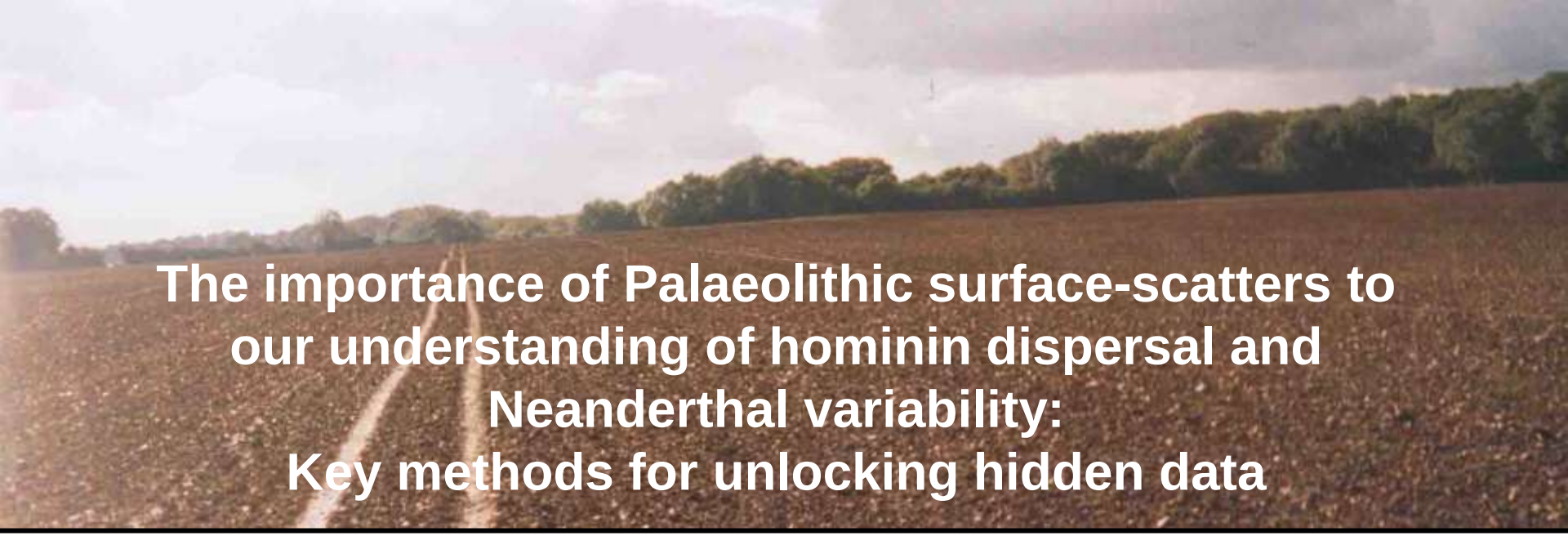

The importance of Palaeolithic surface-scatters to our understanding of hominin dispersal and Neanderthal variability: Key methods for unlocking hidden data

Dr Julie Scott-Jackson

Institute of Archaeology, University of Oxford

Director, PADMAC Unit

Julie.scott-jackson@arch.ox.ac.uk

PADMAC

* Unit for the study of Palaeolithic Artefacts and associated Deposits Mapped As Clay-with-flints, UK.
* Palaeolithic Artefacts and associated Deposits in a Middle Eastern (Arabian) Context.

UNIVERSITY OF OXFORD

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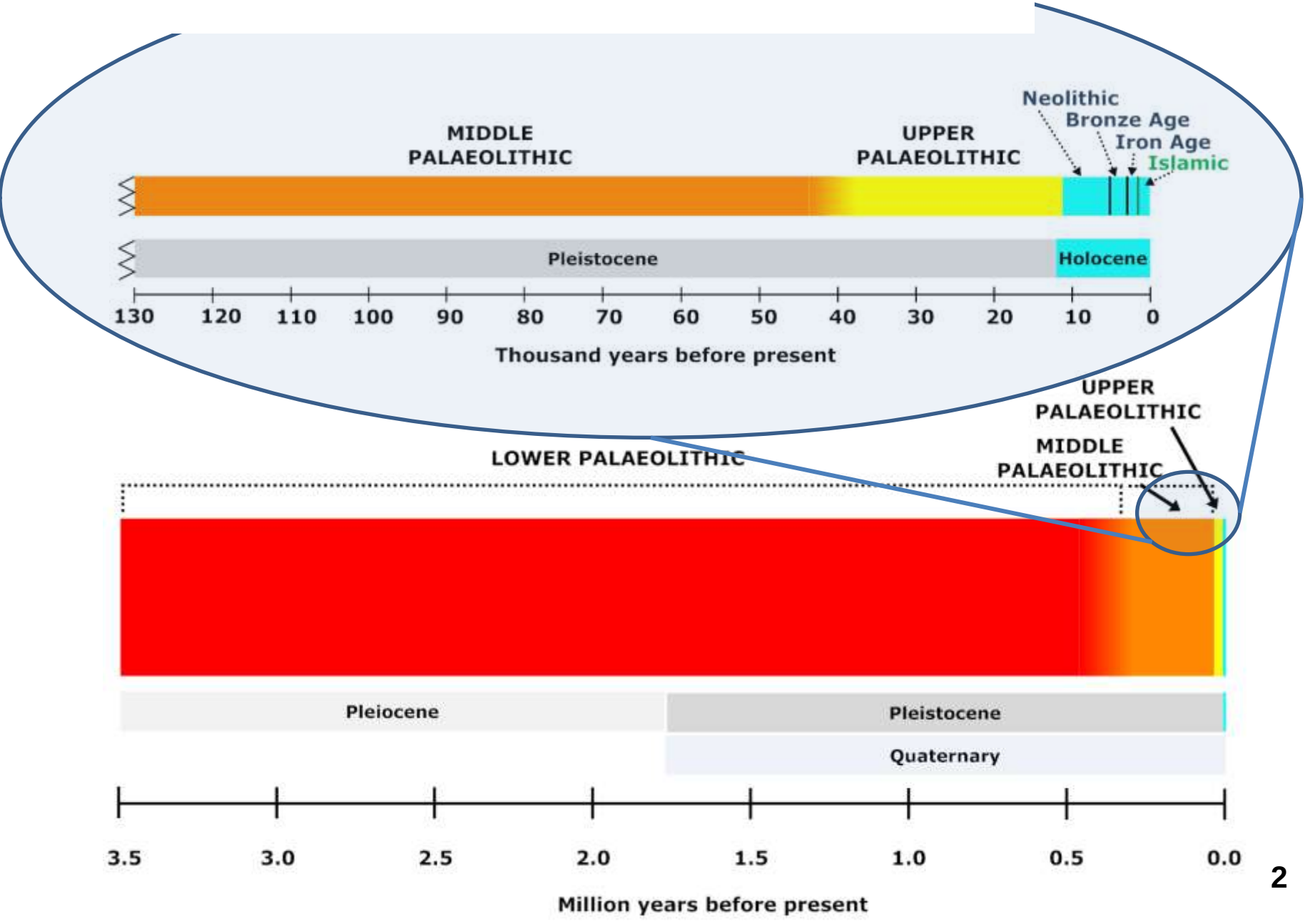
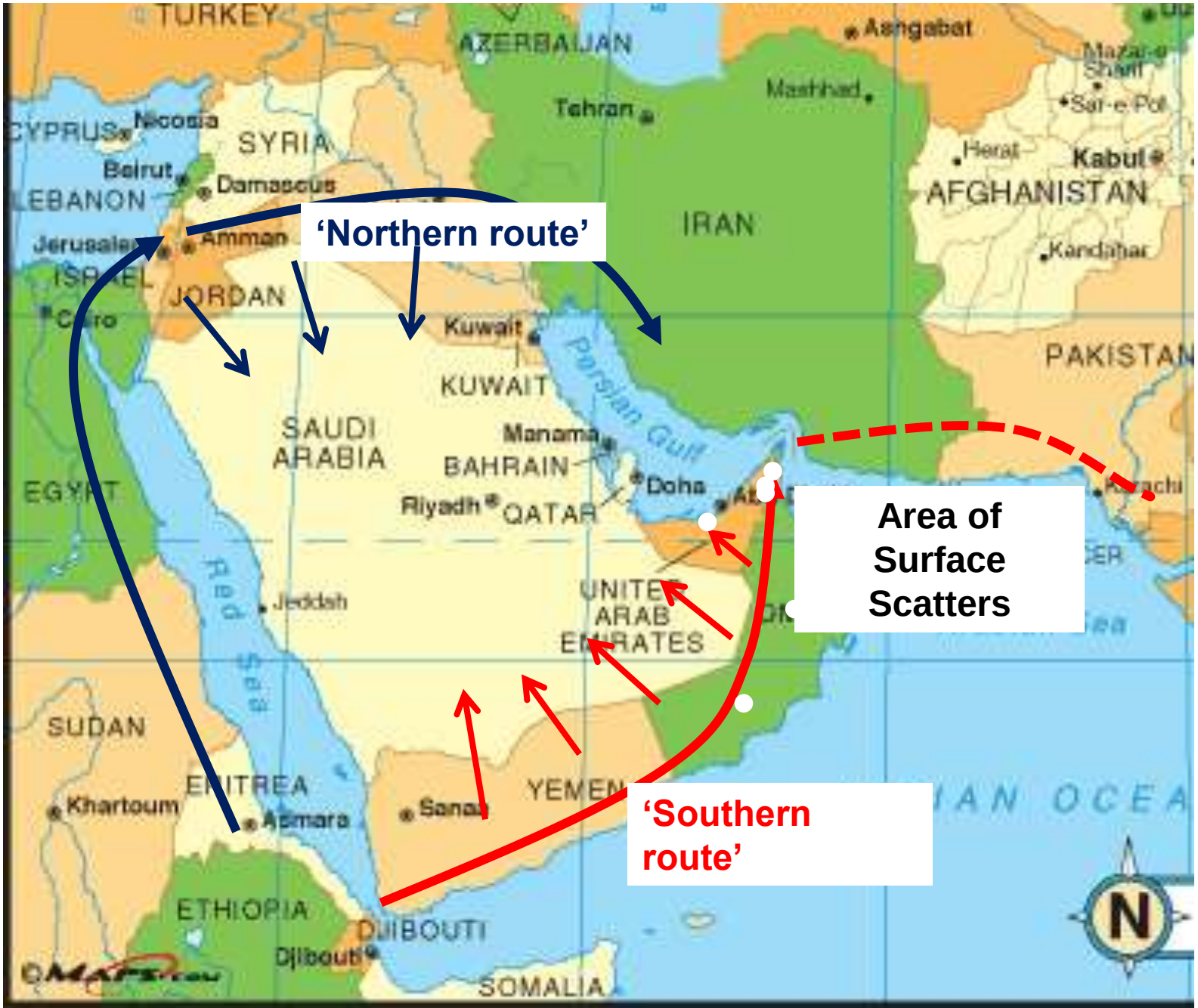
The Palaeolithic Timeline



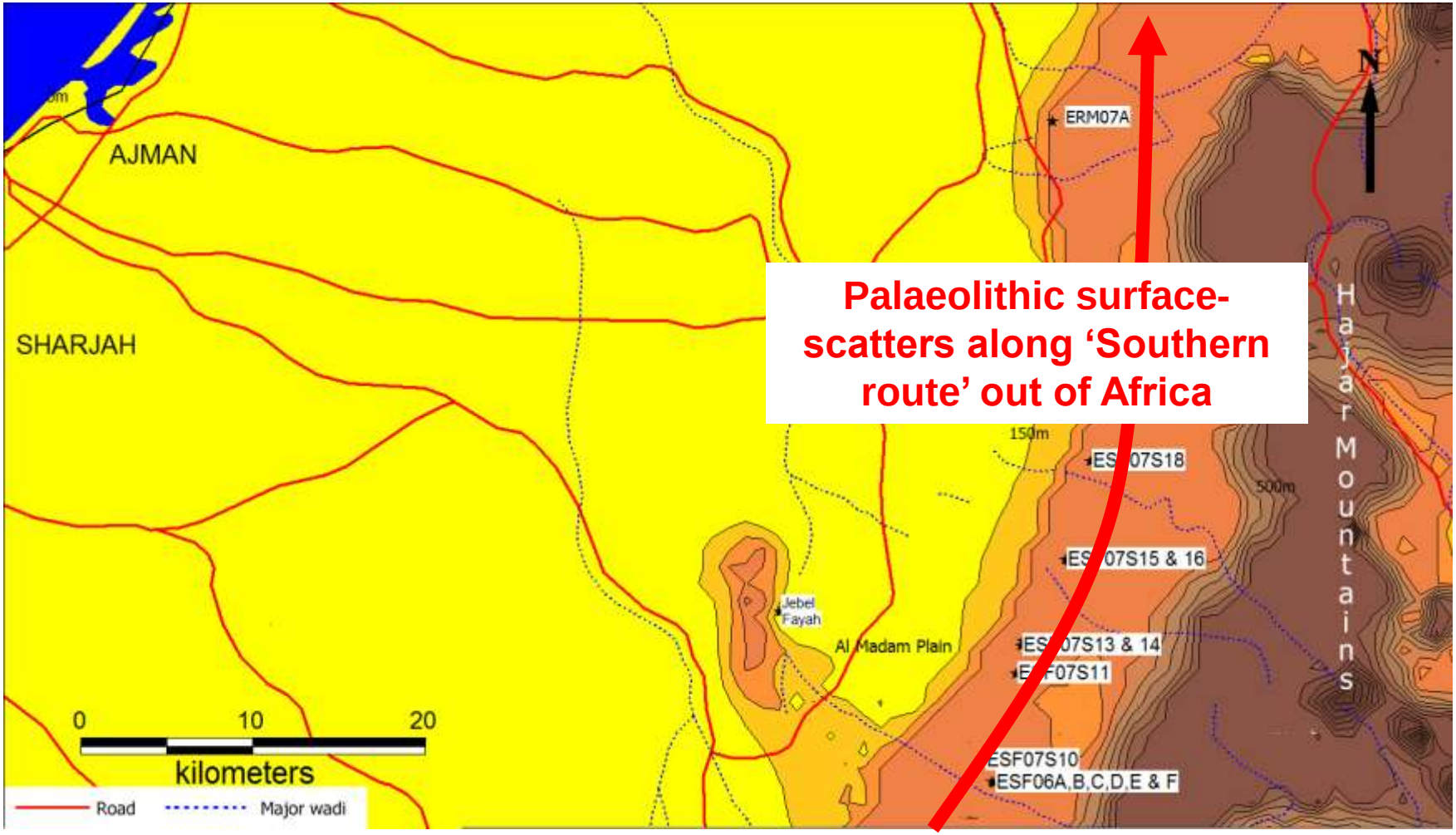
European
Lower Palaeolithic
dated sites

European
Middle Palaeolithic
dated sites

‘Southern Route’ Out of Africa (shown in red)



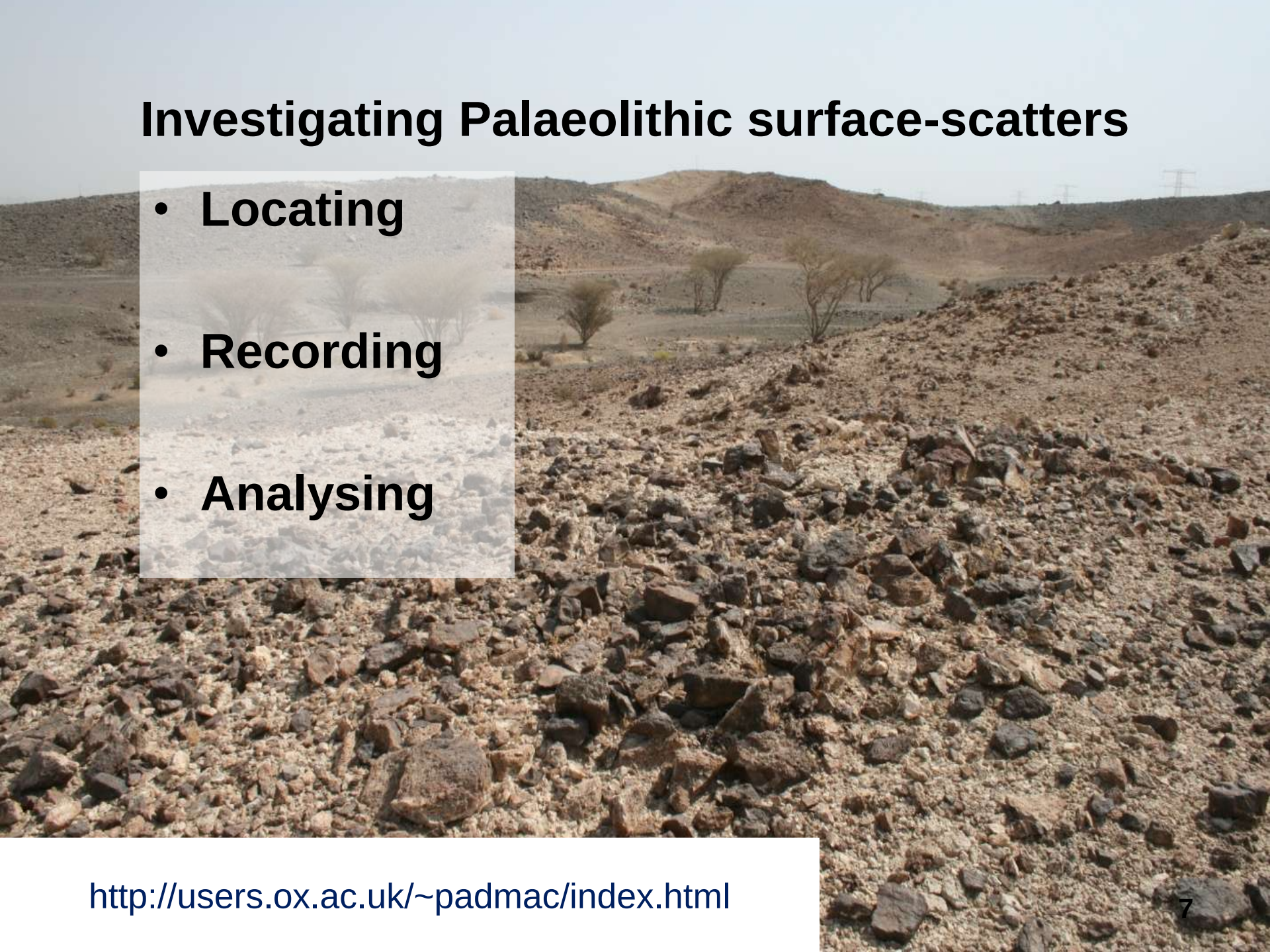
Palaeolithic surface-scatters along ‘Southern Route’ Out of Africa in Sharjah and Ras Al Khaimah Emirates (UAE)



Palaeolithic surface-scatter on hilltop in Clay-with-flints area of Southern England

Investigating Palaeolithic surface-scatters

- **Locating**
- **Recording**
- **Analysing**



http://users.ox.ac.uk/~padmac/index.html

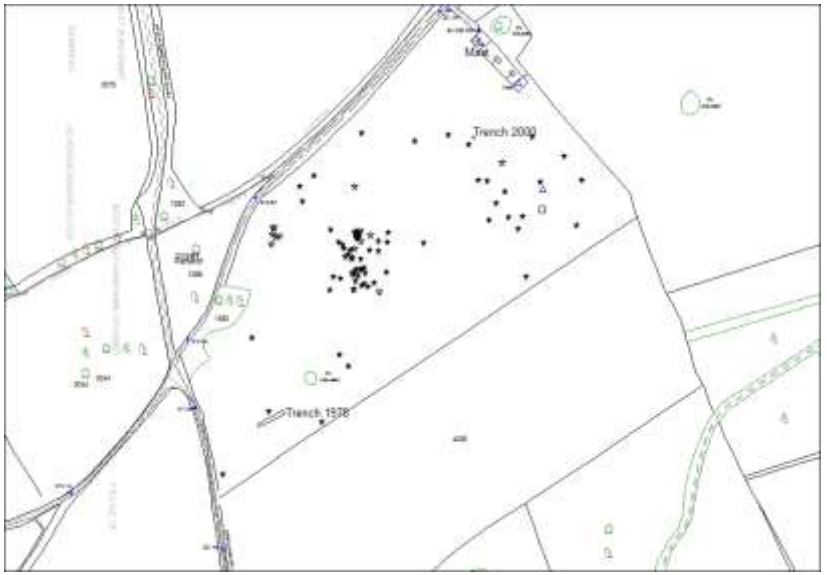
Locating Palaeolithic surface-scatters

- Palaeolithic hominin dispersal
- Behavioural organization
- Habitats
- Habitat preferences
- Resource provision

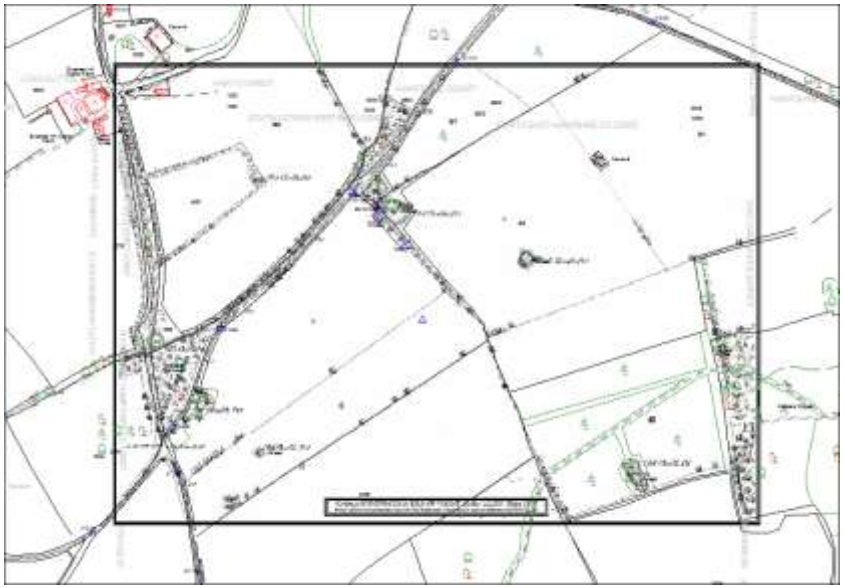
http://users.ox.ac.uk/~padmac/index.html

Project Database for DFY03 Hampshire UK (Mapinfo)

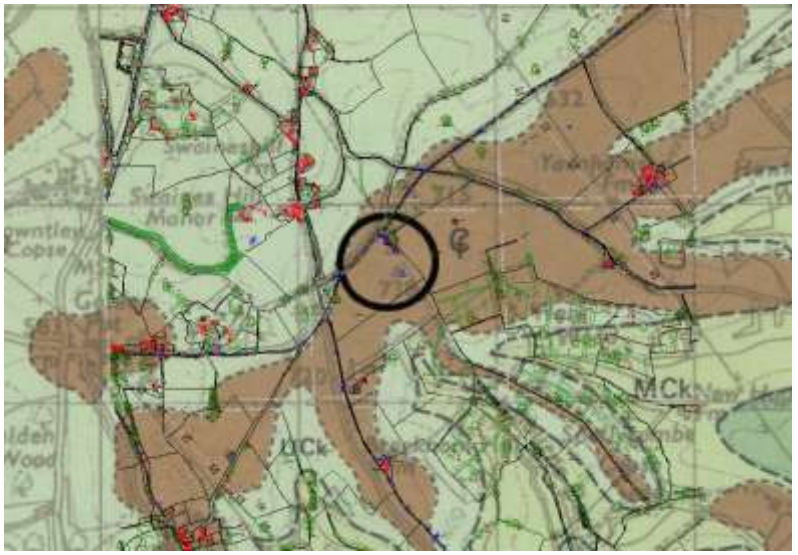
Basic GIS mapping



Previous Investigations & find-spots



Historical mapping (e.g. 1874 hedge-line)

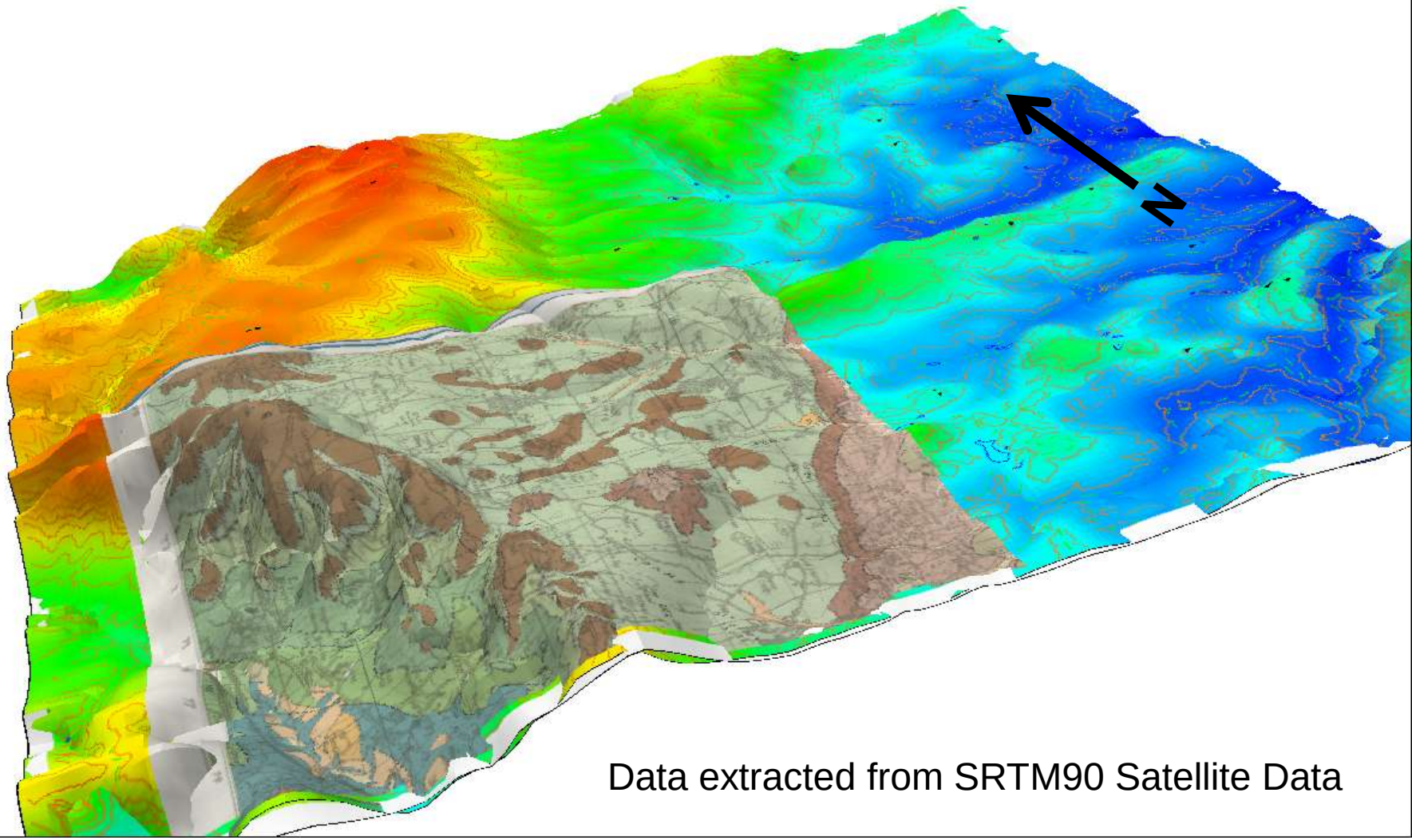


Geology

Google mapping showing DFY03 Palaeolithic surface-scatters (shown as white circles)

Google mapping (3D)

Digital Terrain Modeling for DFY03 Palaeolithic surface-scatters (showing ‘draped’ geology)

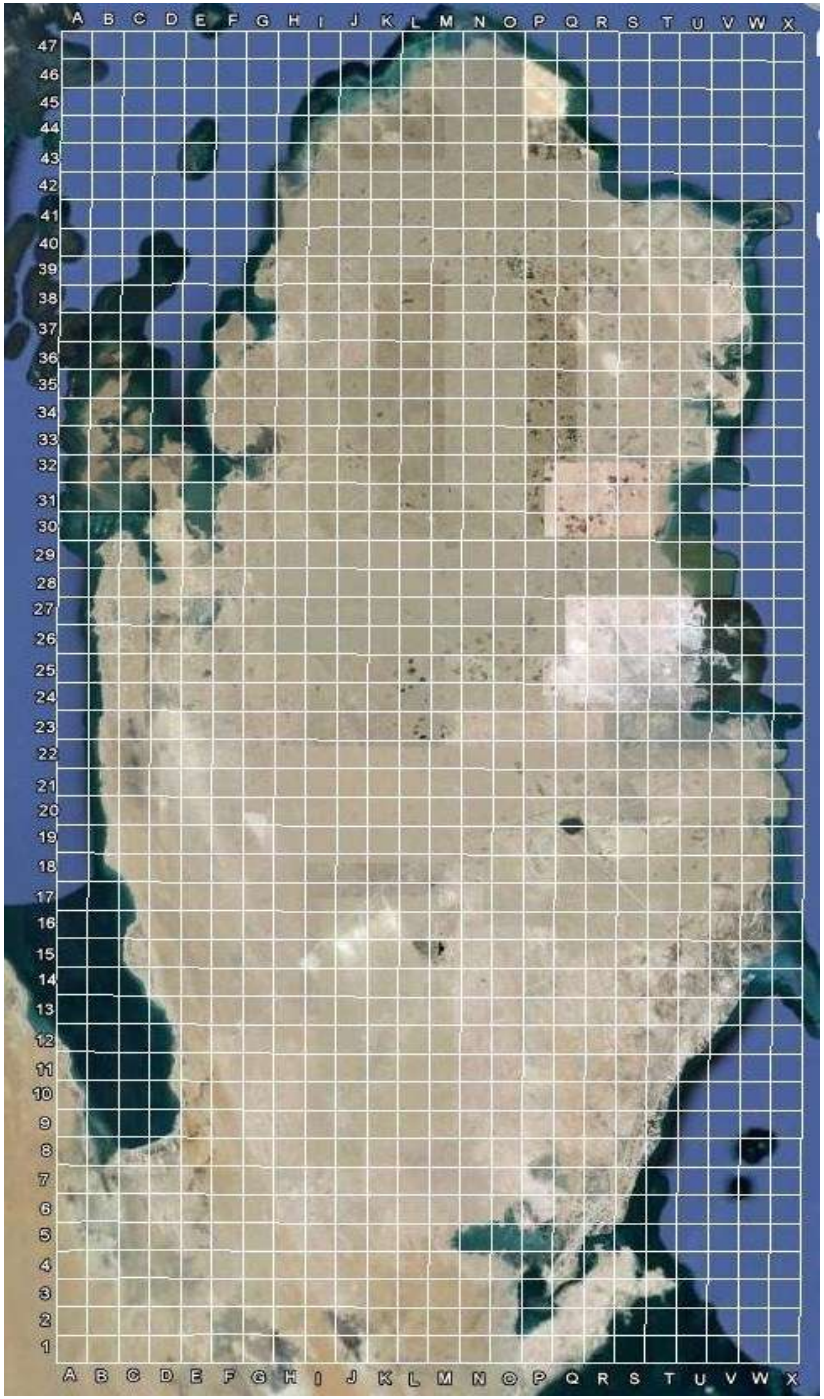


Data extracted from SRTM90 Satellite Data

Aerial Photograph
for DFY03 Palaeolithic surface-scatters
(showing Iron-Age hill-fort ditch)

Field-investigations:
Aims and techniques for recording Palaeolithic surface-scatters.

http://users.ox.ac.uk/~padmac/index.html



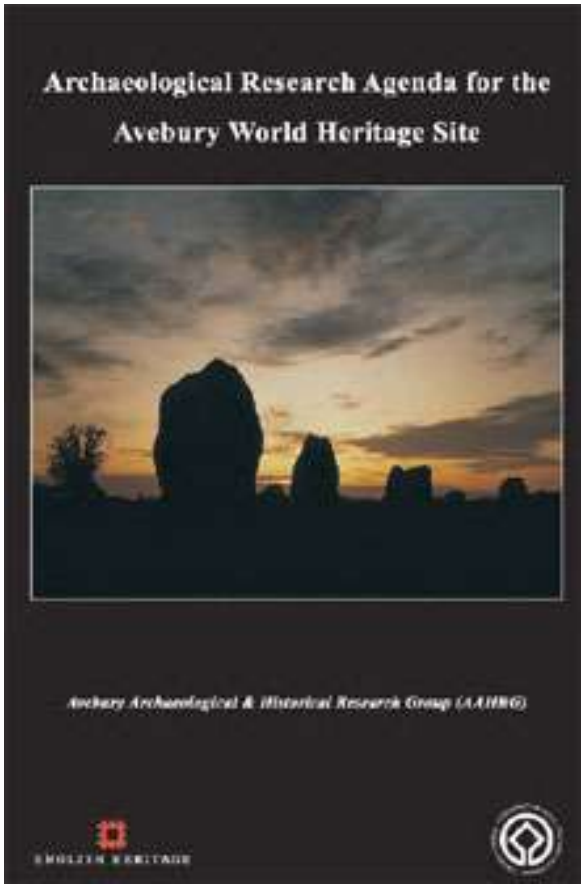
Palaeolithic Survey Grid for Qatar

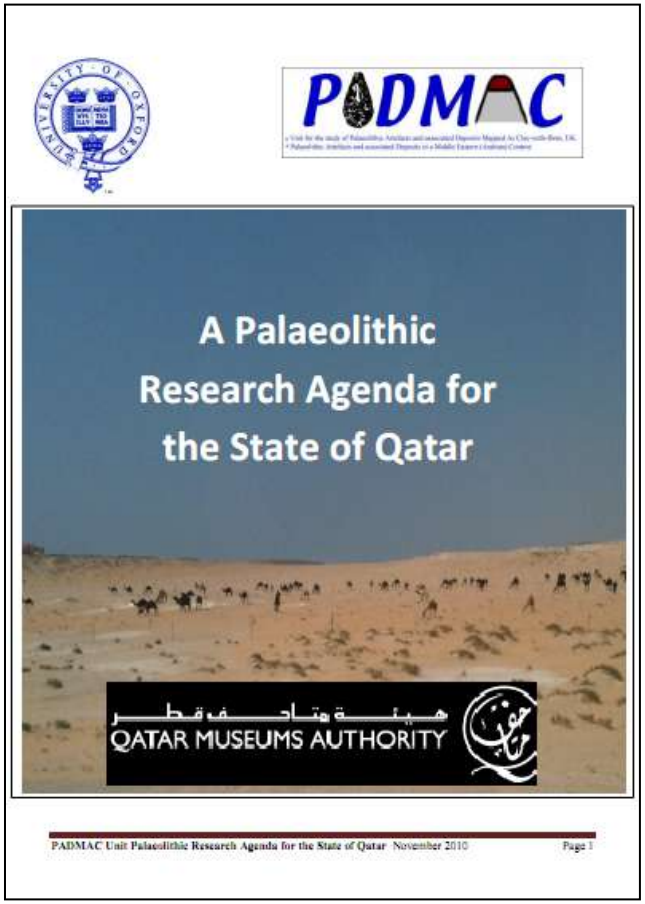
(with unique grid square identifiers)

Allows:

- co-ordination of Palaeolithic field investigations,
- Recording of presence and **absence** of Palaeolithic evidence
- Retention and access to all information generated

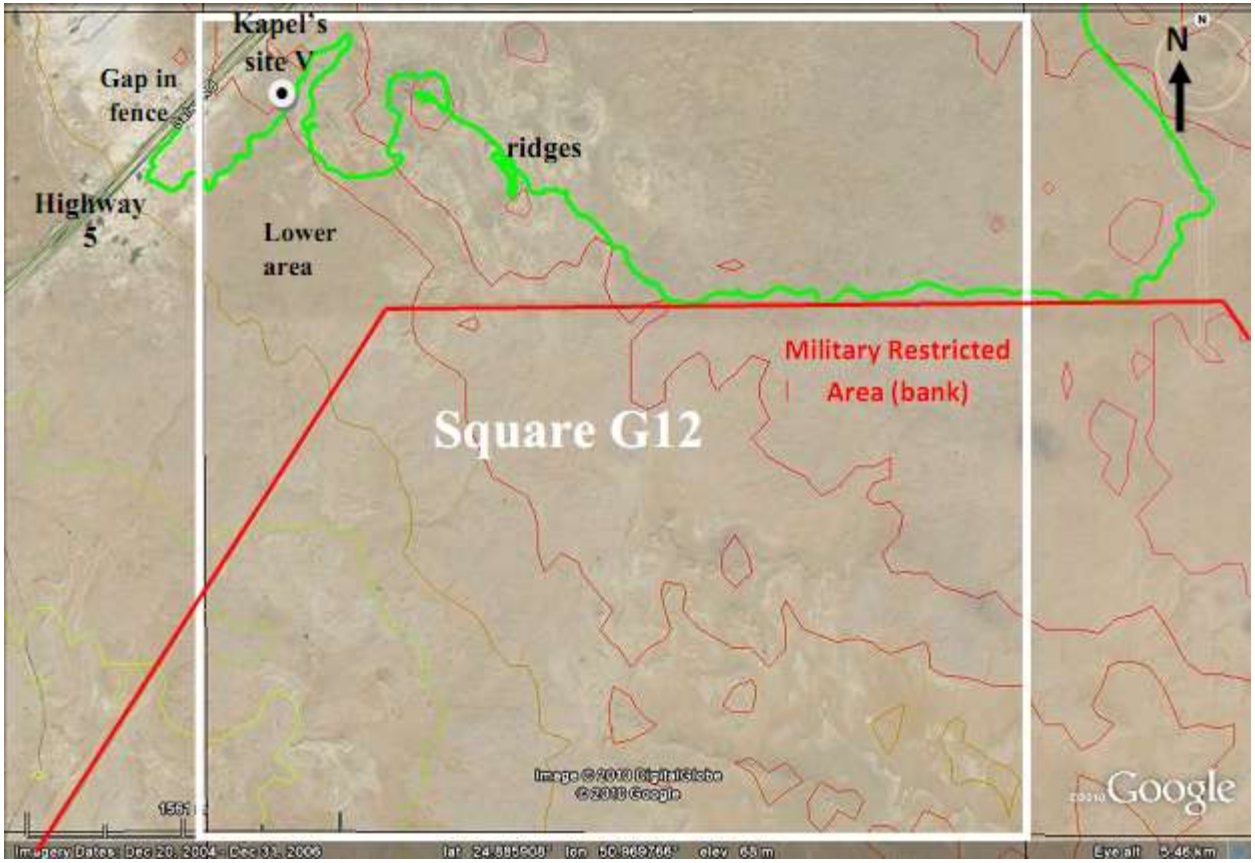
Palaeolithic Research Agendas





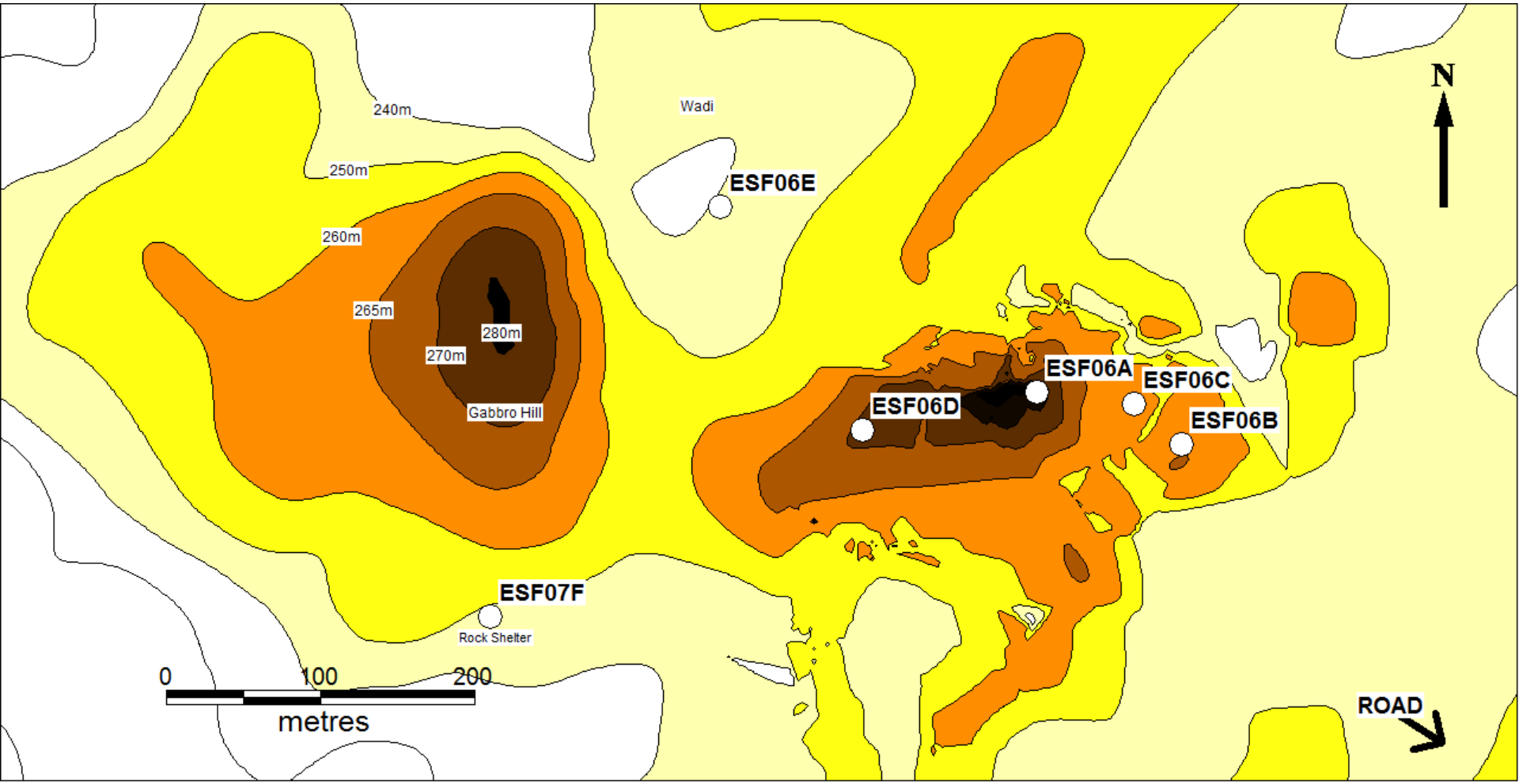
Scott-Jackson, JE, 2001, Avebury World Heritage Site Research Agenda;
Scott-Jackson, JE & Scott-Jackson WB 2010a, Palaeolithic Research Agenda for the State of Qatar

Field Investigations using GPS Tracking Qatar 2010



Google Earth and MotionX tracking and navigation software

Detailed Digital Terrain Model for Palaeolithic surface-scatters ESF06/7 (United Arab Emirates)

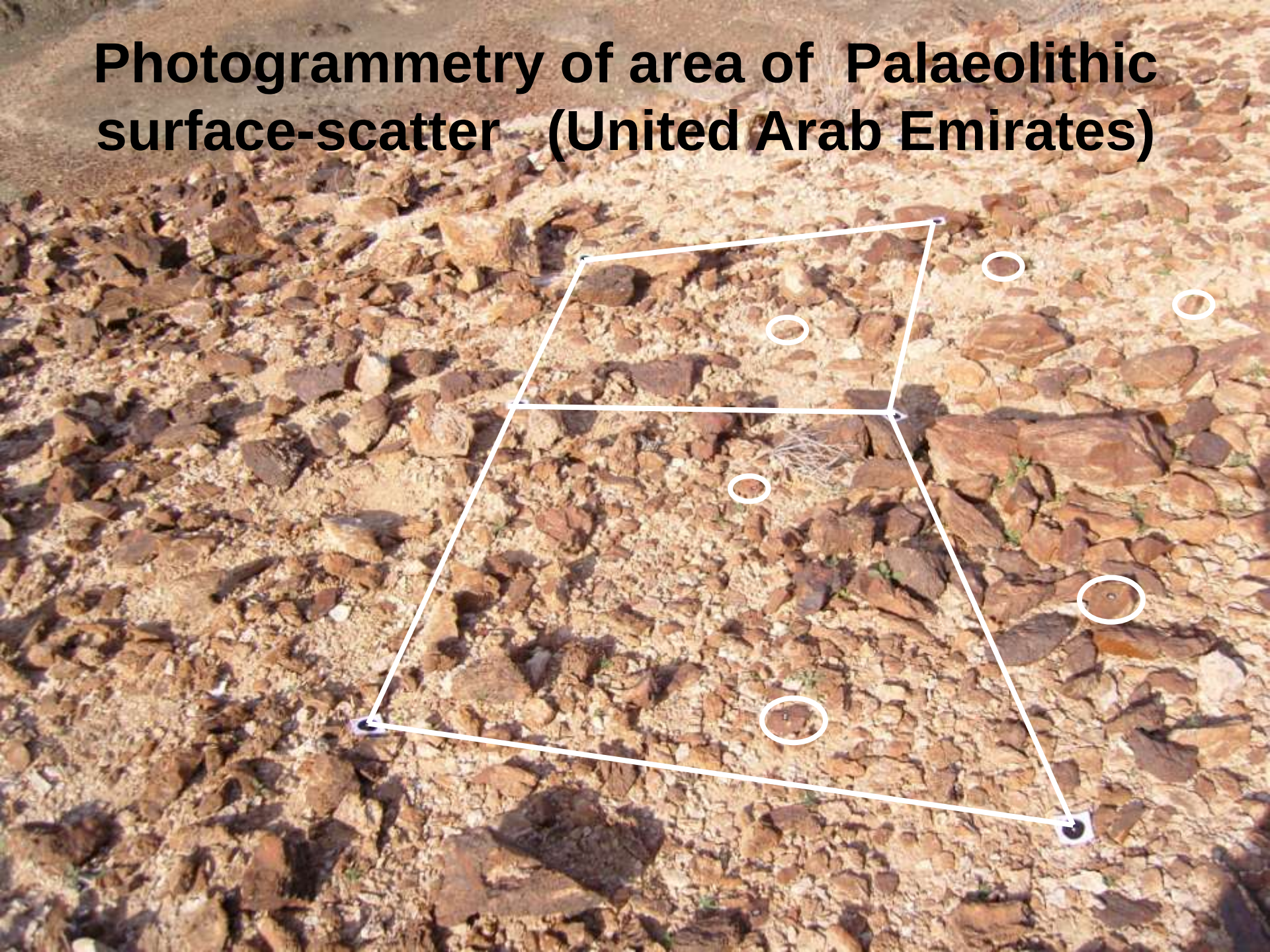


Close Range Aerial Photography using dirigible for Palaeolithic surface-scatter ESF06A (United Arab Emirates)

Aerial photograph (from tethered dirigible)

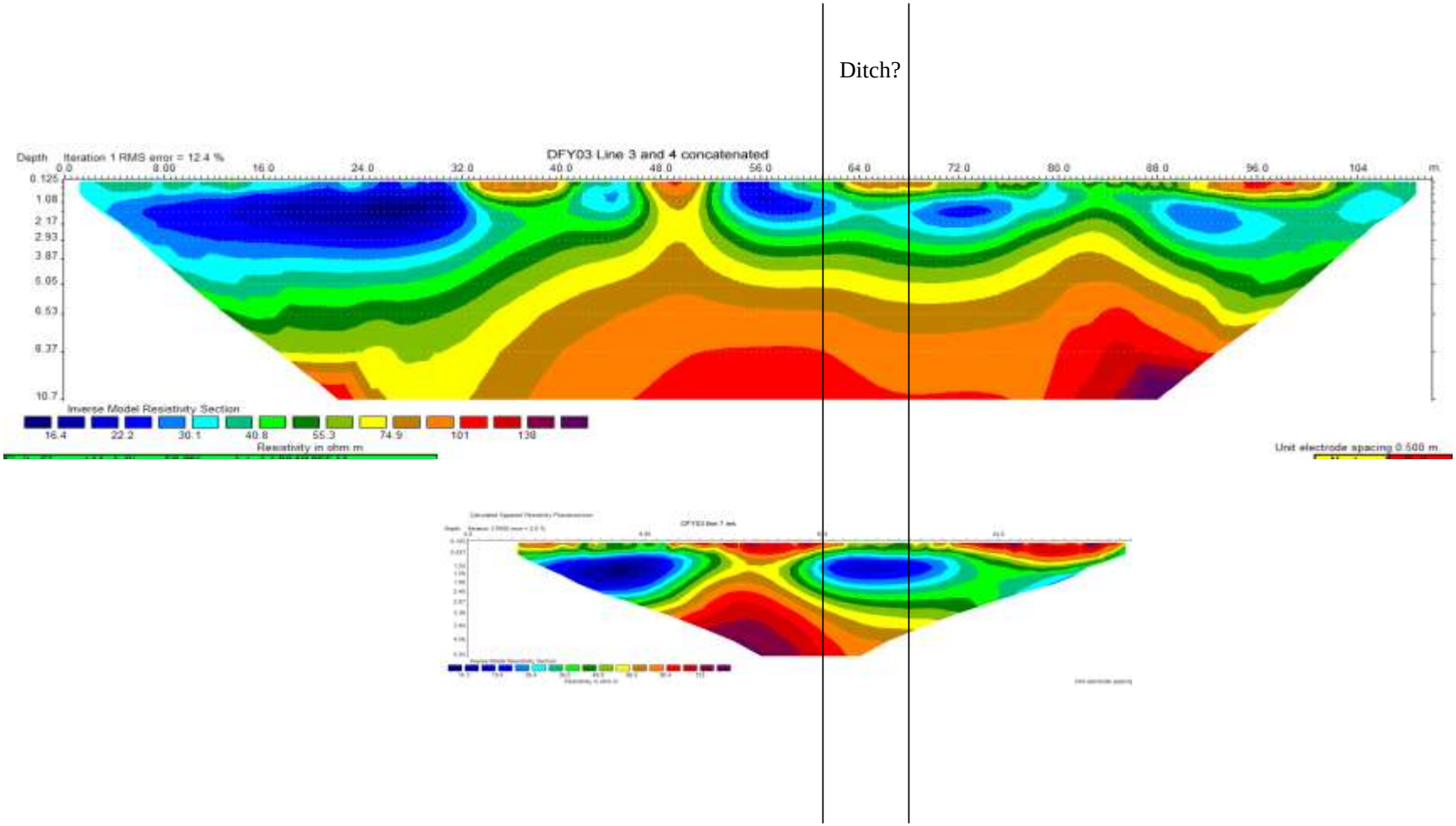
Photograph from west of site

Photogrammetry of area of Palaeolithic surface-scatter (United Arab Emirates)

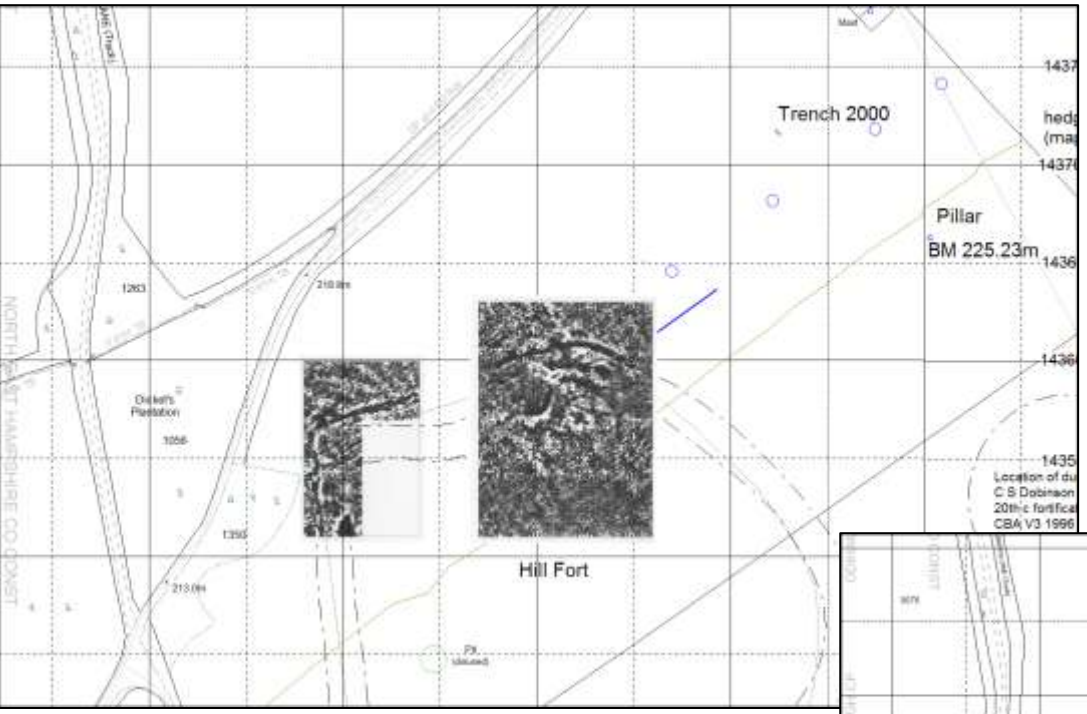


Results of deep Resistivity Analysis for Palaeolithic surface-scatter DFY03 UK

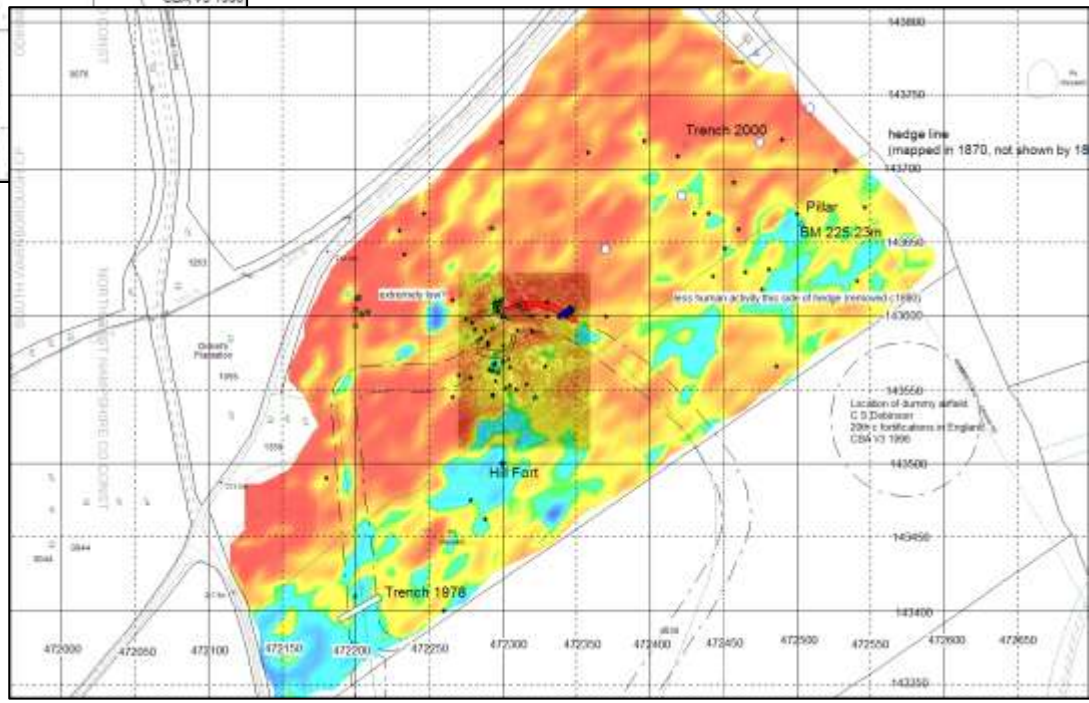
Lines 4/3 concantenated



Geophysical Investigations of Palaeolithic surface-scatters (DFY03 UK)

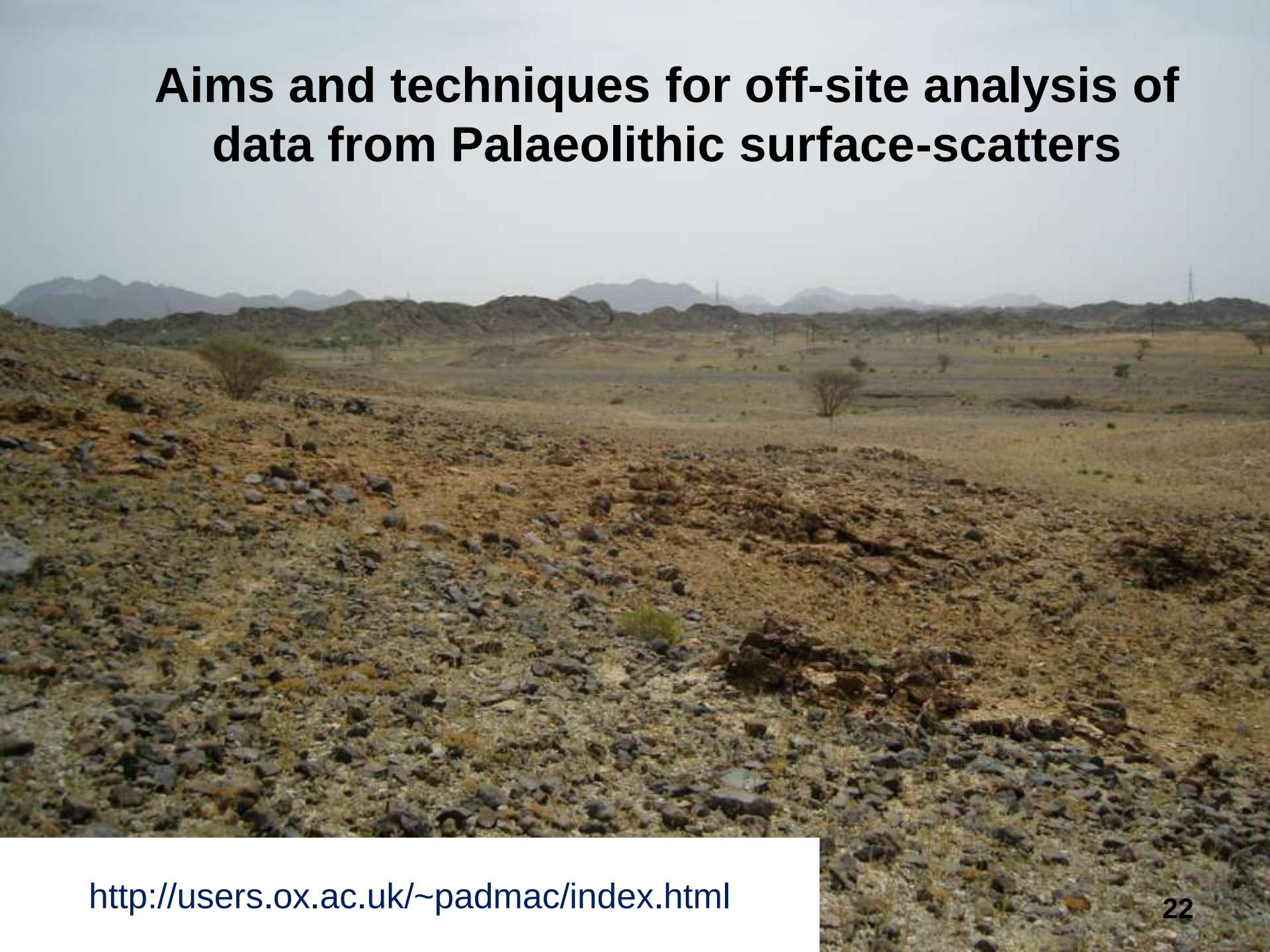


Magnetometry results showing Iron-Age hill-fort ditch



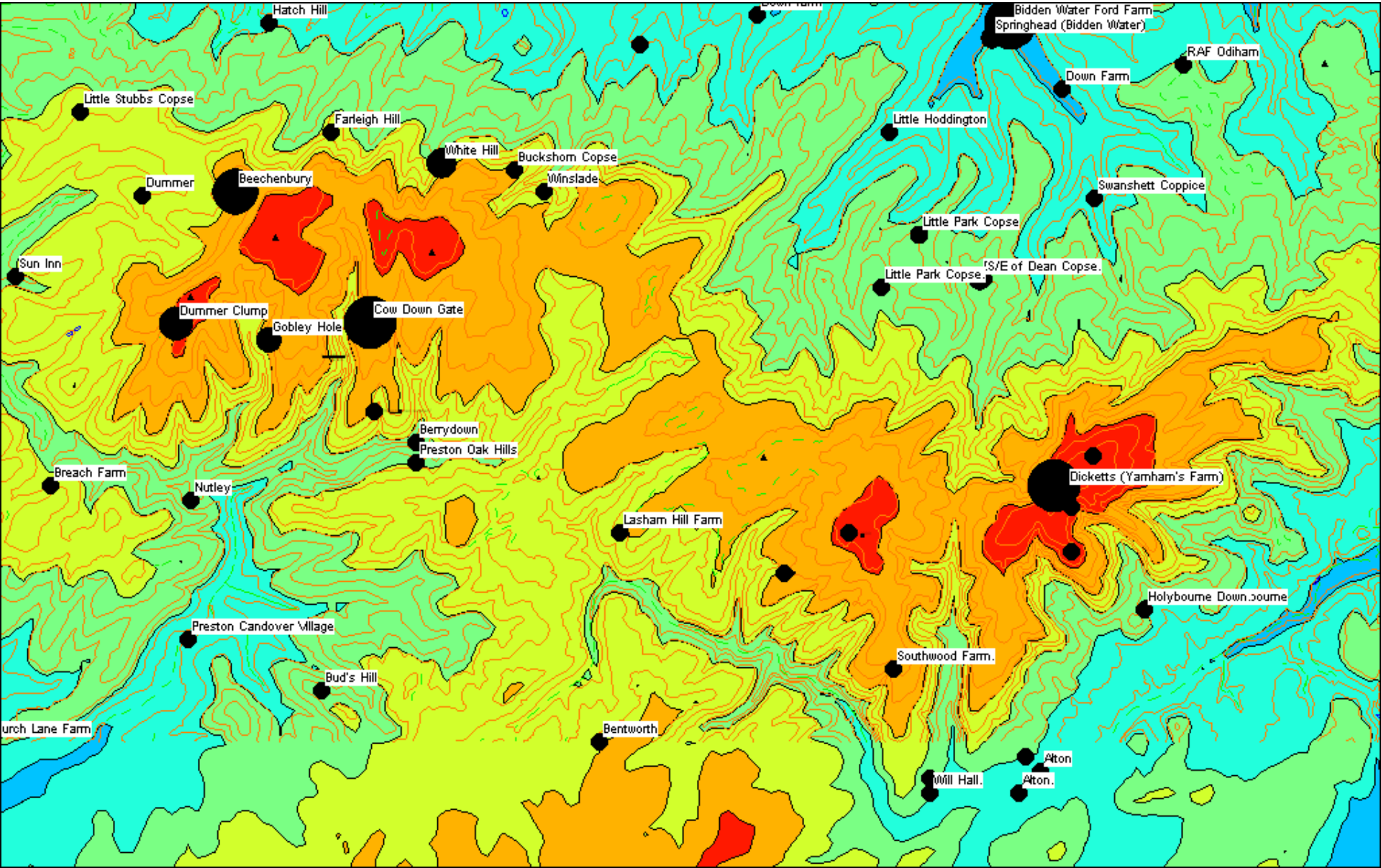
Magnetic susceptibility results showing distinct agricultural regimes across previously split field

Aims and techniques for off-site analysis of data from Palaeolithic surface-scatters

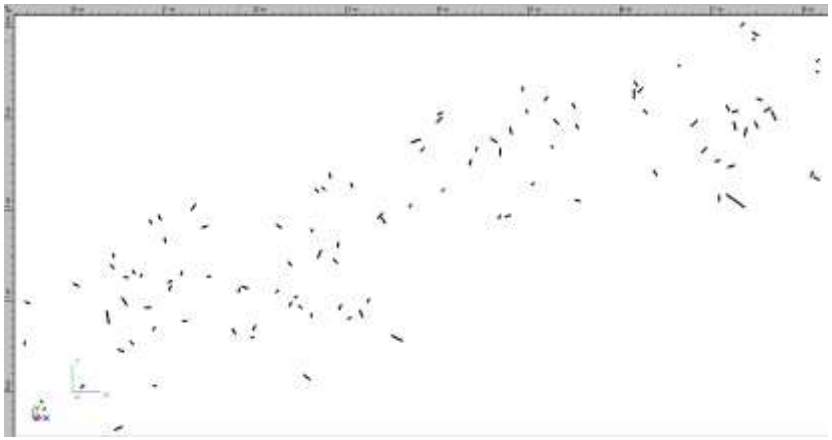


http://users.ox.ac.uk/~padmac/index.html

Inter-Scatter analysis of relationships between Palaeolithic surface-scatters in the locality of DFY03 UK



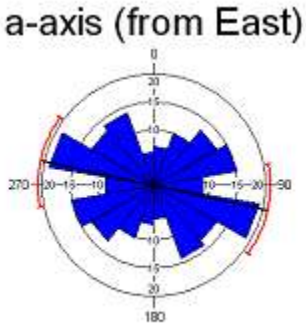
Intra-scatter analysis using Photogrammetry for Palaeolithic surface-scatter ESF06A (United Arab Emirates)



Plan View

Width of site

Profile (length of site)



SIC STATISTICS

Orientation of A-Axis (using Oriana software)

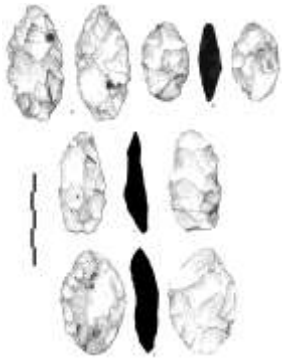
Intra-site techno-typological analysis for Palaeolithic surface-scatters ESF06A (United Arab Emirates) (Statistical analysis and refits)

Flake #3 refitted onto core #8

Small biface made on a flake with hard hammer retouch. Moderate brown 5YR 4/4. 42x34x15 mm

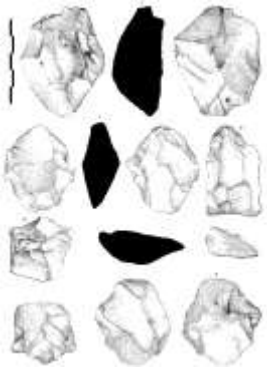
		debitage		core		tool		chip		chunk		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
ERM07A	Artifact Class	23	30.7%	2	2.7%	49	65.3%			1	1.3%	75
ESF06A	Artifact Class	19	40.4%	1	2.1%	27	57.4%					47
ESF06 (slope)	Artifact Class	17	54.8%	1	3.2%	13	41.9%					31
ESF07F	Artifact Class	35	58.3%	10	16.7%	12	20.0%			3	5.0%	60
ESF06C	Artifact Class	5	41.7%			7	58.3%					12
ESF06C	Artifact Class			1	8.3%	11	91.7%					12
ESF06D	Artifact Class	9	36.0%	2	8.0%	9	36.0%			5	20.0%	25
ESF07E	Artifact Class	20	35.7%	15	26.8%	5	8.9%	11	19.6%	5	8.9%	56
ESF07S10	Artifact Class	16	35.6%	2	4.4%	25	55.6%			2	4.4%	45
ESF07S14	Artifact Class	6	33.3%	3	16.7%	7	38.9%			2	11.1%	18
ESF07S15	Artifact Class	2	18.2%	3	27.3%	4	36.4%	1	9.1%	1	9.1%	11
ESF07S18	Artifact Class			1	50.0%	1	50.0%					2
Gabbro Hill	Artifact Class	4	23.5%	6	35.3%	6	35.3%	1	5.9%			17
Misc UAE	Artifact Class	1	10.0%	4	40.0%	5	50.0%					10

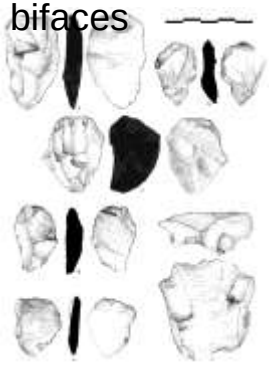
Group A3 Surface Find Assemblage



Foliates

Backed bifaces





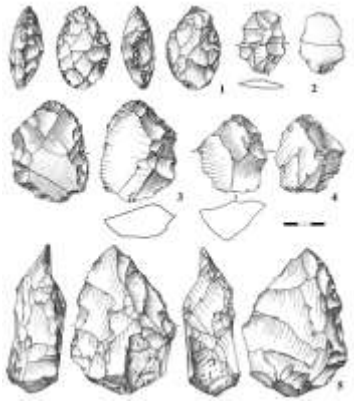
Unipolar cores (o,q)
Centripetal Levallois cores/discoids (p,r,s)

Levallois blanks (a,e)
Retouched points (b,d)
Unipolar Levallois cores (c,f)

Scott-Jackson, J.E., Scott-Jackson, W.B. Rose, J.I. Palaeolithic Stone Tool Assemblages from Sharjah and Ras al Khaimah in the United Arab Emirates. In: Petraglia, M, Rose, J. editors. *The Evolution of Human Populations in Arabia*. Springer, Netherlands. 2009: 125-138.

Inter-site techno-typological analysis of Palaeolithic surface-scatters ESF06/7 (United Arab Emirates) and the excavated assemblage at Jebel Faya (United Arab Emirates)

Jebel Faya Assemblage C



1, bifacial foliate;
2, Levallois flake;
3, bifacial preform;
4, radial core;
5, handaxe preform.

Armitage, S.J., et al., The Southern Route "Out of Africa": Evidence for an Early Expansion of Modern Humans into Arabia. *Science*, 2011. 331(28): p. 453-456

Dr Julie Scott-Jackson, Director, PADMAC Unit
Dr William Scott-Jackson, PADMAC Unit
University of Oxford
Email:- julie.scott-jackson@arch.ox.ac.uk