

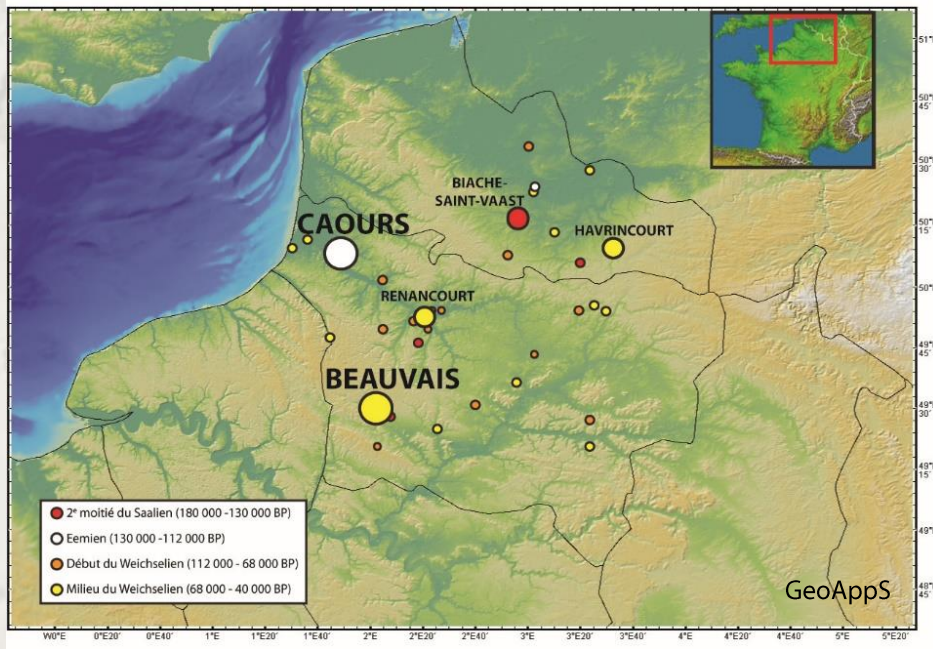
CAOURS 2010
SECT 2 C-18
NIV 4A

Importance of using Geographic Information Systems for the extensive Middle Palaeolithic open air sites in northern France. The example of Caours (Somme, France)

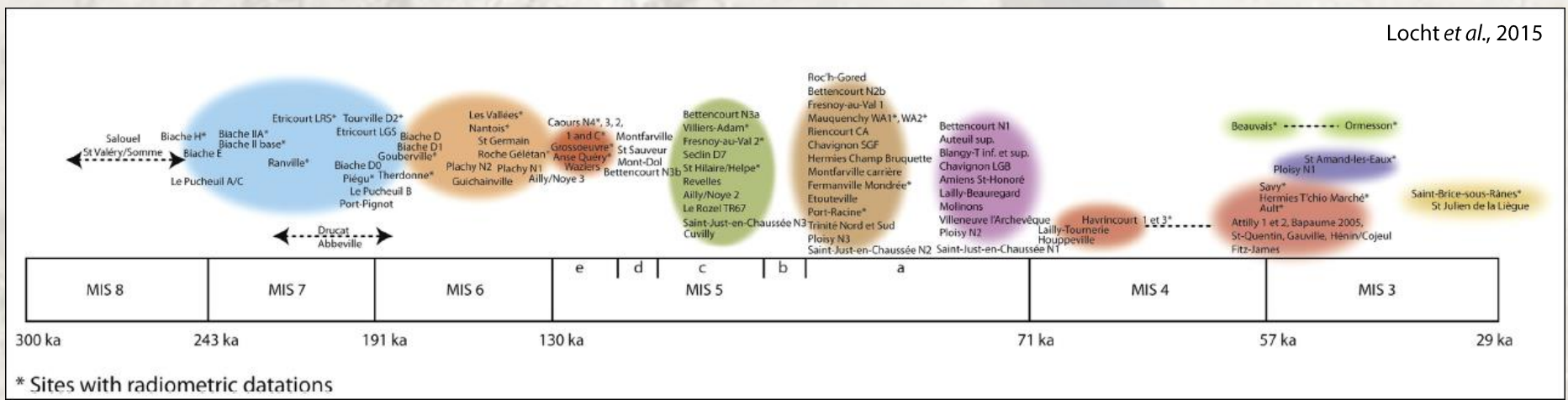
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3 : National Institut of Preventive Achaeological Research, (Inrap, France)*

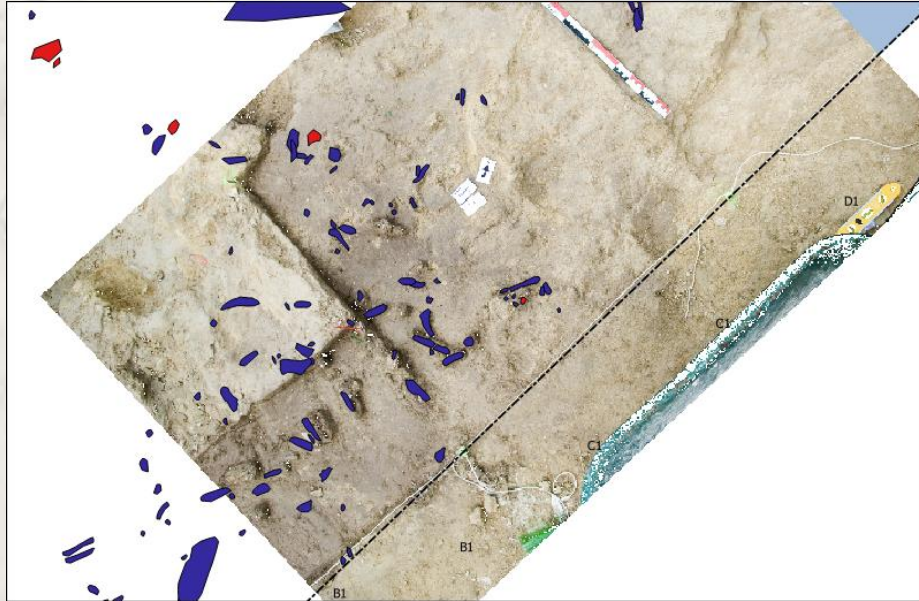
Middle Palaeolithic open air sites in northern France



- Excellent Chronostratigraphic framework
- Different:
 - Biotopes
 - Cultures
 - Behaviours



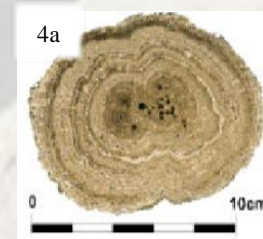
Middle Palaeolithic **open air sites** in northern France



	Caours	Beauvais
Isotopique Stage	Eemian, 5e	Weichselian, 4
Climate	Interglacial	Glacial
Environment	Wooded	Steppe
Excavation Area	680 m ²	760 m ²
Number of archaeological levels well preserved	5	2
Number of faunal remains	12 152	1 325
Number of lithic artefact	2 780	13 283

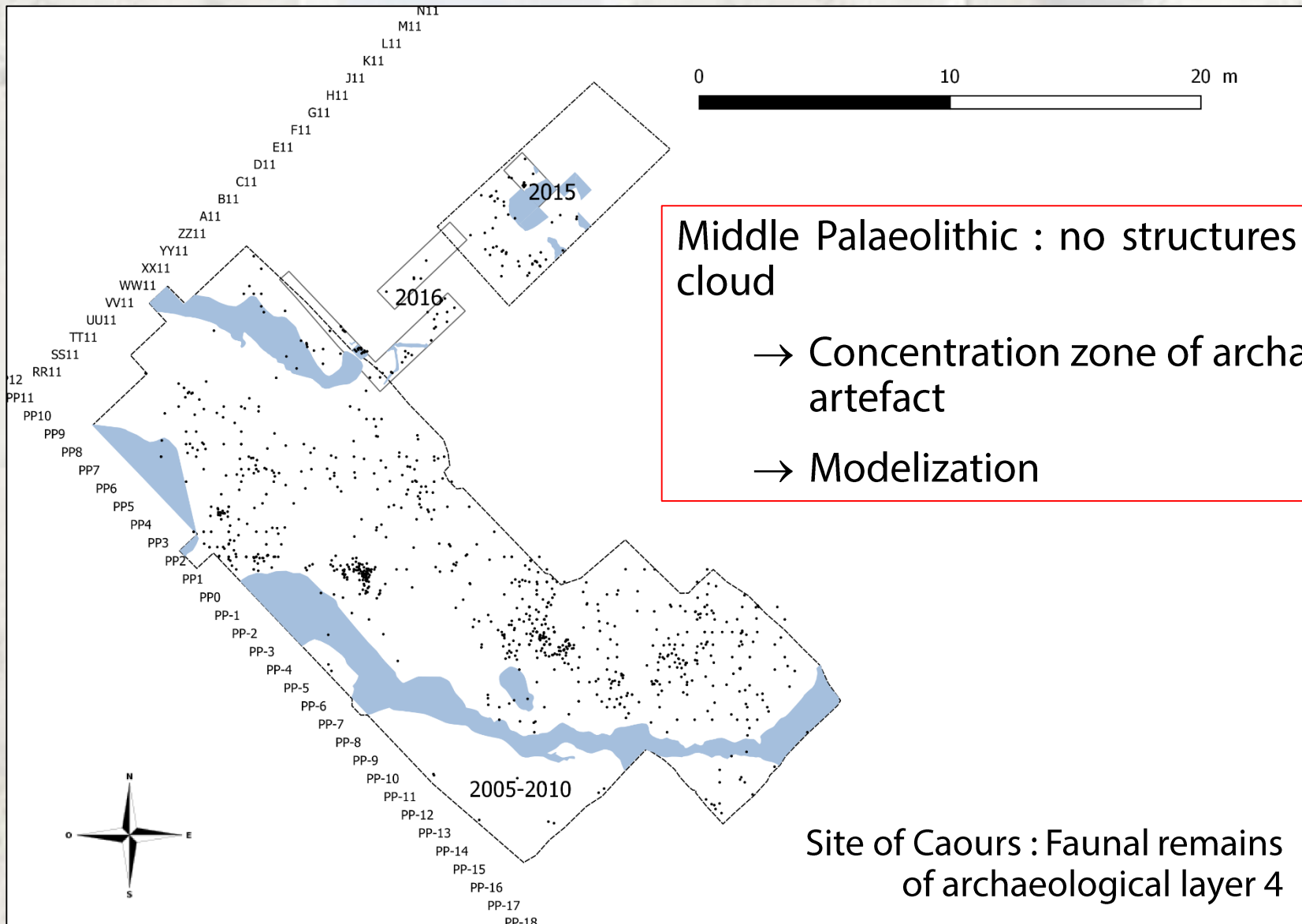
➤ Exceptional preservation, superficies and faunal remains abundance :

- Sedimentation : calcareous, fine, quick
- No alteration of layers



Antoine *et al.*, 2006

Middle Palaeolithic open air sites in northern France

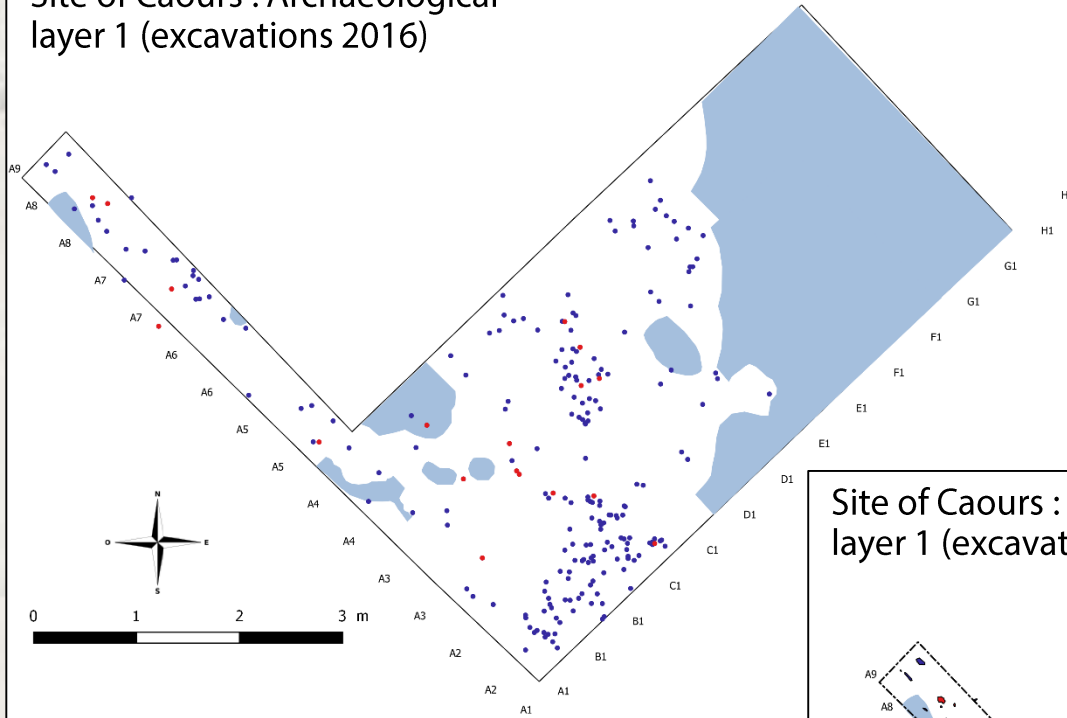


Middle Palaeolithic : no structures but dots cloud

- Concentration zone of archaeological artefact
- Modelization

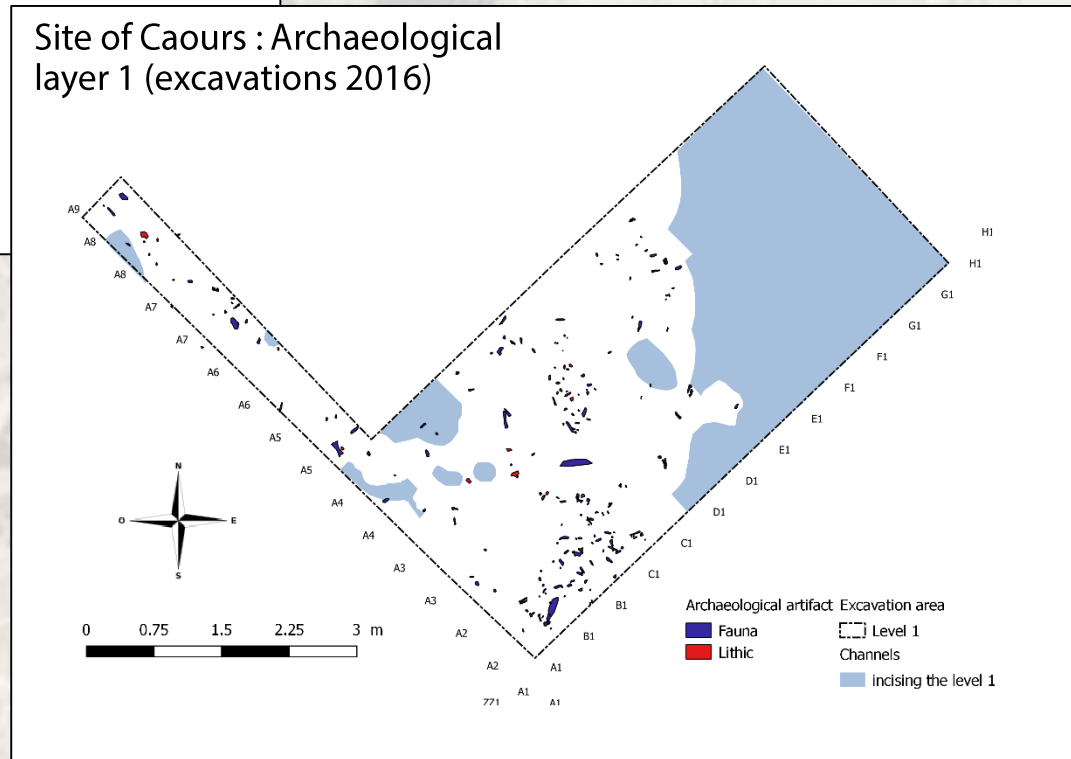
Activity area : different **spatial** data

Site of Caours : Archaeological layer 1 (excavations 2016)



➤ Dots cloud VS Polygons

Site of Caours : Archaeological layer 1 (excavations 2016)



➤ Quantity and density :
problem of fracturation

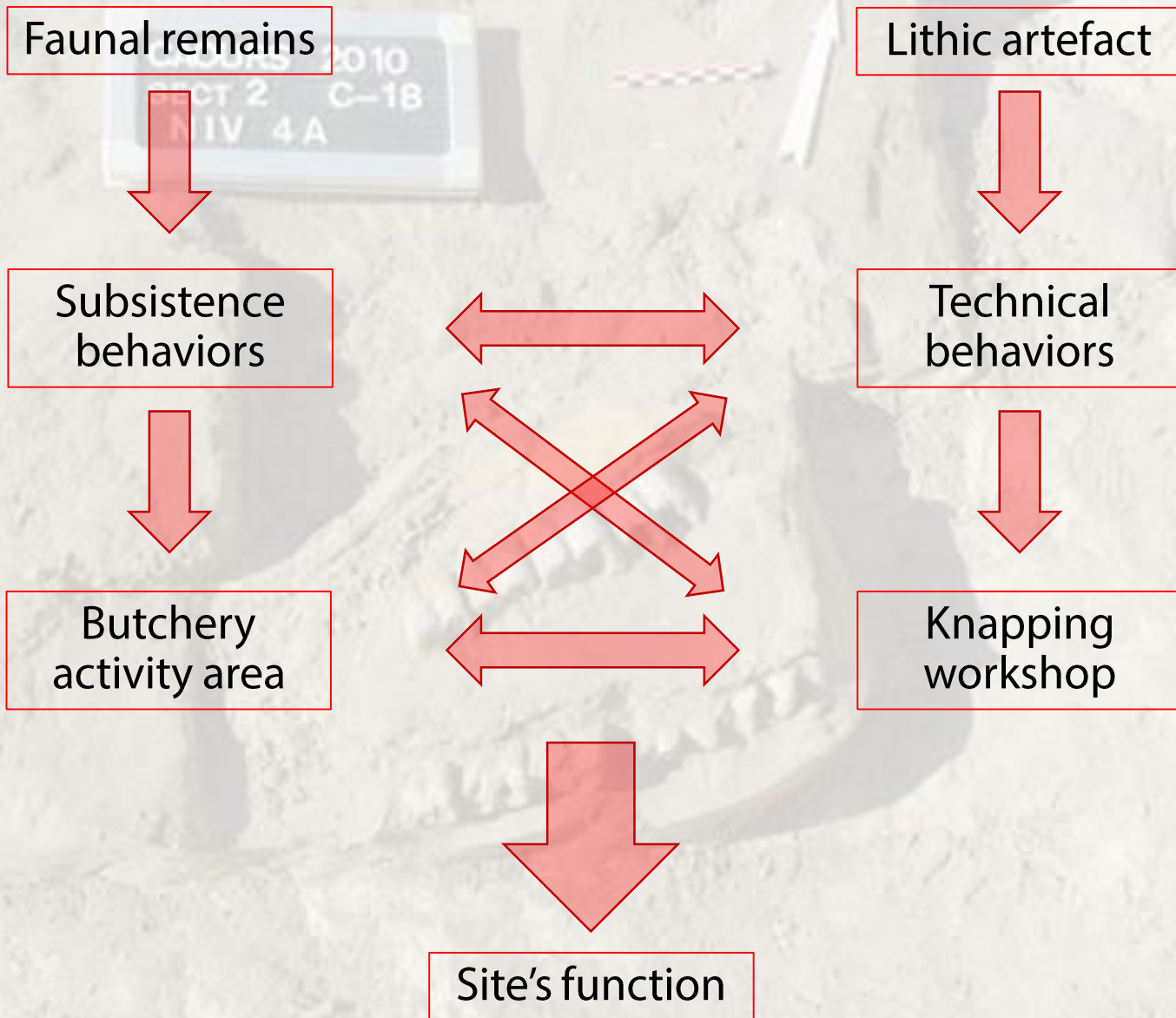
Activity area : different **spatial** data



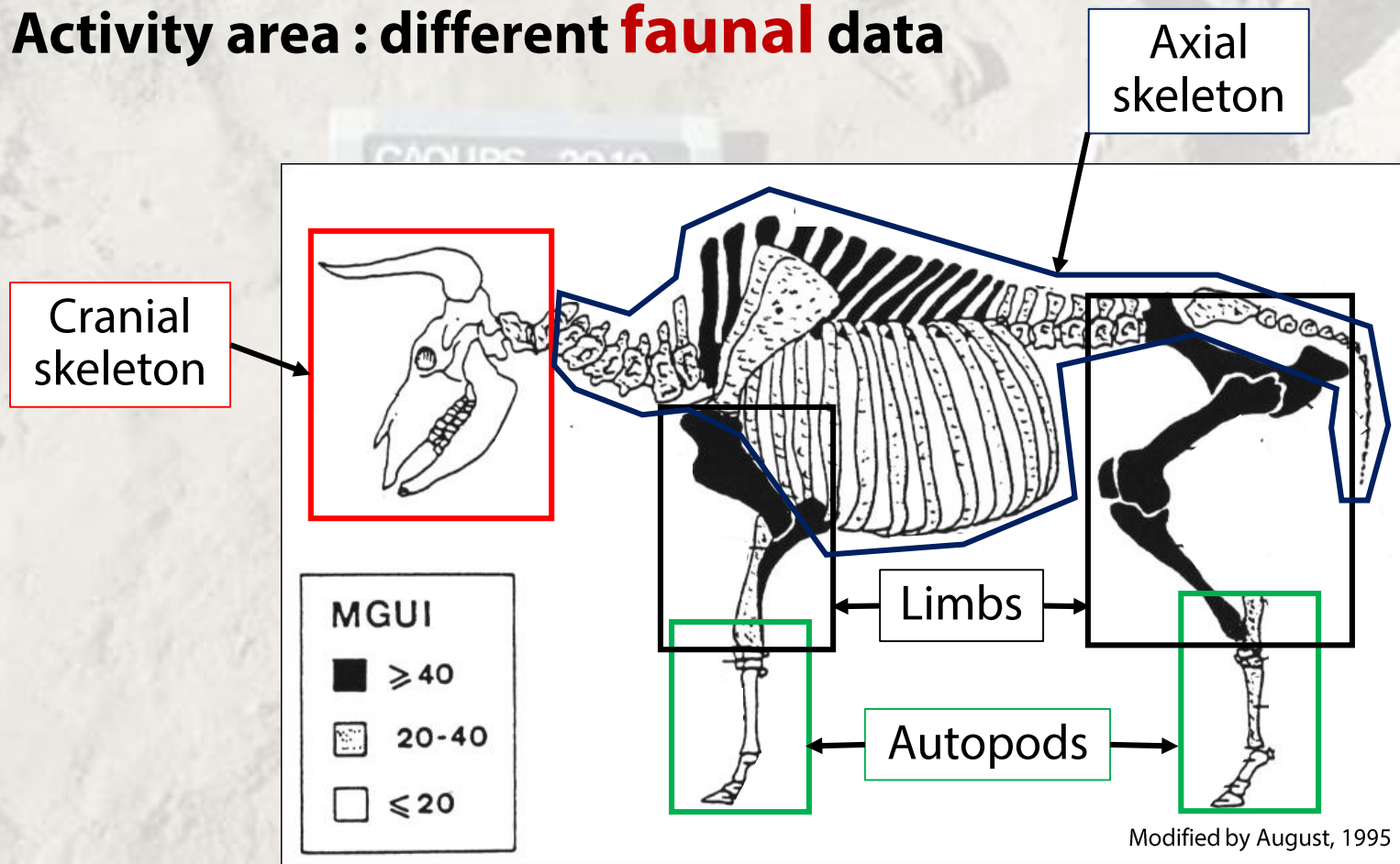
Bones combustion experiment (Hérisson et al., 2013)

- problem of fracturation and combustion
- Absolute coordinates or not

Activity area : different **archaeological** data



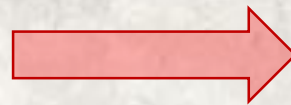
Activity area : different **faunal** data



➤ Interpretative framework

➤ Food Utility Index

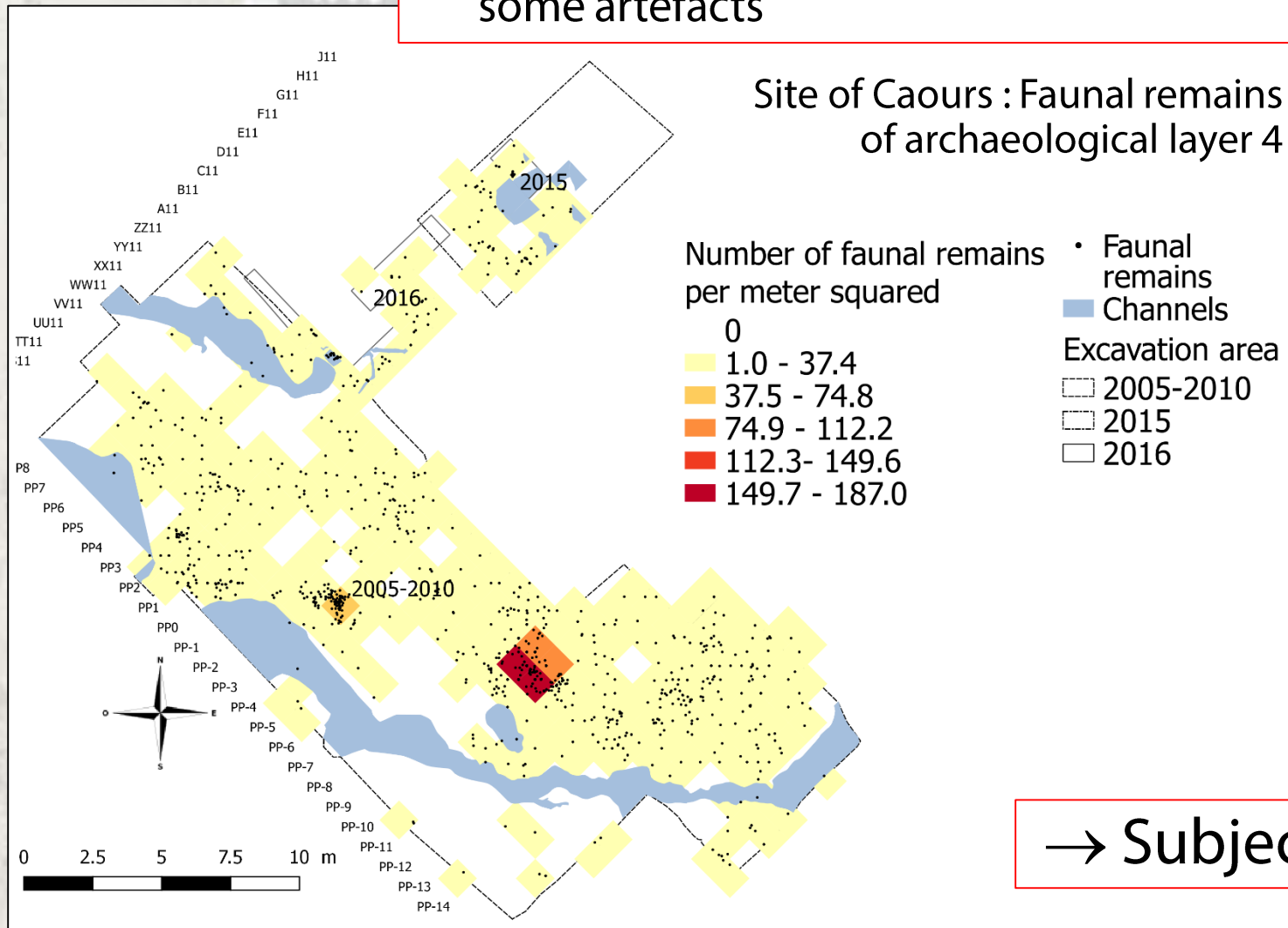
➤ Anatomical groups



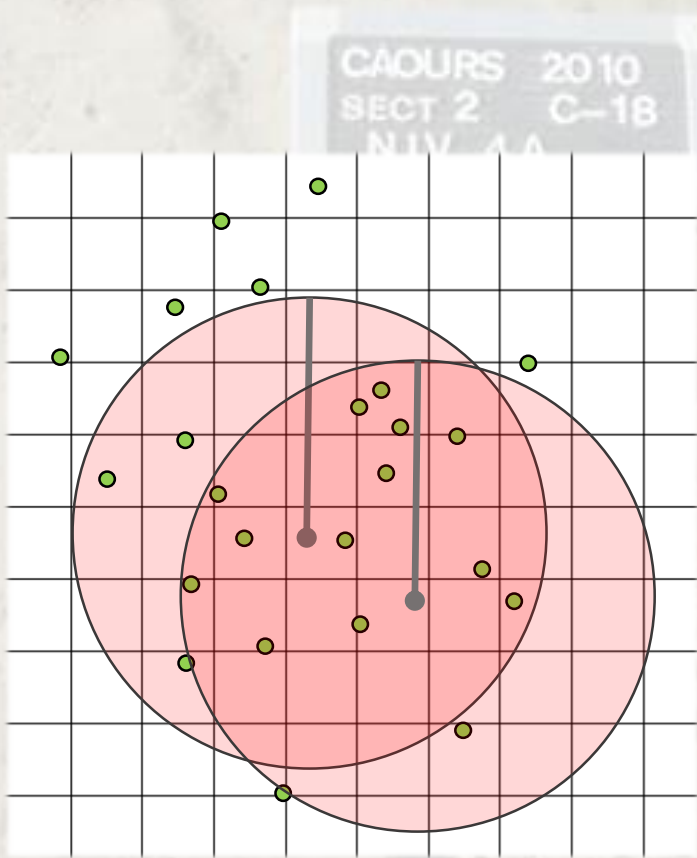
Specific butchery activity area

Activity area : Mesh analysis

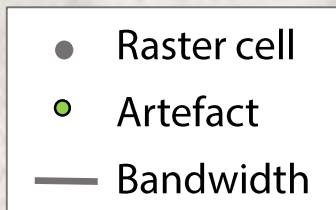
- Effective per mesh
- Arbitrary subdivision → invisible « walls » between some artefacts



Activity area : Kernel Density estimation

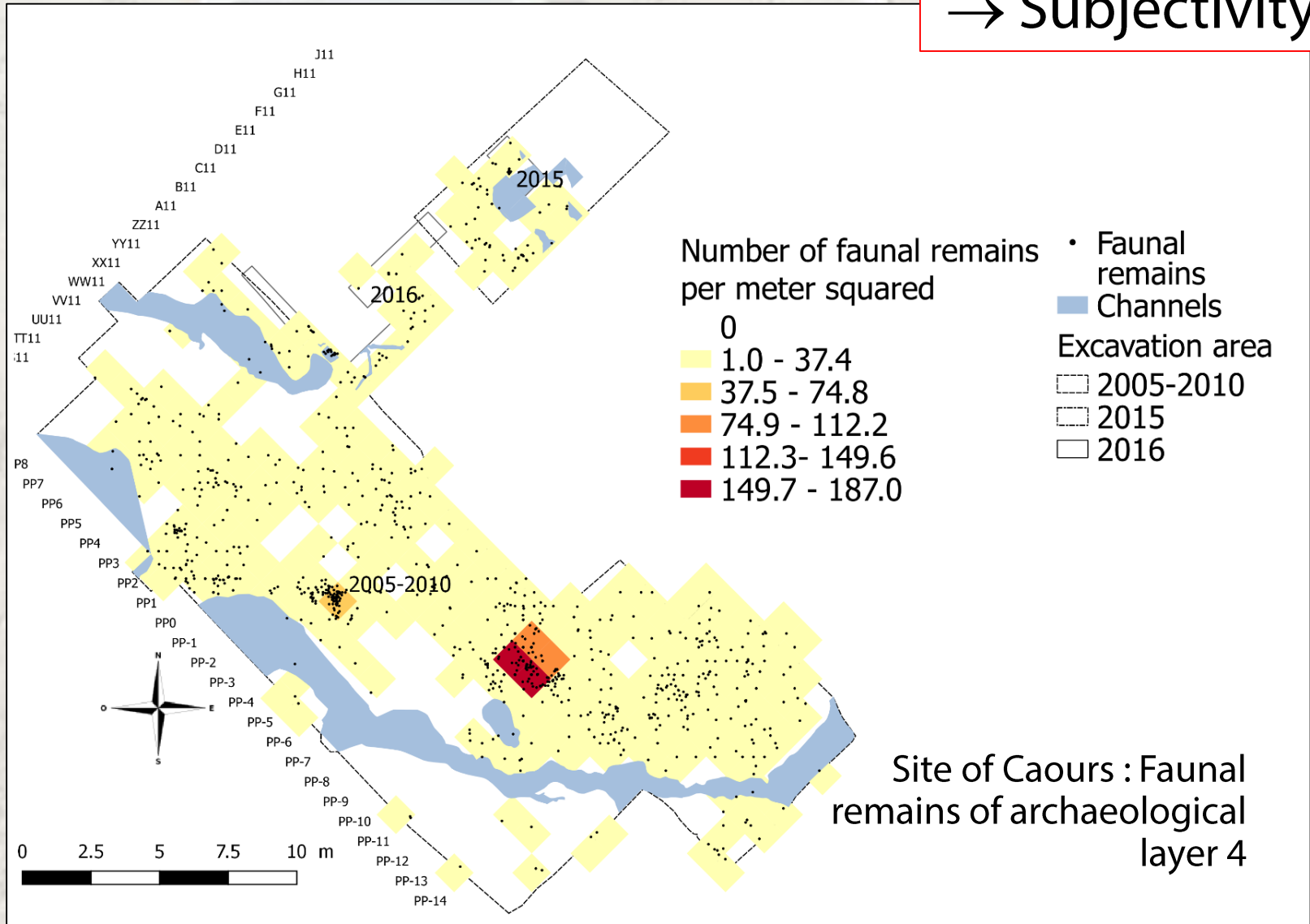


- Quantitative method : density and distance between artifact
- Spatial relationship between artifact



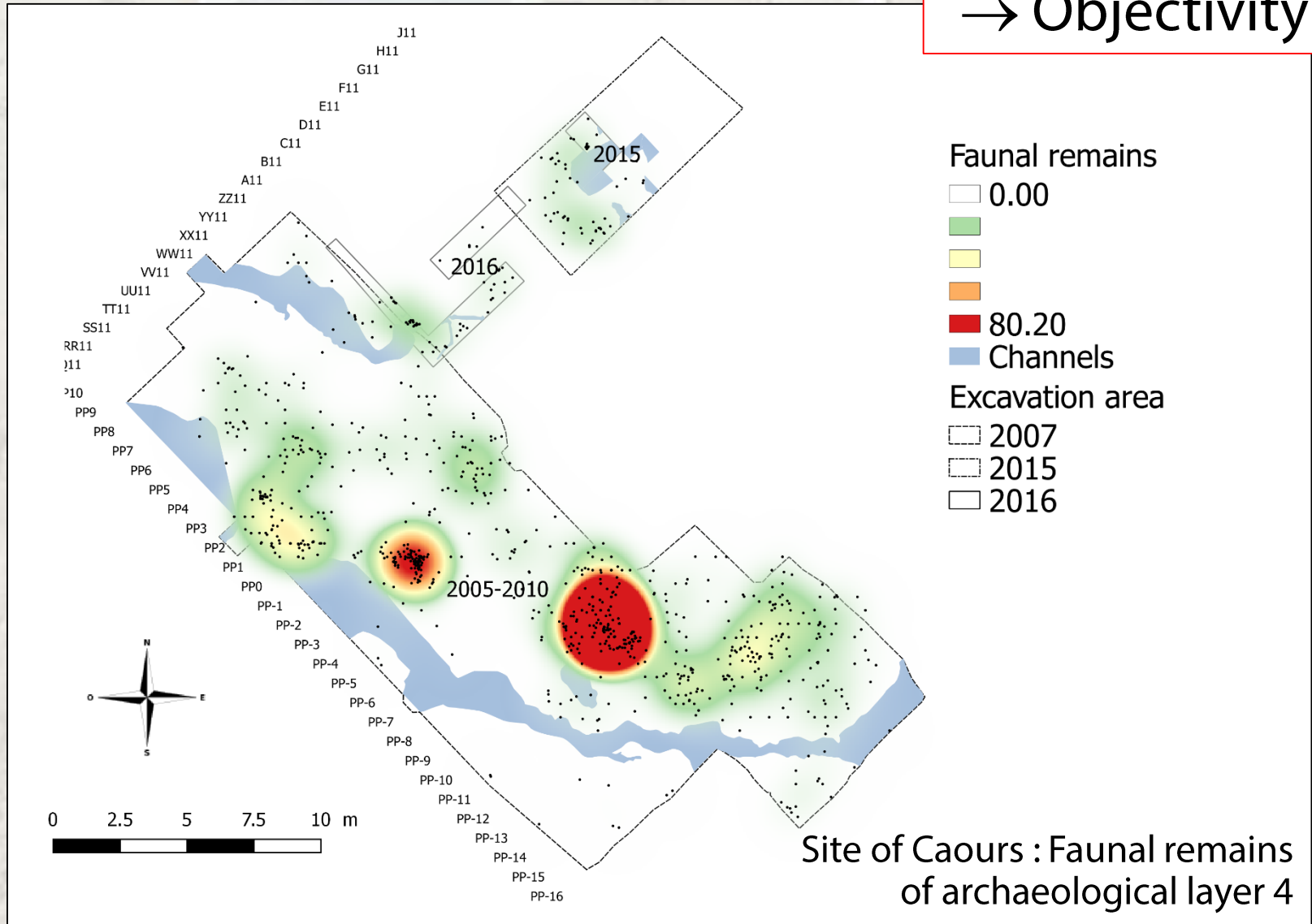
Activity area : Mesh analysis

→ Subjectivity



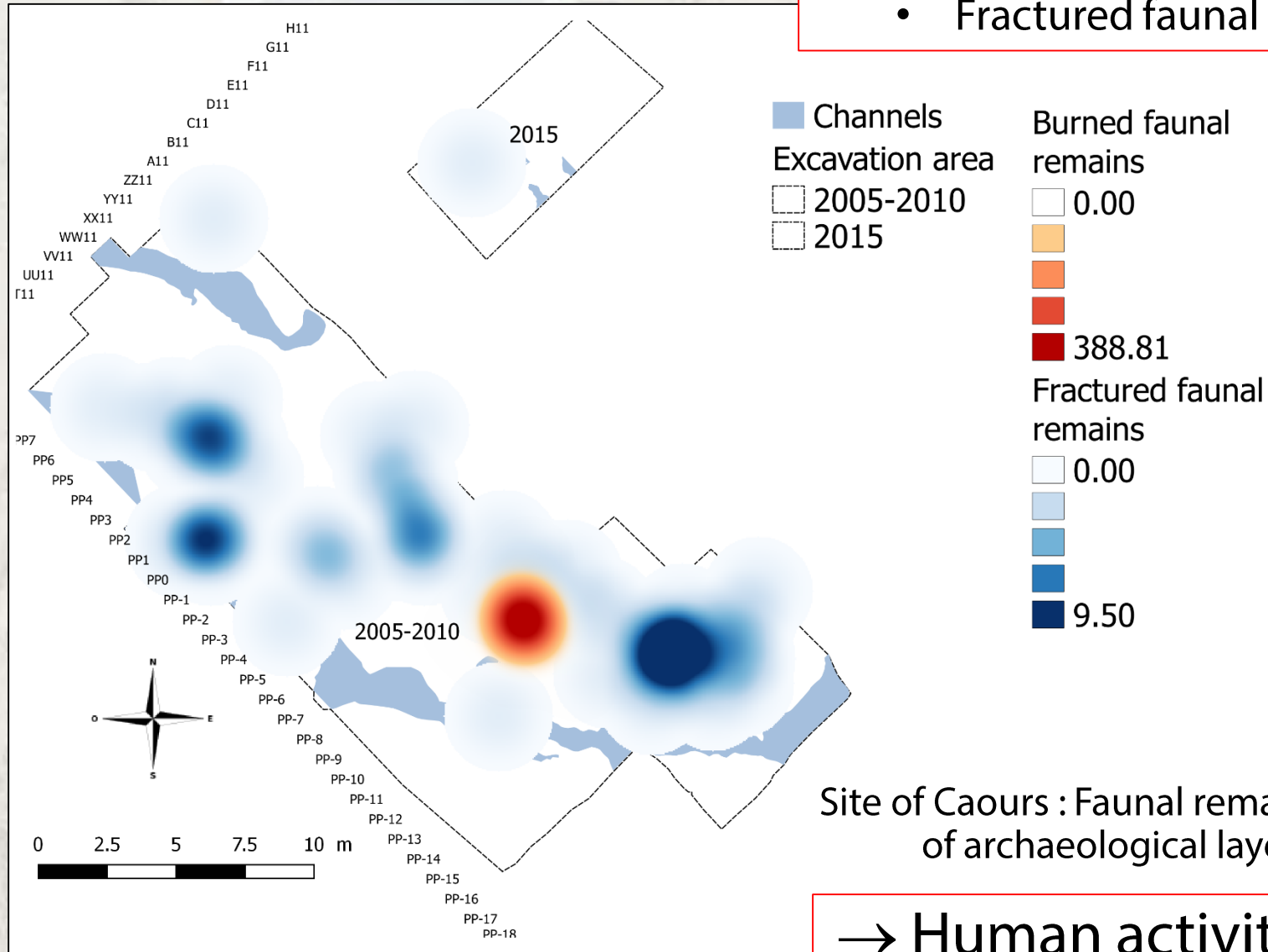
Activity area : Kernel Density estimation

→ Objectivity



Specific activity area

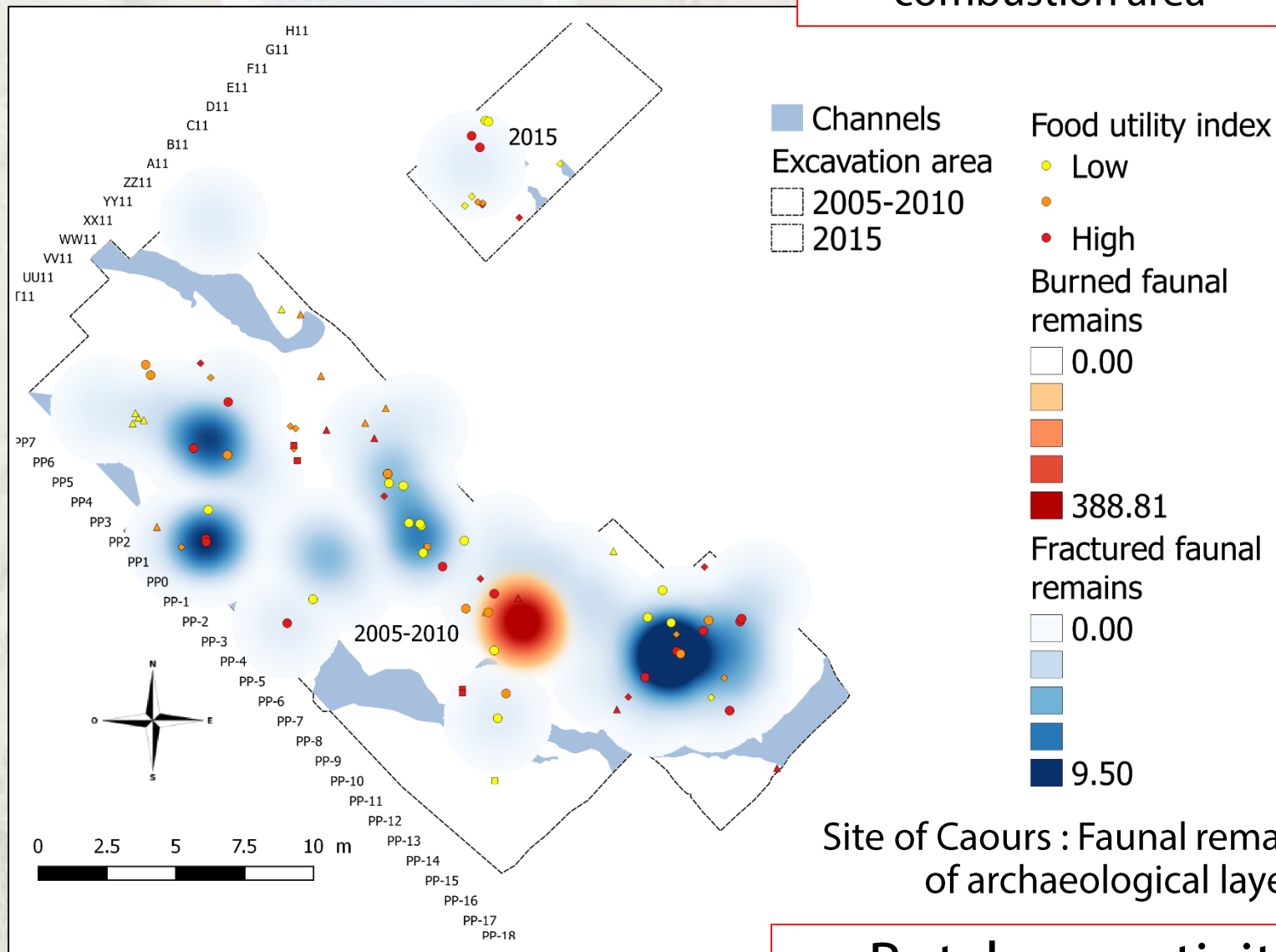
- Concentration zone of:
 - Burned faunal remains
 - Fractured faunal remains



→ Human activity area

Specific activity area

➤ Remains with high food utility near fracturation and combustion area



Site of Caours : Faunal remains of archaeological layer 4

→ Butchery activity area

Conclusion

Mesh analysis



Kernel Density Estimation

- Fracturation
- Combustion
- Food Utility



Highlight :

→ Human activity area

→ Butchery activity area



Confirm :

→ Butchery site

Future work

System

Fragmentation
Prey processing

Knapping workshop



Precise site function



Characterize Neandertal
groups

Thank you for your attention !



Thanks to Jean-Luc Loch, Marylène Patou-Mathis, Patrick Auguste et Noémie Sévêque for give us access to numerous data of this two sites.

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