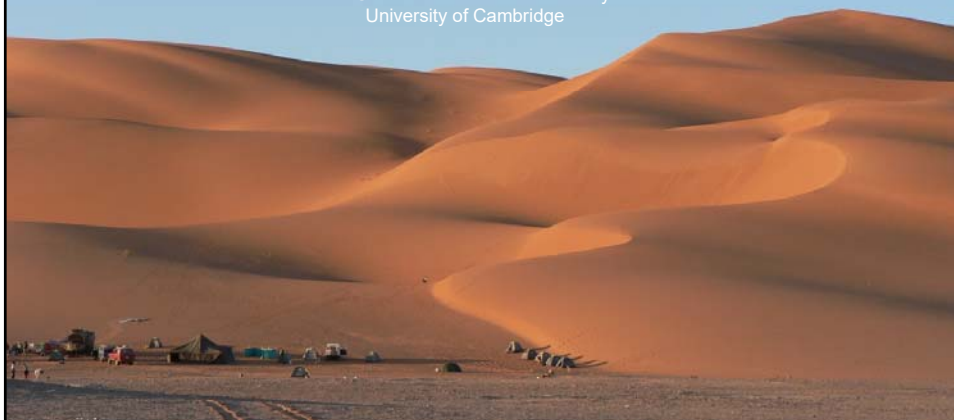


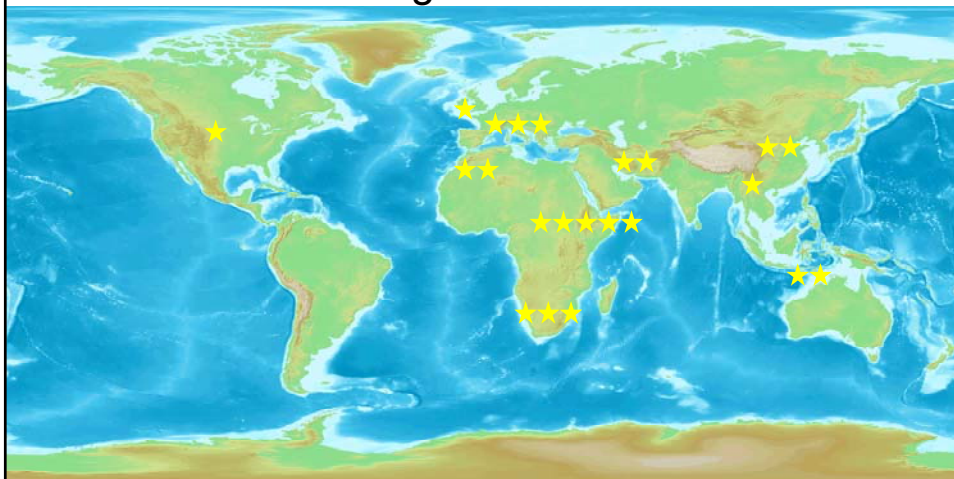
# EXTREME EVOLUTION: THE ROLE OF THE SAHARA IN EARLY PREHISTORY

**Robert A Foley & Marta Mirazón Lahr**

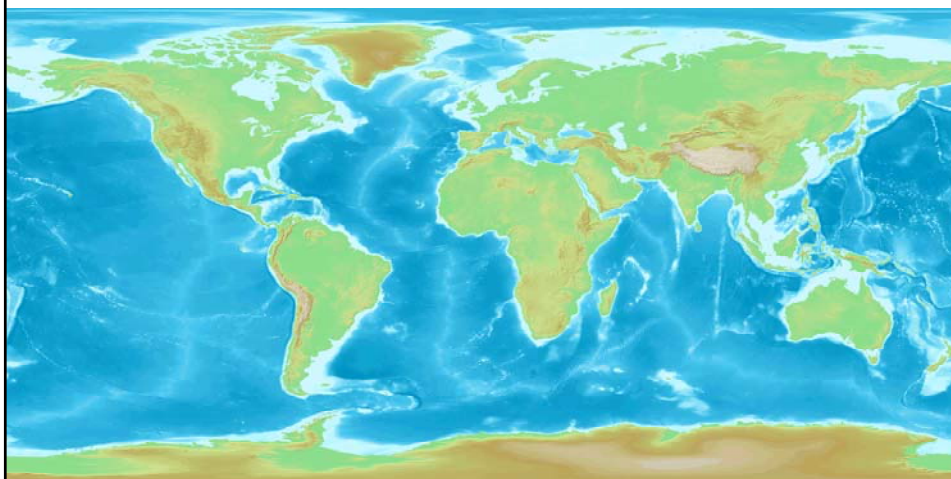
Leverhulme Centre for Human Evolutionary Studies  
University of Cambridge



## The Lonely Planet Guide to Good Human Origin Hotels



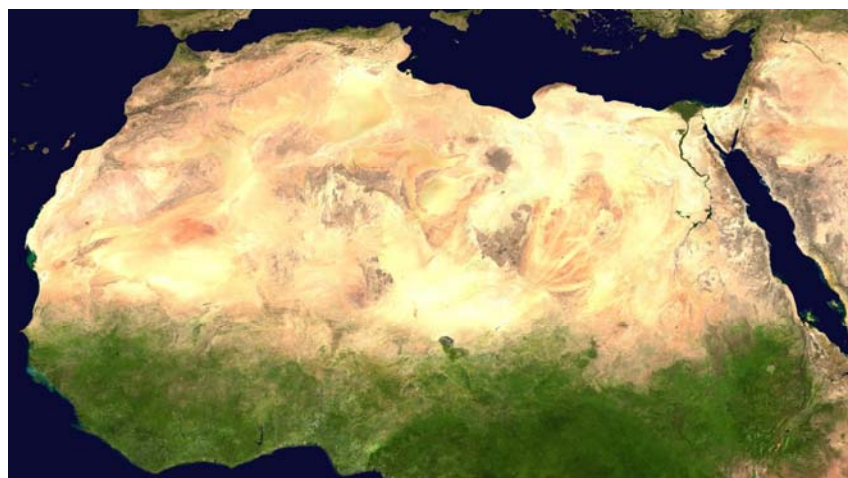
## Different places, different questions



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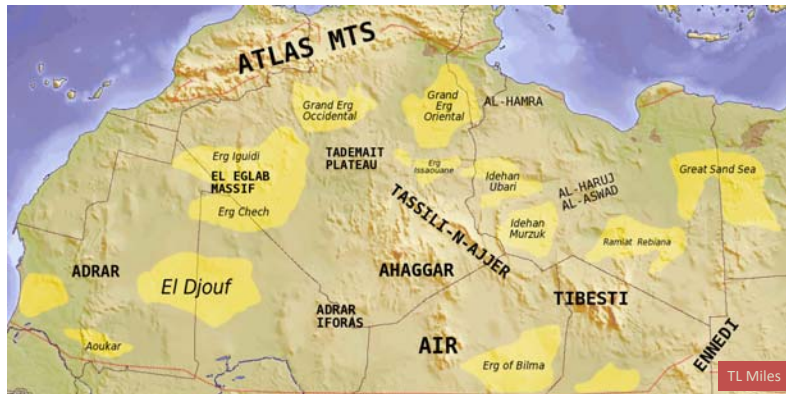
## The Sahara



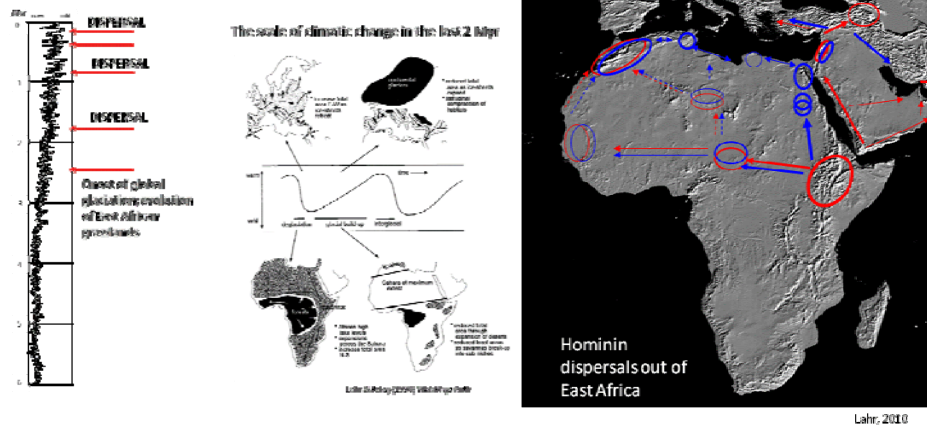
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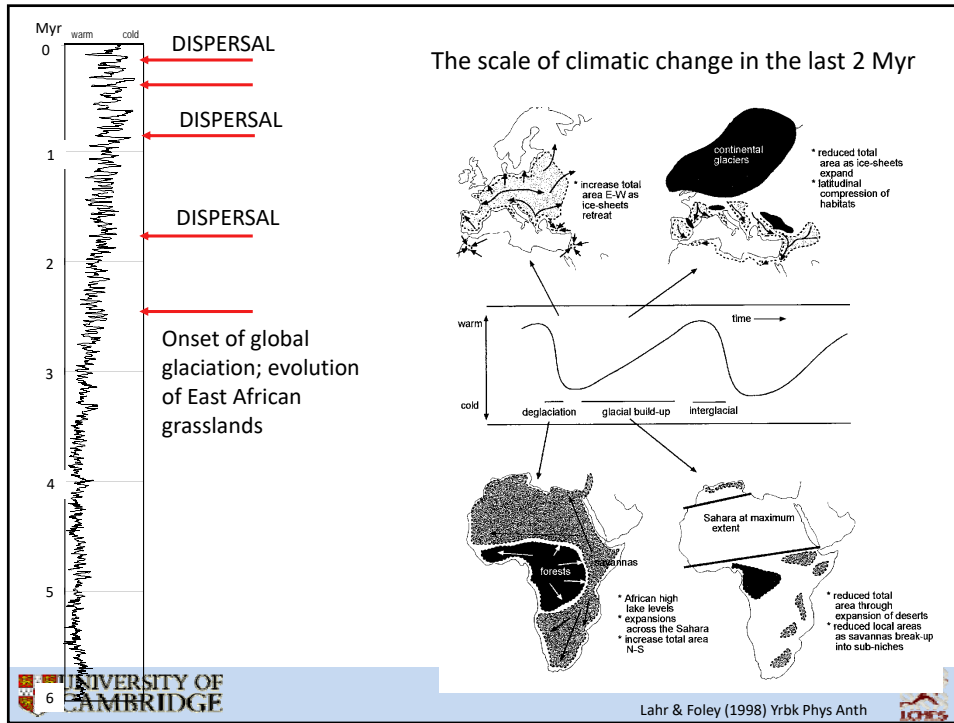


## The Sahara



## Evolutionary geographical questions



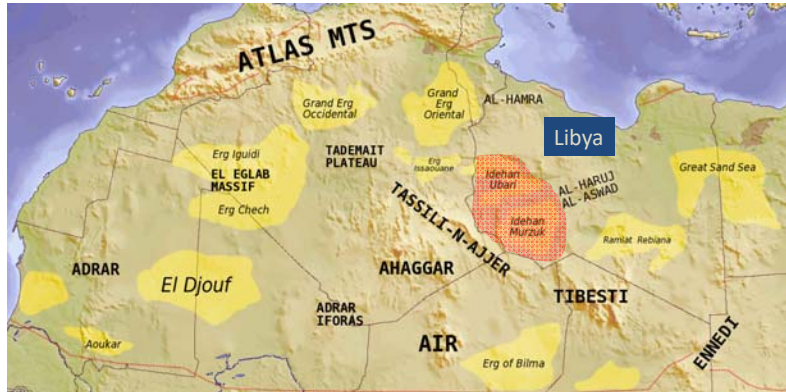


## Evolutionary ecology questions

1. Adaptation to desert conditions
2. The evolutionary ecology of adaptive edges
3. Habitat tracking and dispersals
4. Evolutionary pumps
5. Extinction and isolation



## Desert Migrations Project – prehistory, environment and evolutionary of the Fezzan



## Desert Migrations Project 2007-2011

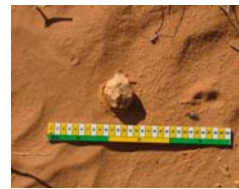
The Garamantes and the trans-Saharan links – culture, biology and environment  
(Mattingly)

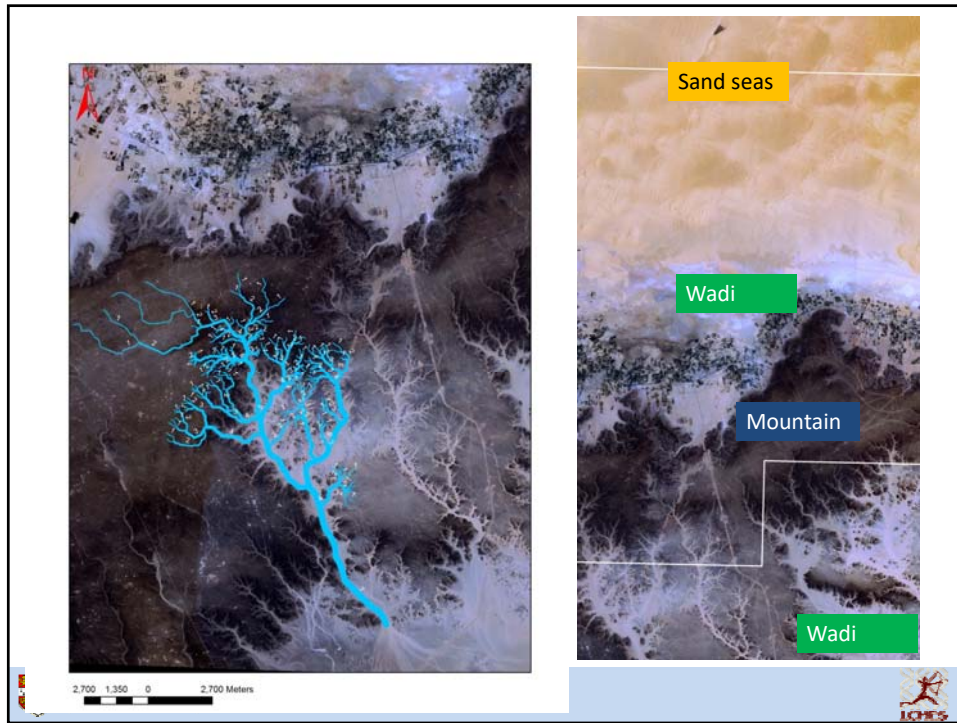


Palaeolakes and hydrology of the Fezzan  
(Drake, White, Armitage)



Human evolution and dispersals through the Quaternary  
(Mirazon Lahr & Foley)

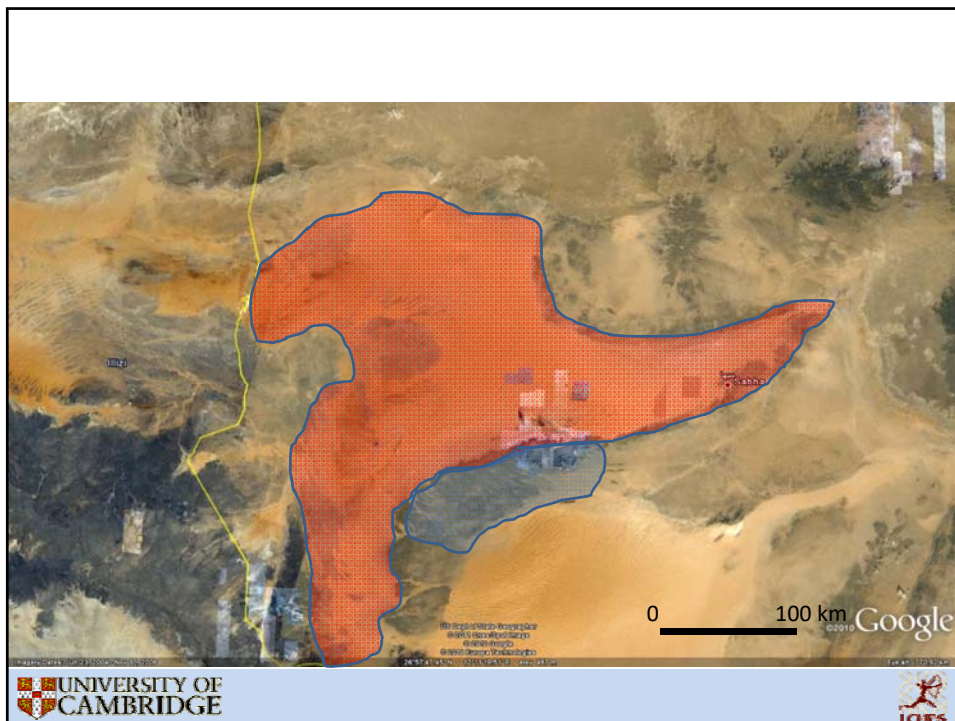
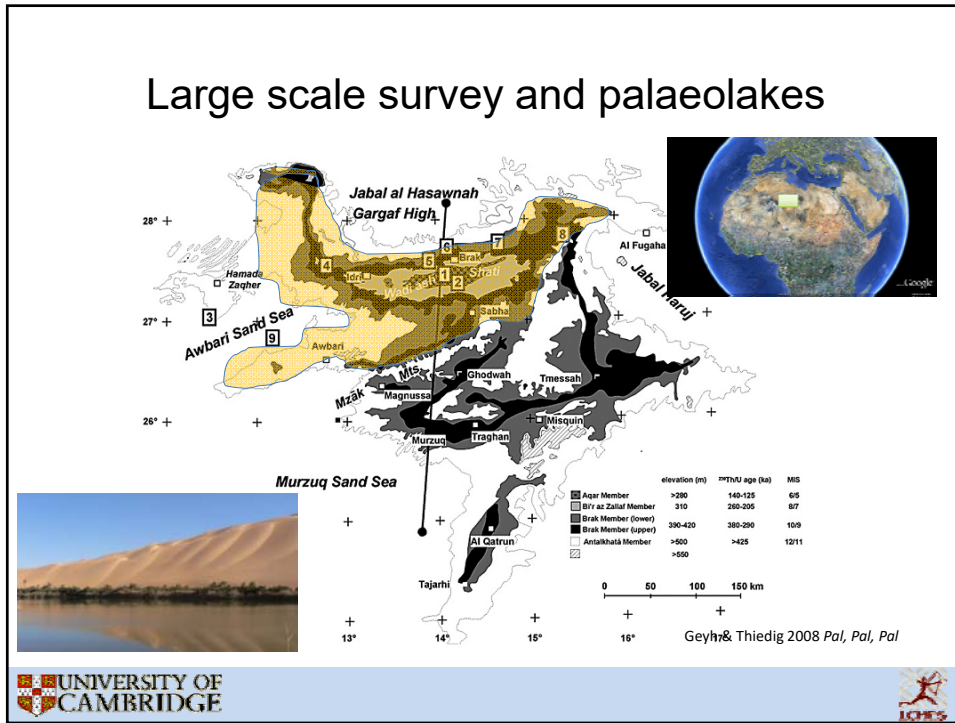




## The Ubari surveys

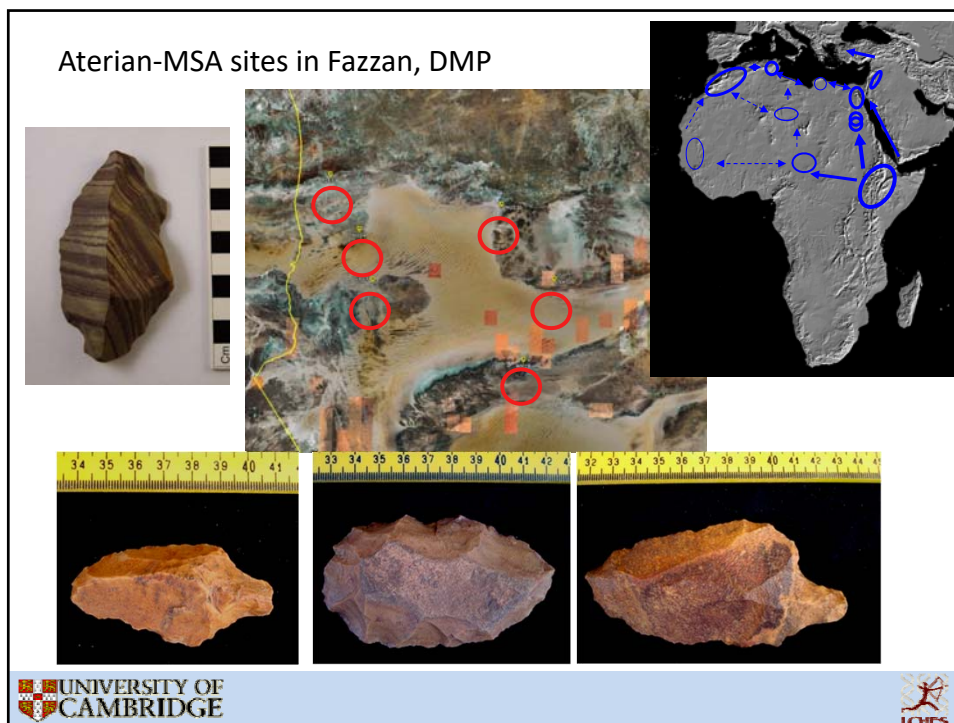
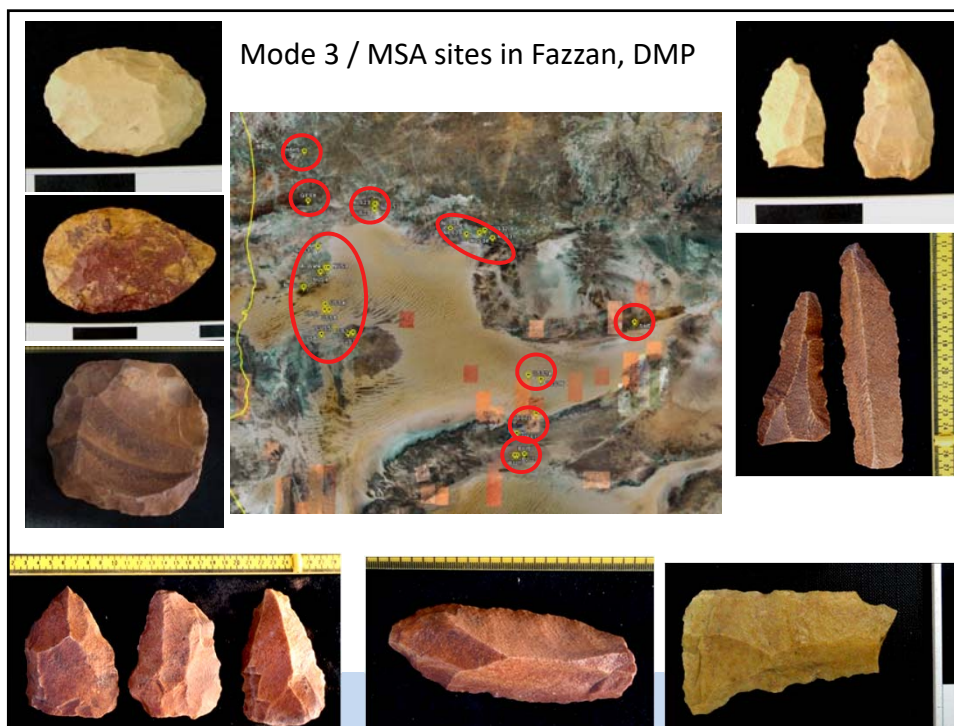


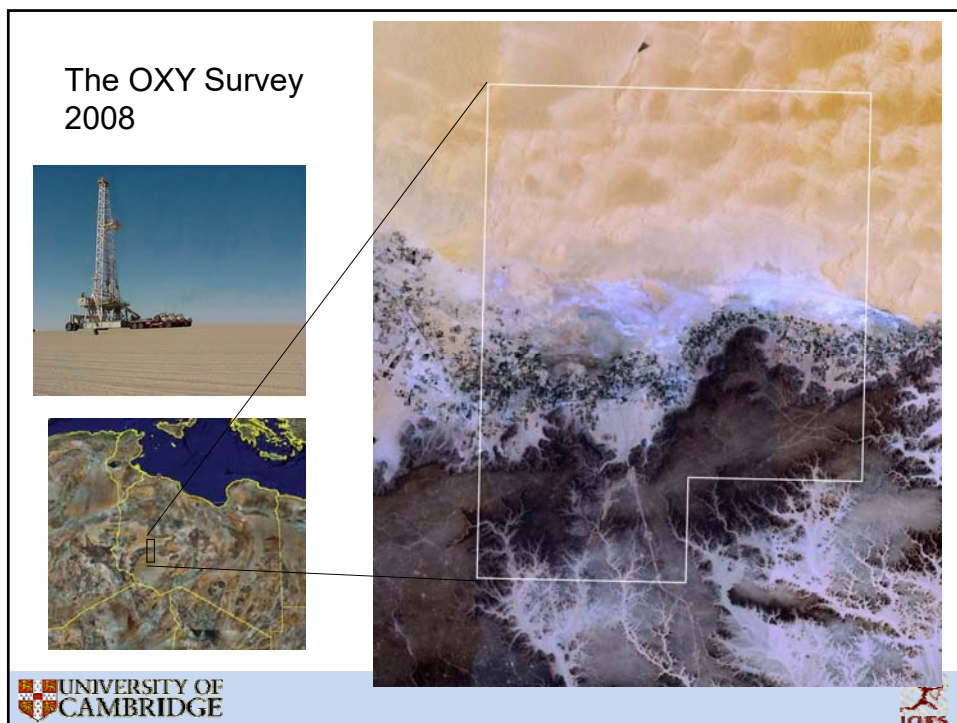
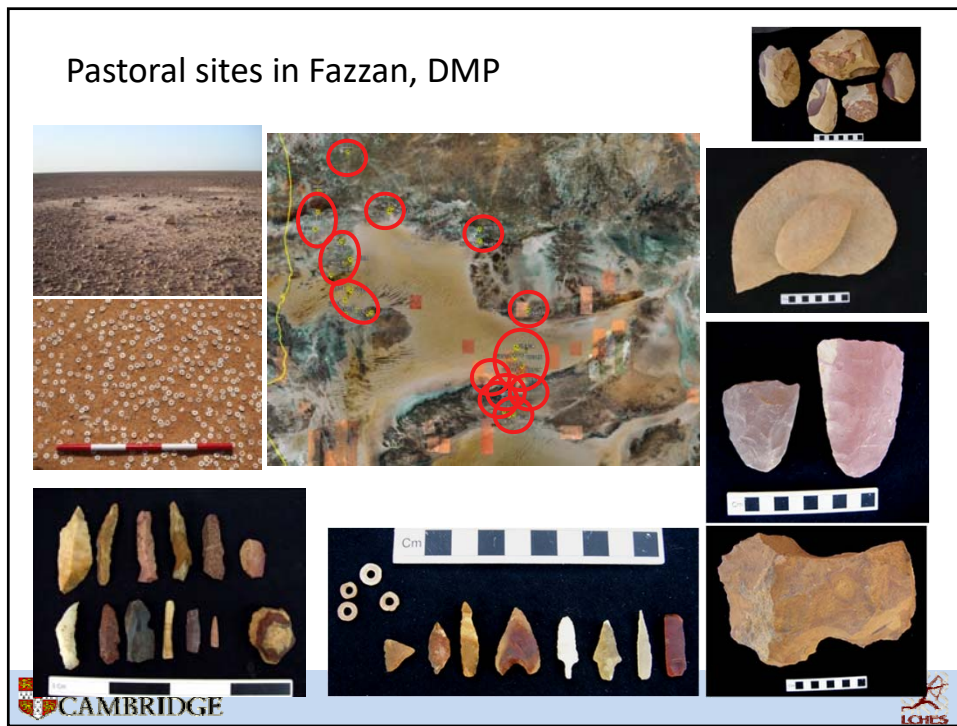
## Large scale survey and palaeolakes

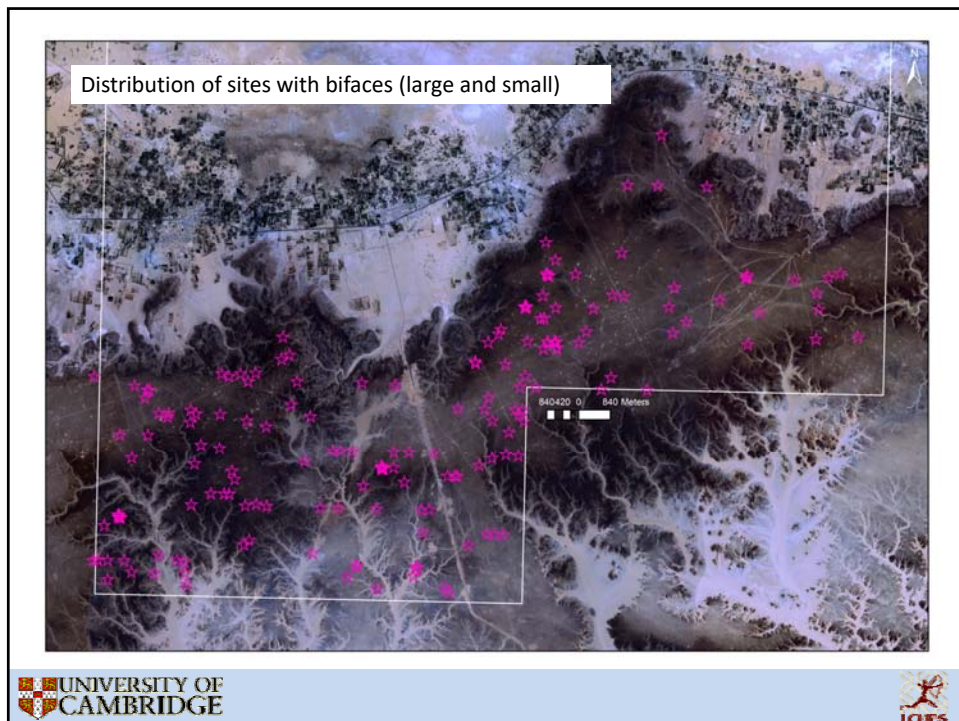
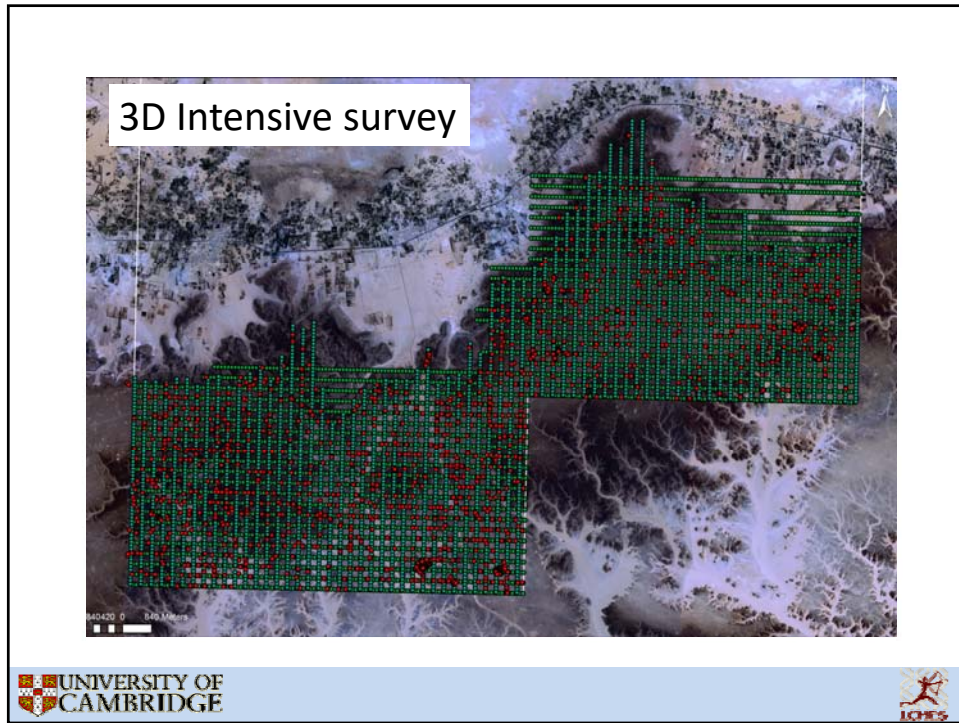


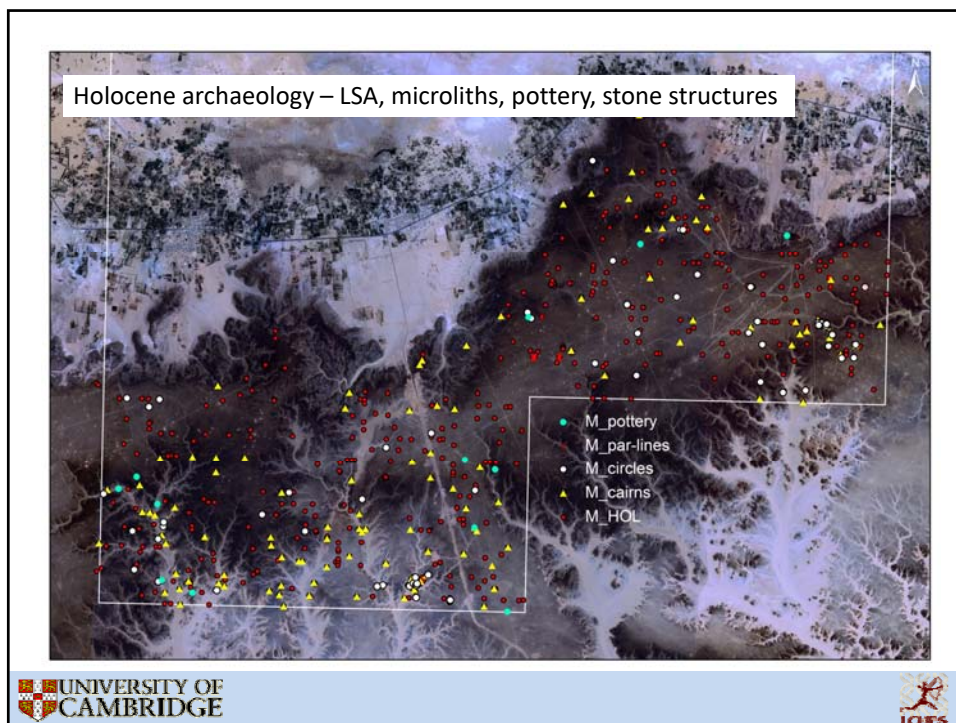
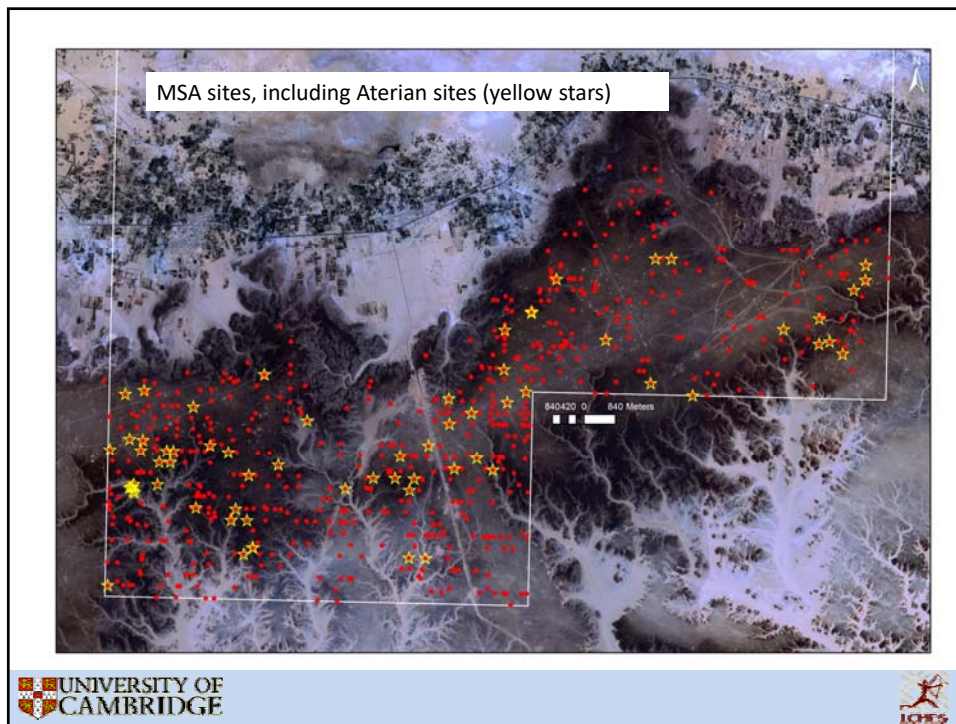


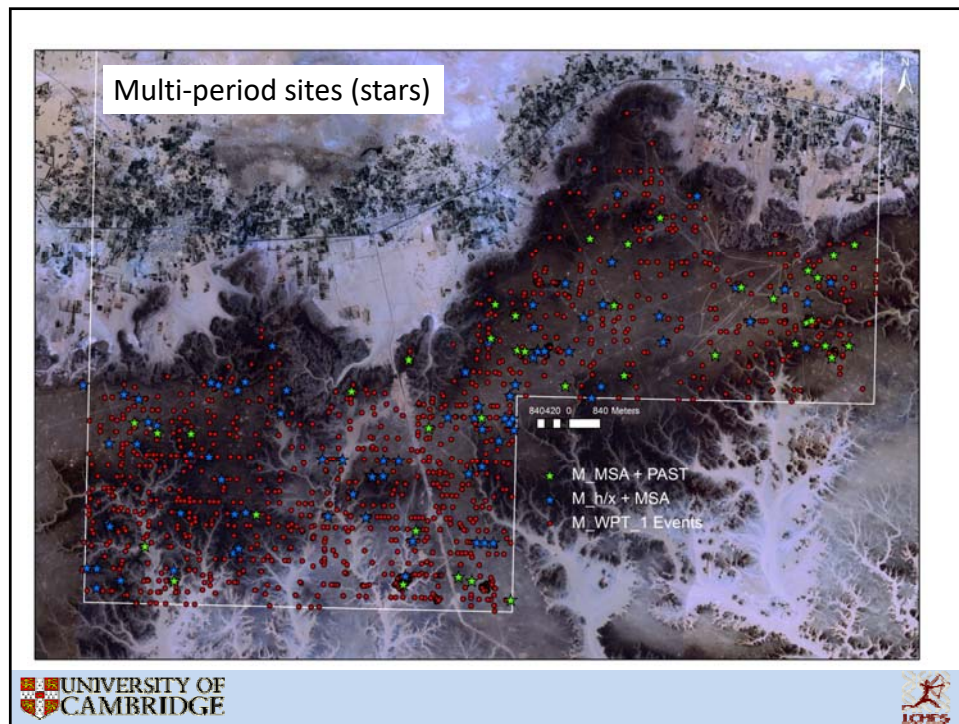












## Extreme evolution – the Saharan case

1. Resource variance in lithic availability
2. Desert environments
3. Variation in dispersal potential
4. African demographic edge

## Extreme evolution – resource variance

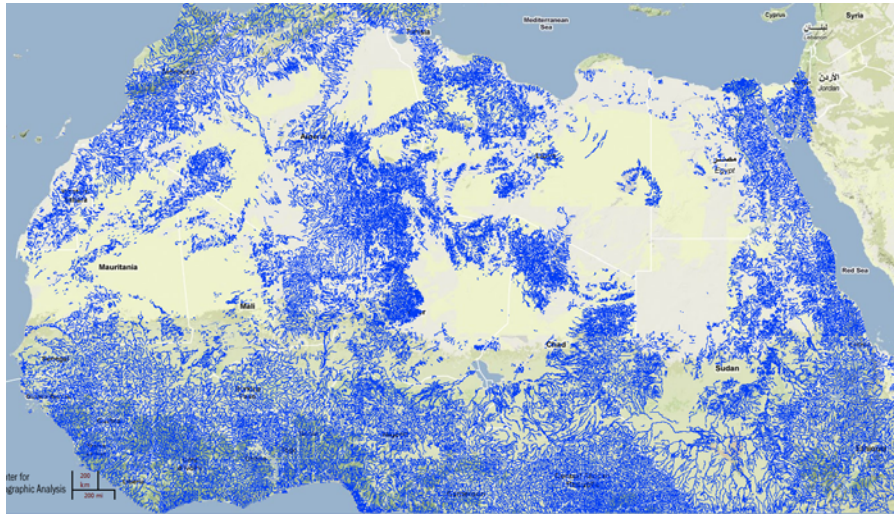
Messak



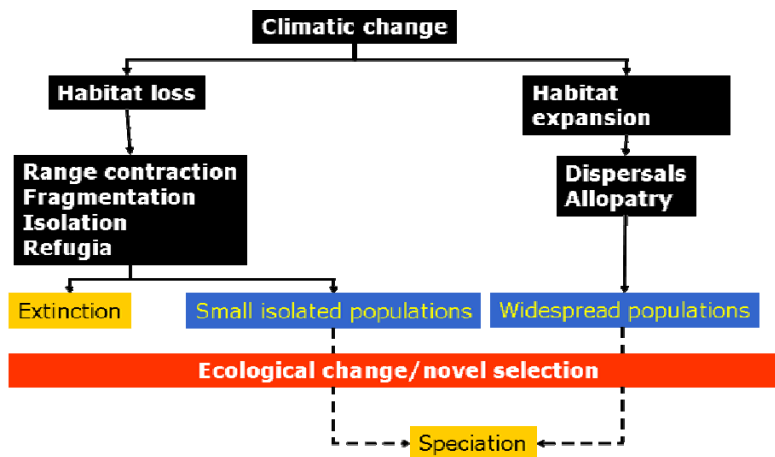
Ubari



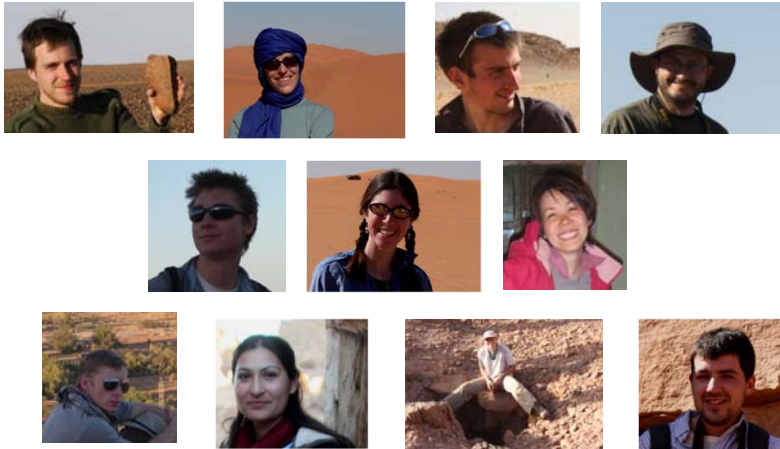
## Extreme evolution - variance in waterc



## Extreme evolution - extinction



Acknowledgements



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University of Cambridge

