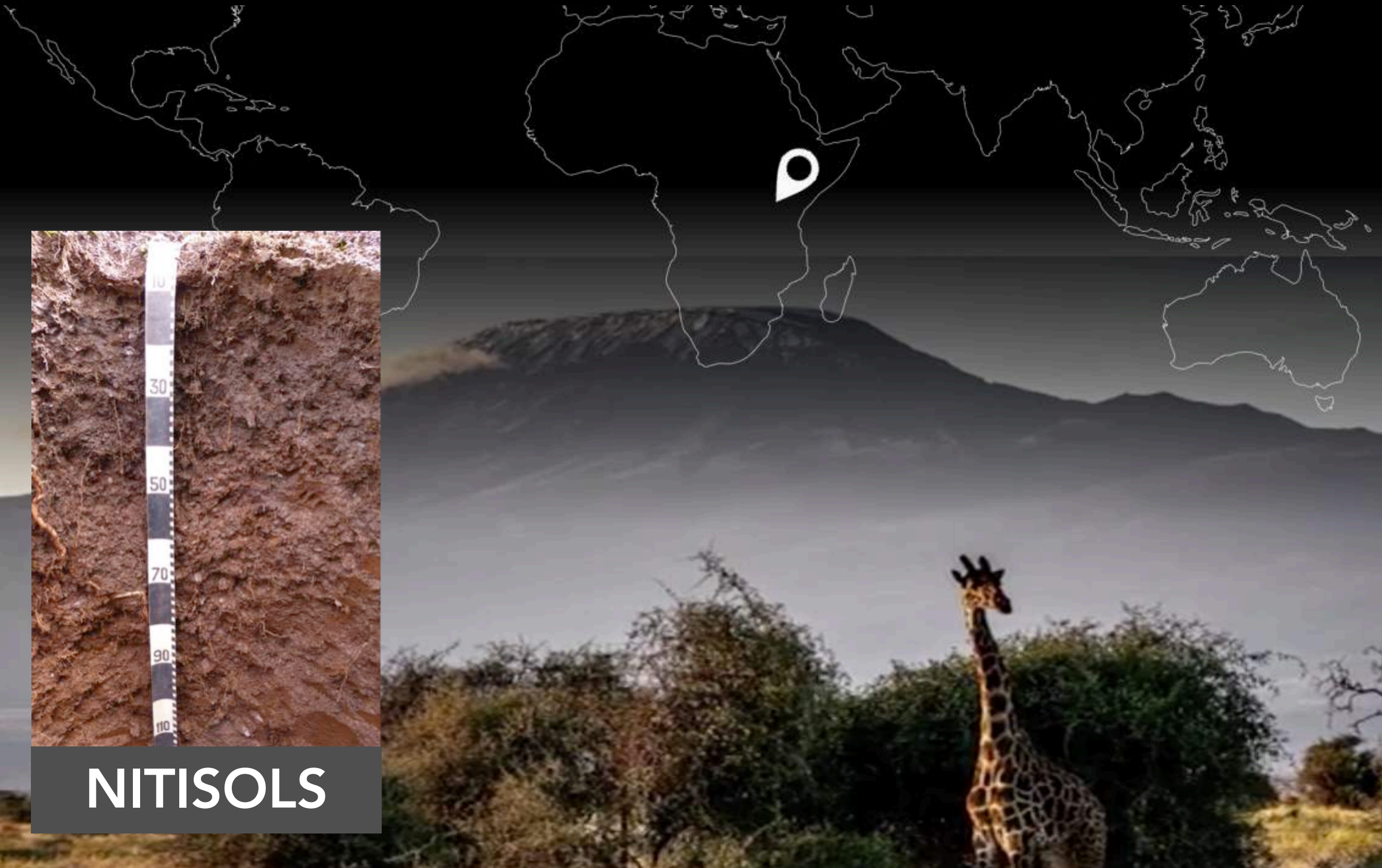
Mt. KILIMANJARO

ca.1900 tot nu



Mt. KILIMANJARO

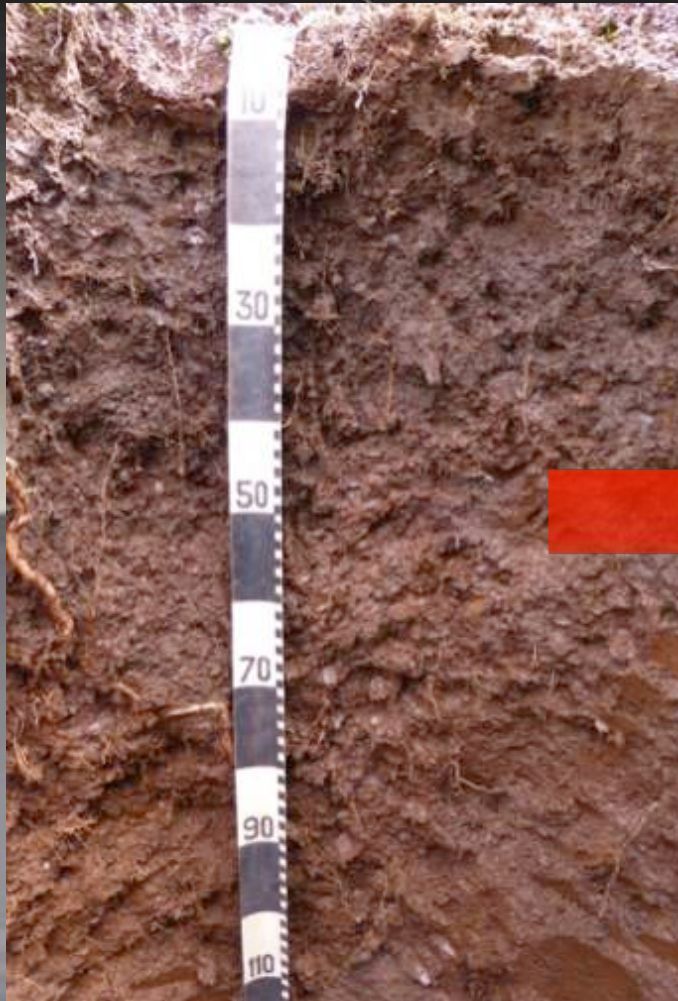
ca. 1900 tot nu



NITISOLS

Mt. KILIMANJARO

ca.1900 tot nu



NITISOLS

Plantage



'Kihamba'



VRIJWEL GEEN LANDSLIDES MEER OP MT
KILIMANJARO!

PROBLEEM

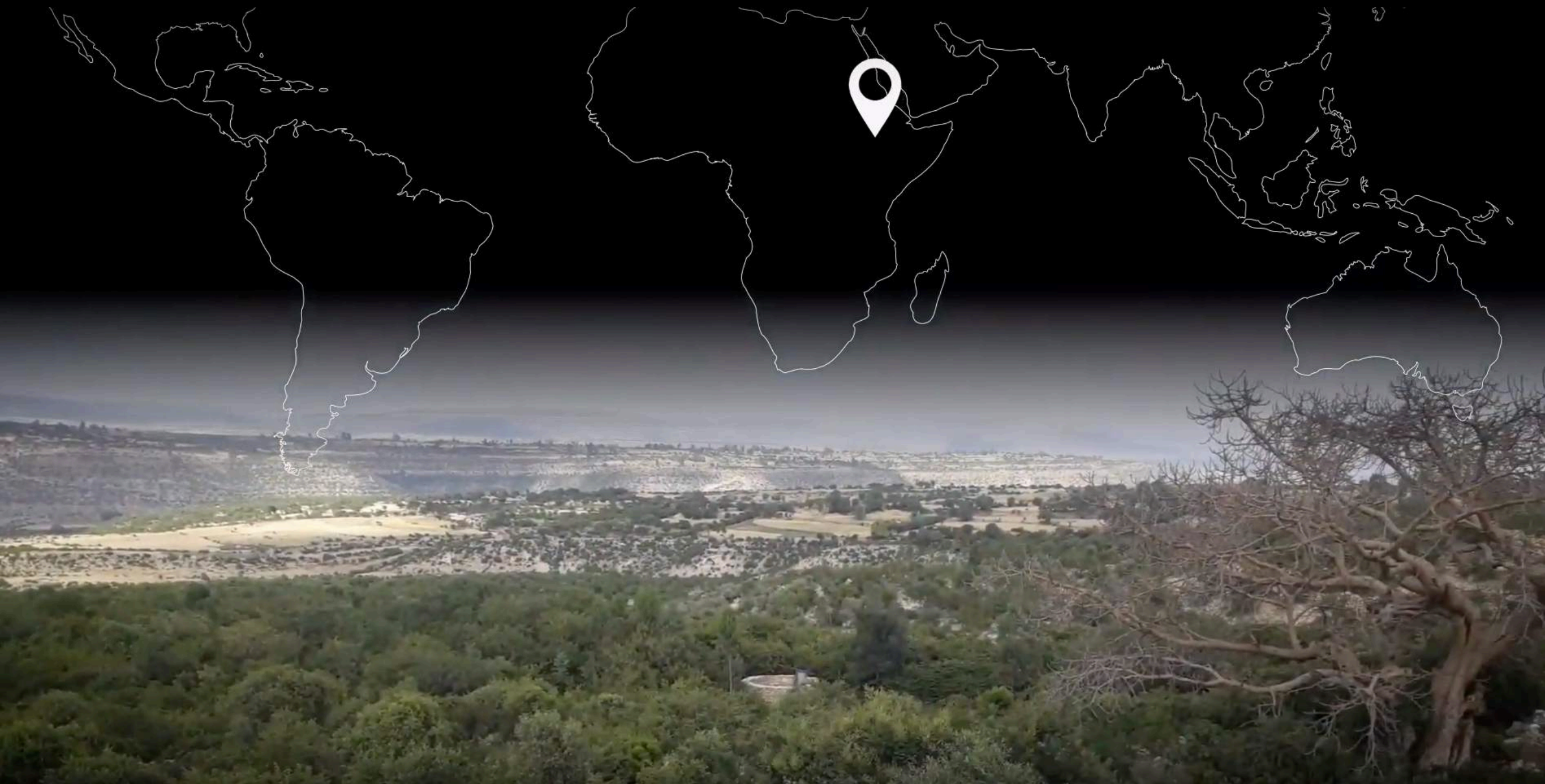


LANDDEGRADATIE

RAMP

DE ETHIOPISCHE HOOGLANDEN

1984 tot nu



“The closest thing to hell on earth”

M. Burck BBC



"The Green Miracle of Northern Ethiopia"
"The Ethiopian Renaissance"



2015: ERGSTE DROOGTE IN 30 JAAR

PROBLEEM



RAMP

Tot een leider beslist om op een buurvolk te schieten...

CONCLUSIE 3

**We hebben de wetenschap en de technologie
om bodems en hun samenlevingen weer
gezond te maken,
die zijn niet eens zo moeilijk en ook niet duur**

**Dan zijn we dat toch
overal aan het doen !?**

CONCLUSIE 3BIS:

Dit is een verhaal van

VERRAAD

Et tu, Brute?

**Bouwen jullie mee aan gezonde samenlevingen
met gezonde bodems?**

**(en gaan jullie het lelijke bruine kloddertje
voortaan vervangen door een prachtig
bodemprofiel?)**

HARTELIJK DANK VOOR UW AANDACHT!



karen.vancampenhout@kuleuven.be en [@k_oron](https://twitter.com/k_oron) op Twitter