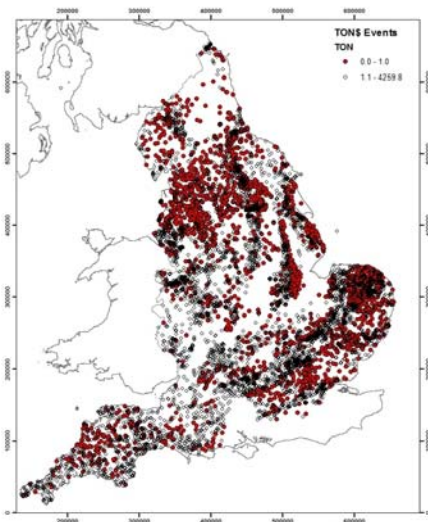


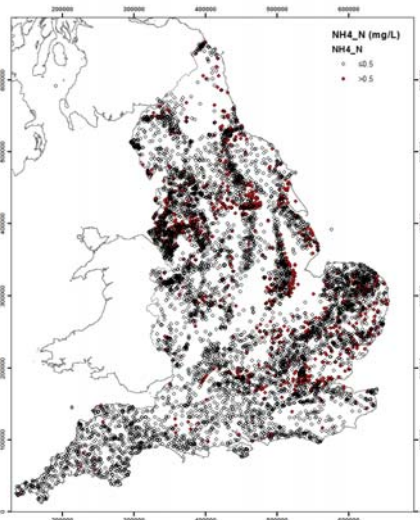
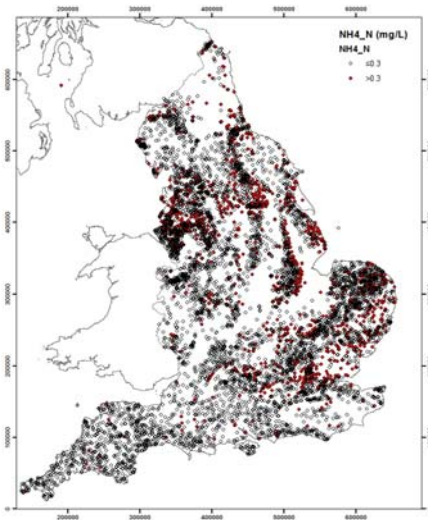
# Appendix 1 Defining criteria from monitoring data

## A1.1 NITROGEN SPECIES

### TON

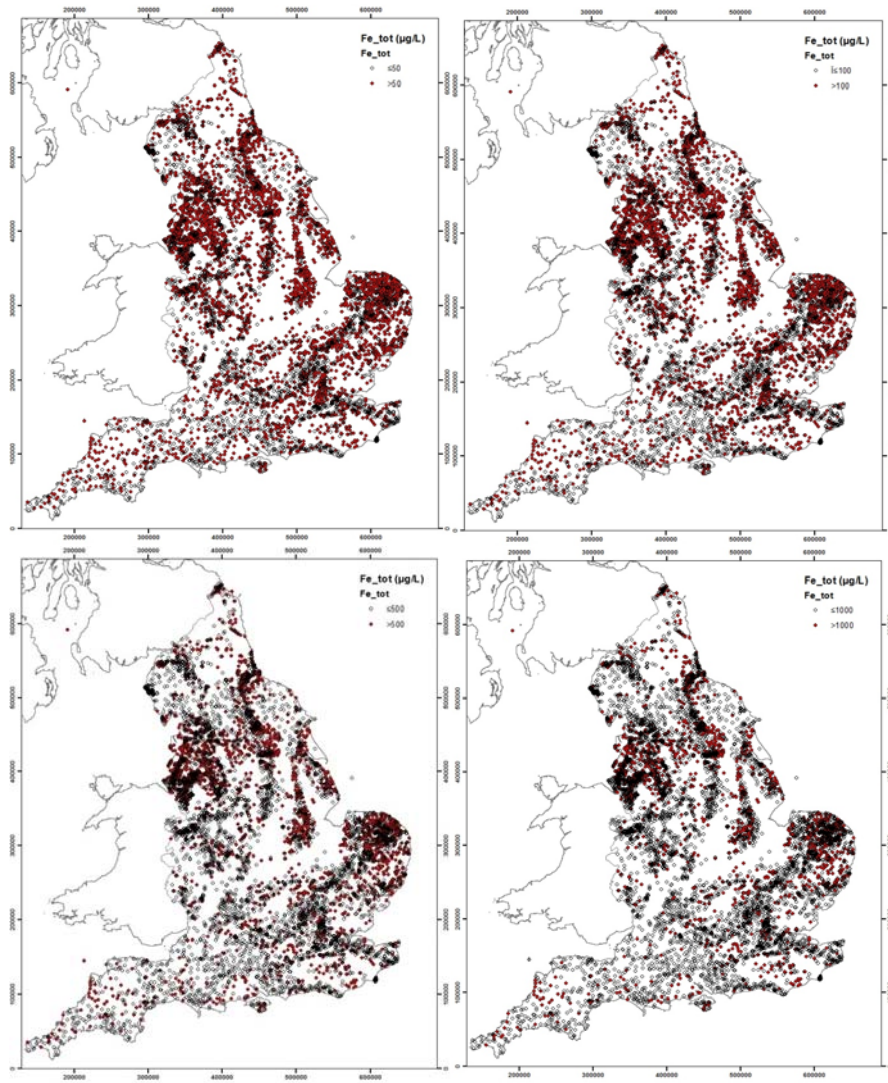


### Ammonia

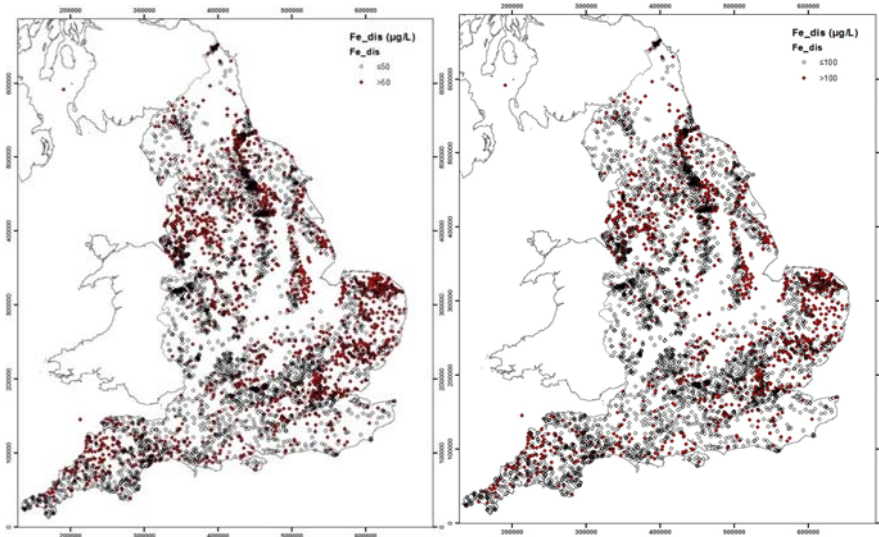


## A1.2 TRACE METALS

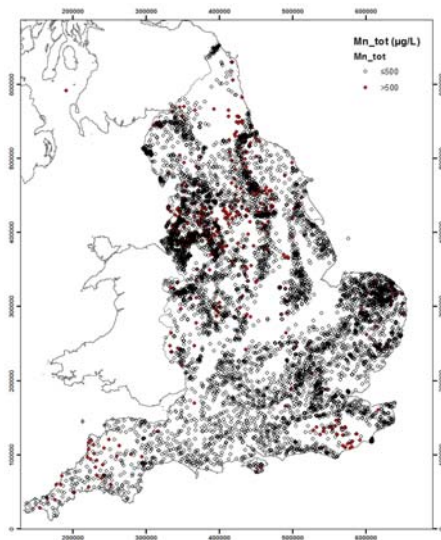
### Fe total



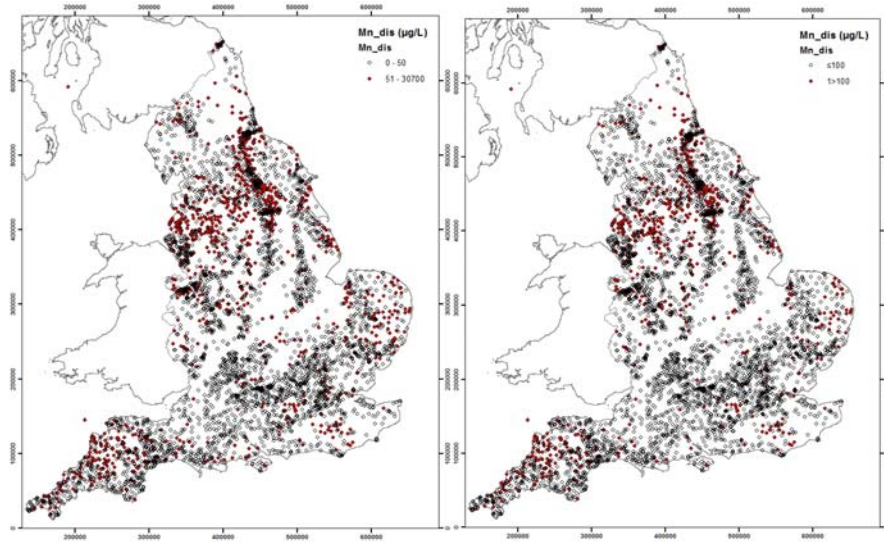
### Fe dissolved



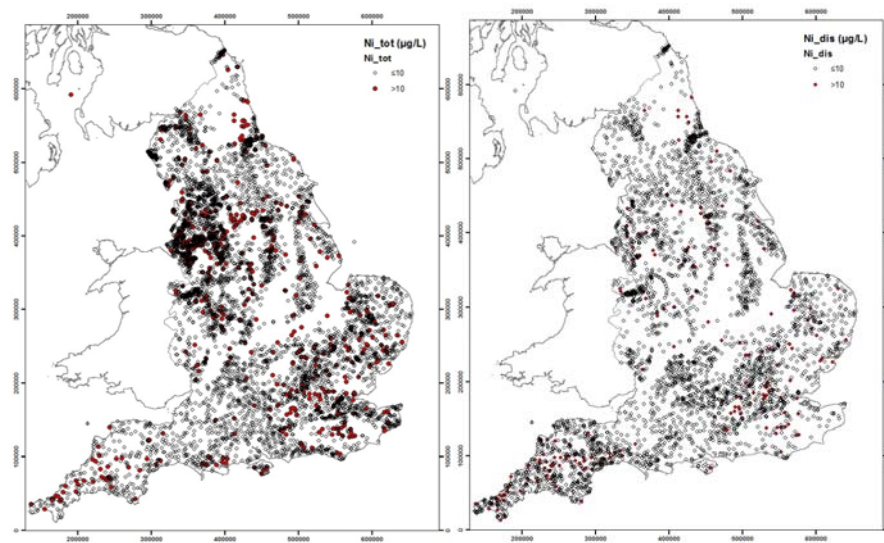
### Mn total



### Mn dissolved

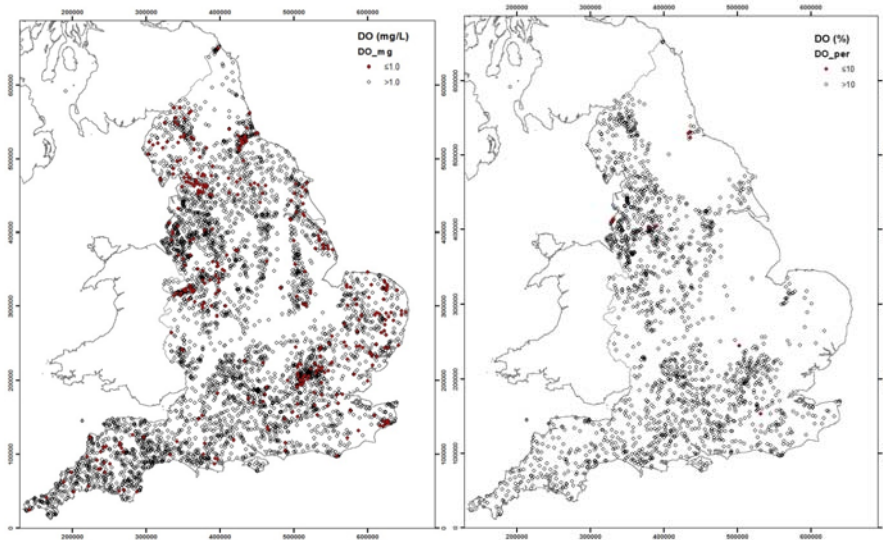


### Ni



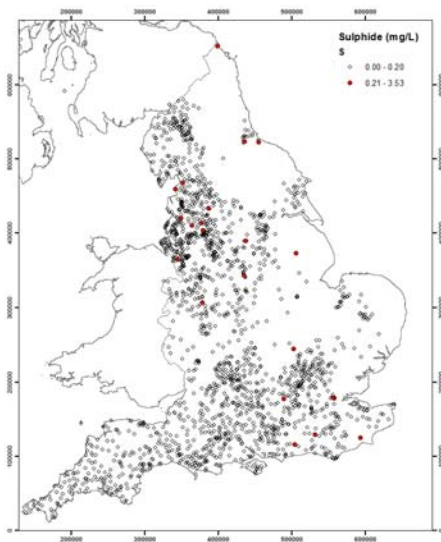
### A1.3 OXYGEN AND S-SPECIES

#### DO



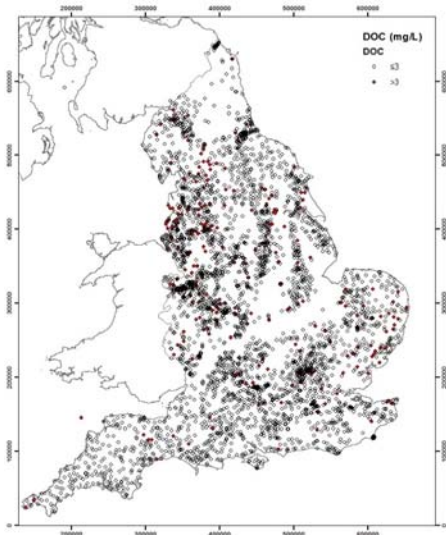
#### SO4

#### S

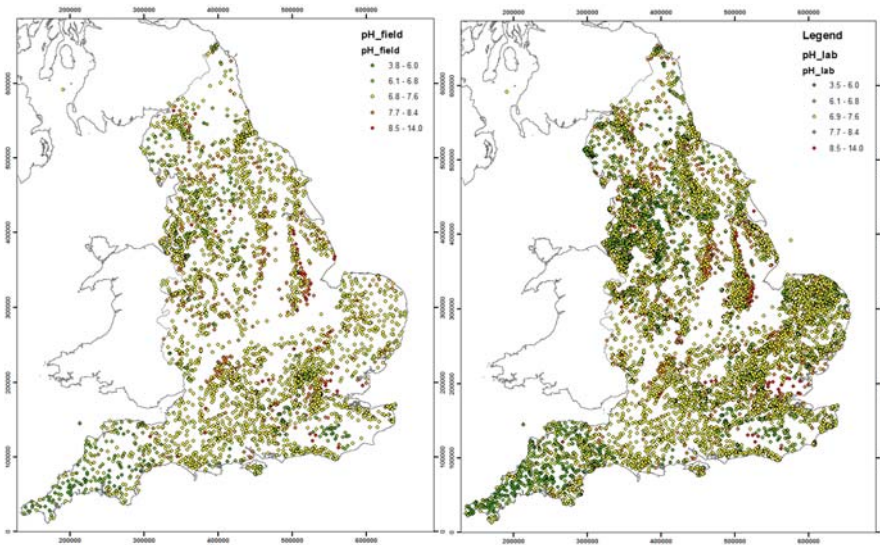


## A1.4 DOC AND PH

### DOC



### pH

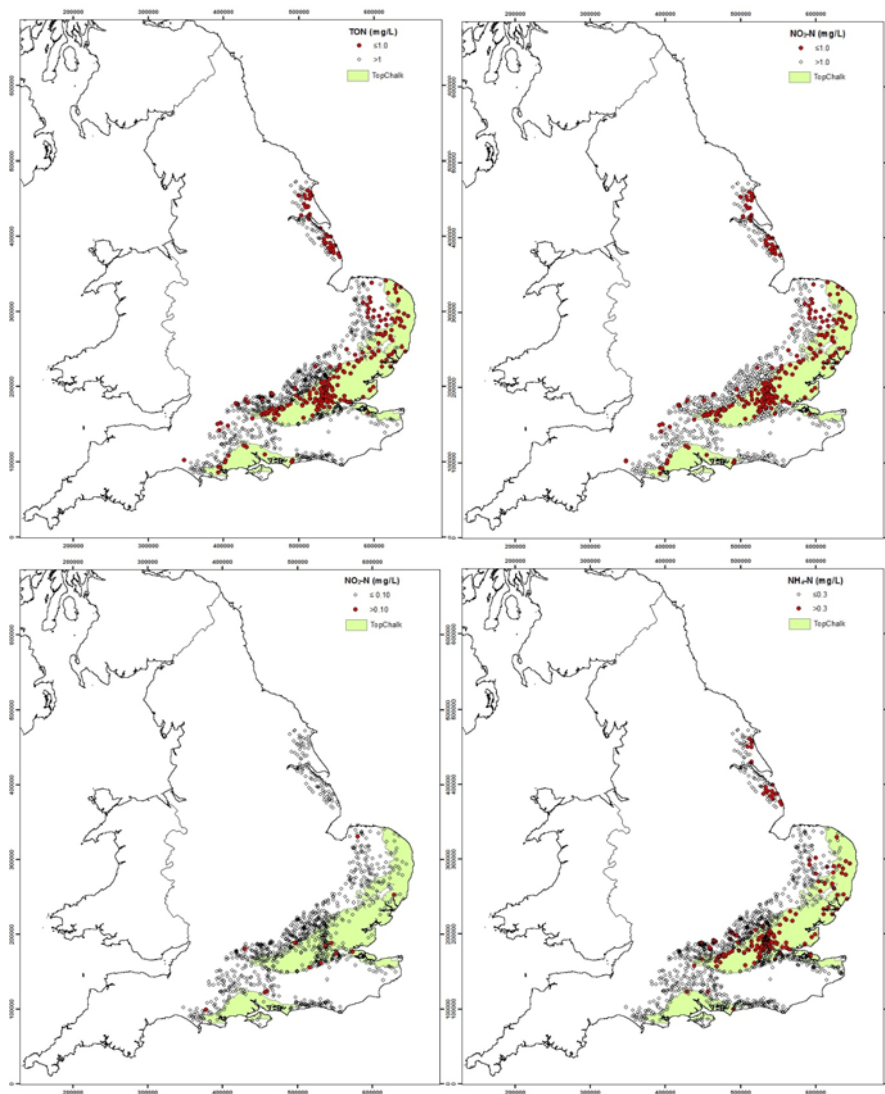


## Appendix 2 Maps of indicators plotted on subcrop or low permeability superficials

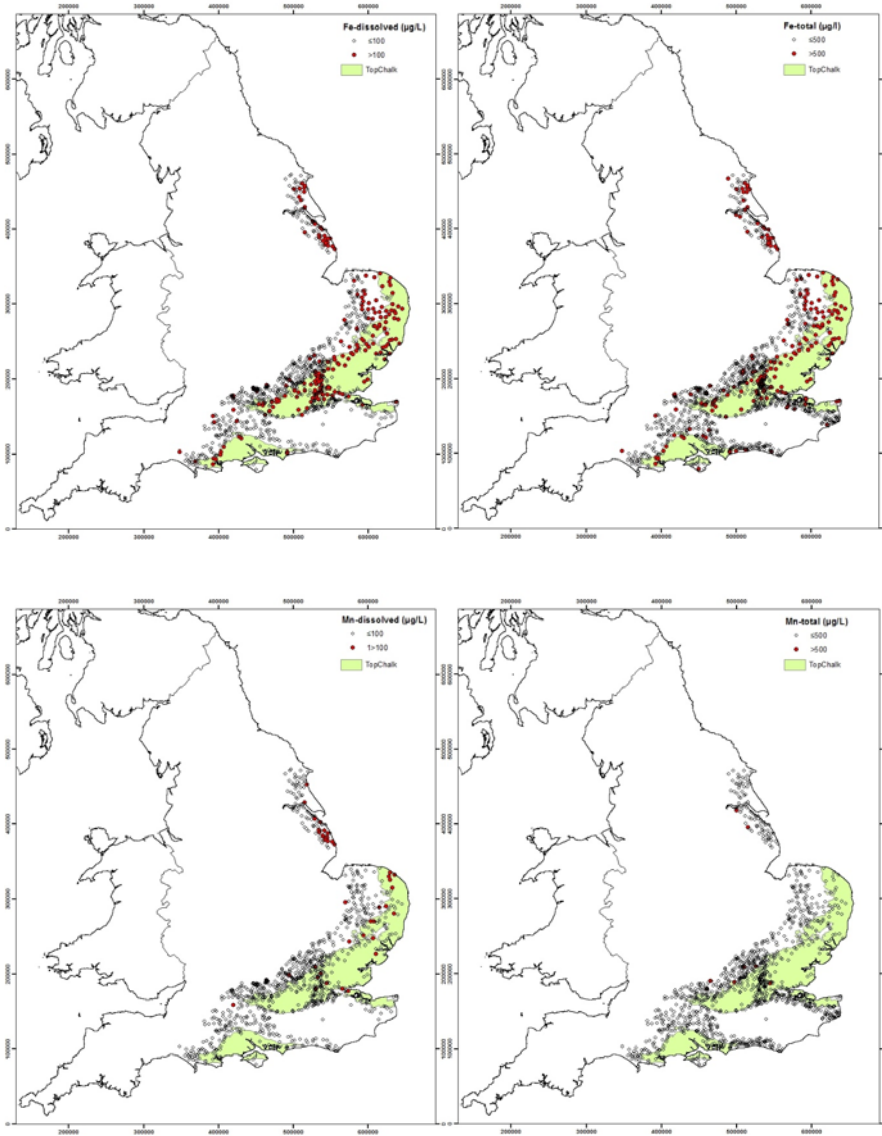
### A2.1 AQUIFER SUBCROP

CHALK SUPERGROUP

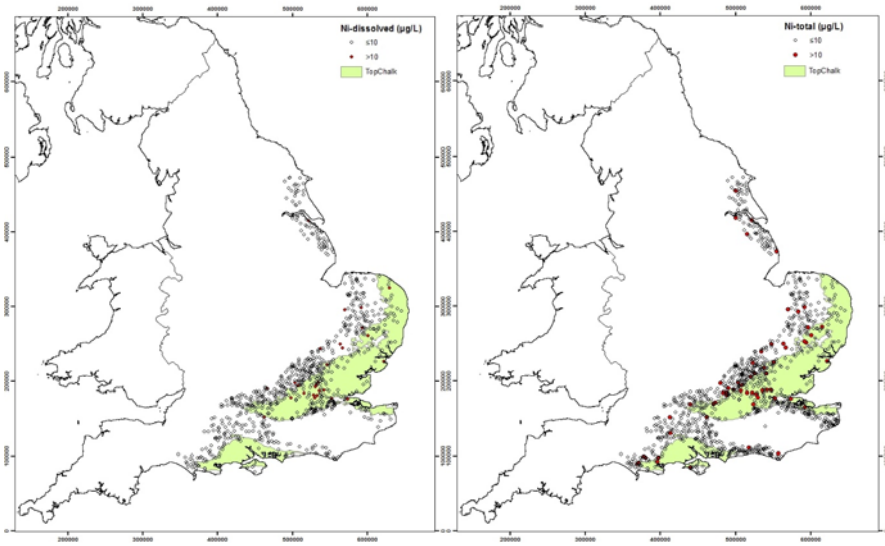
*N-species*



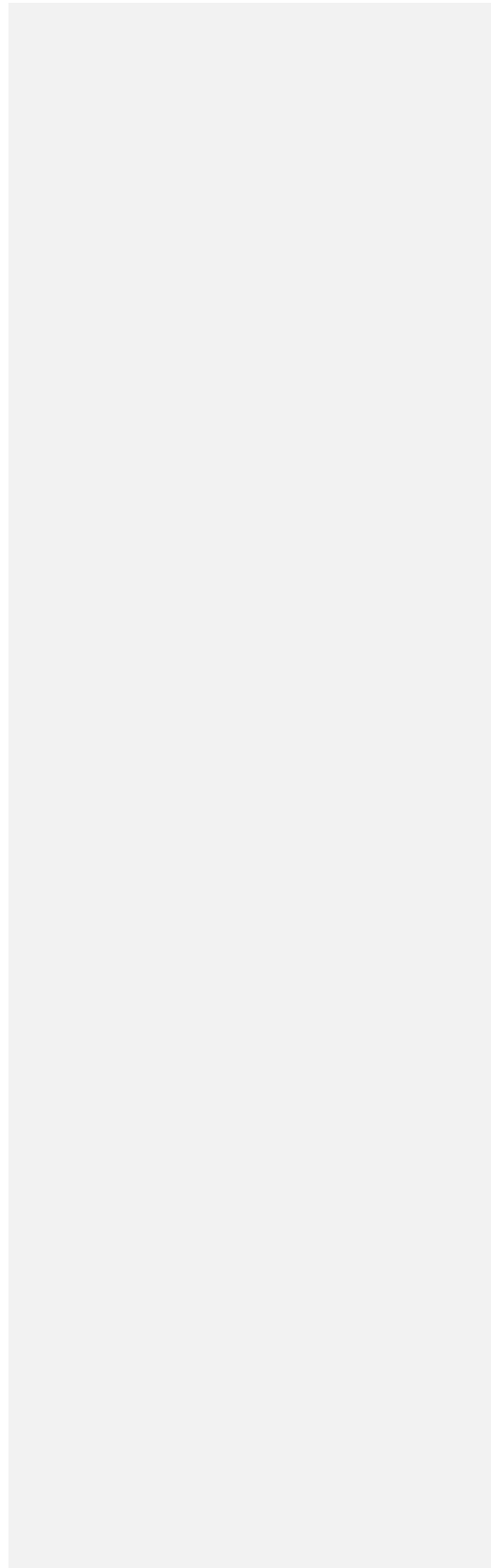
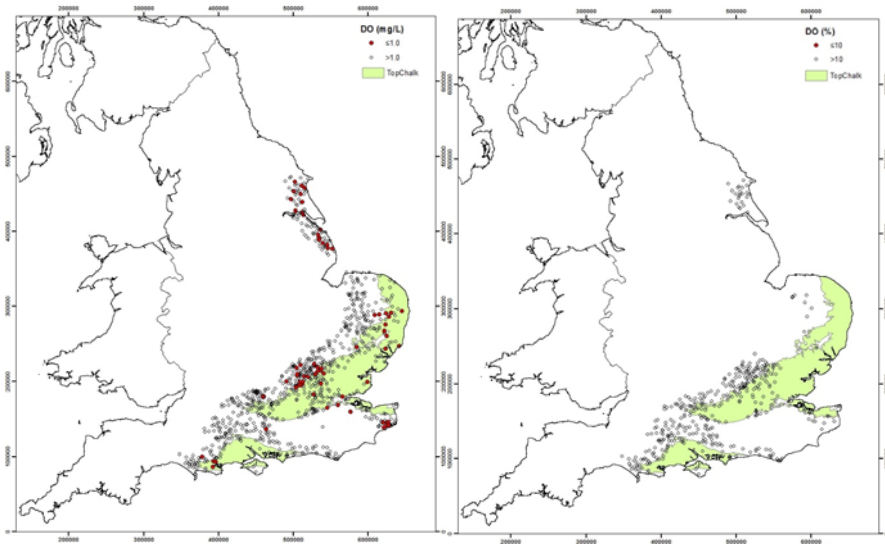
Trace metals

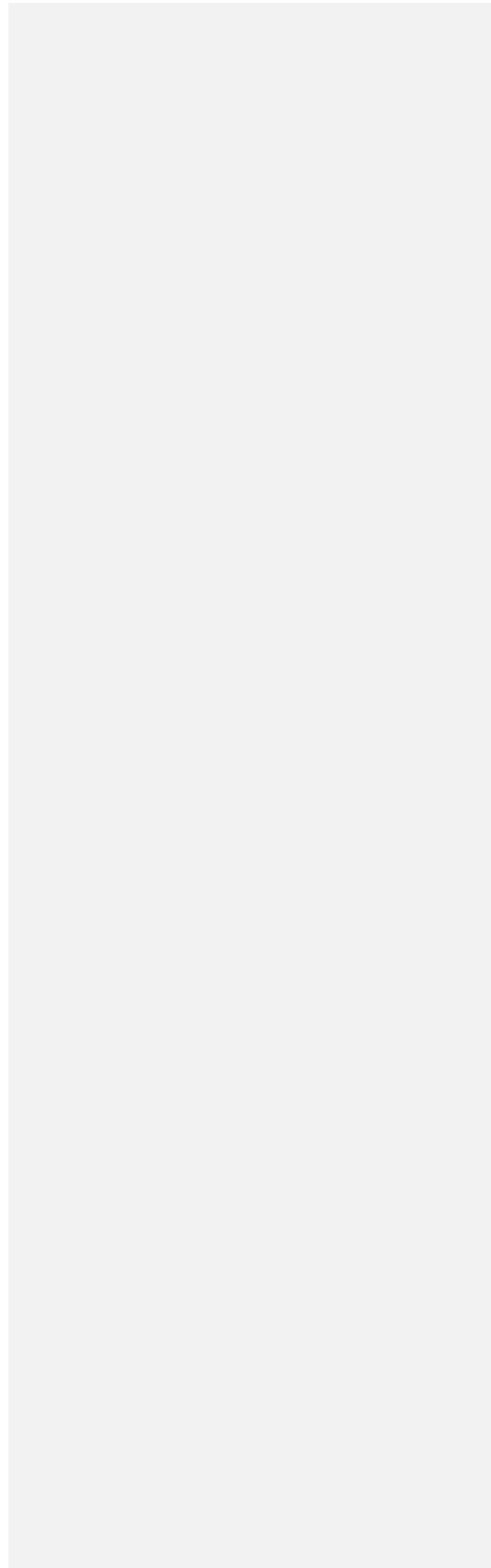
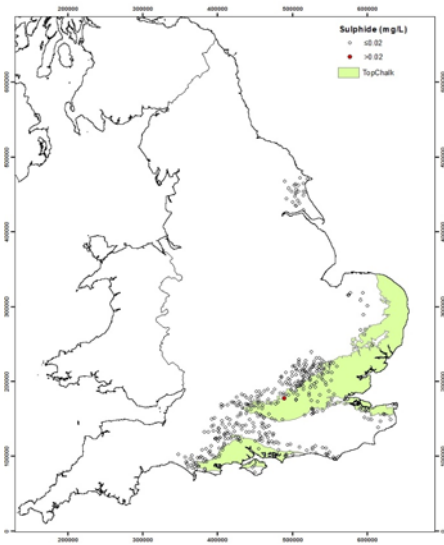
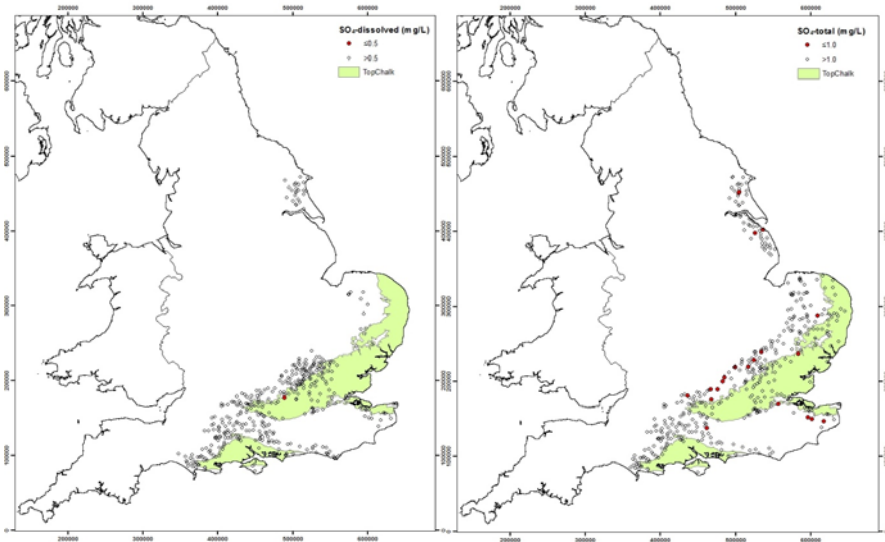




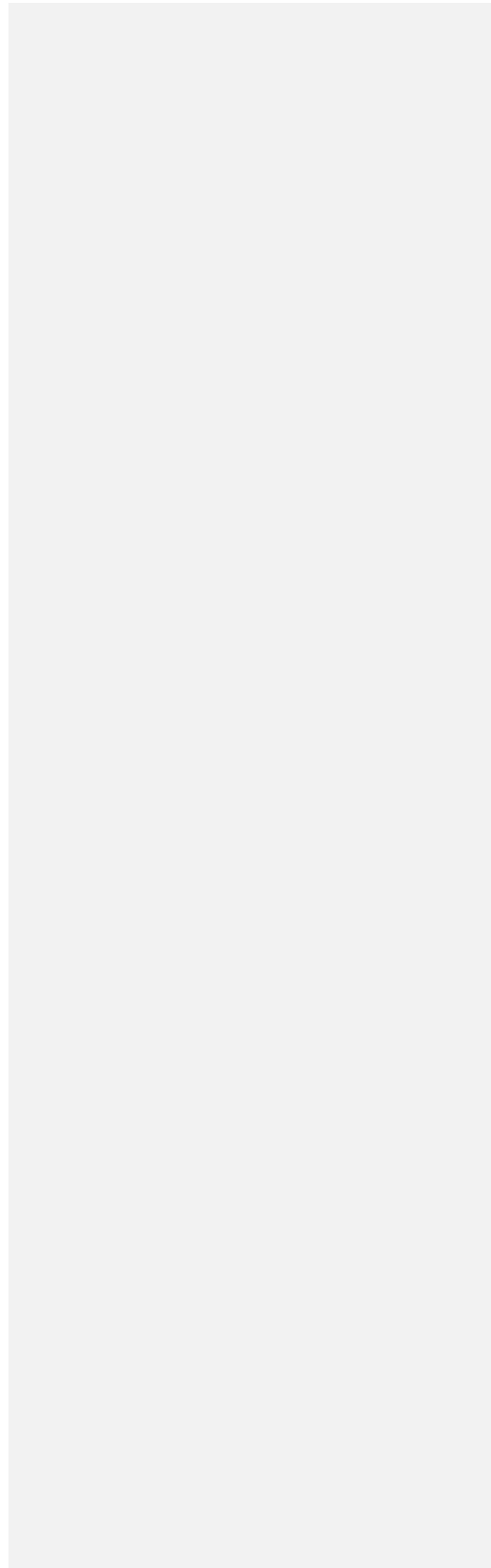
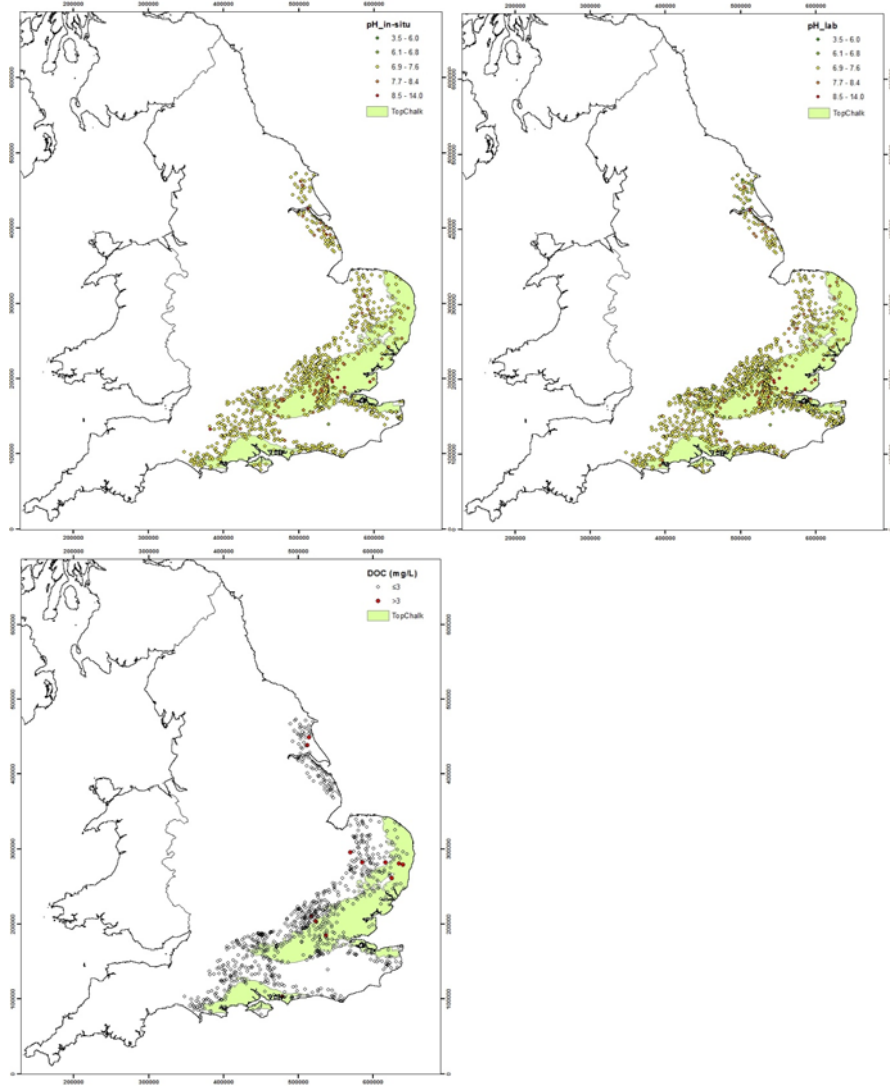


*DO and S-species*



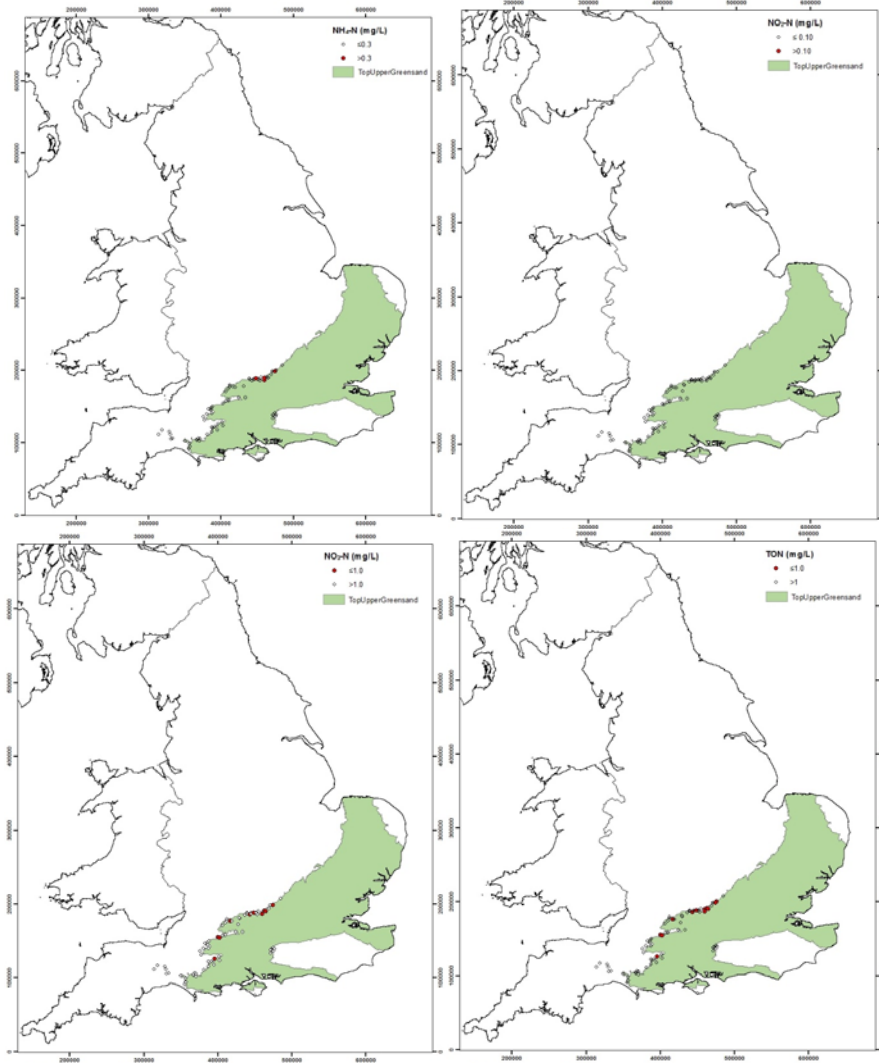


DOC and pH

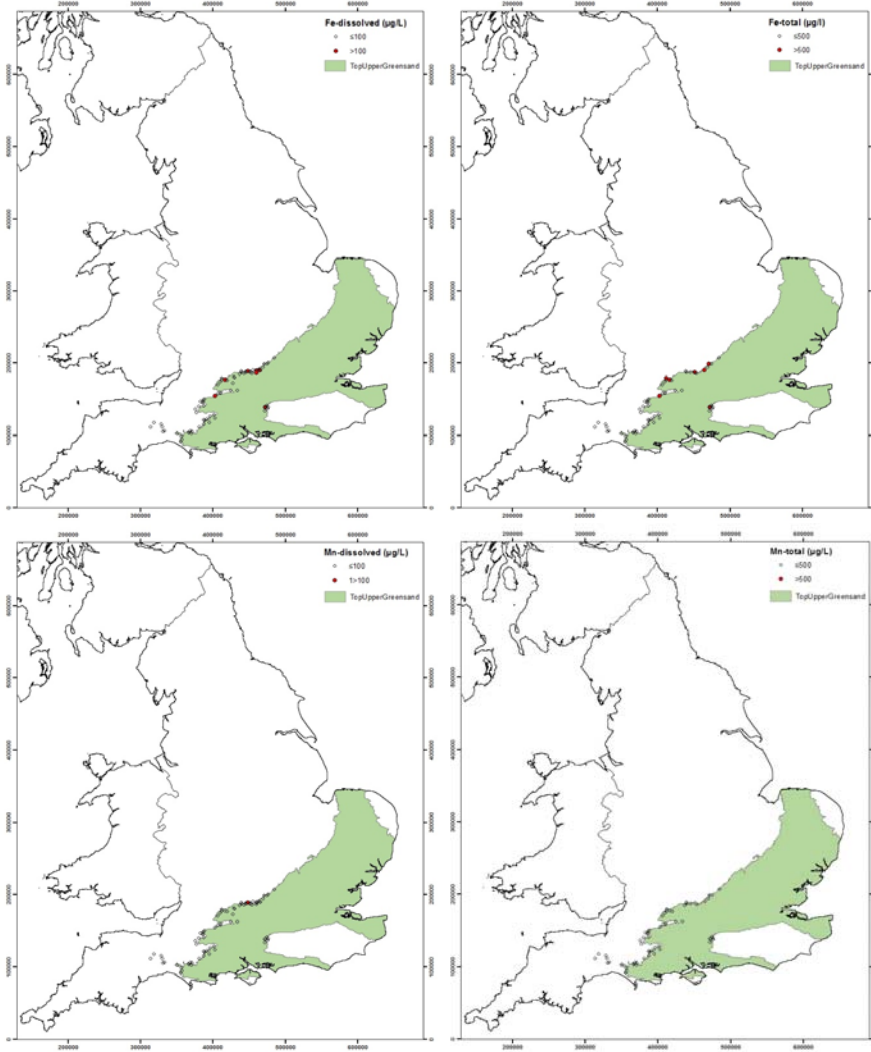


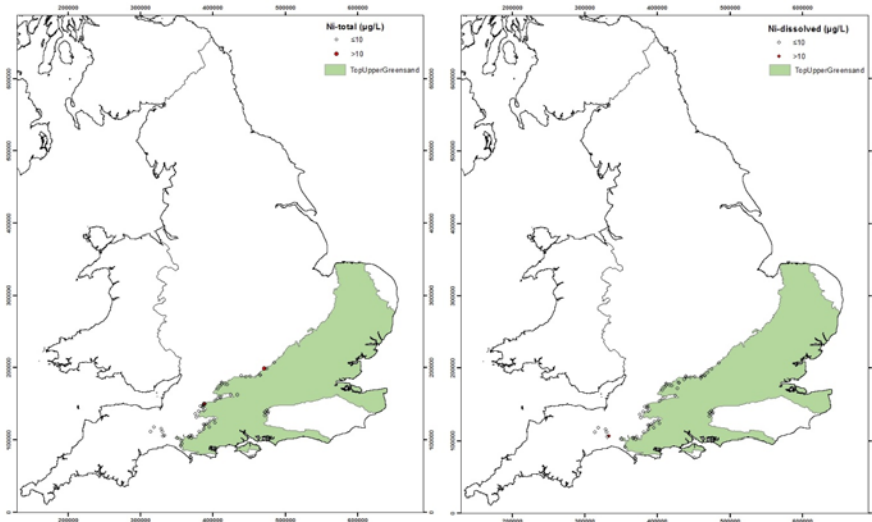
# UPPER GREENSAND FORMATION

## *N-species*

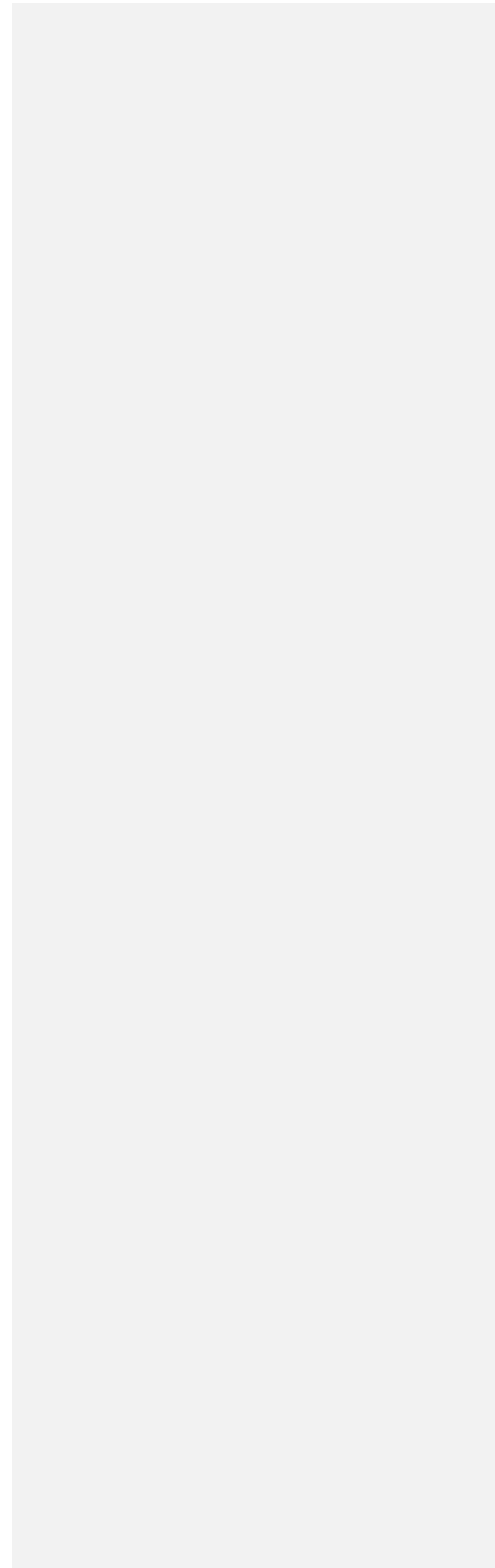
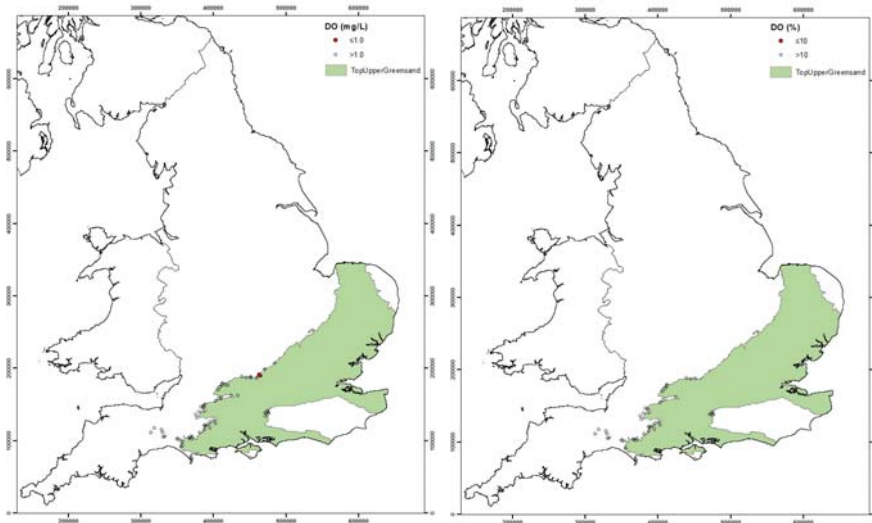


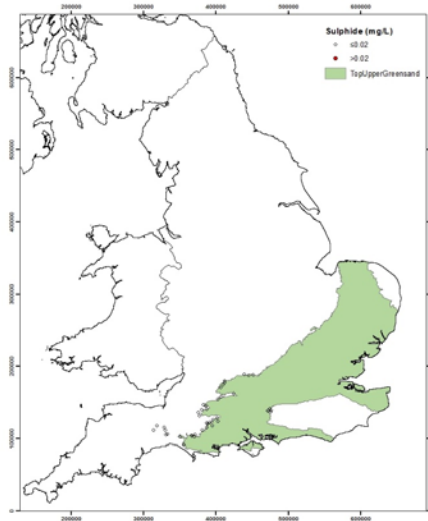
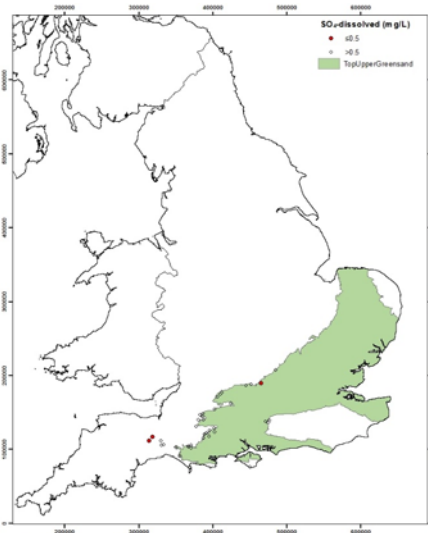
Trace metals



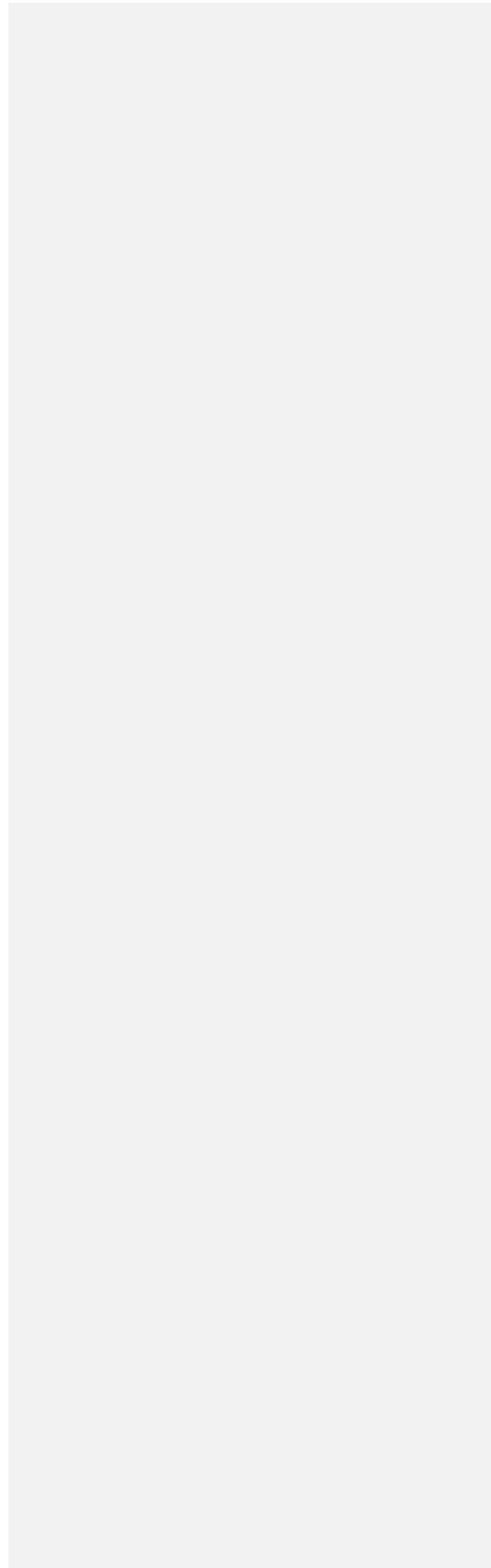
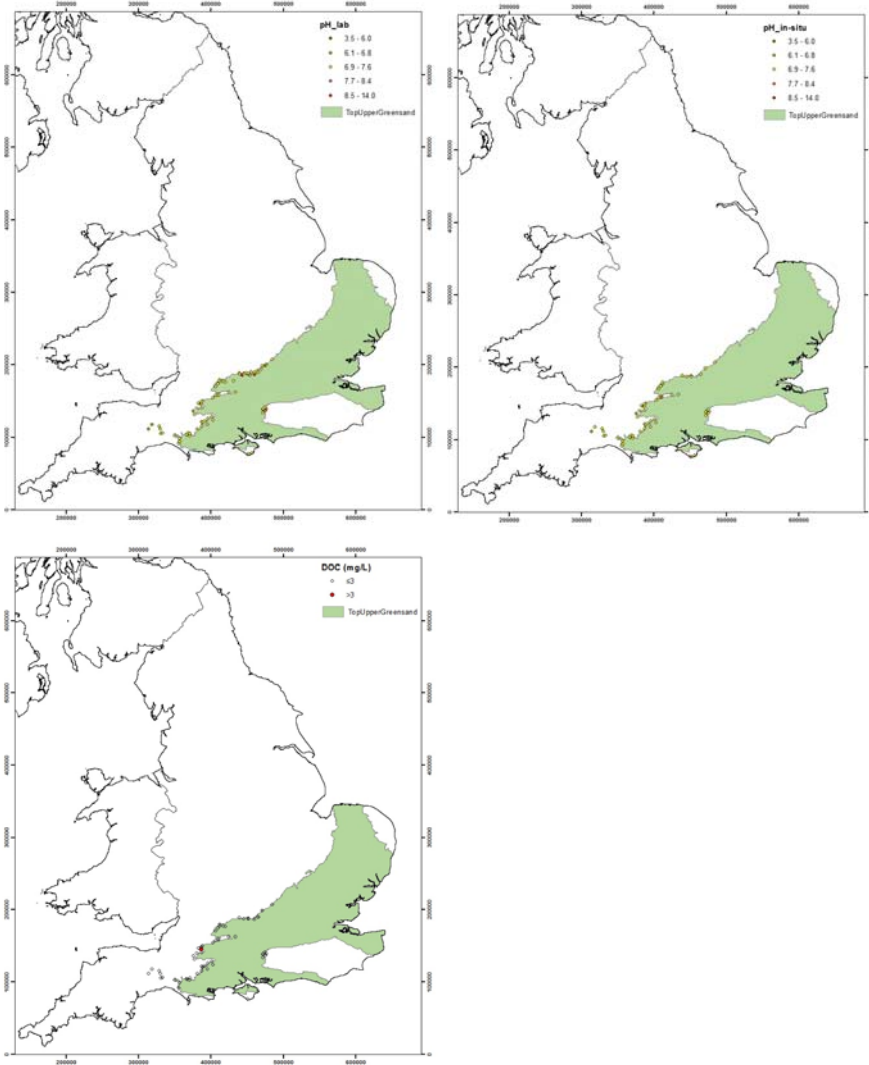


*DO and S-species*





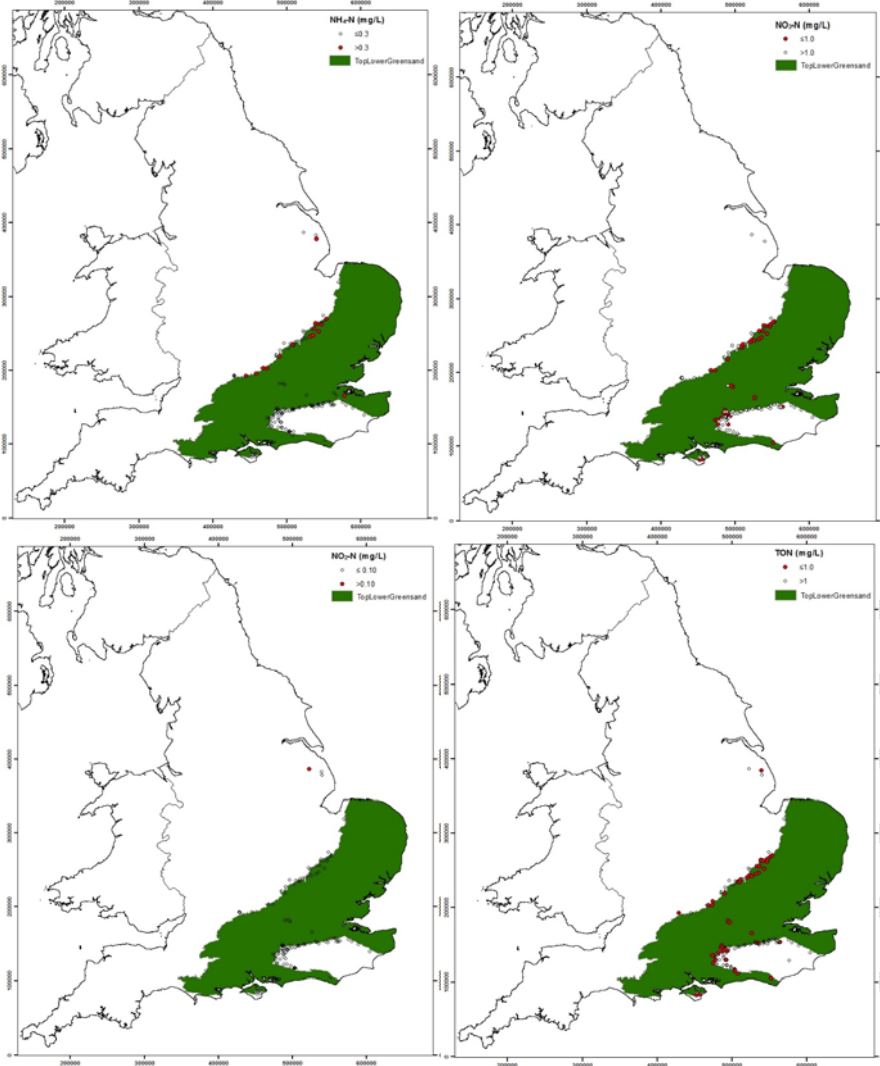
DOC and pH



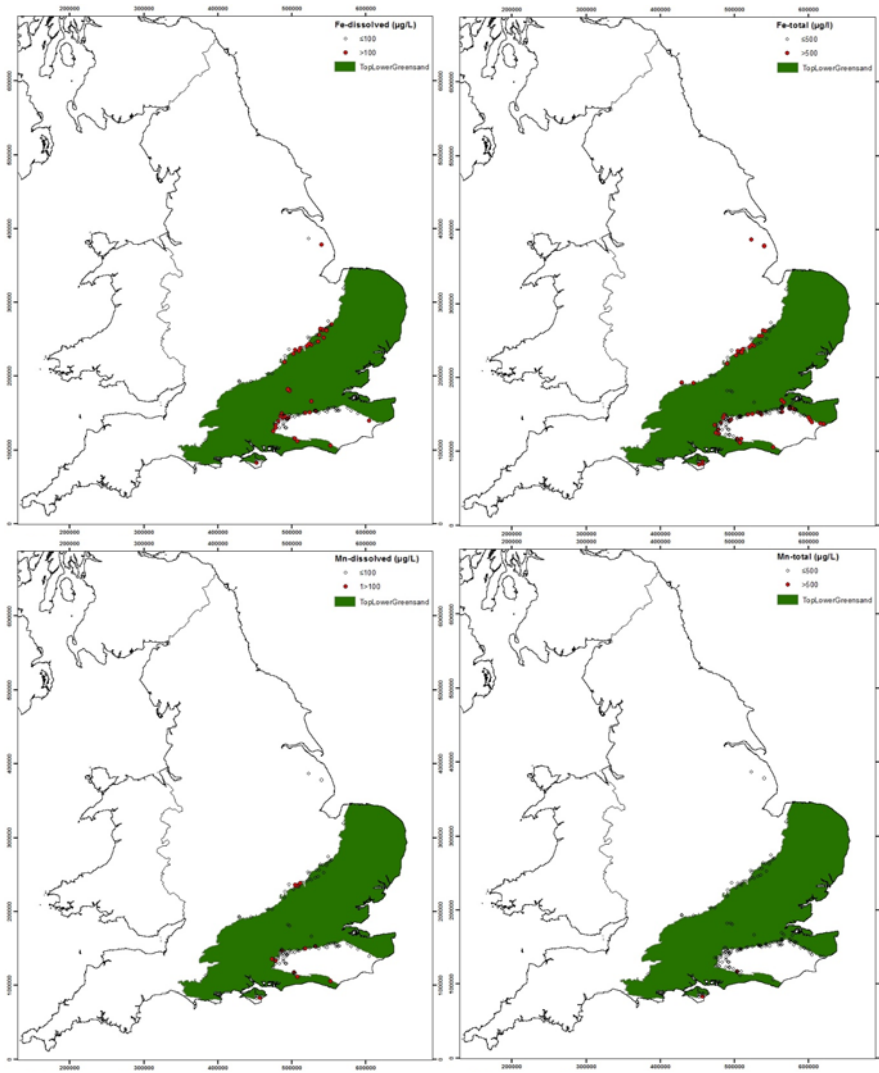


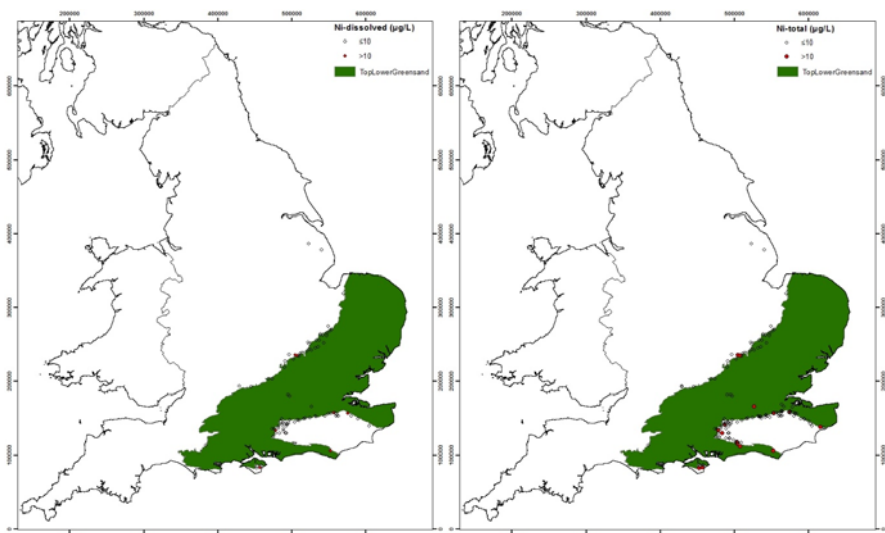
LOWER GREENSAND GROUP

*N*-species

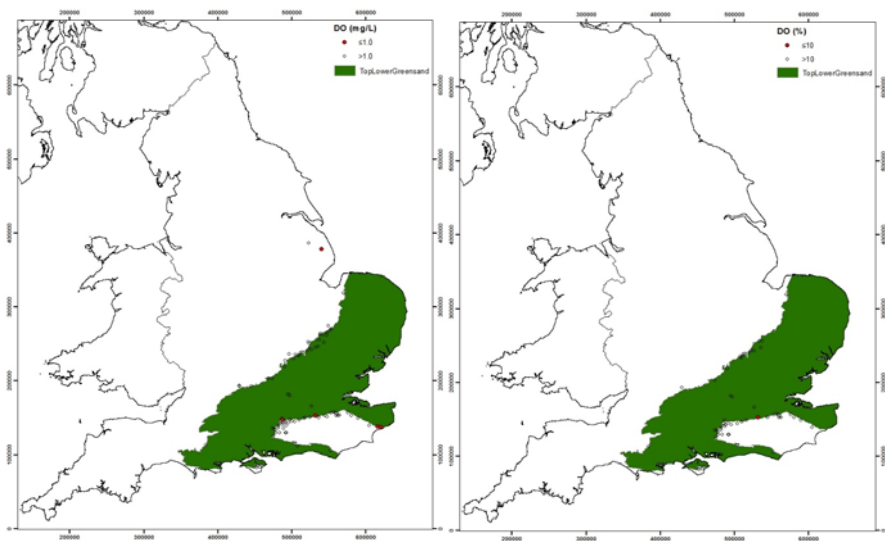


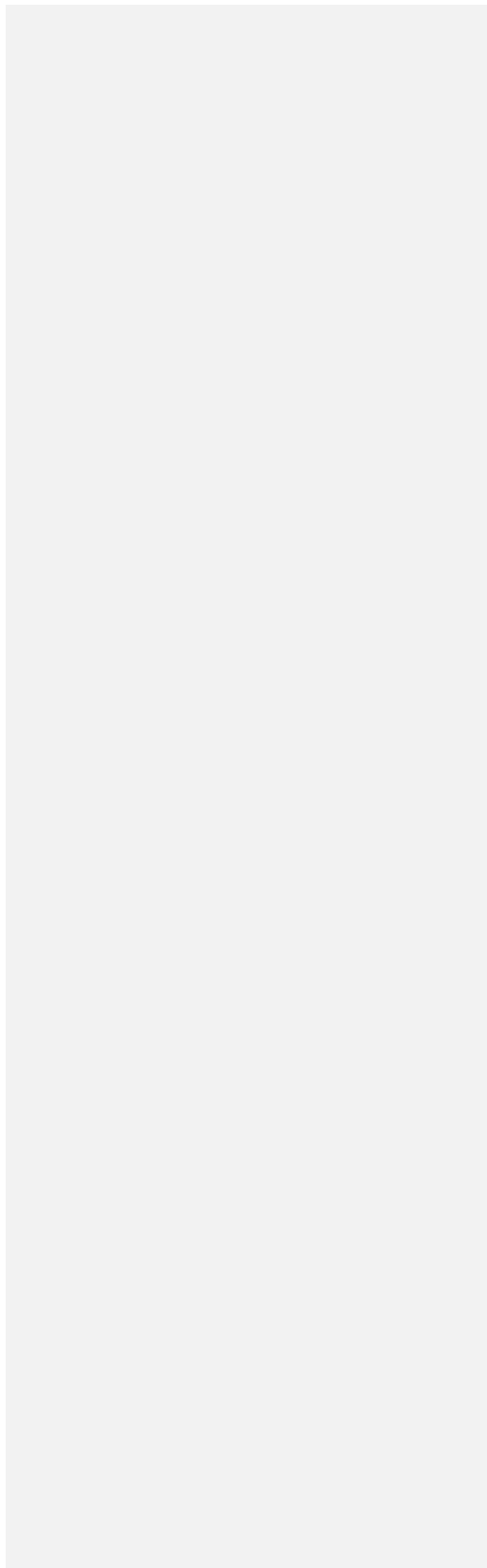
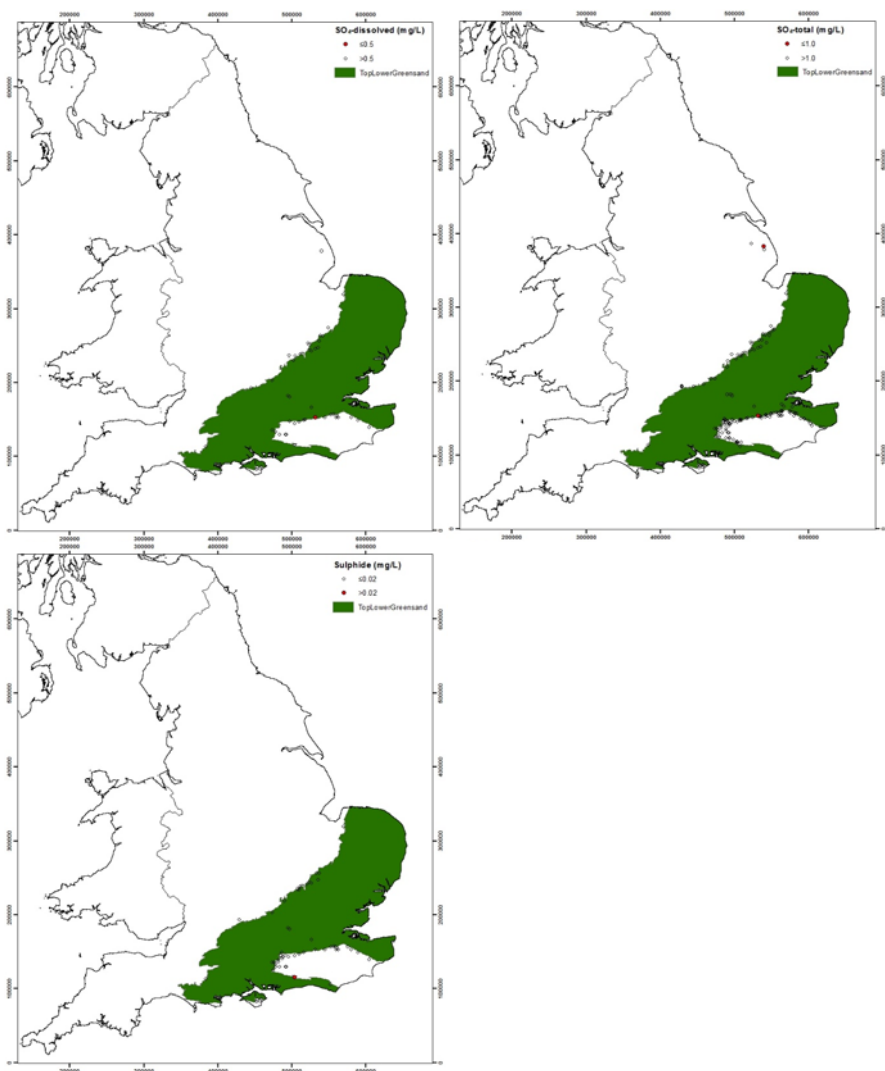
Trace metals



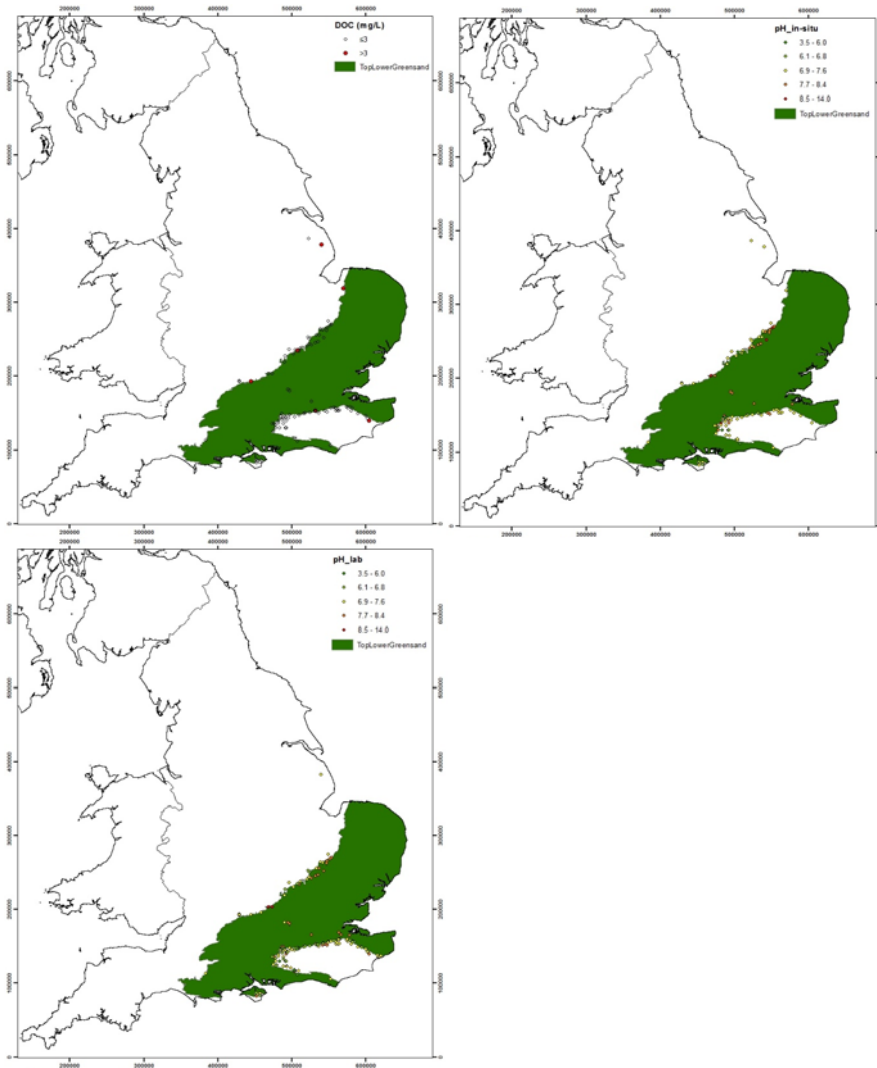


*DO and S-species*



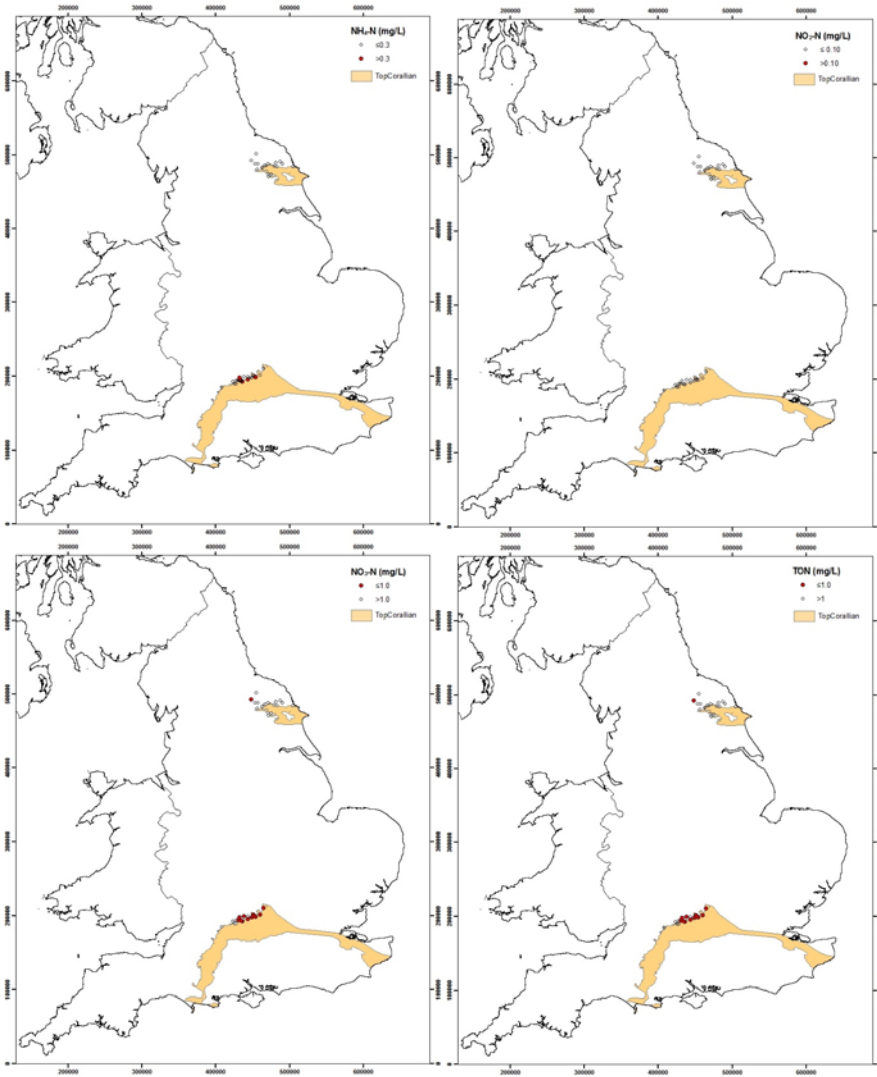


DOC and pH

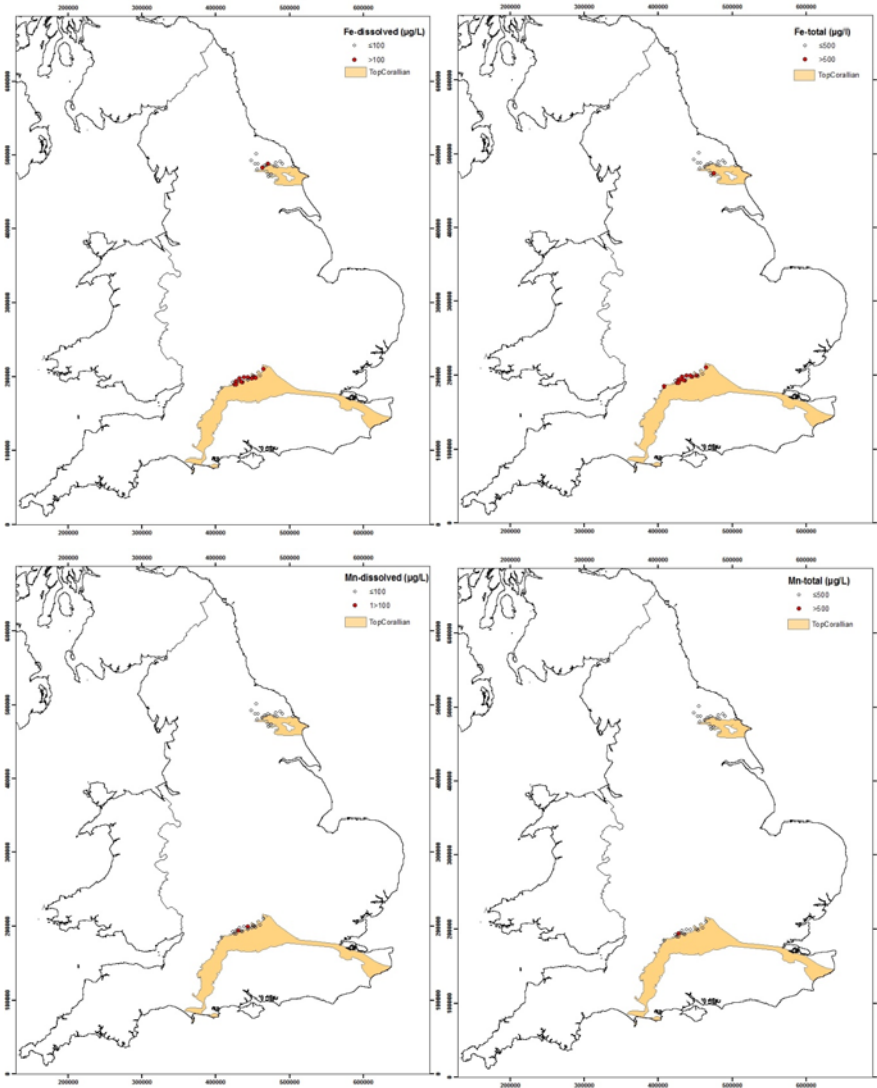


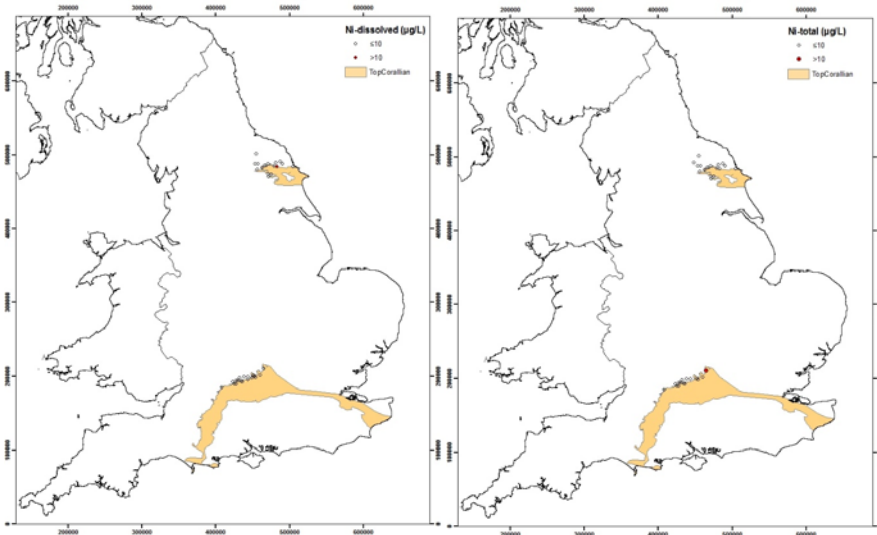
CORALLIAN GROUP

*N-species*

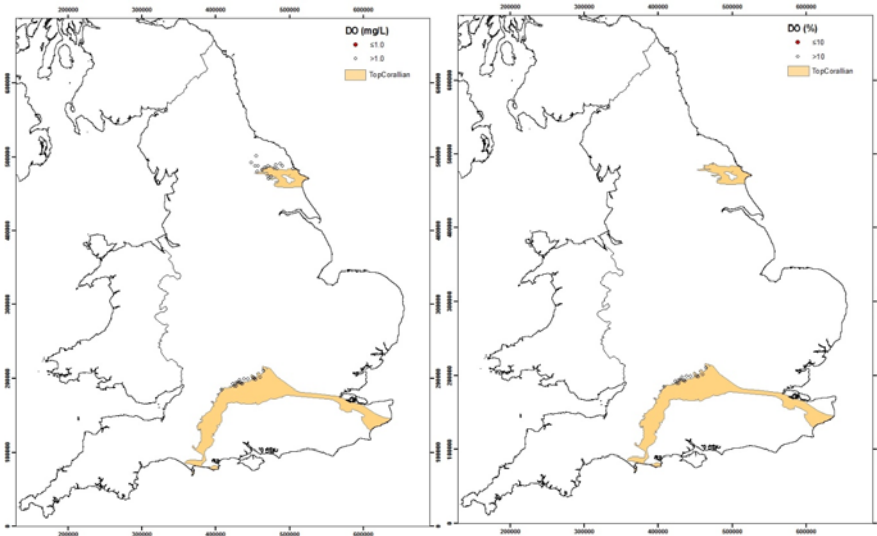


Trace metals

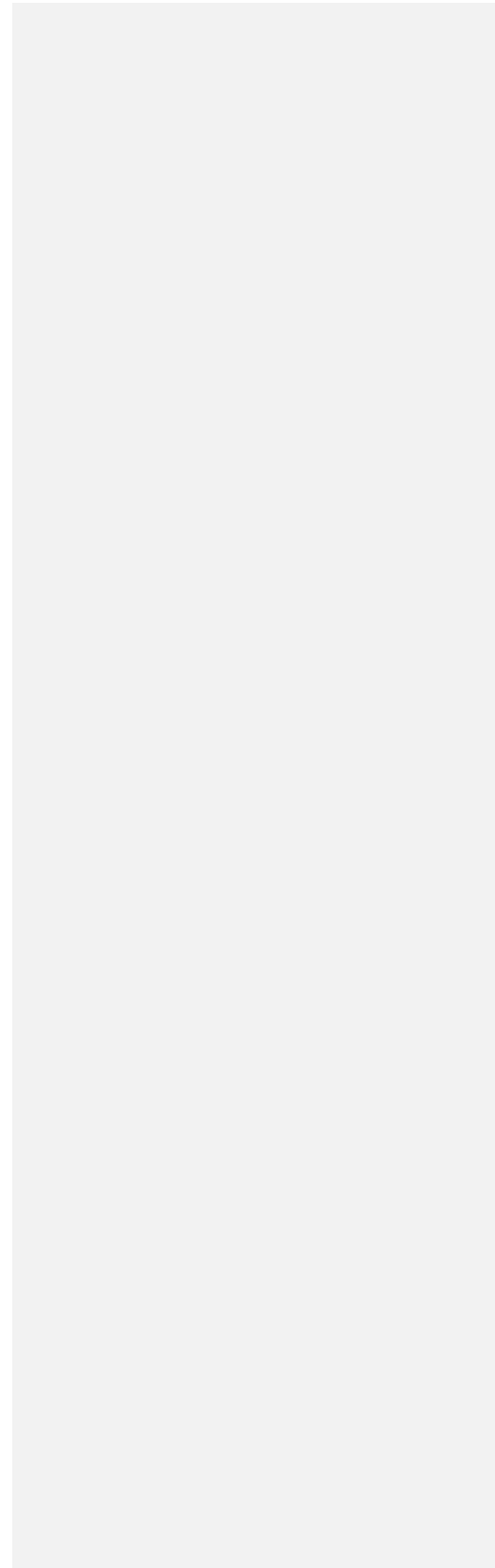
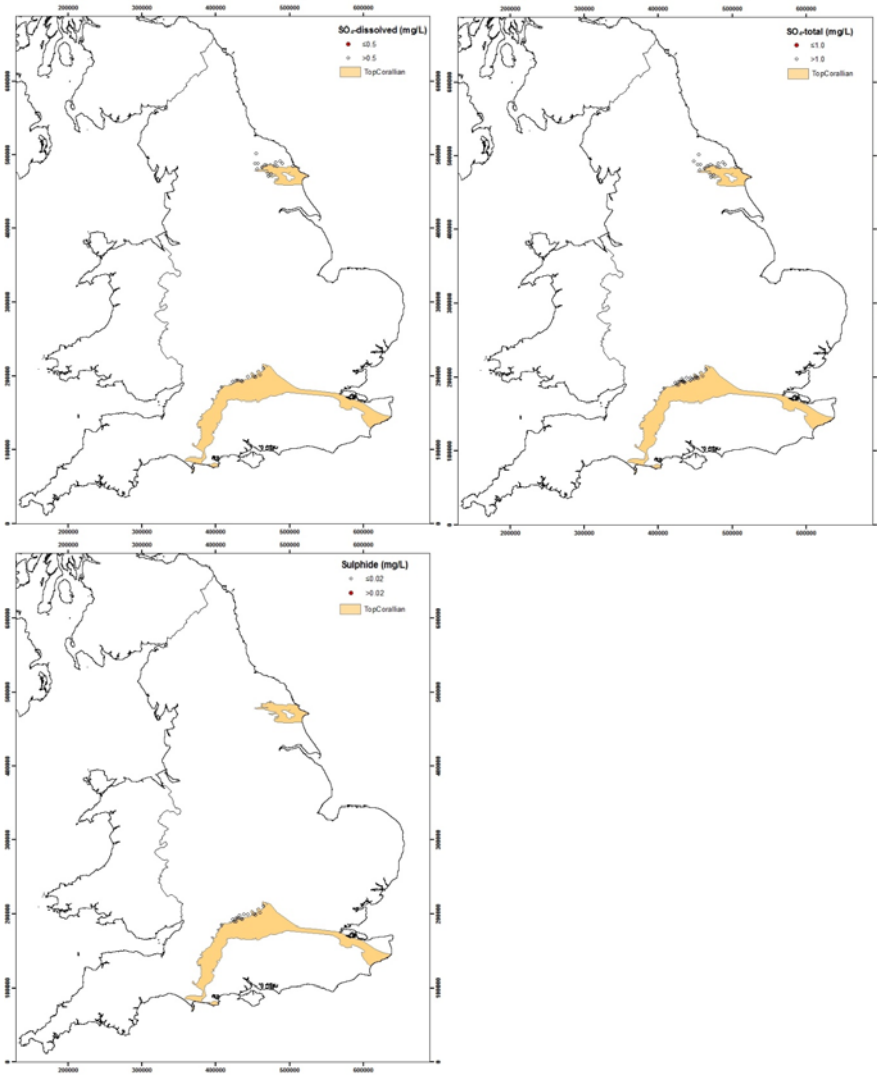




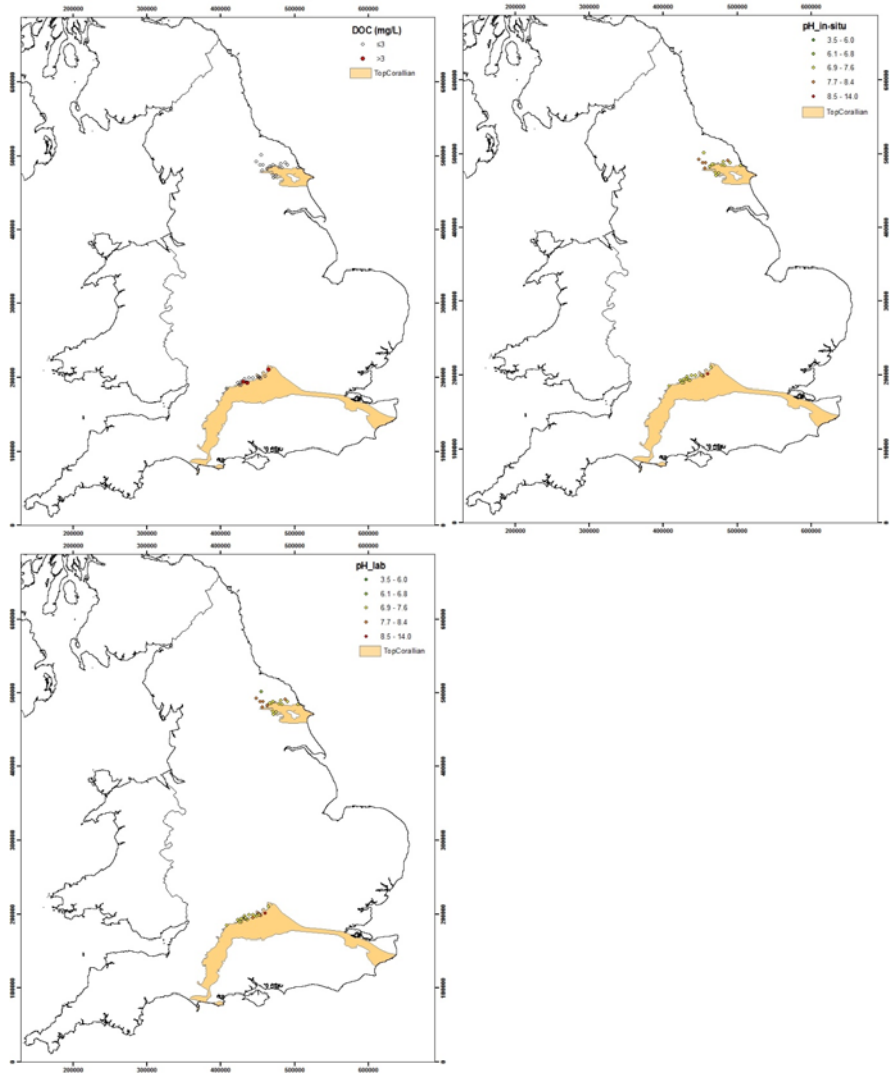
*DO and S-species*





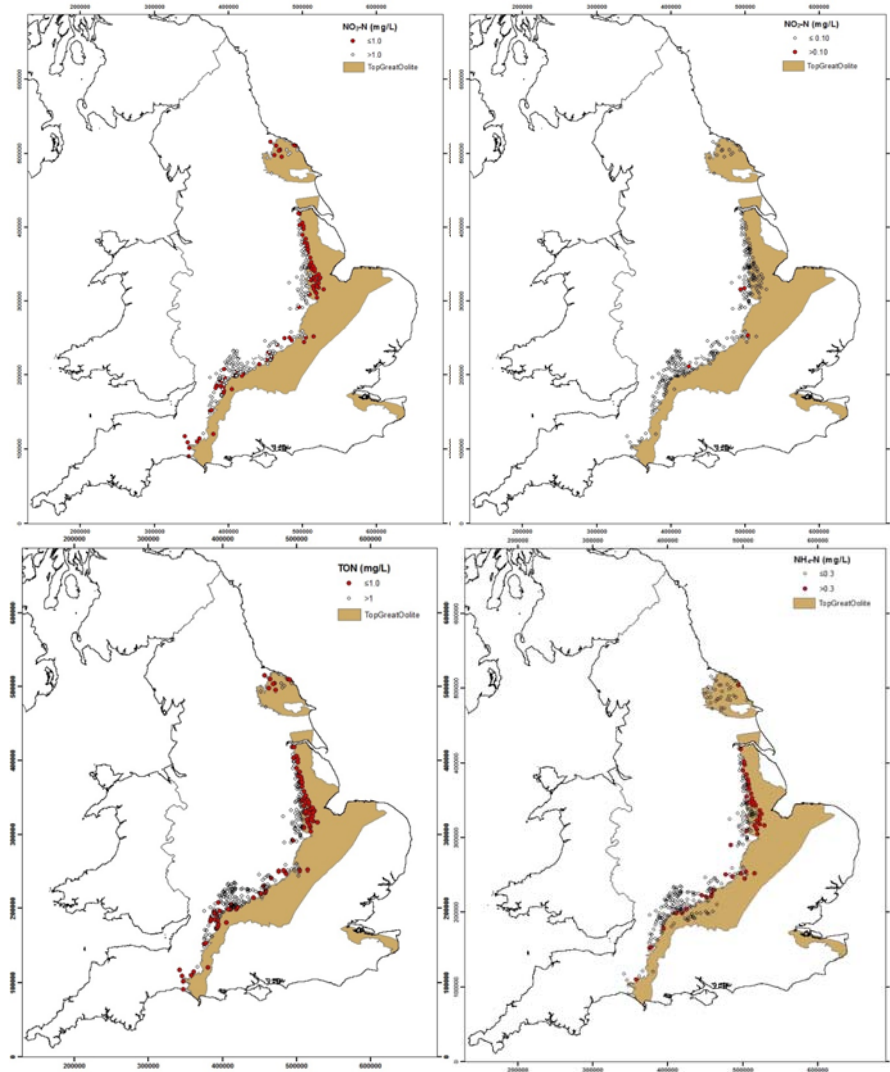


DOC and pH

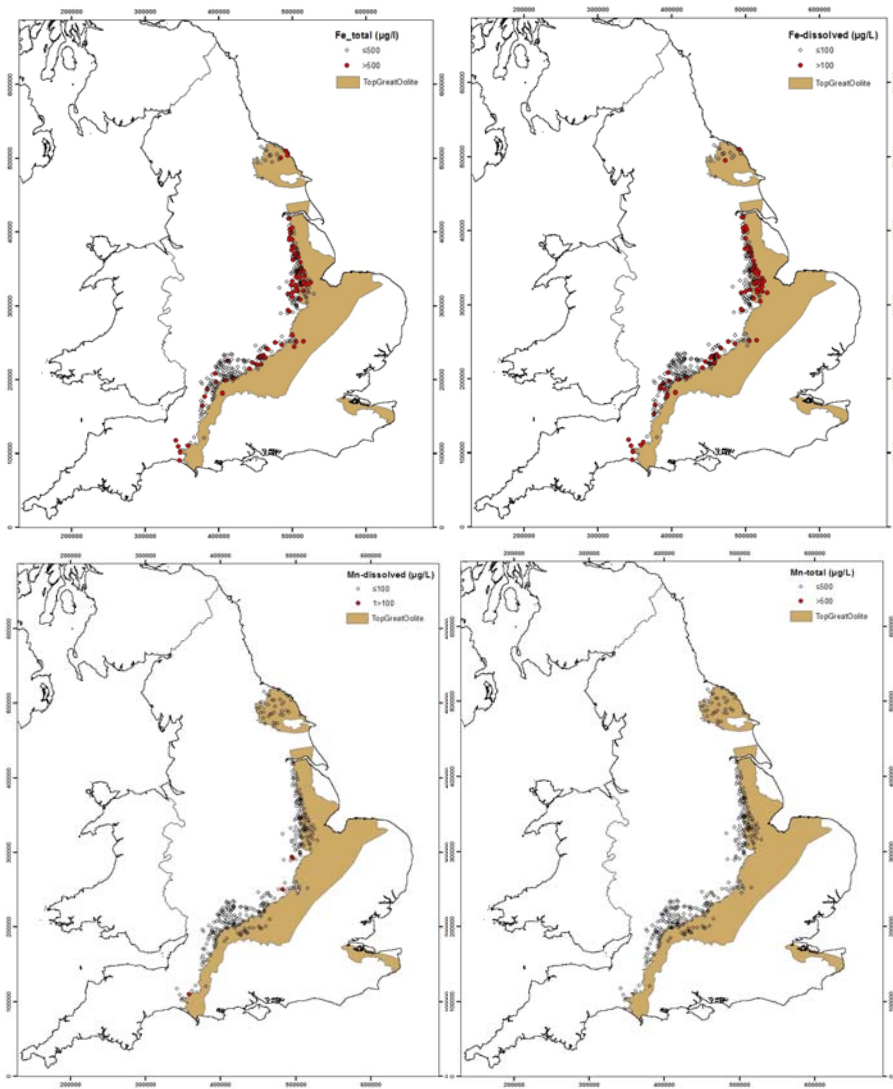


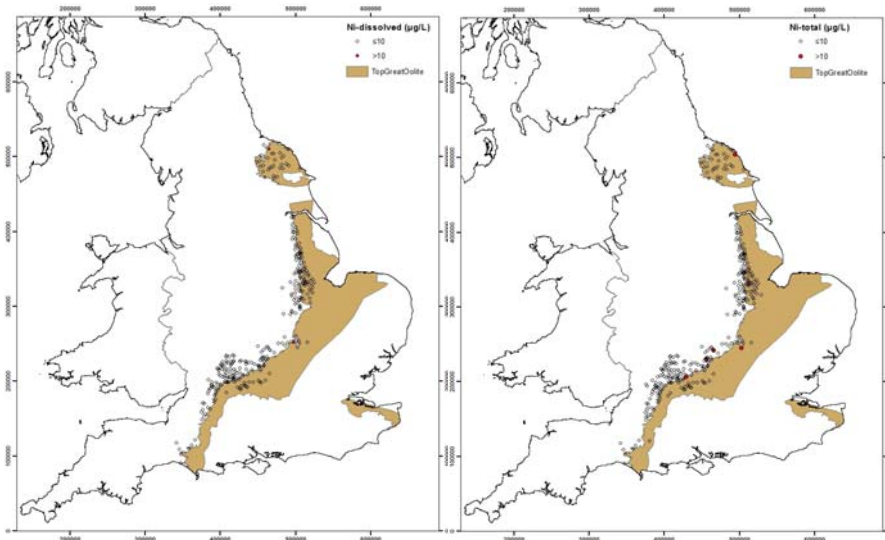
OOLITE (GREAT AND INFERIOR)

*N-species*

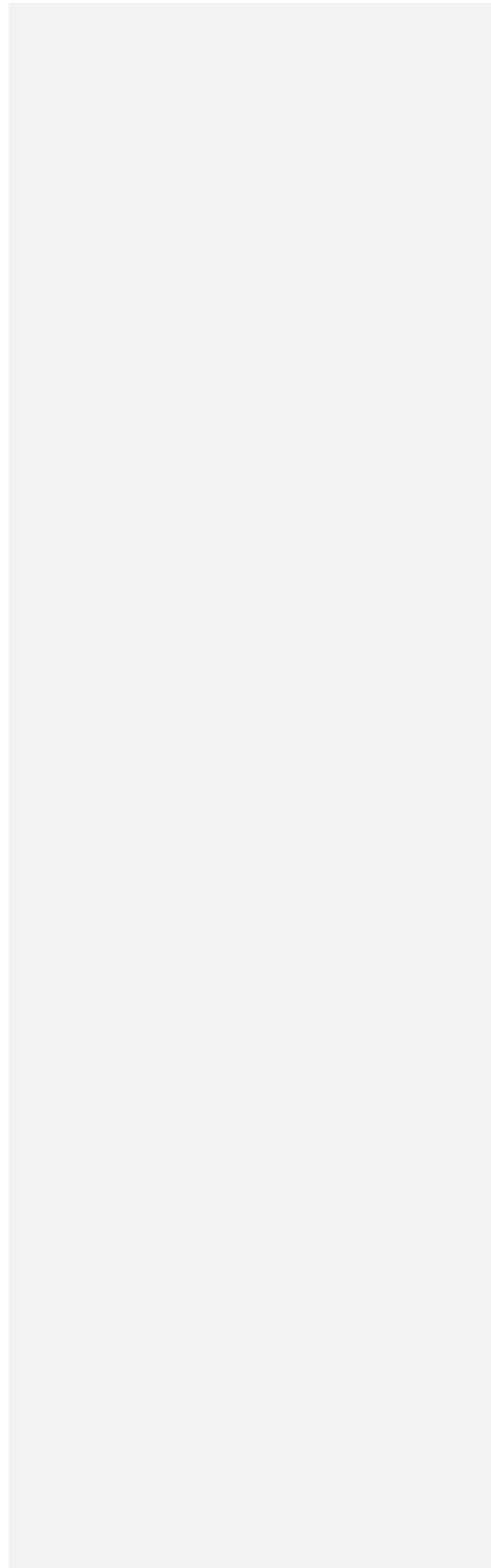
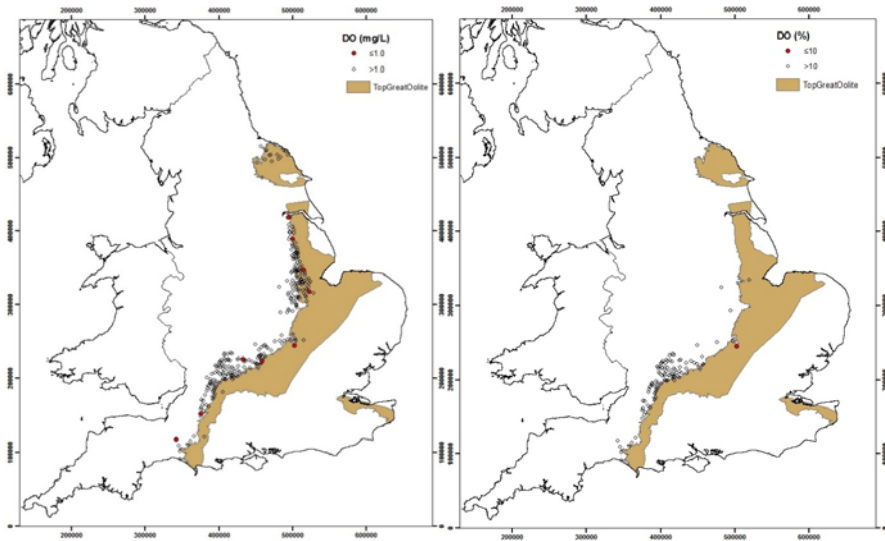


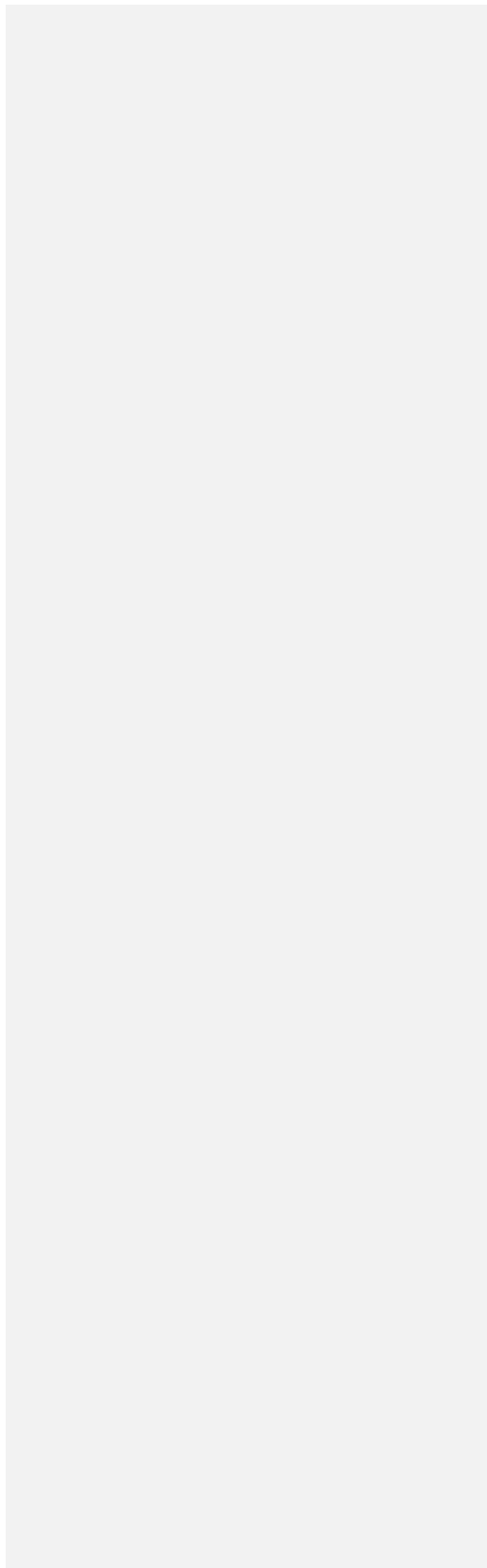
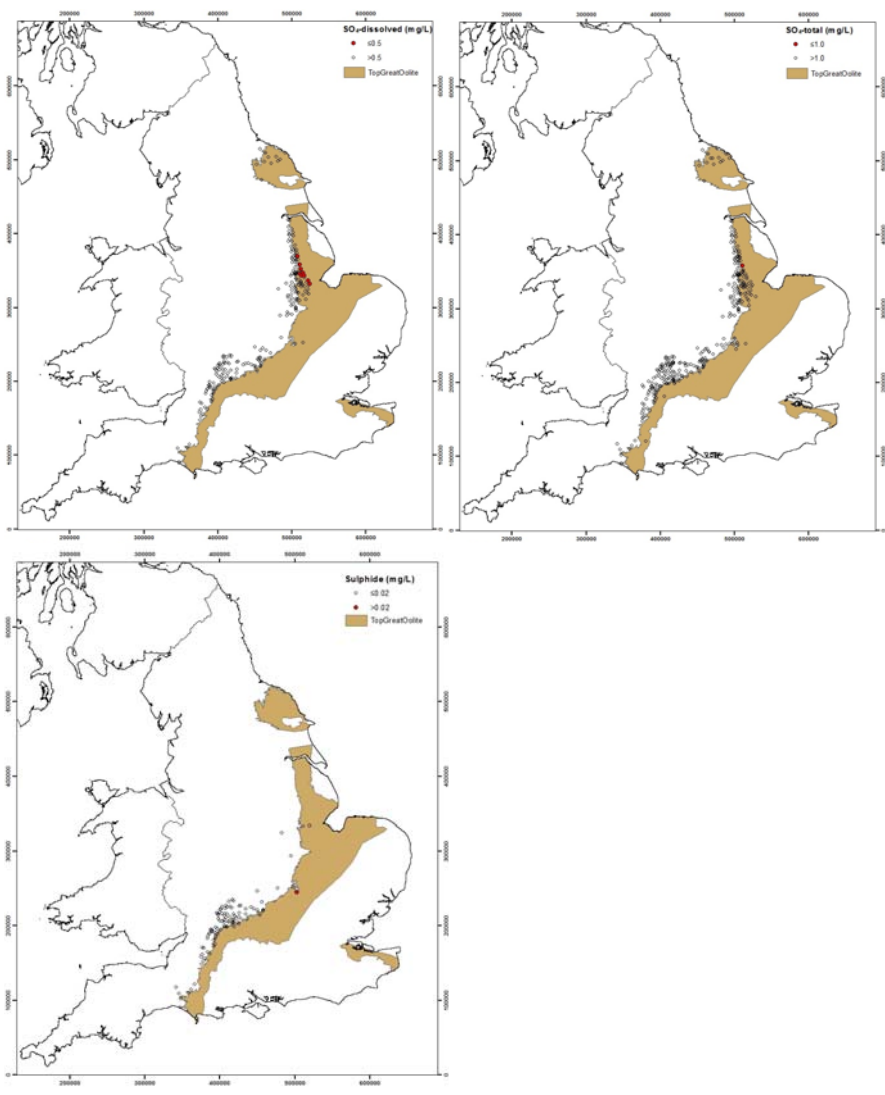
Trace metals



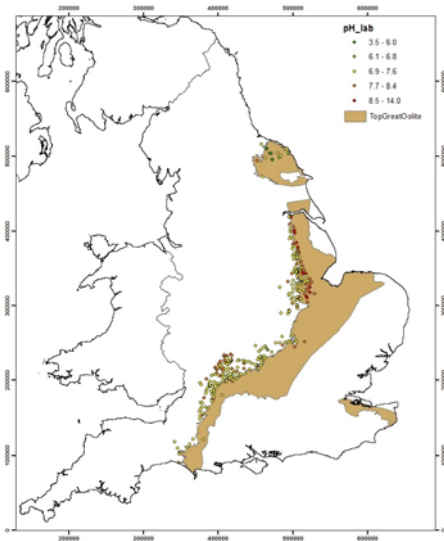
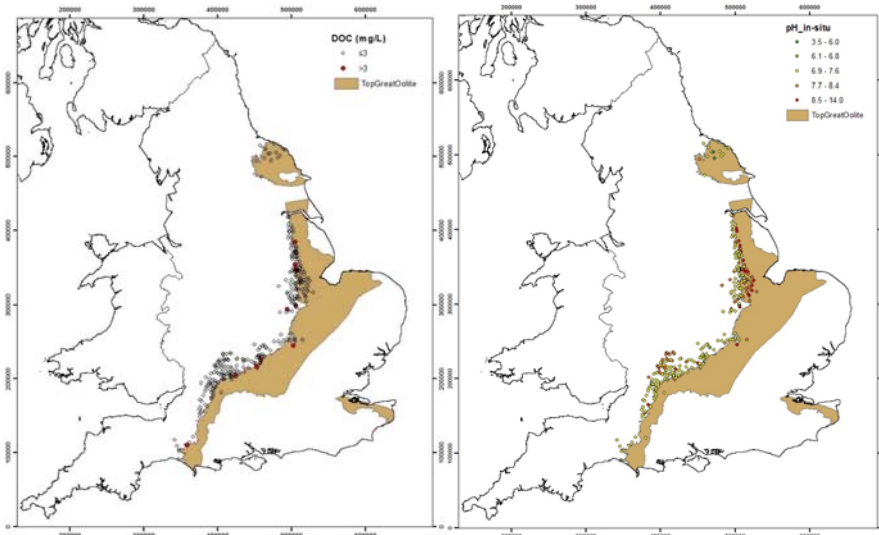


*DO and S-species*



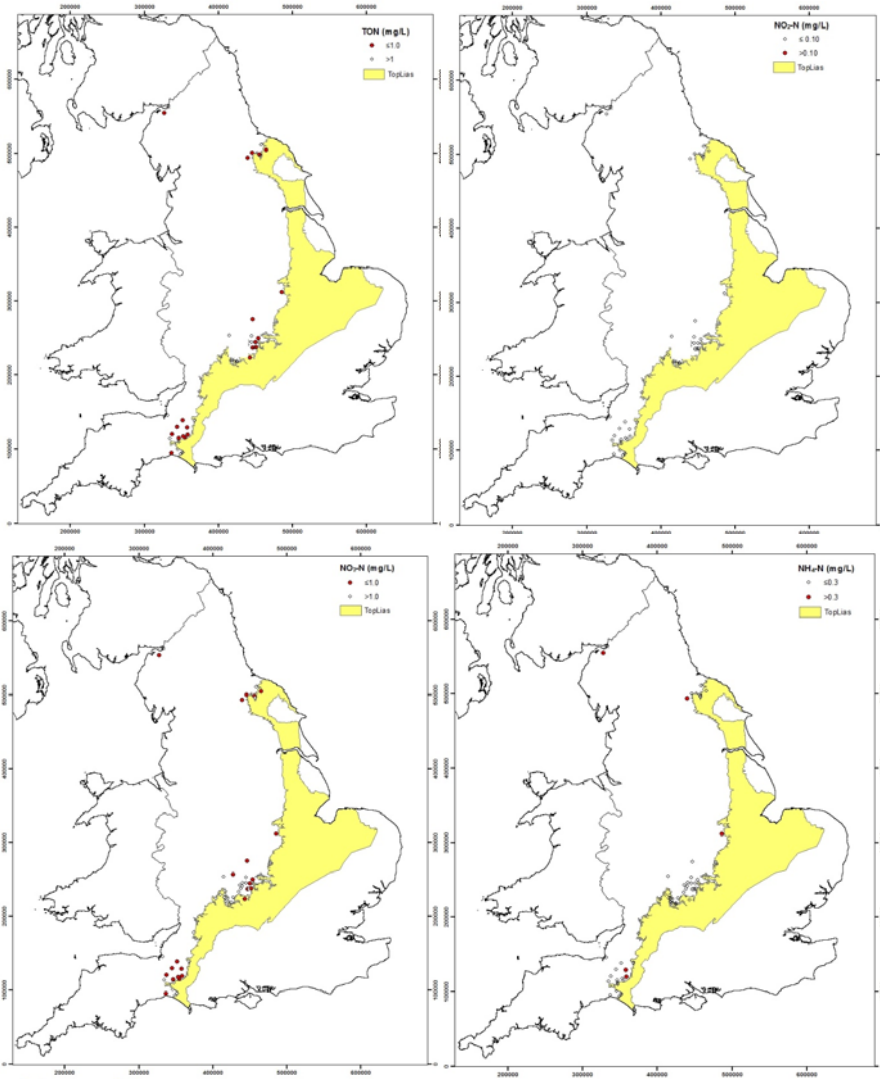


DOC and pH



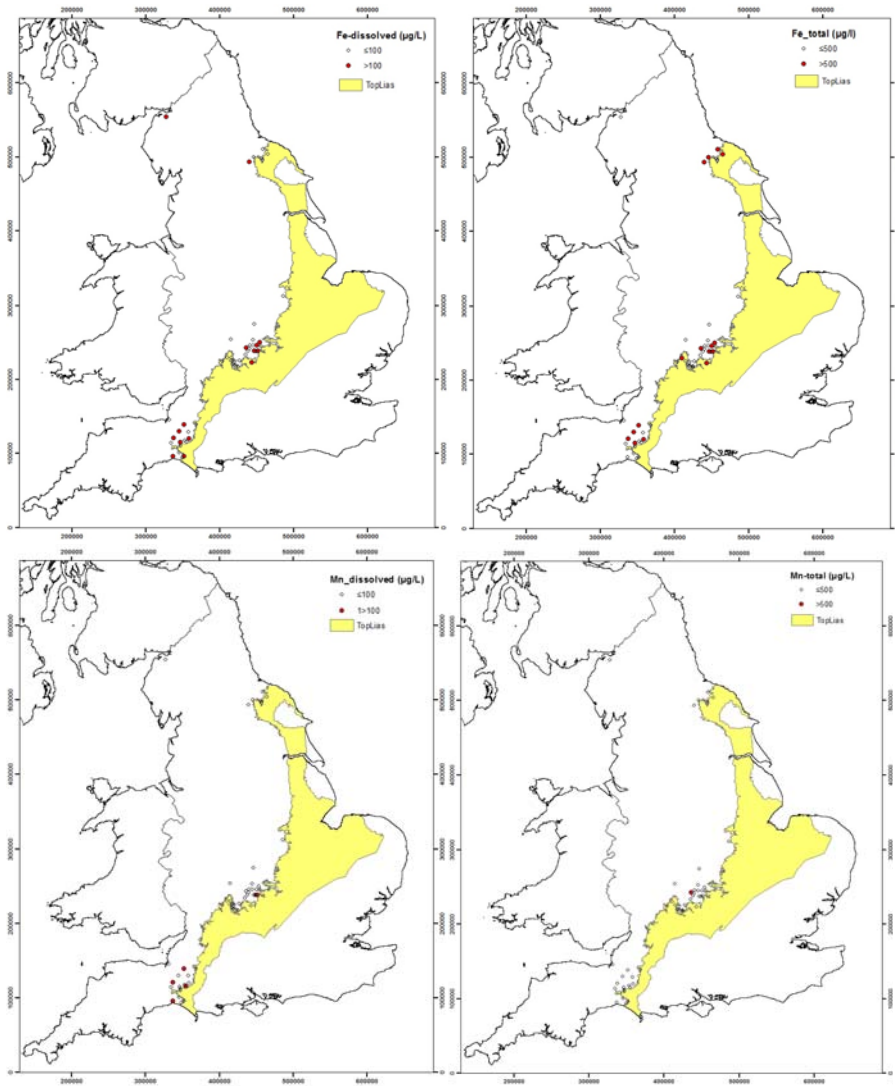
LIAS GROUP

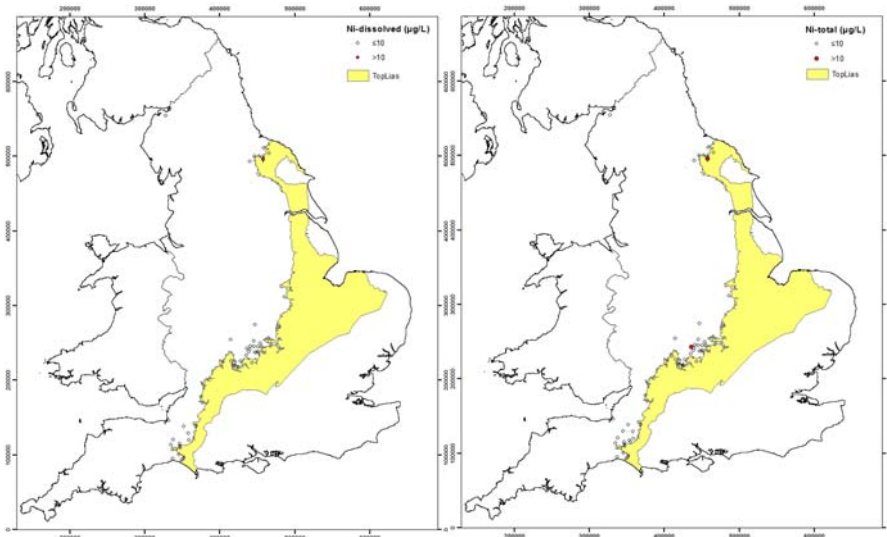
*N-species*



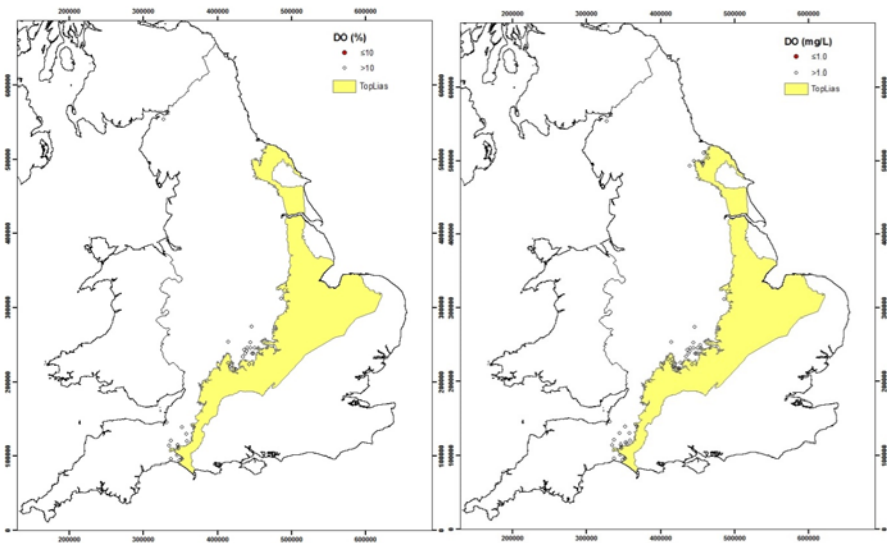


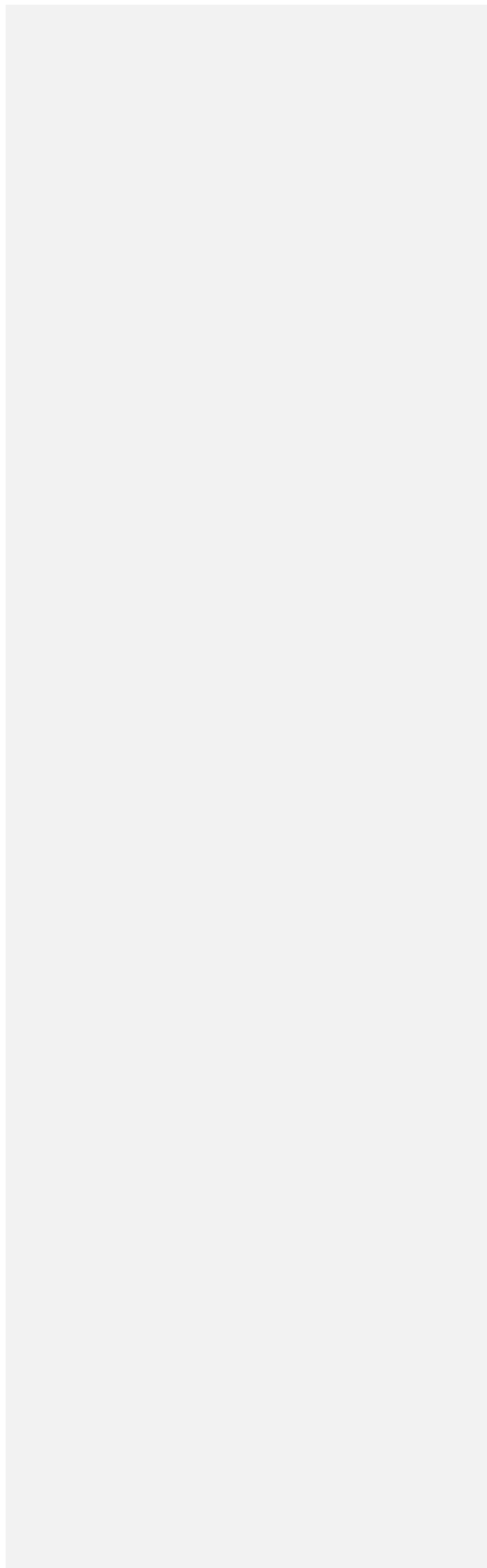
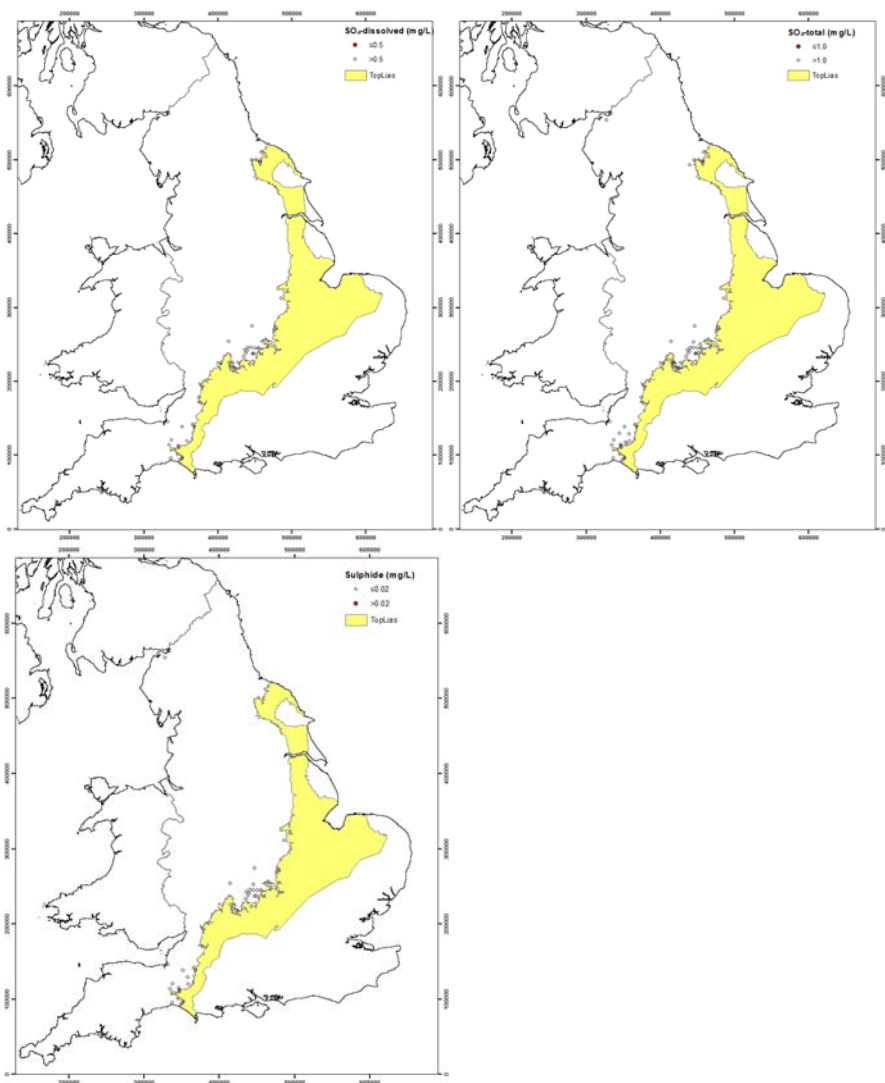
Trace metals



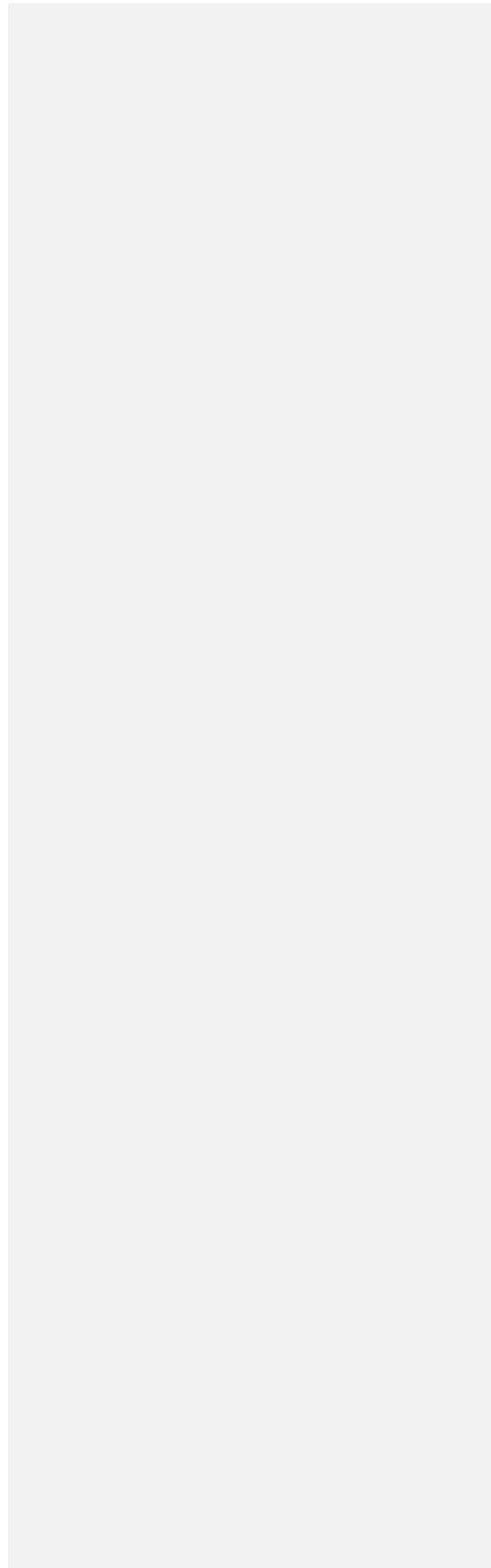
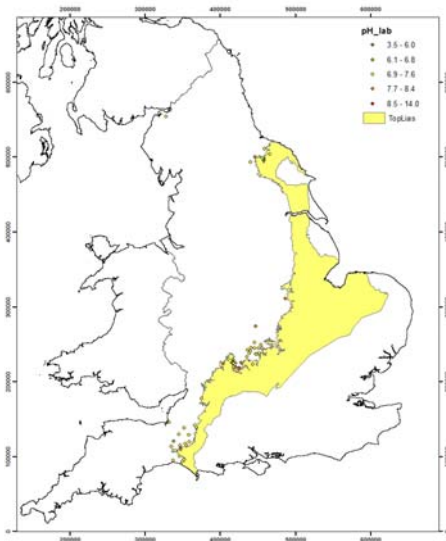
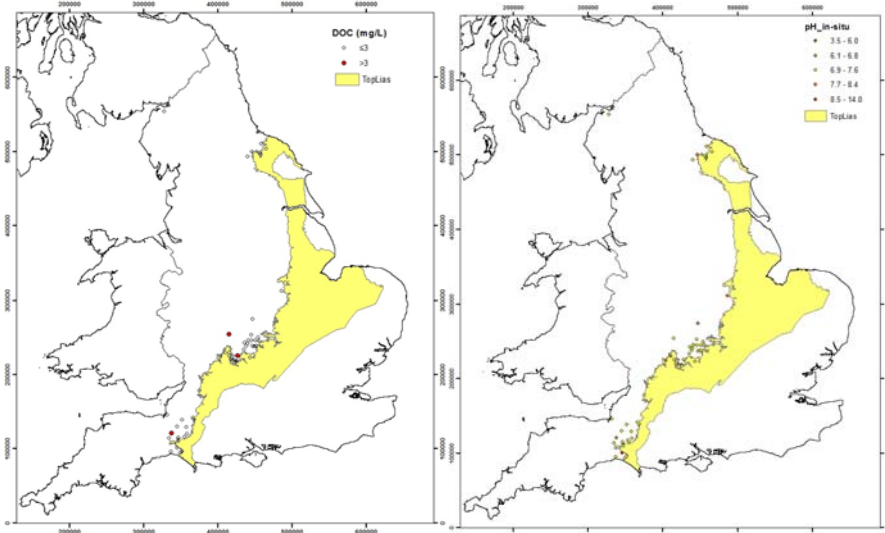


*DO and S-species*



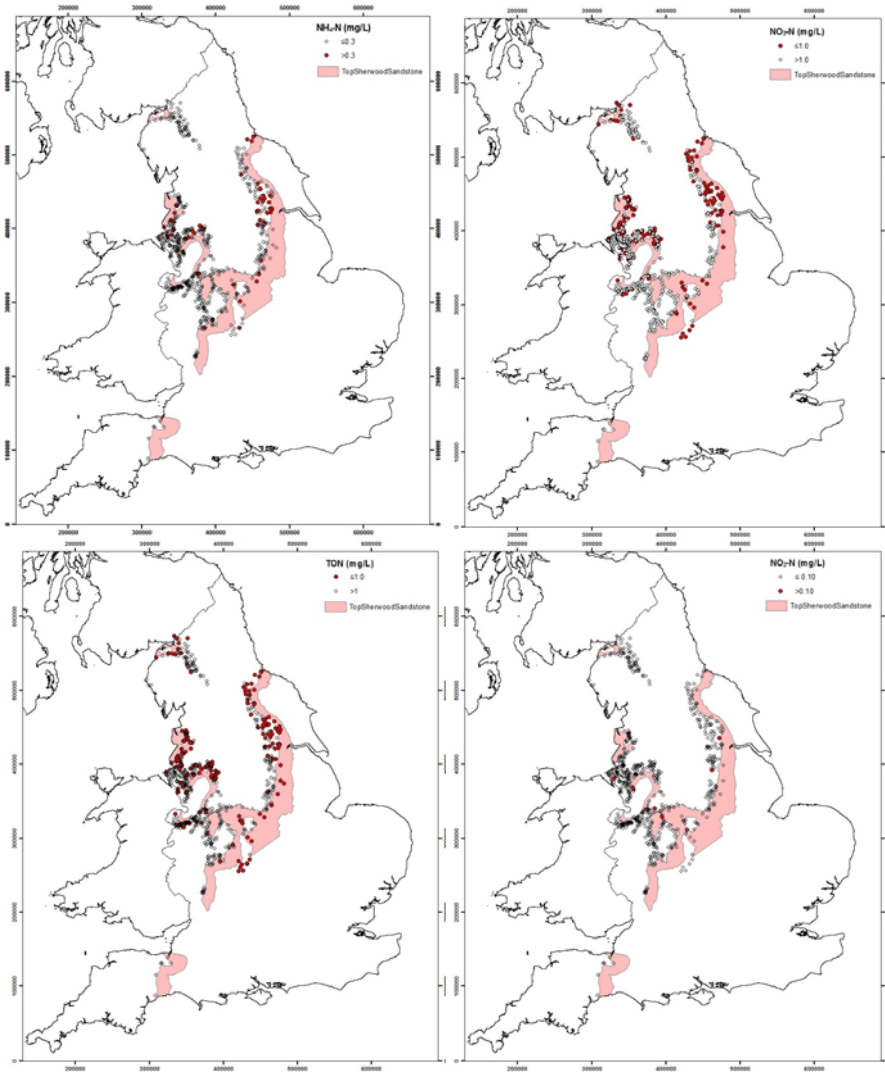


DOC and pH

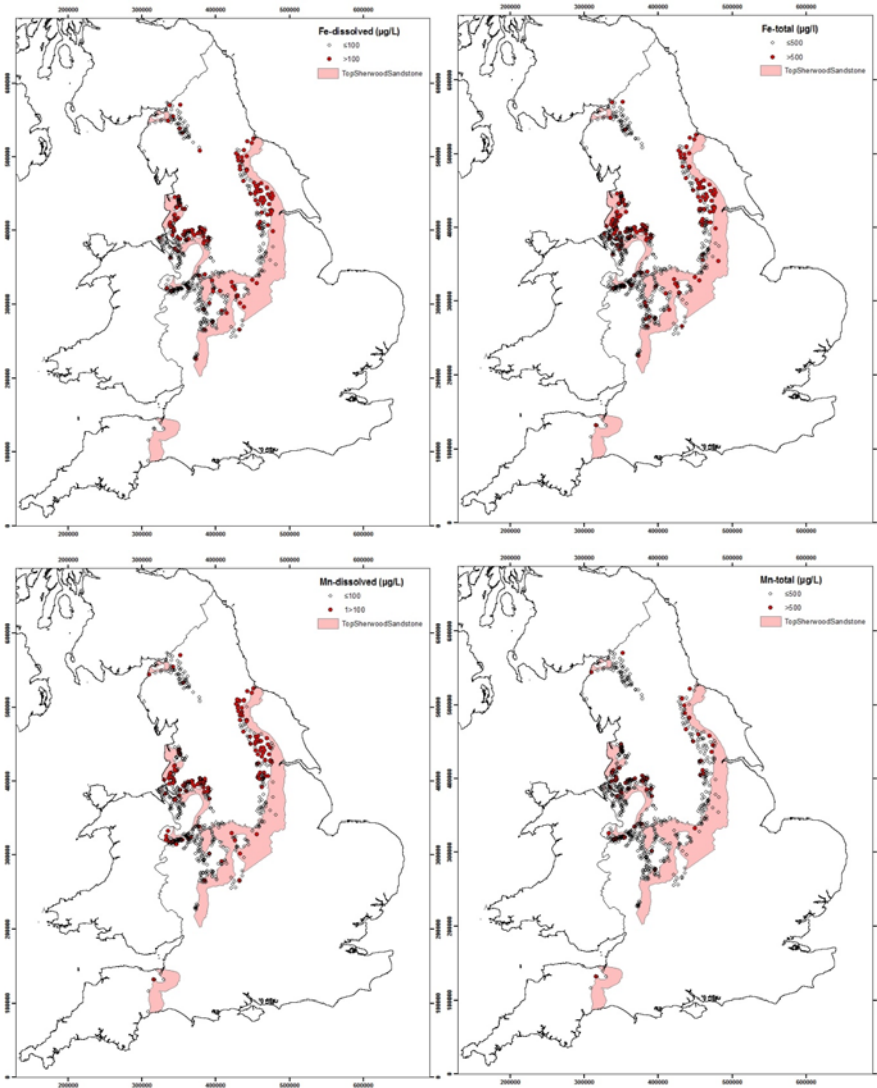


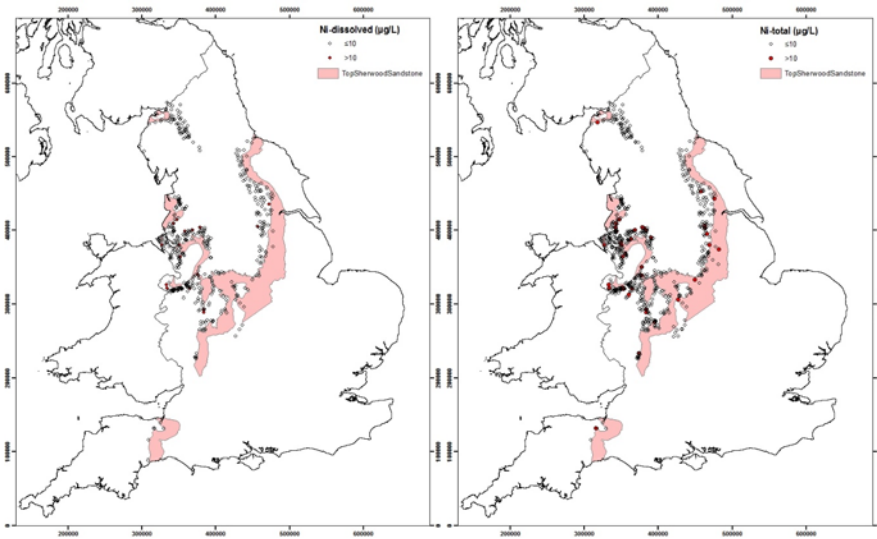
SHERWOOD SANDSTONE GROUP

*N-species*

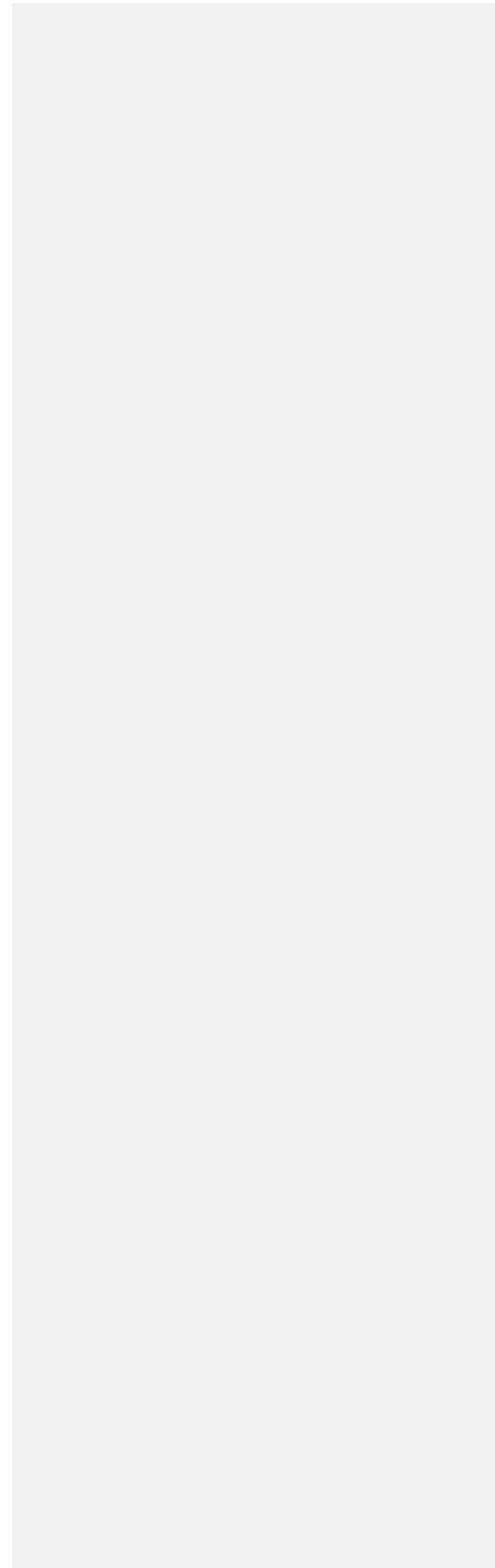
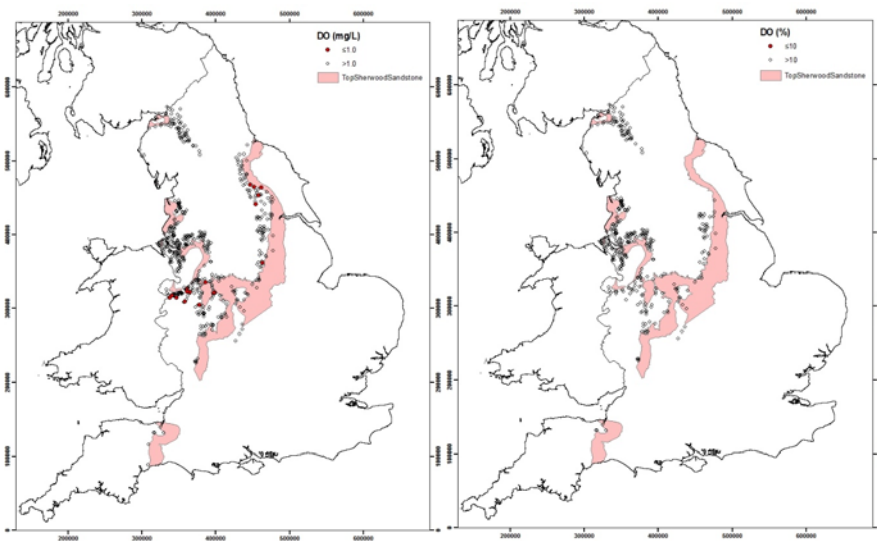


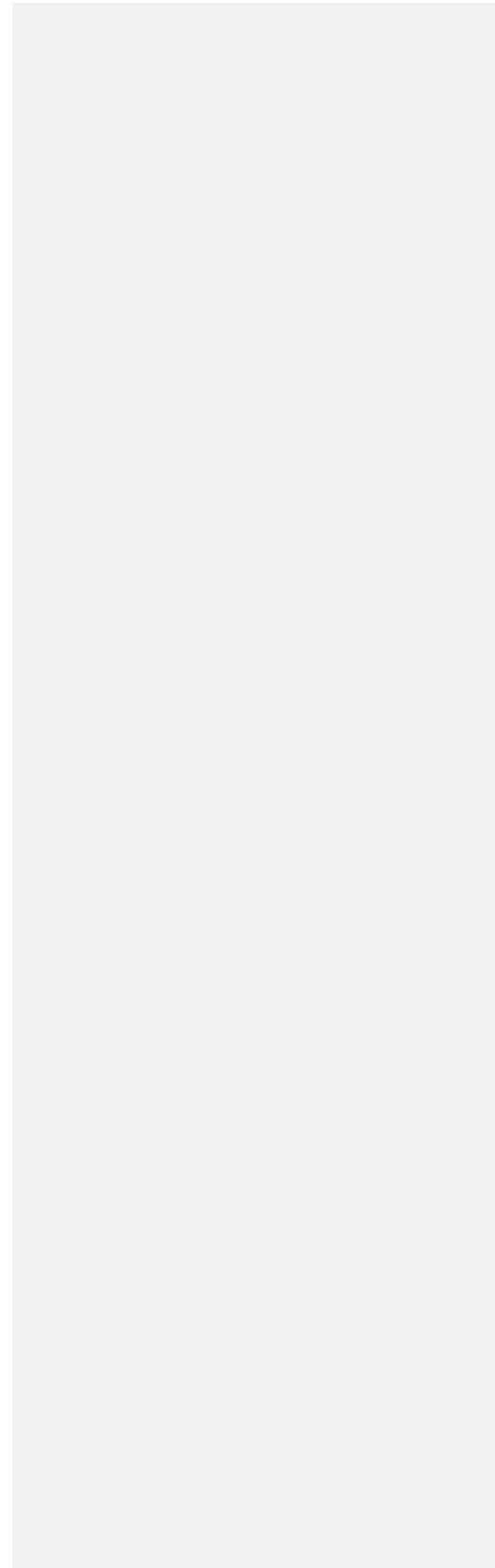
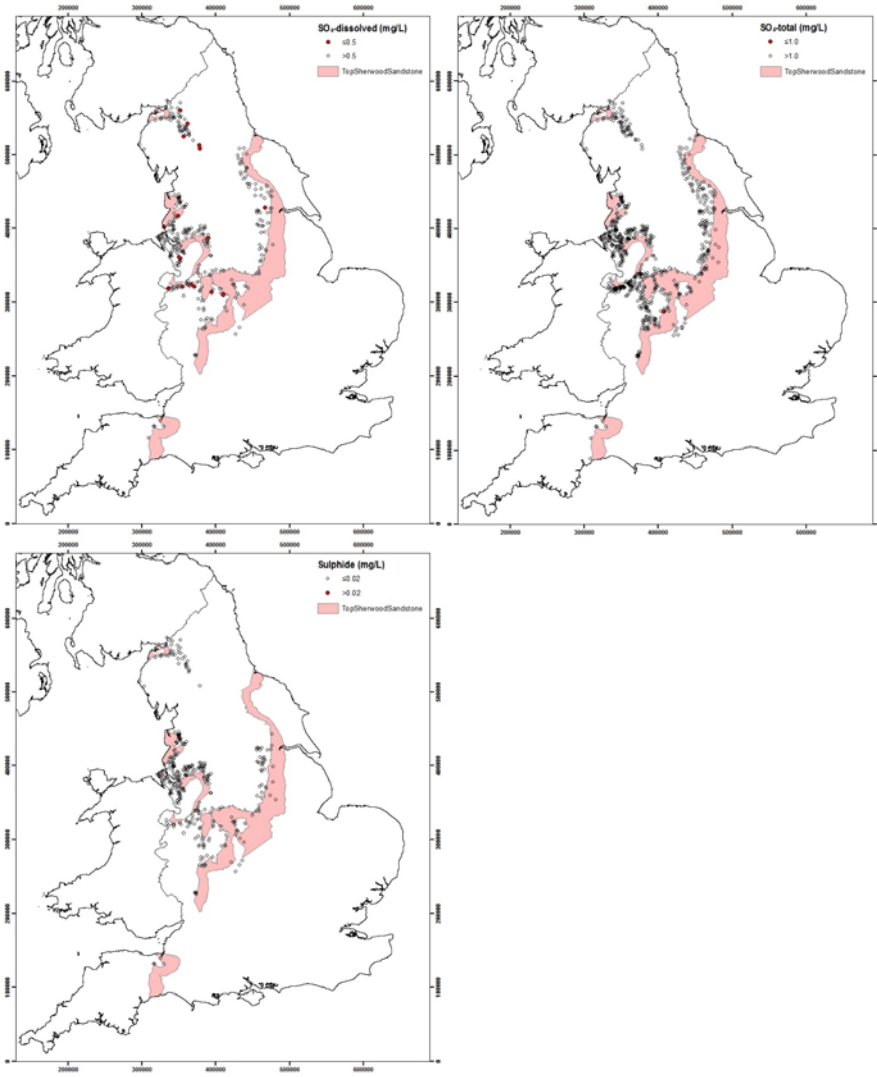
Trace metals





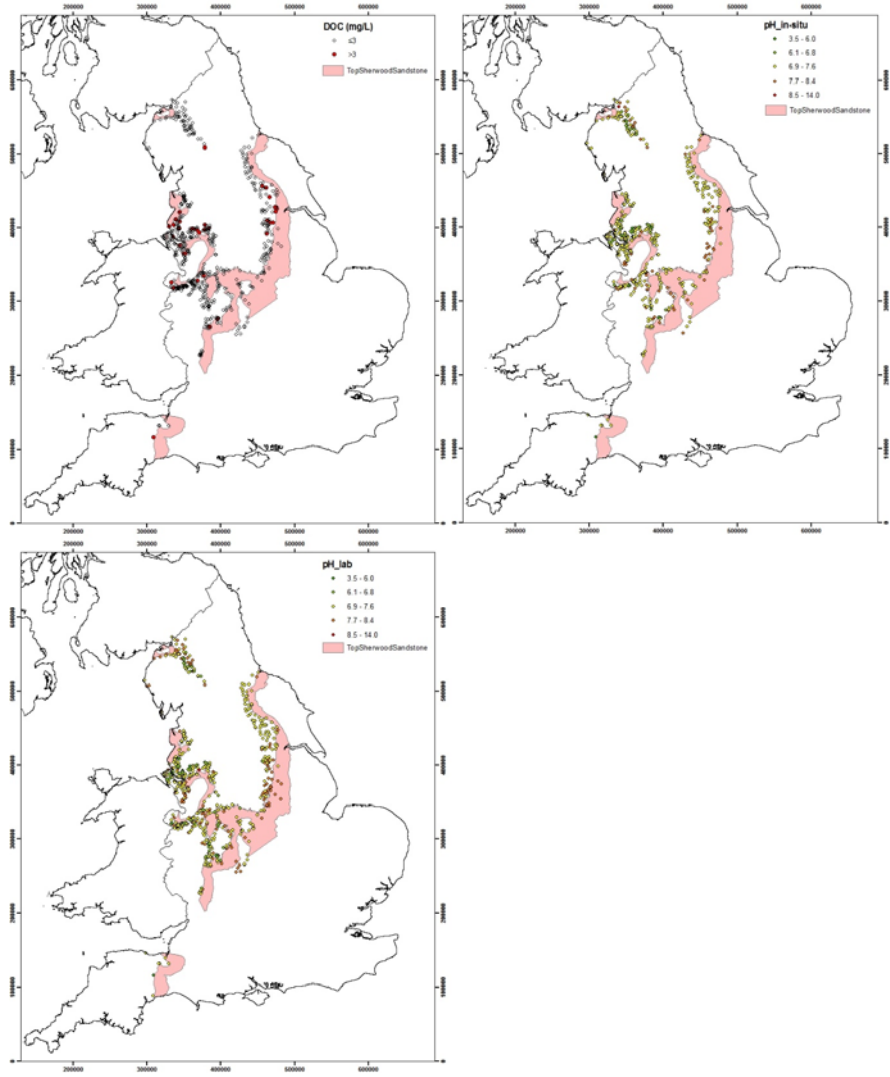
*DO and S-species*





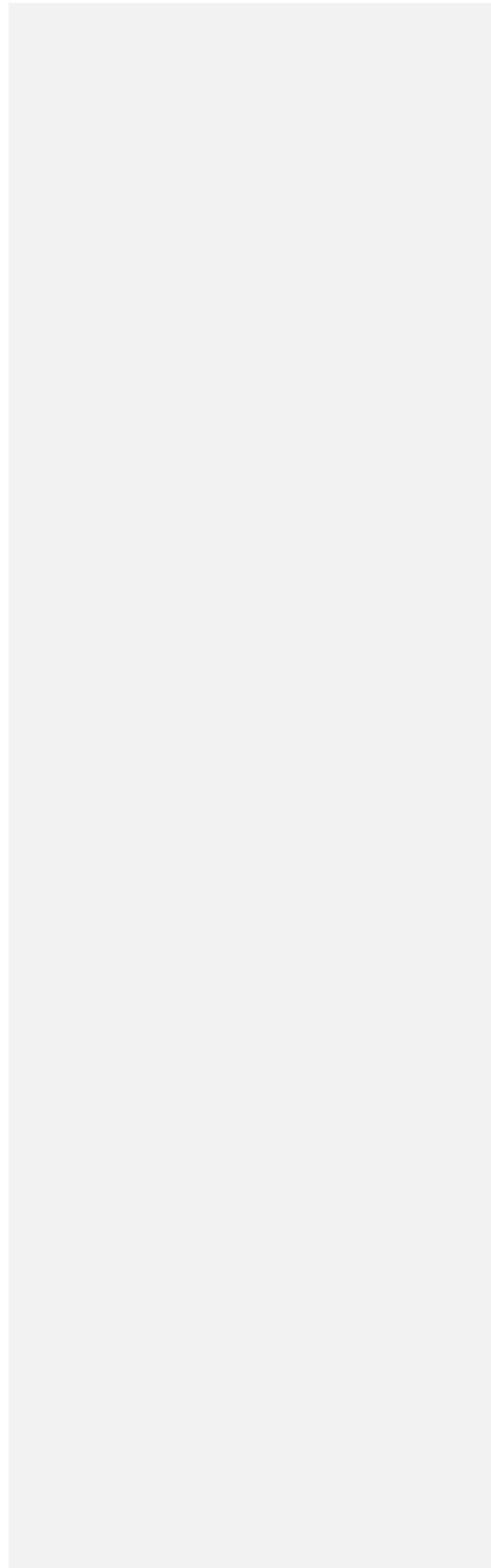
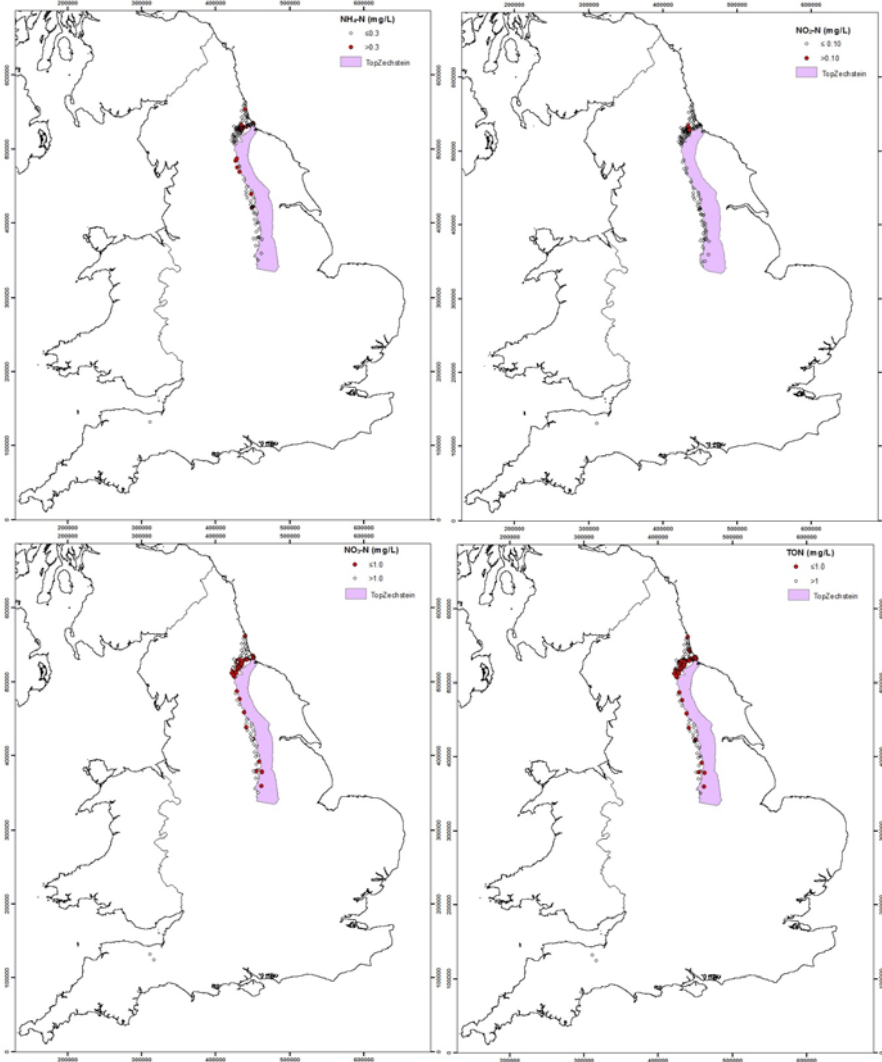


DOC and pH

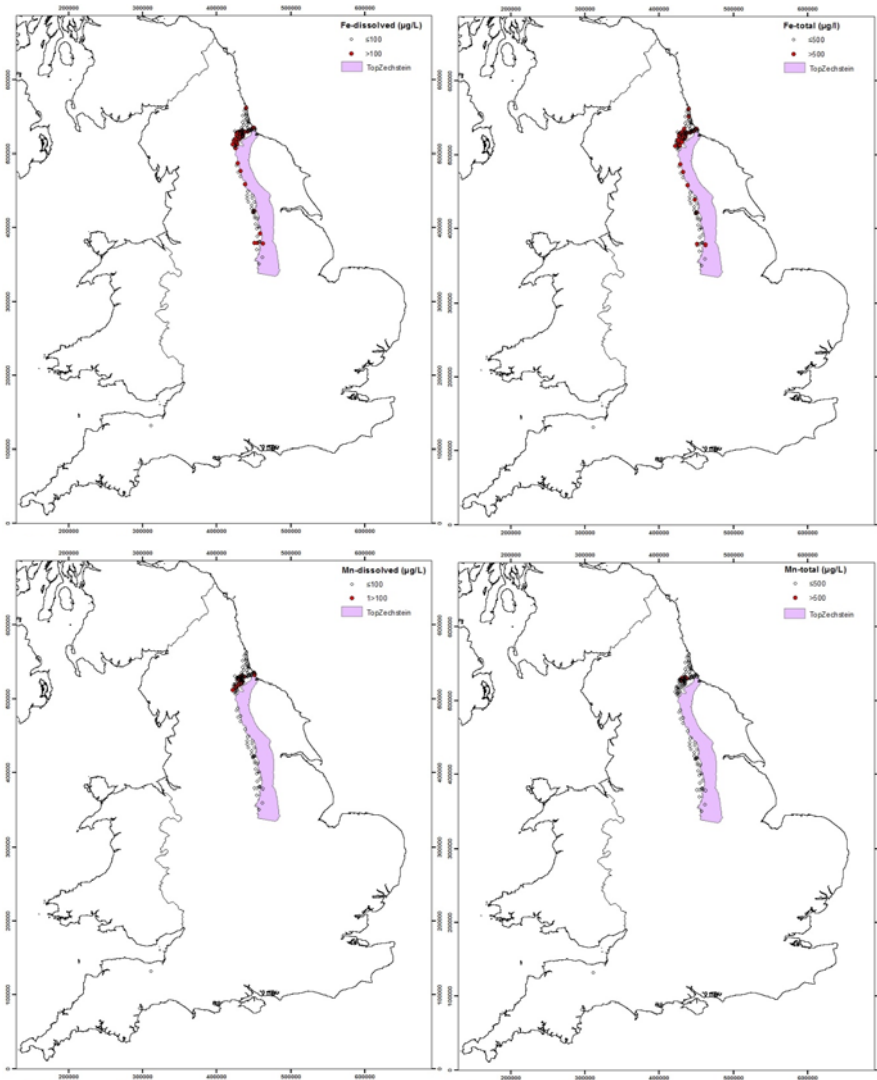


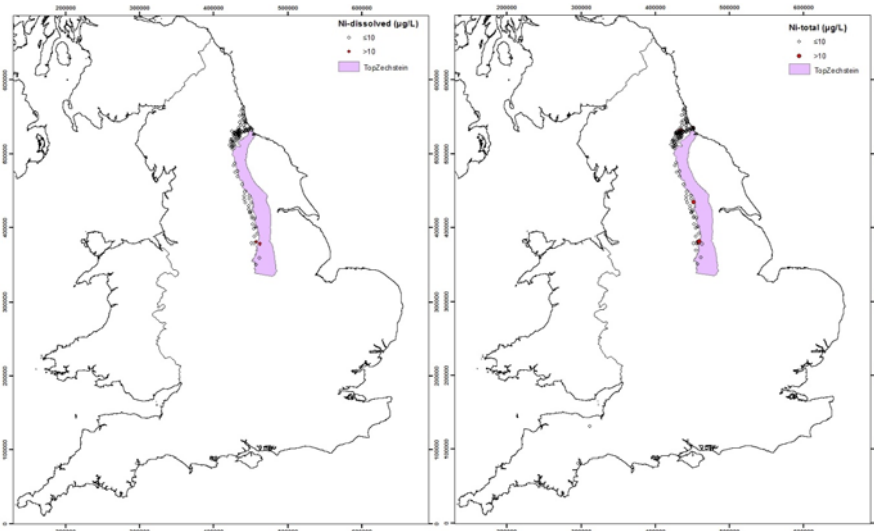
ZECHSTEIN GROUP (MAGNESIAN LIMESTONE)

*N-species*

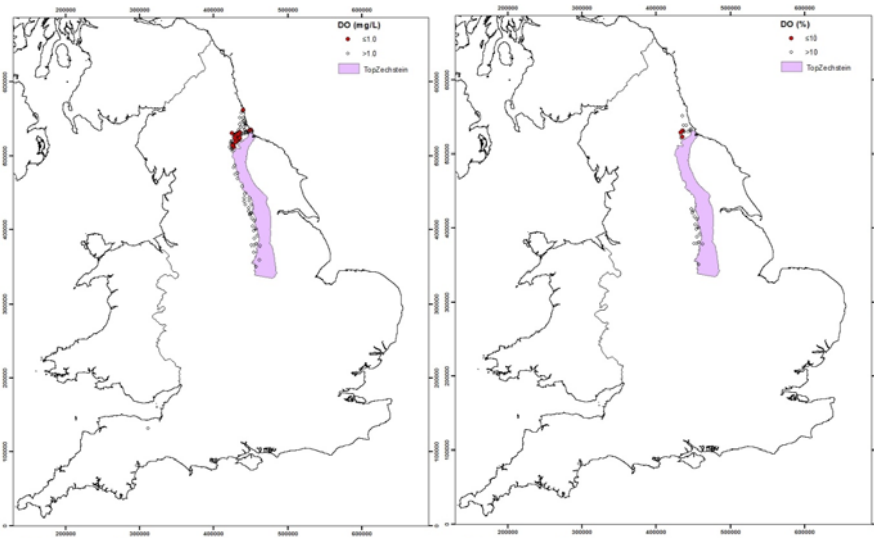


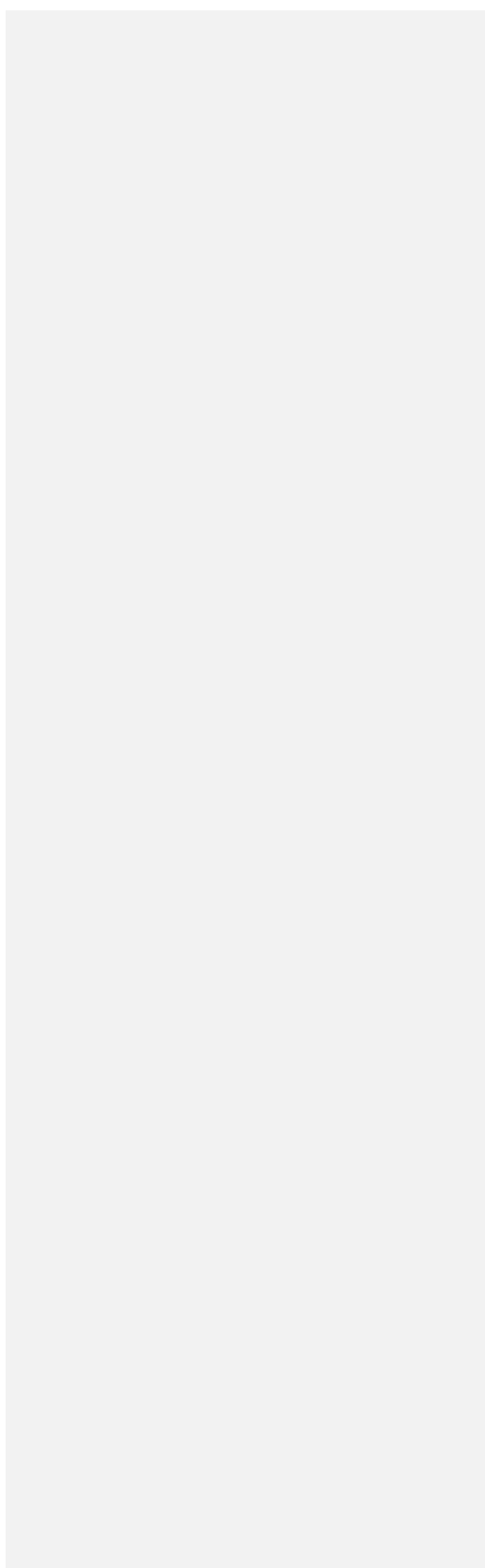
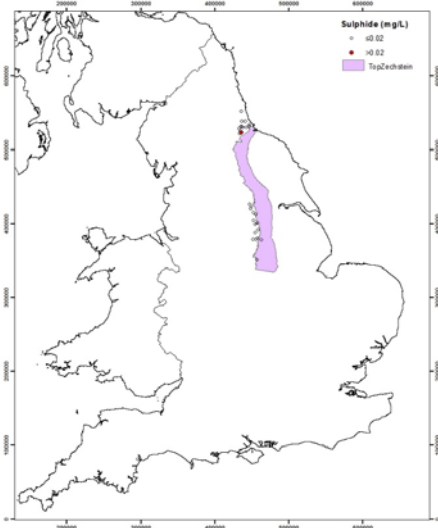
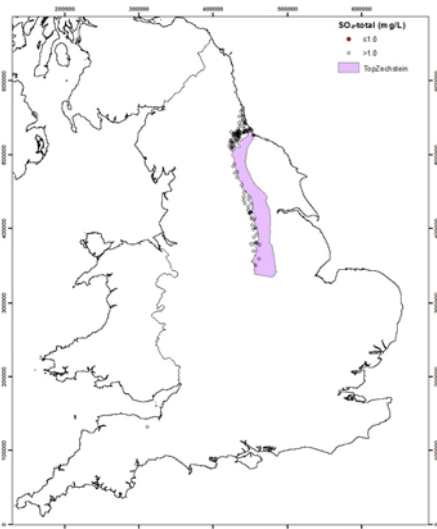
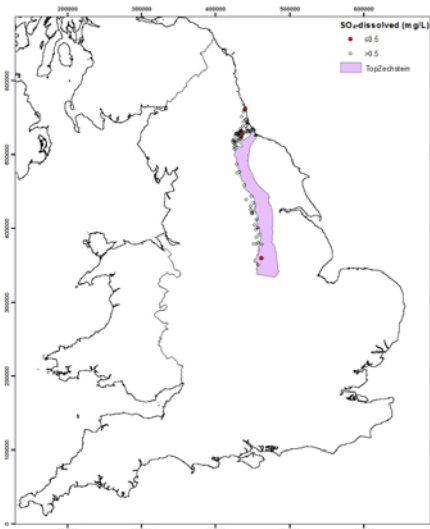
Trace metals



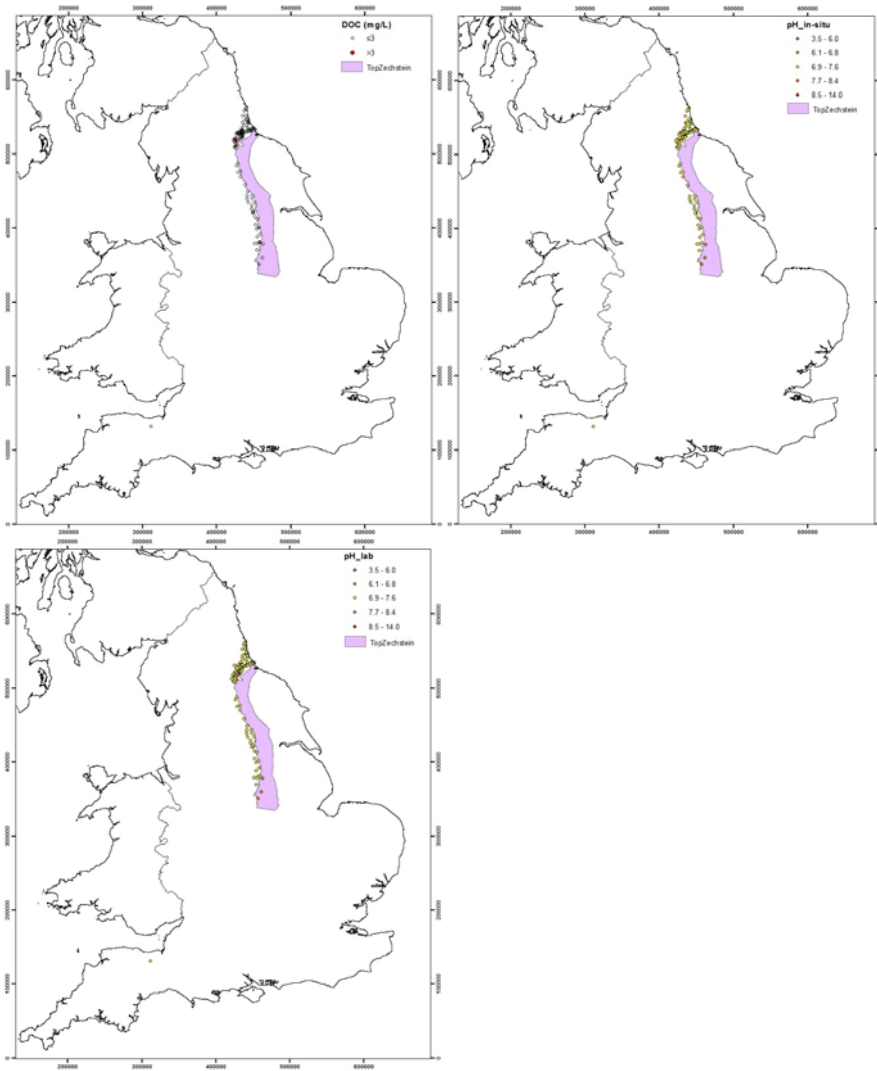


*DO and S-species*



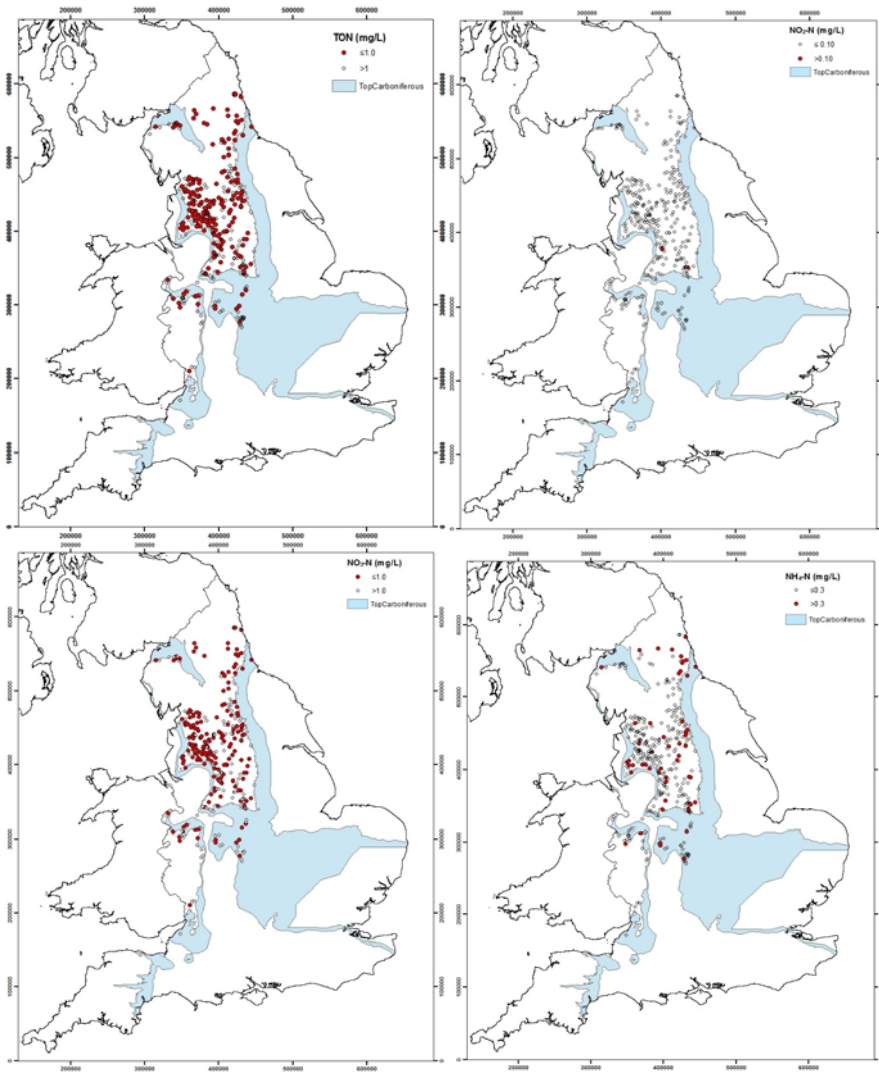


DOC and pH

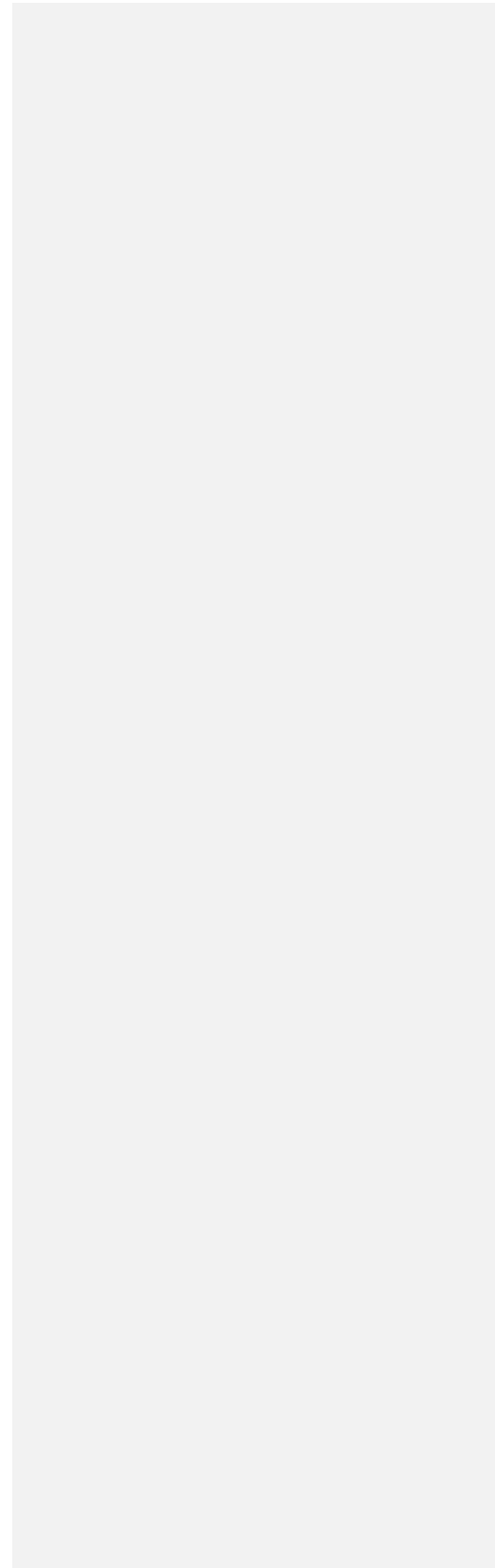
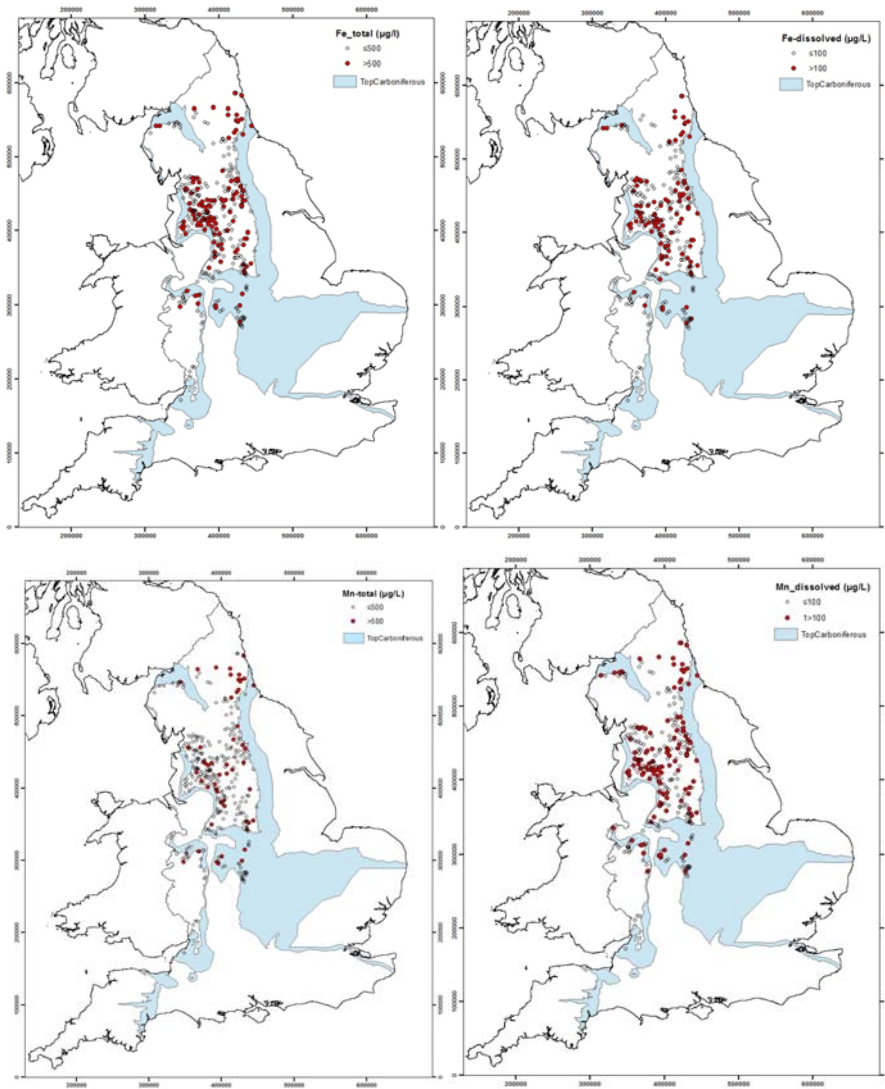


CARBONIFEROUS (COAL MEASURES AND MILLSTONE GRIT GROUPS)

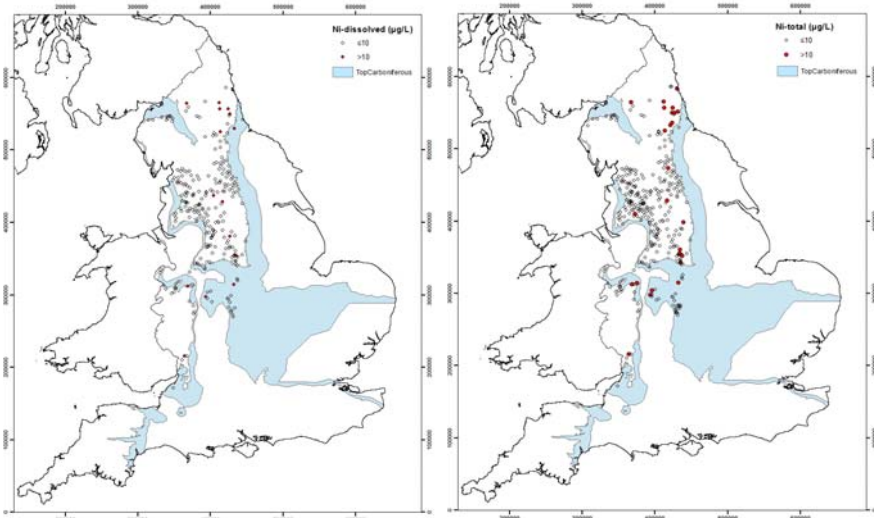
*N-species*



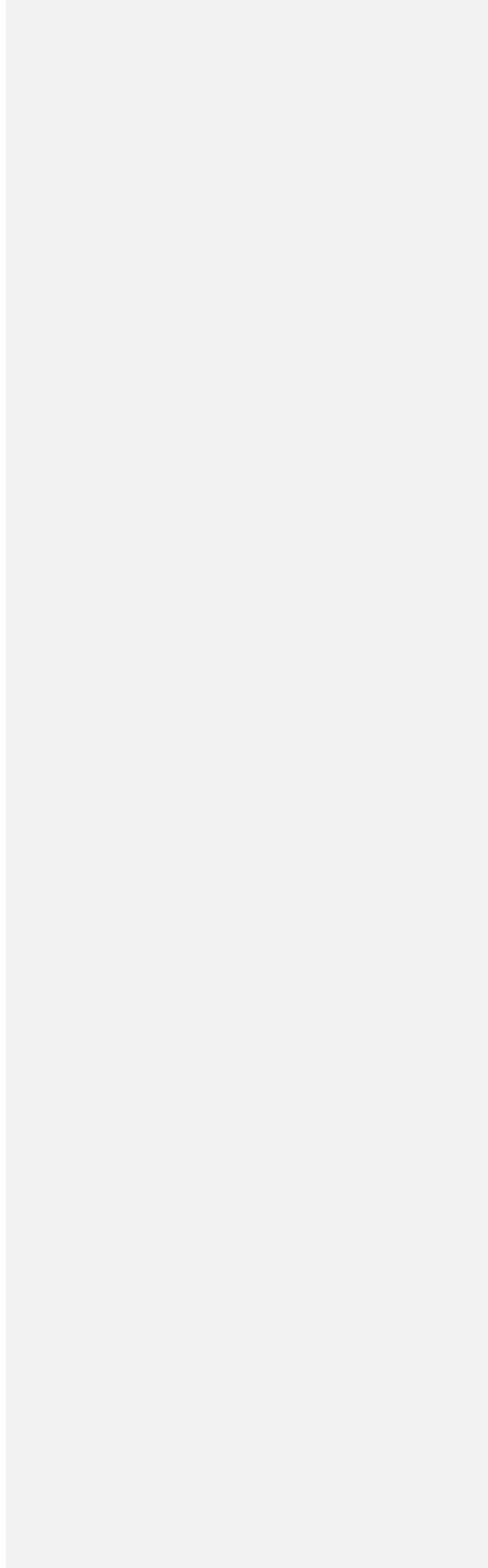
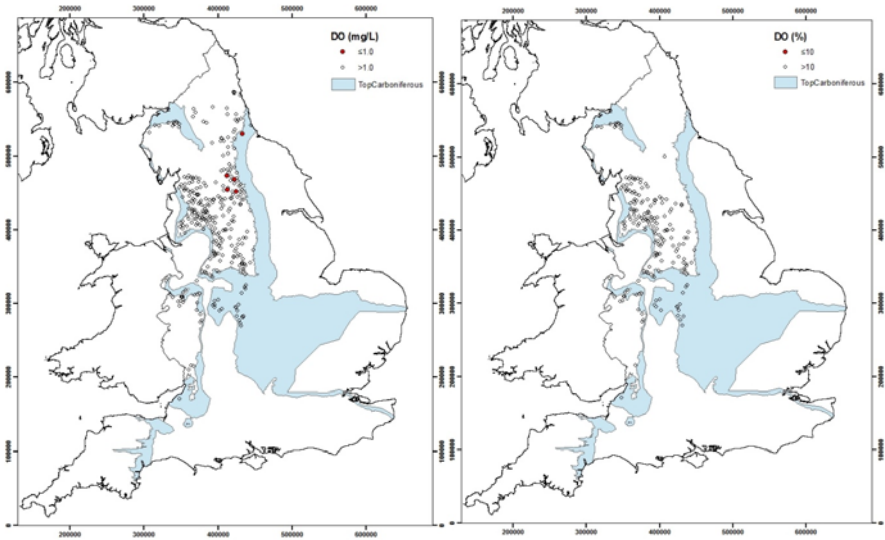
Trace metals

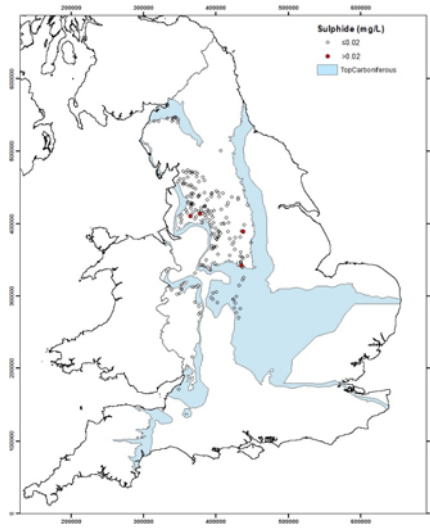
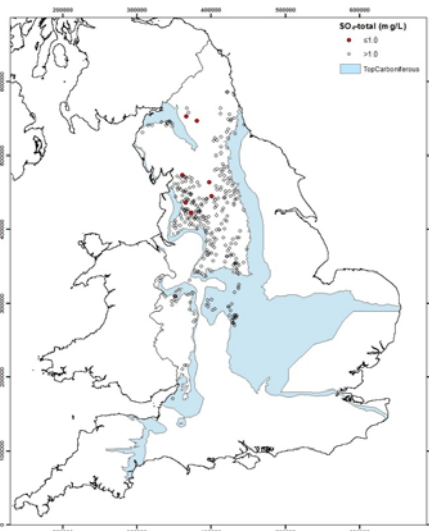
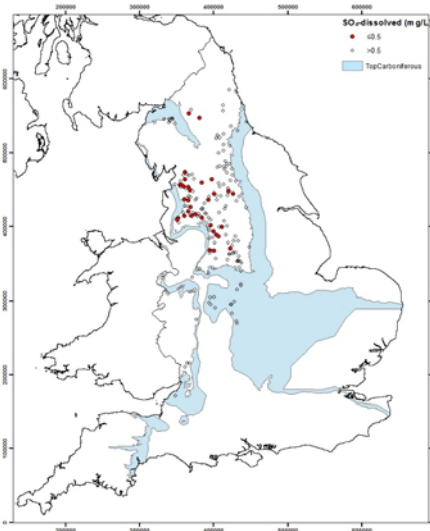




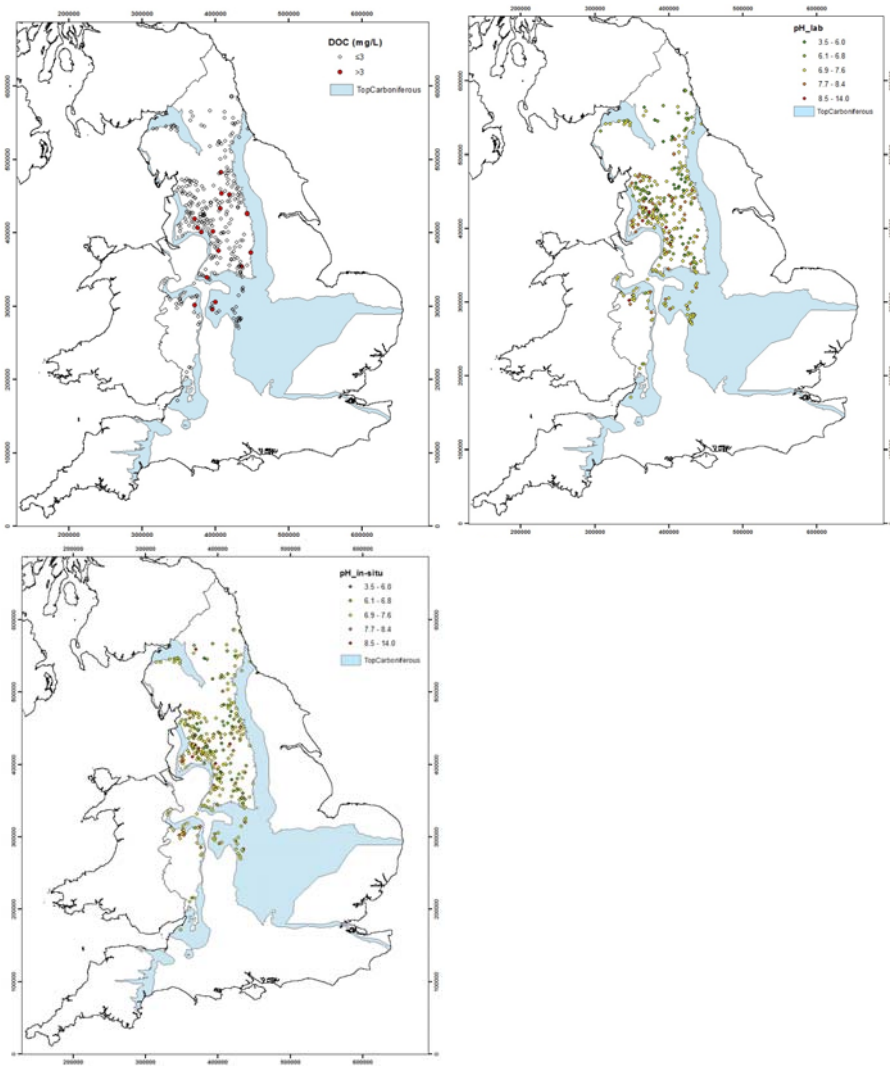


*DO and S-species*

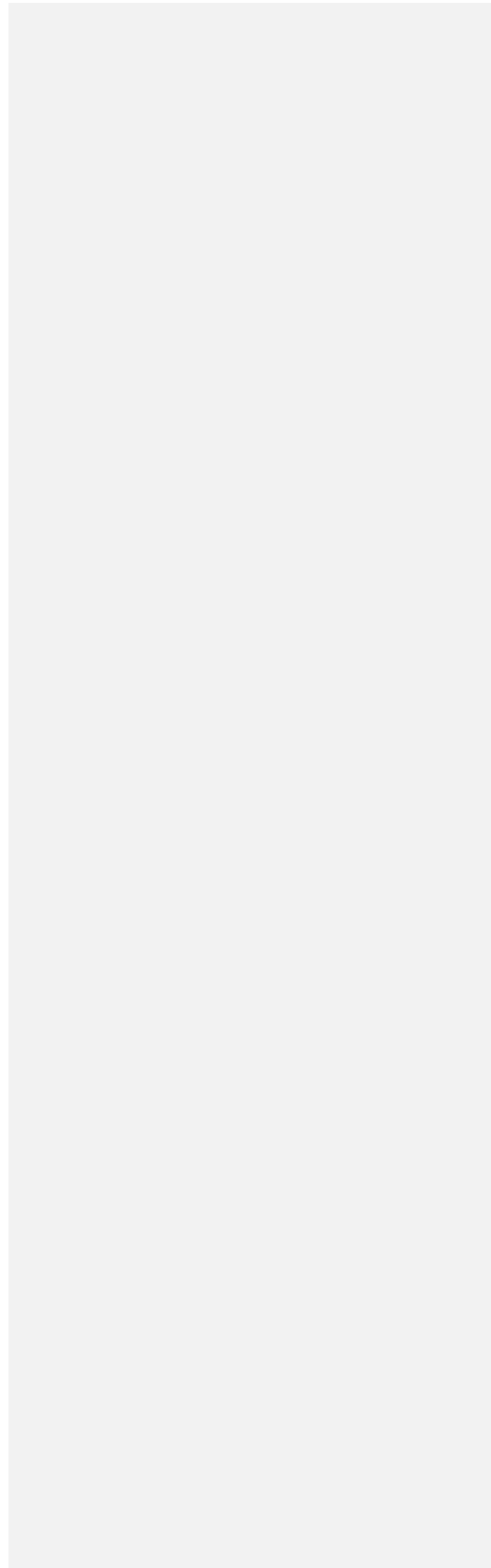
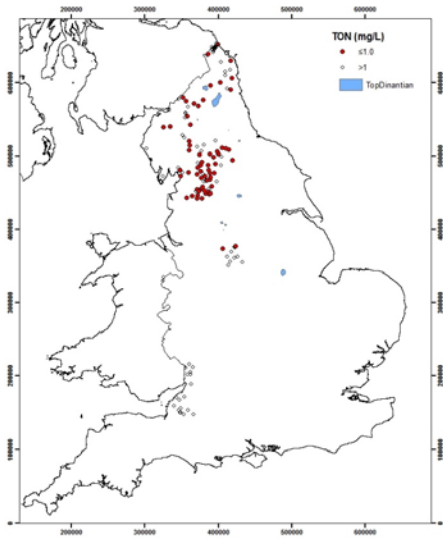




DOC and pH



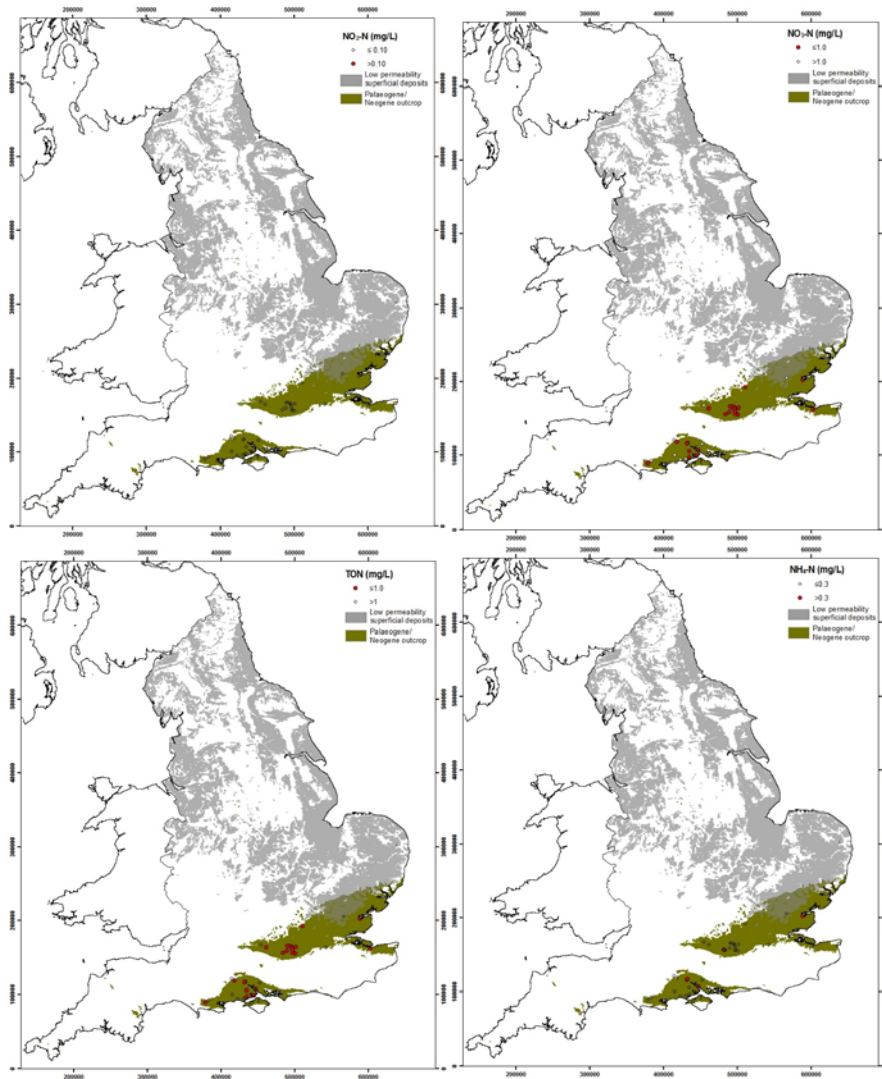
### DINANTIAN (LOWER CARBONIFEROUS)



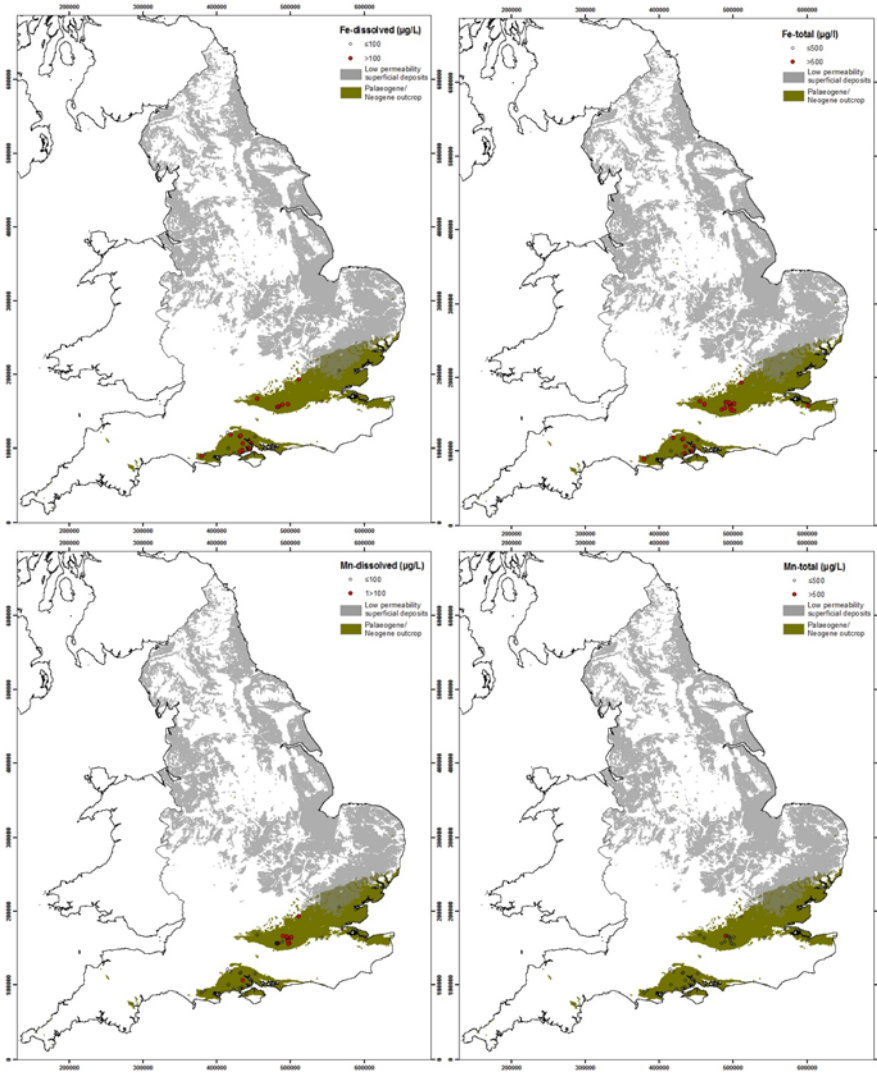
## A2.2 LOW PERMEABILITY SUPERFICIAL DEPOSITS ON AQUIFER OUTCROP

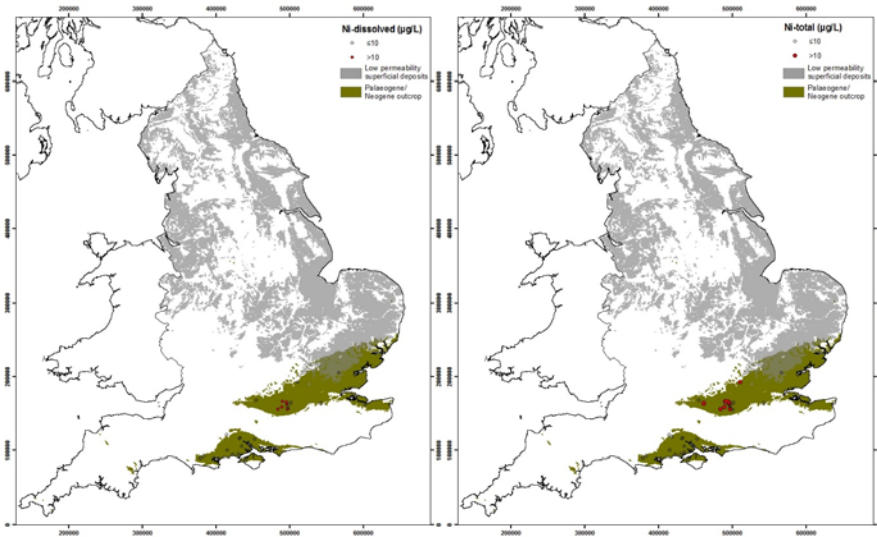
PALAEOGENE

*N species*

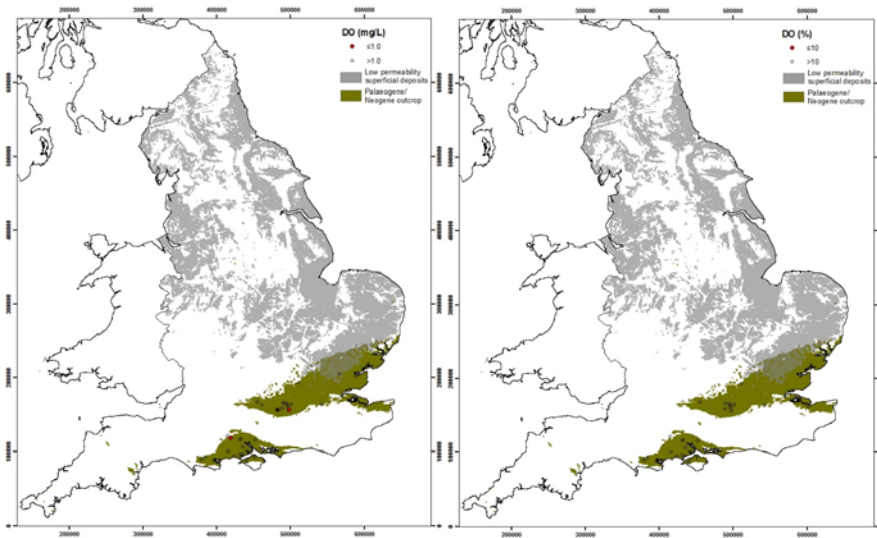


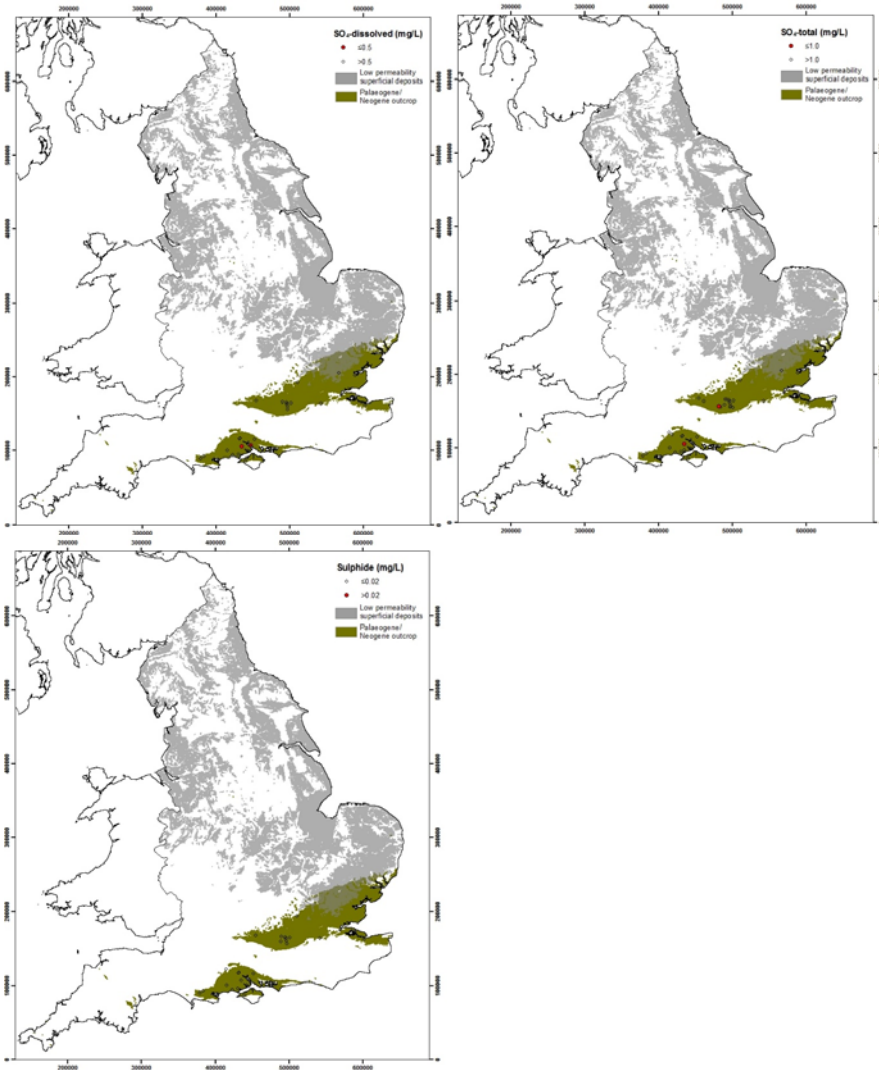
Trace metals





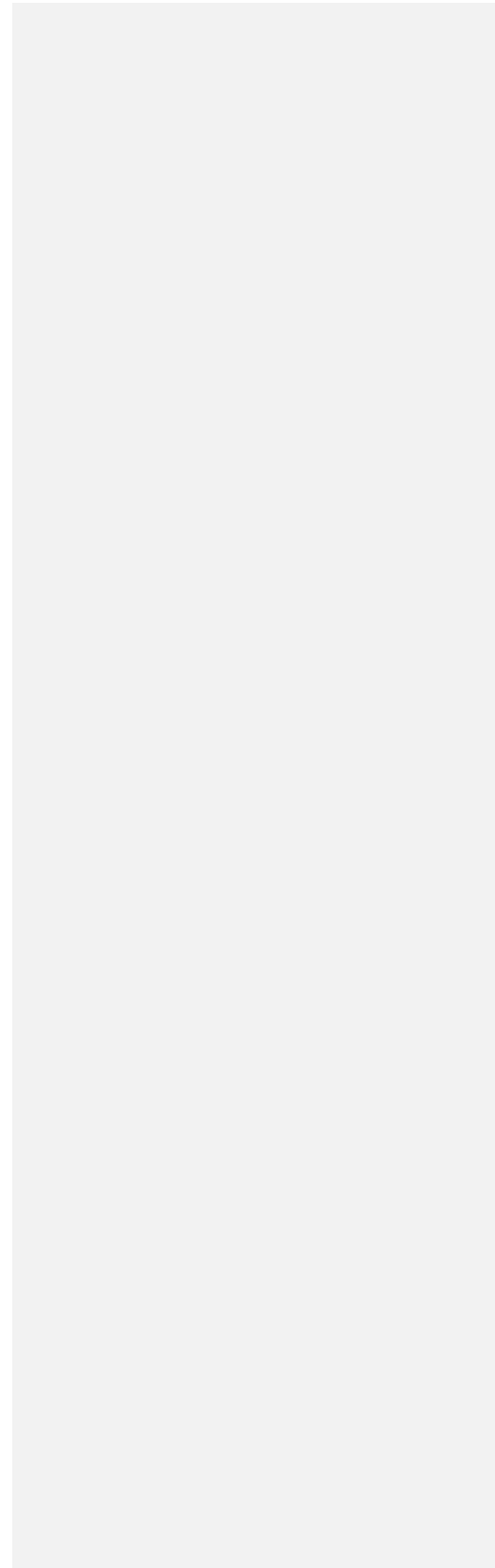
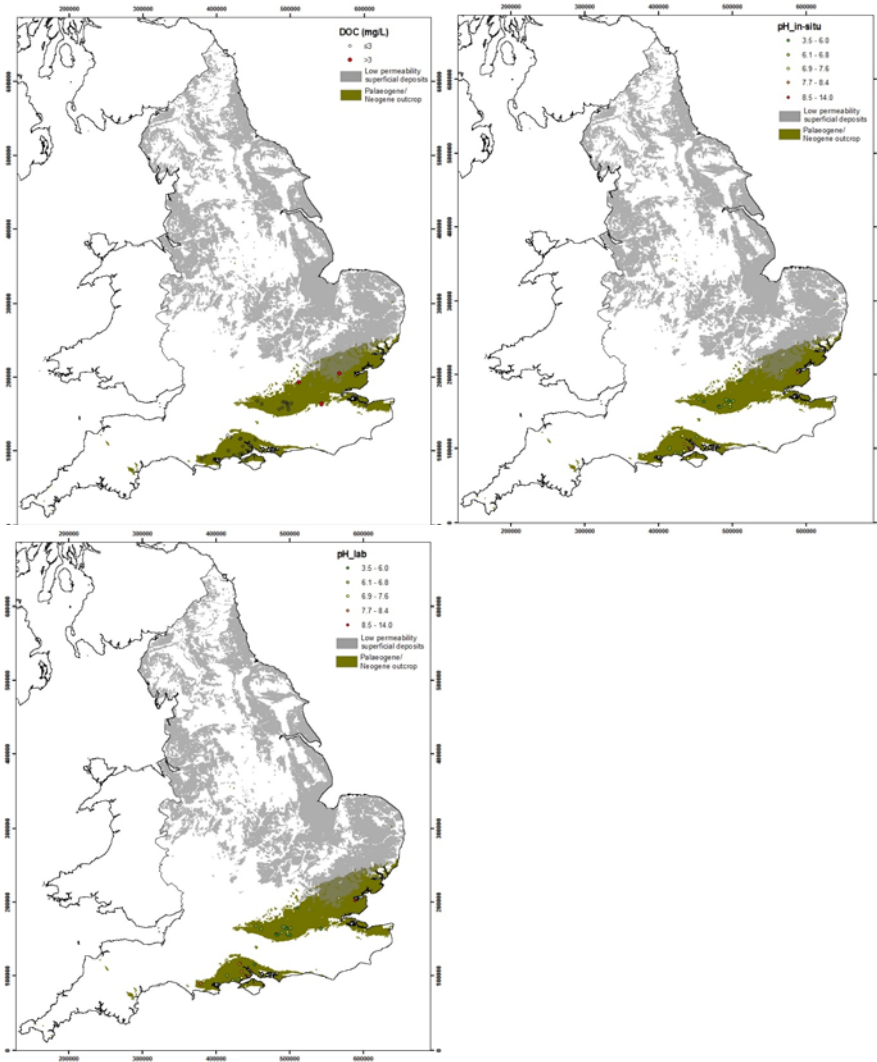
*Oxygen and S species*





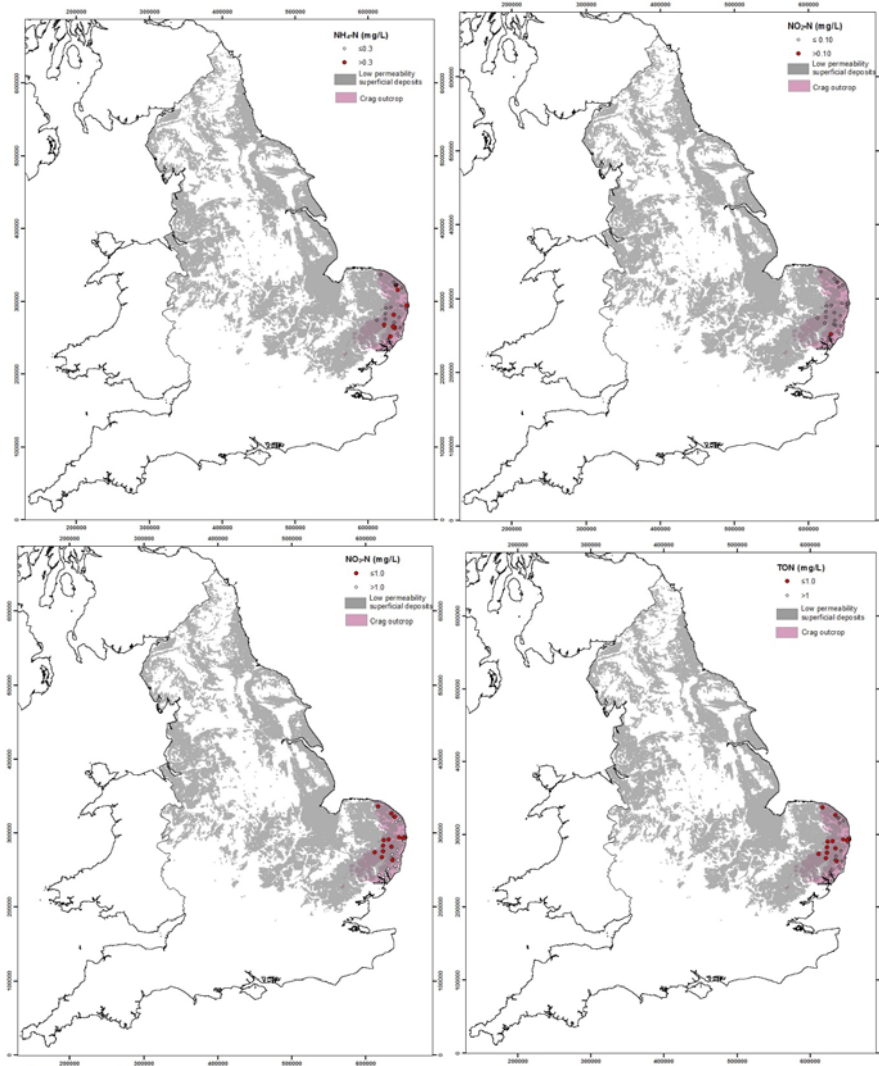
DOC and pH



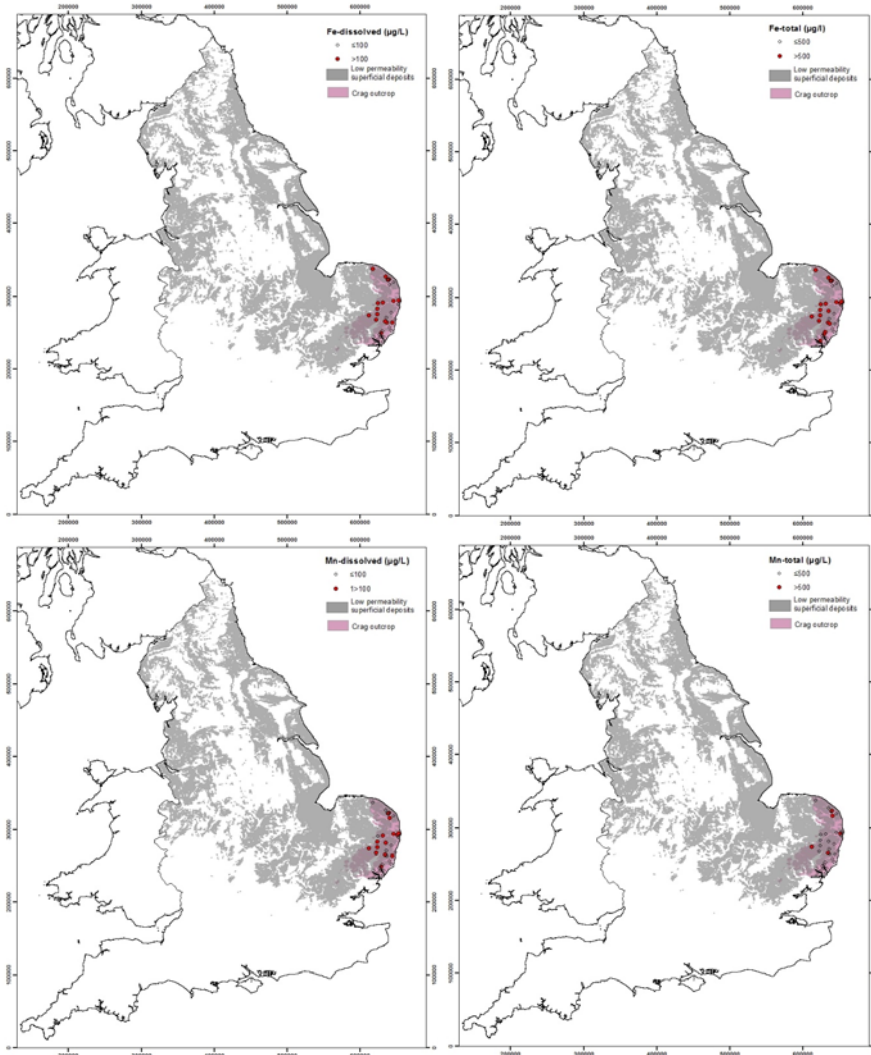


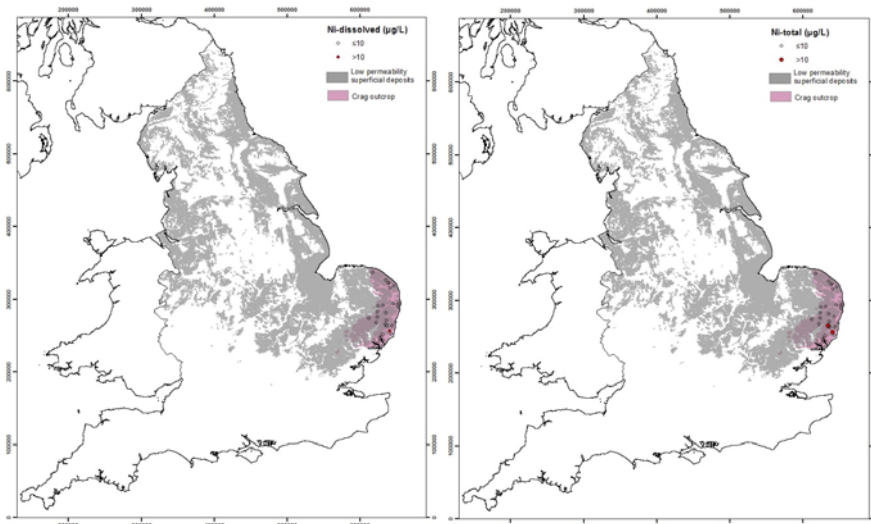
CRAG

*N species*

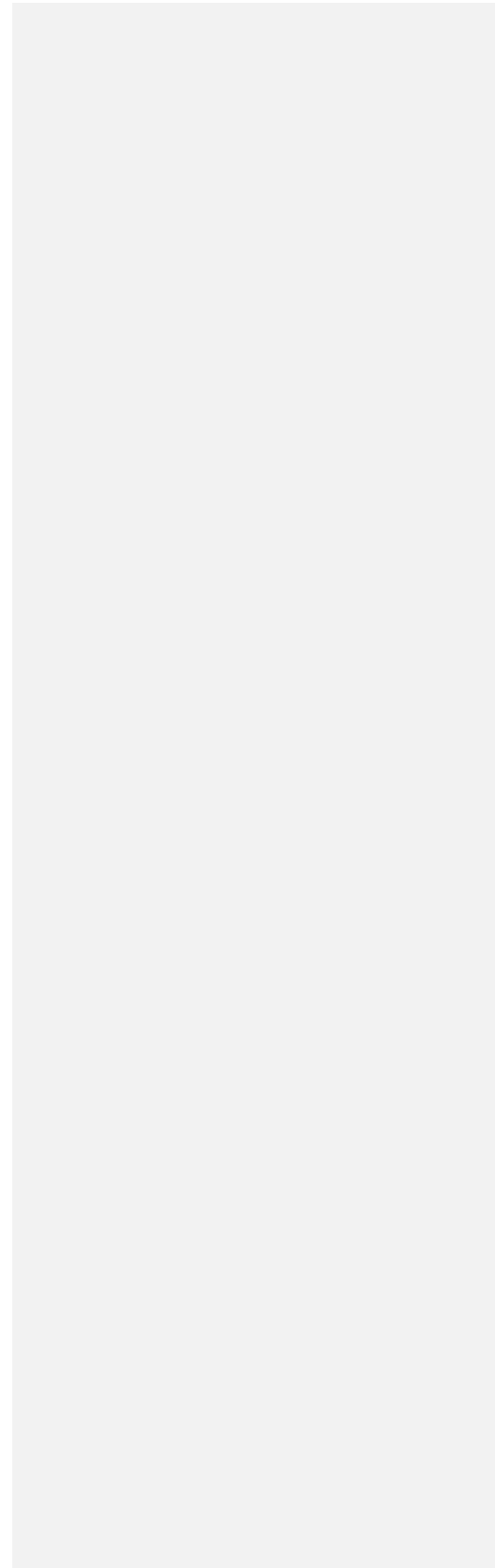
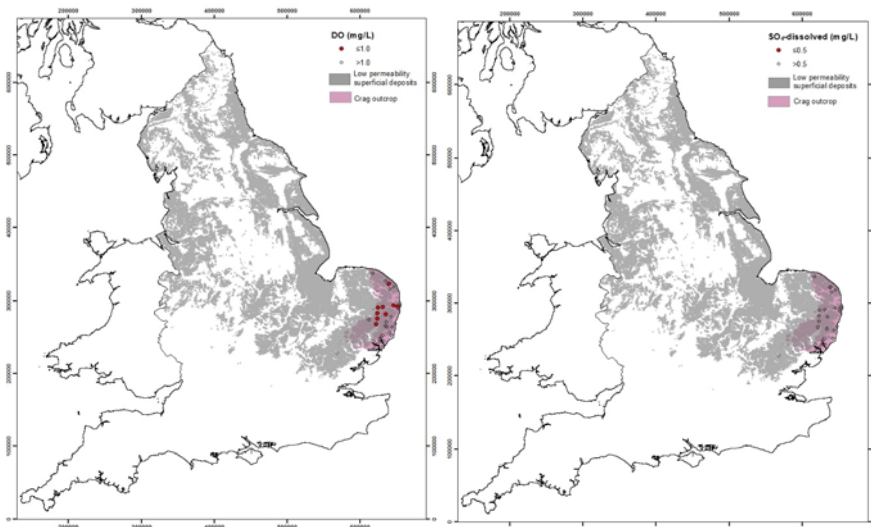


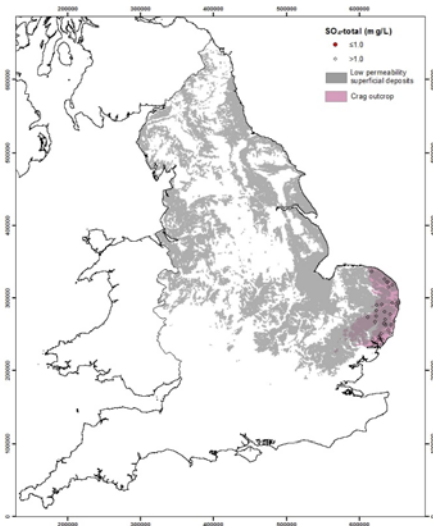
Trace metals



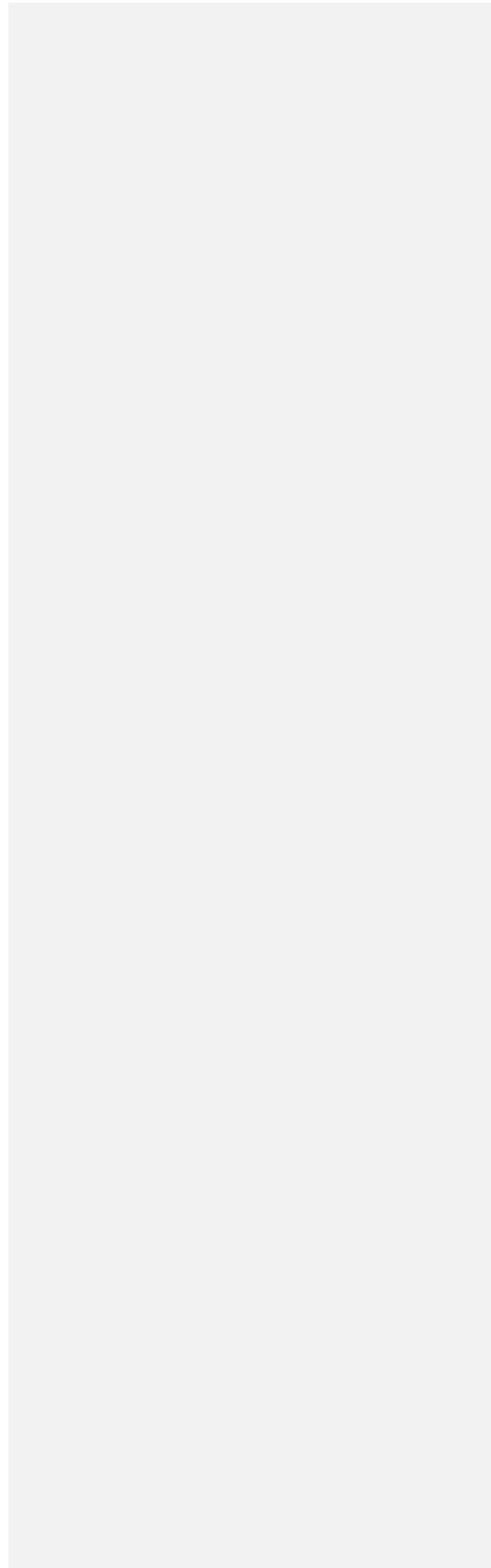
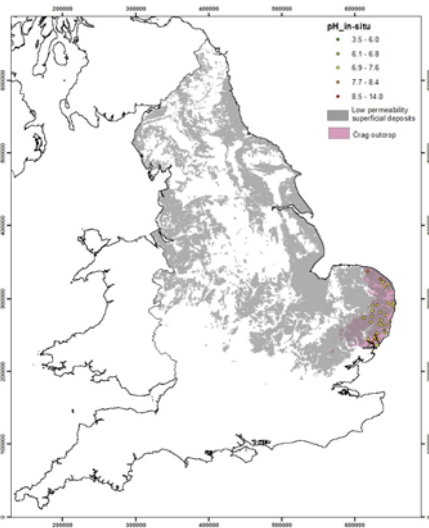
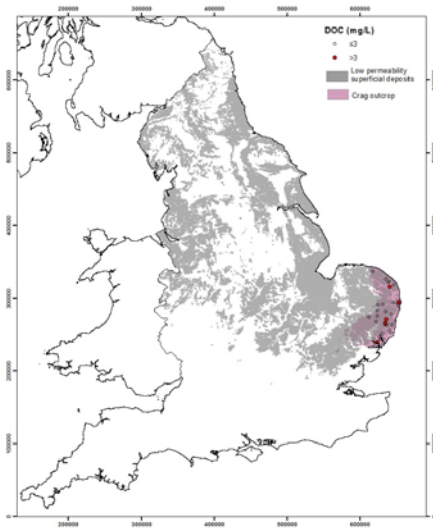


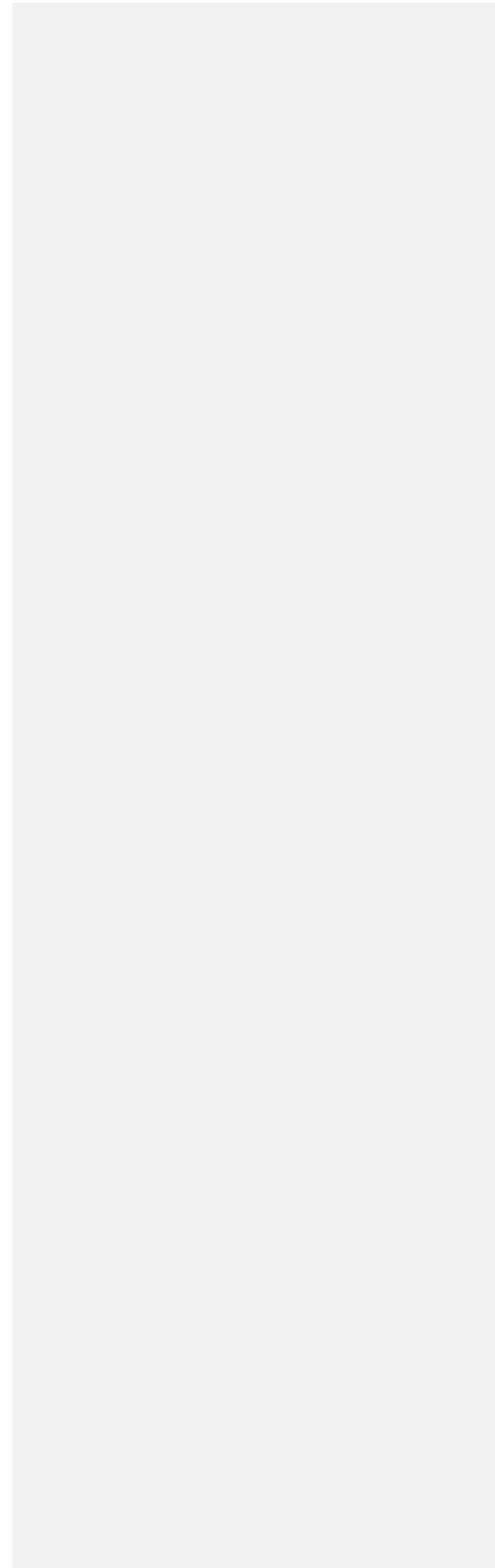
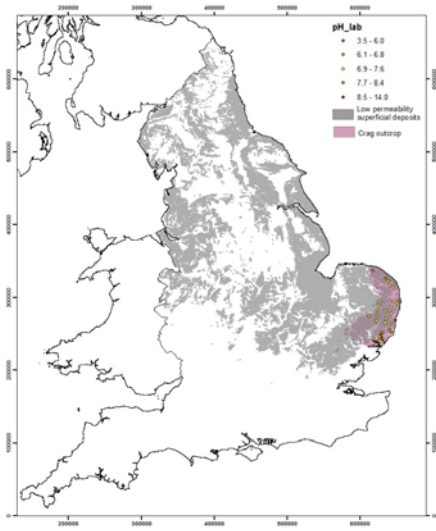
*Oxygen and S species*





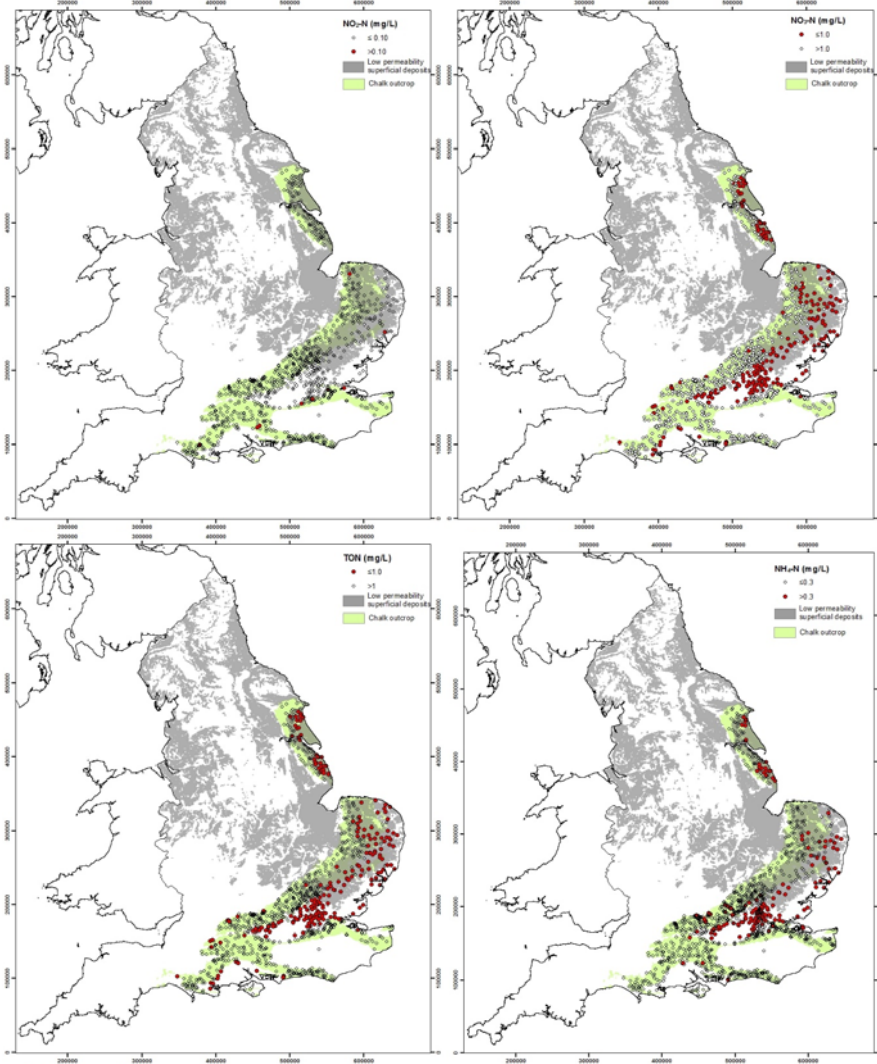
*DOC and pH*



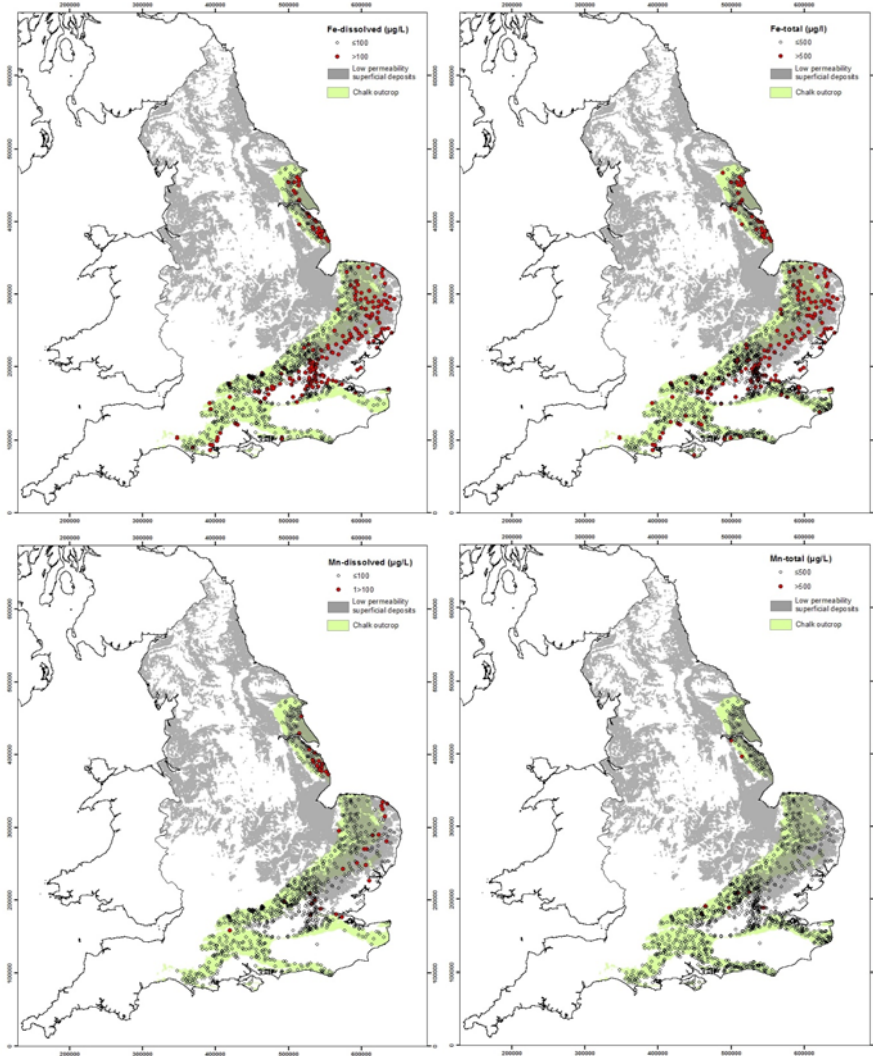


CHALK

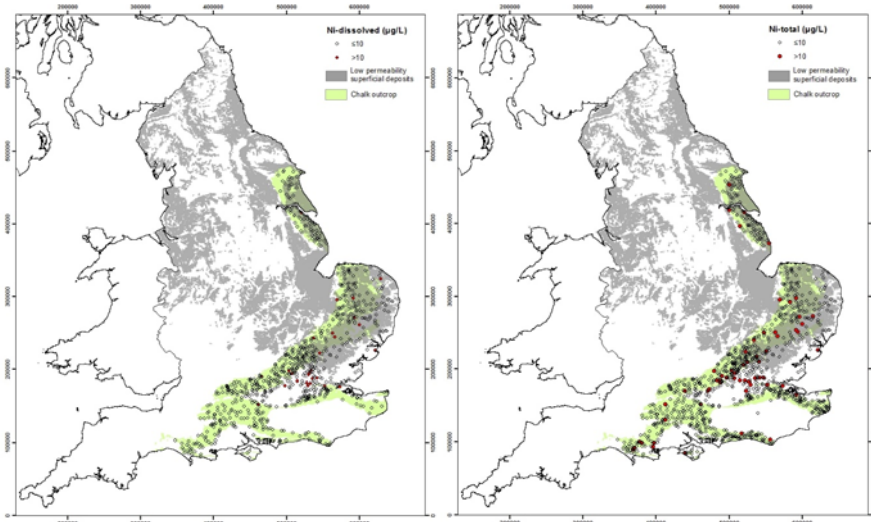
*N species*



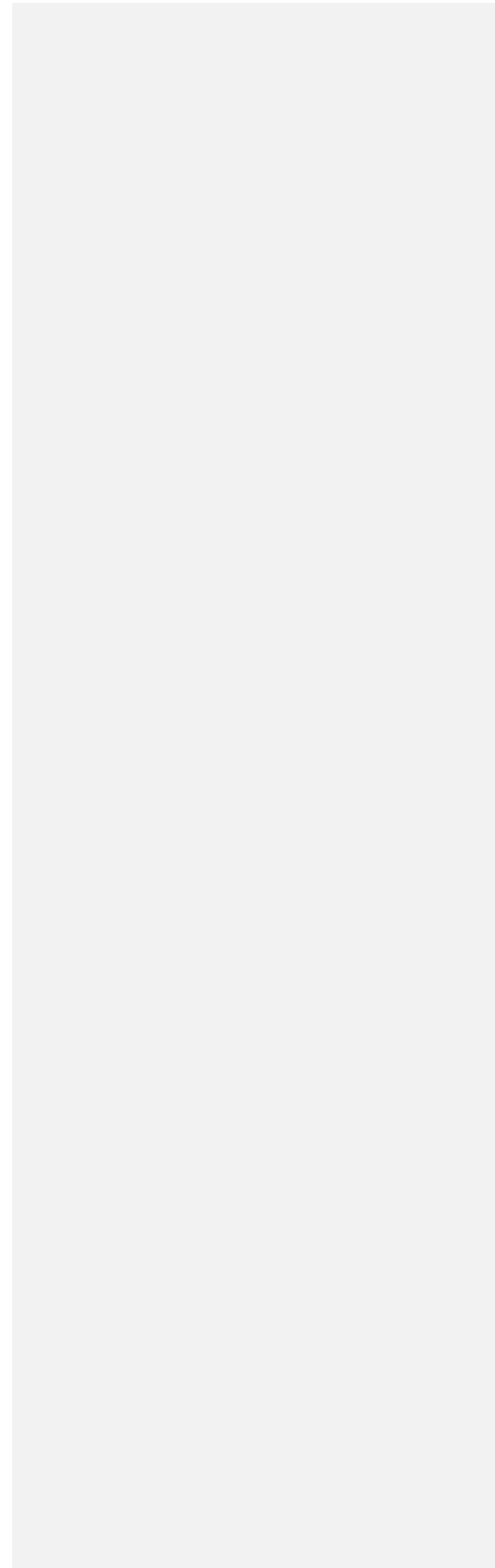
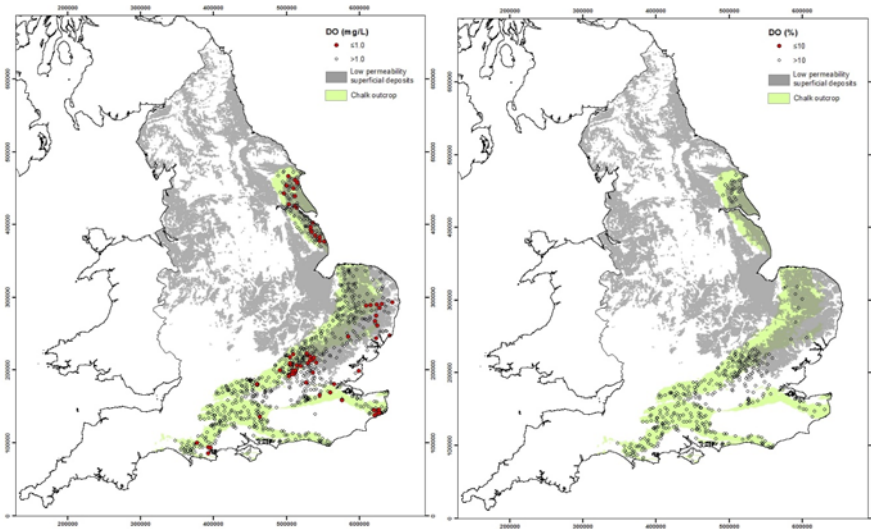
Trace metals

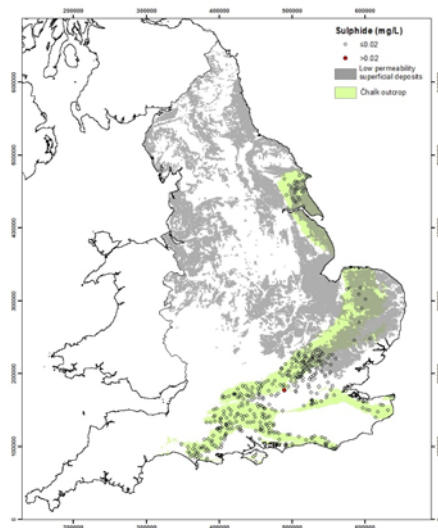
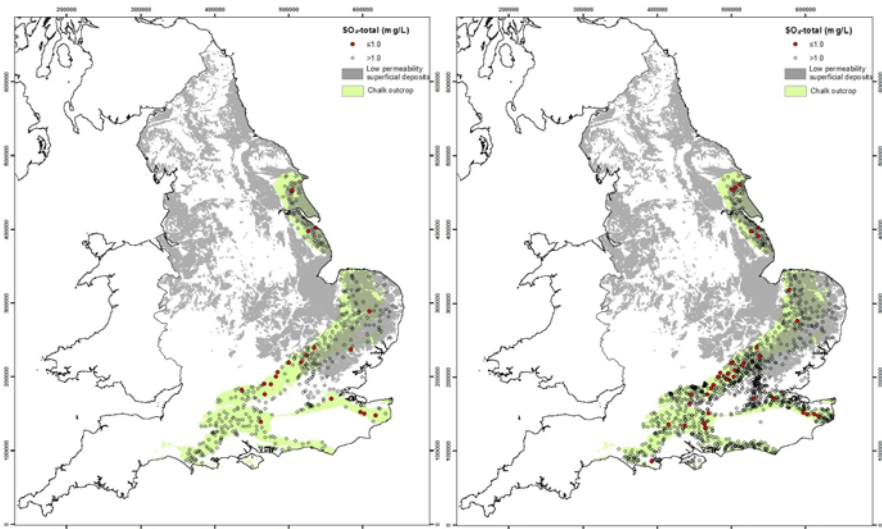




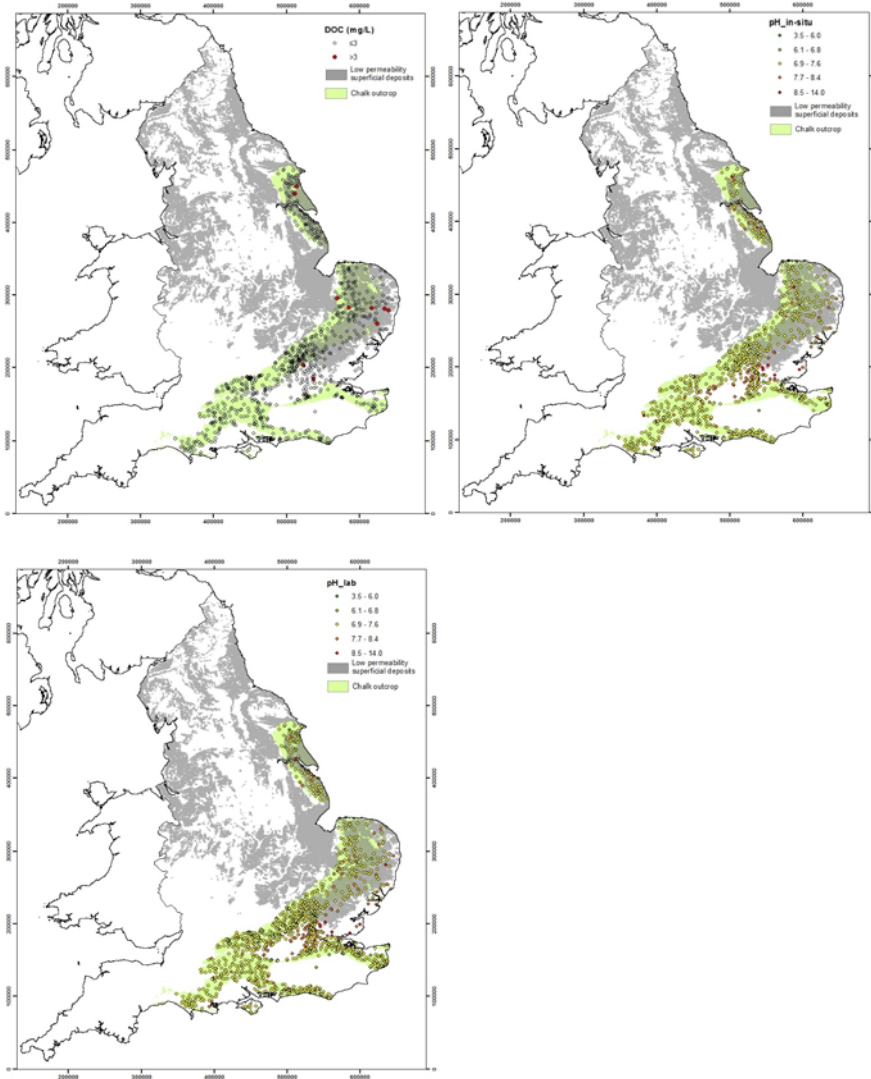


*Oxygen and S species*



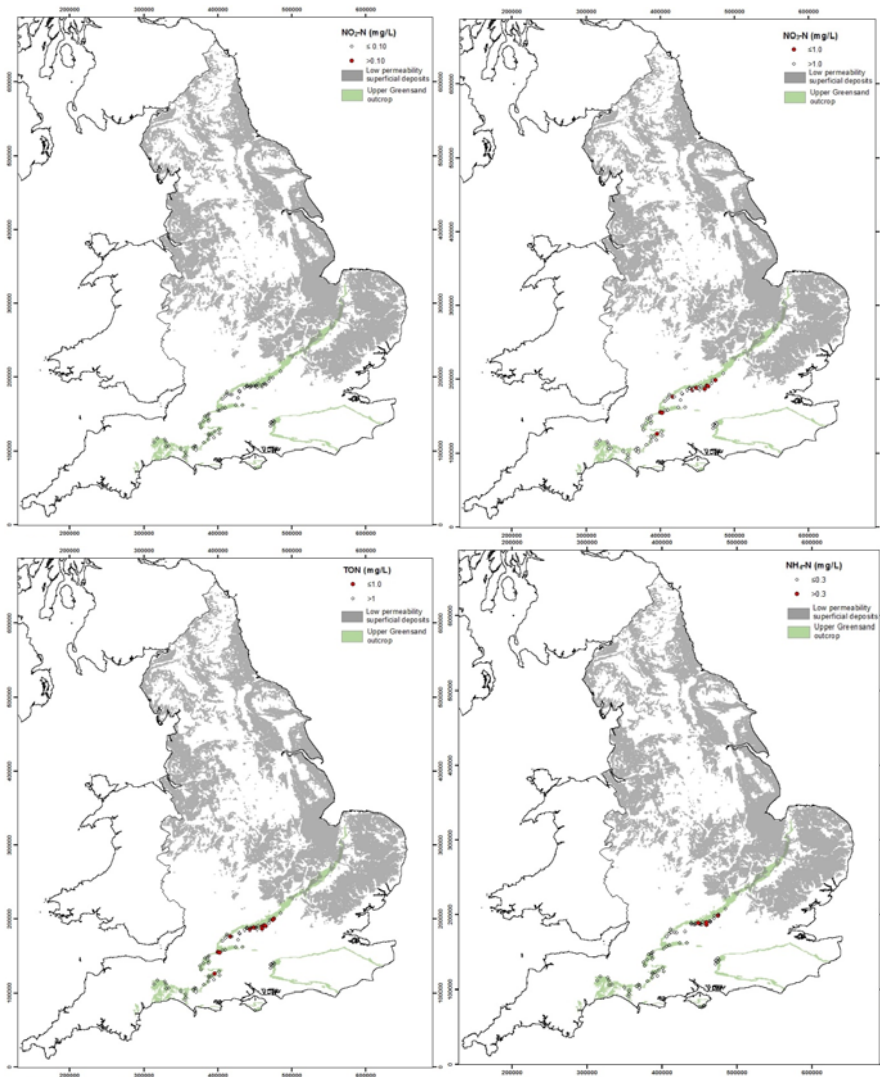


*DOC and pH*

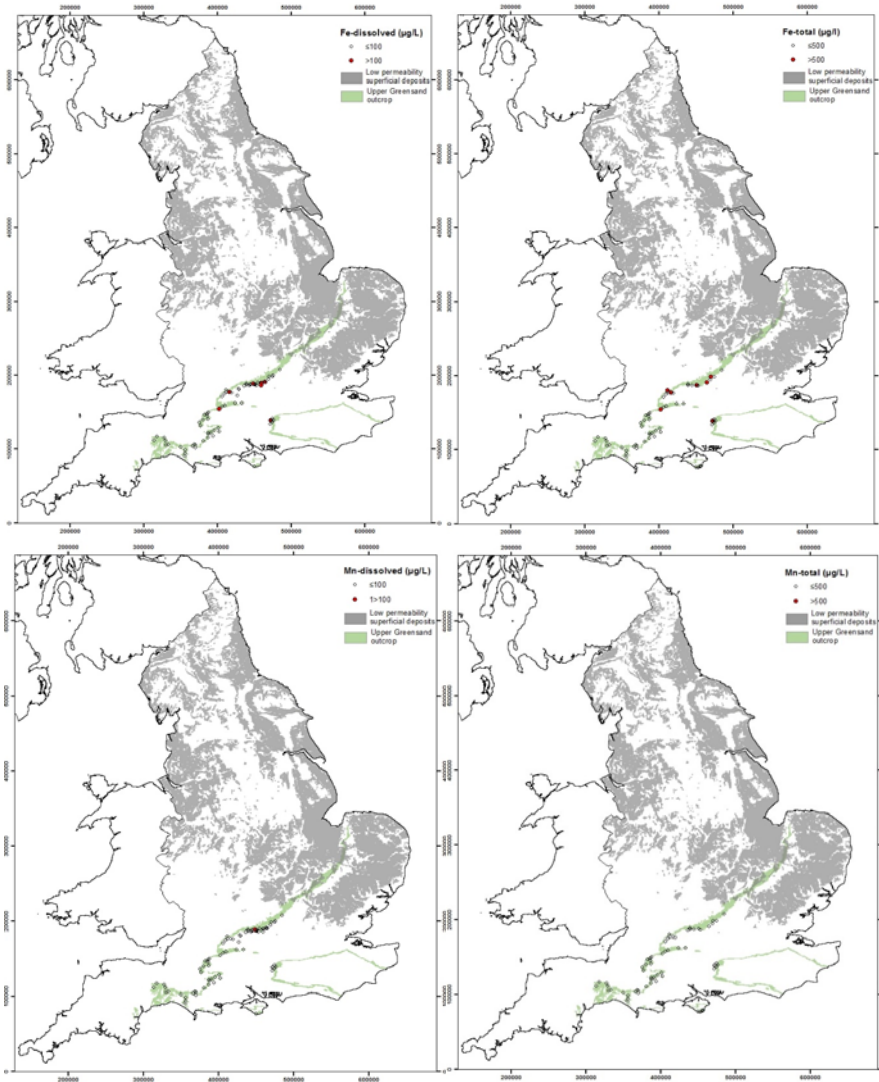


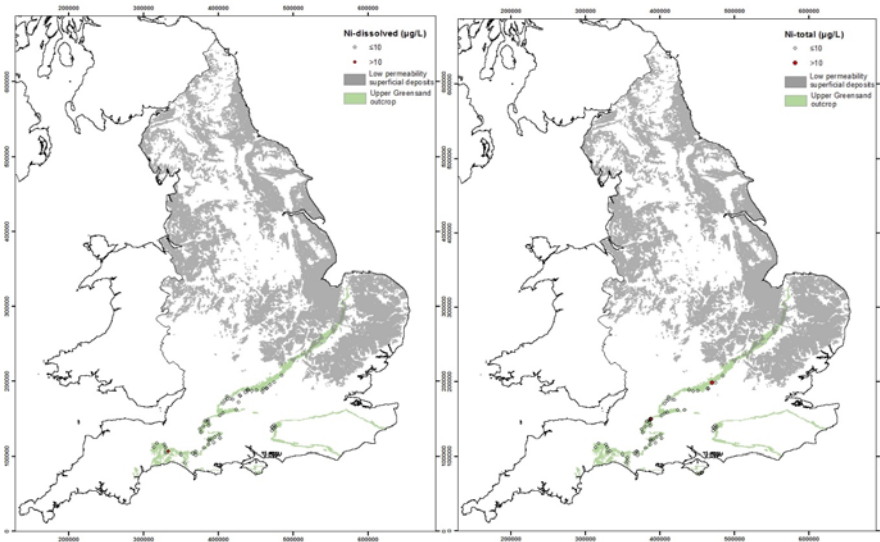
# UPPER GREENSAND

## *N species*

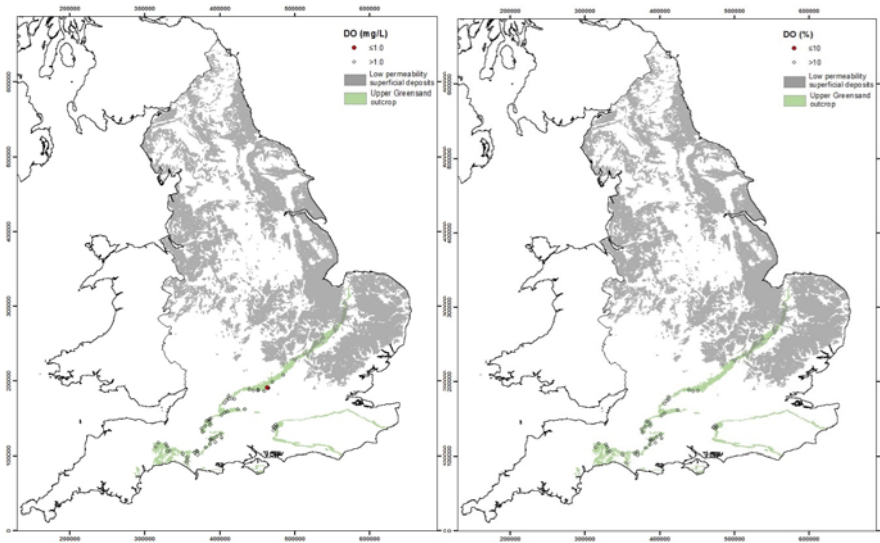


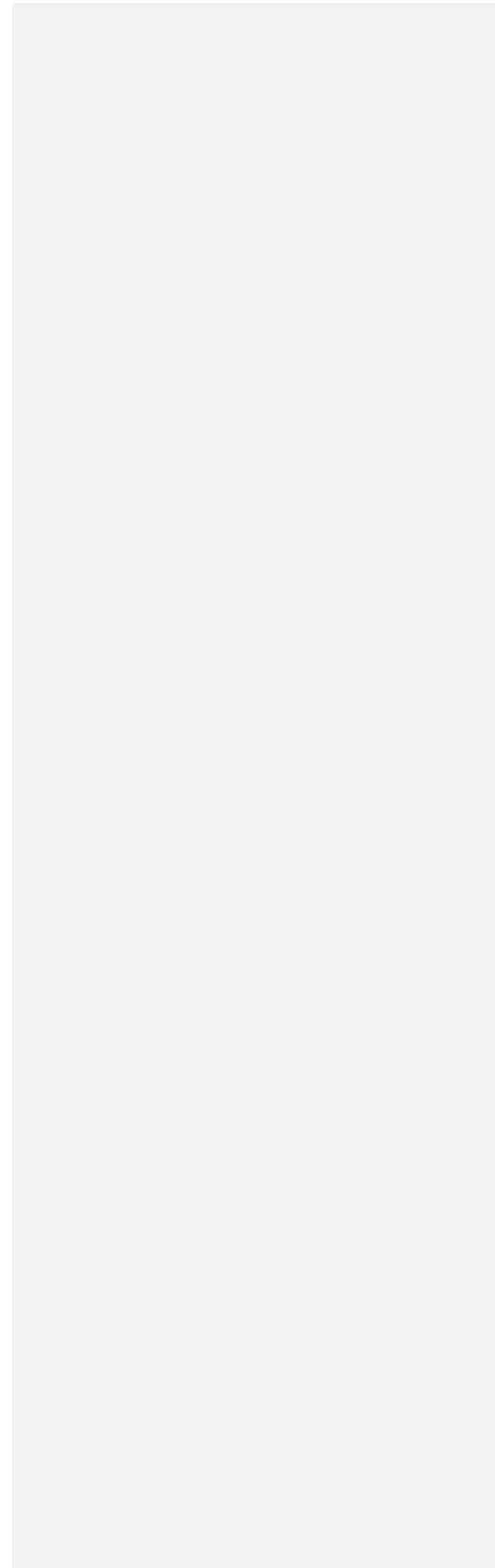
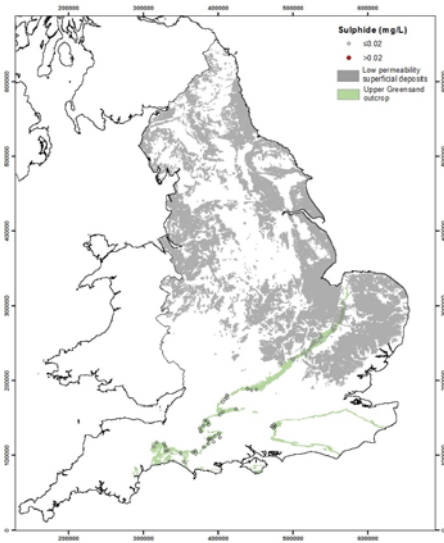
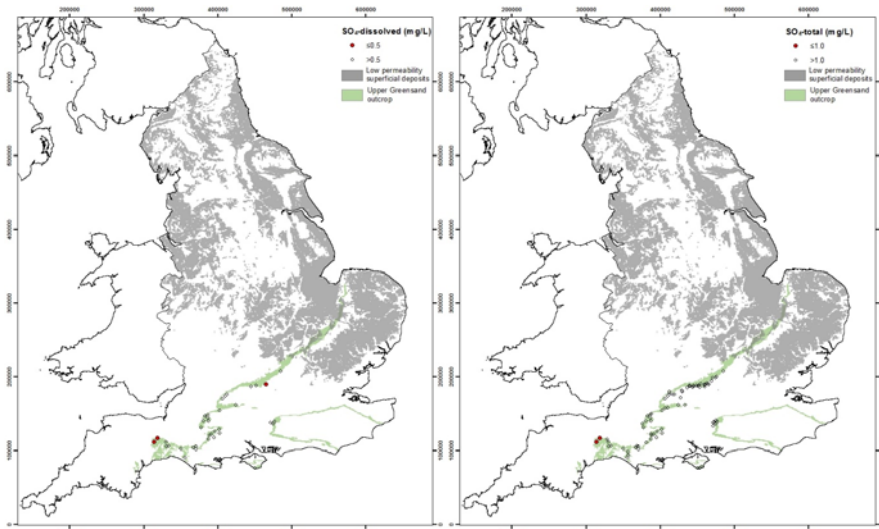
Trace metals



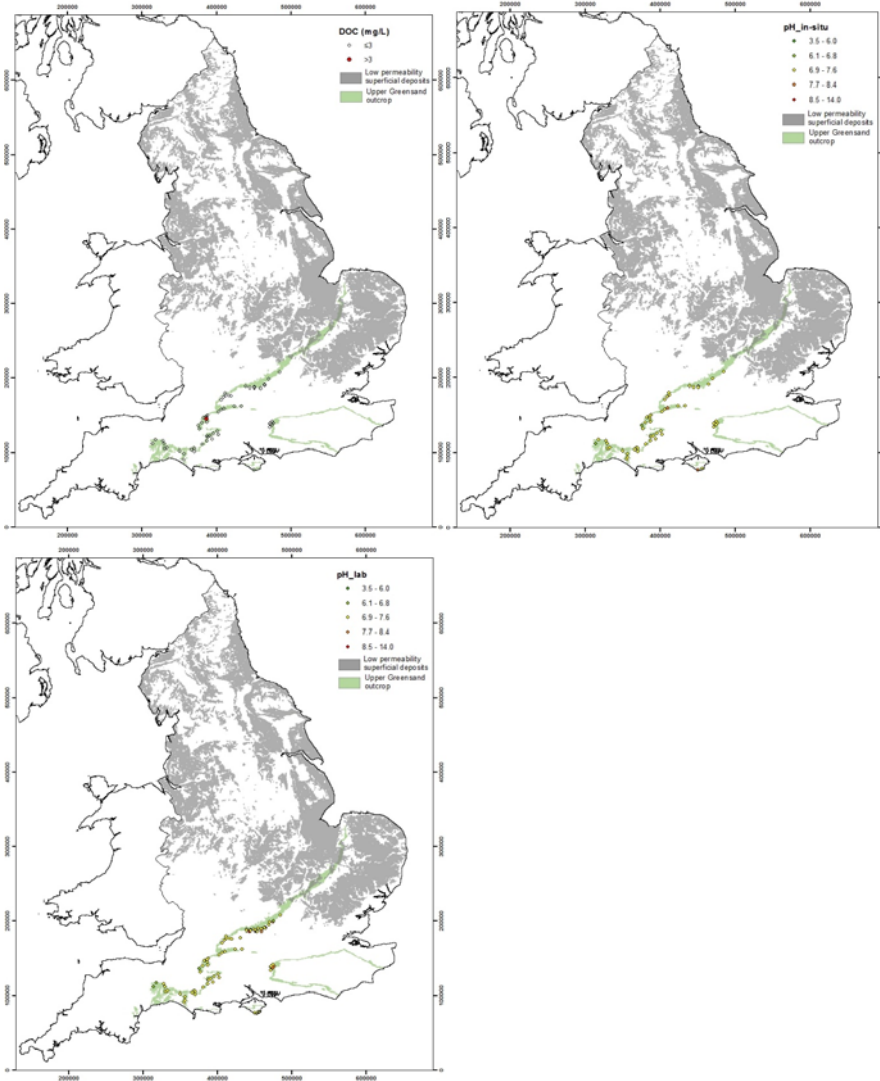


*Oxygen and S species*





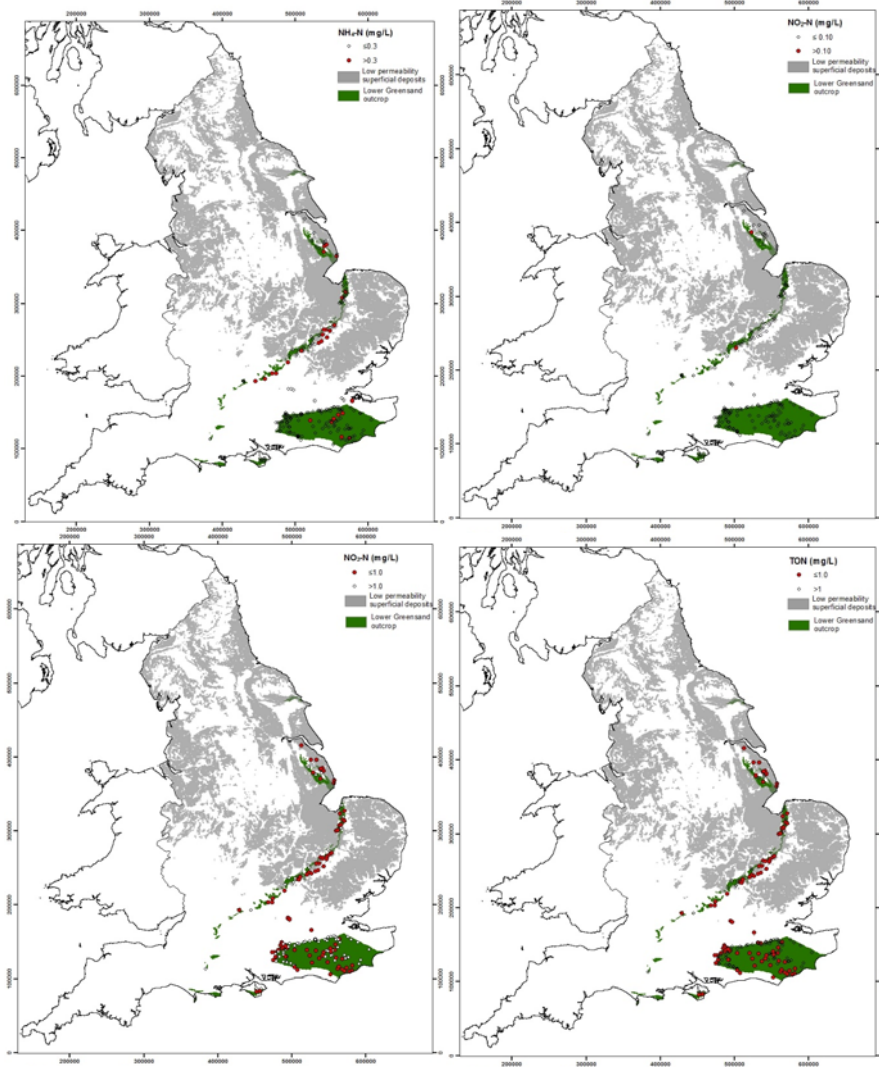
DOC and pH



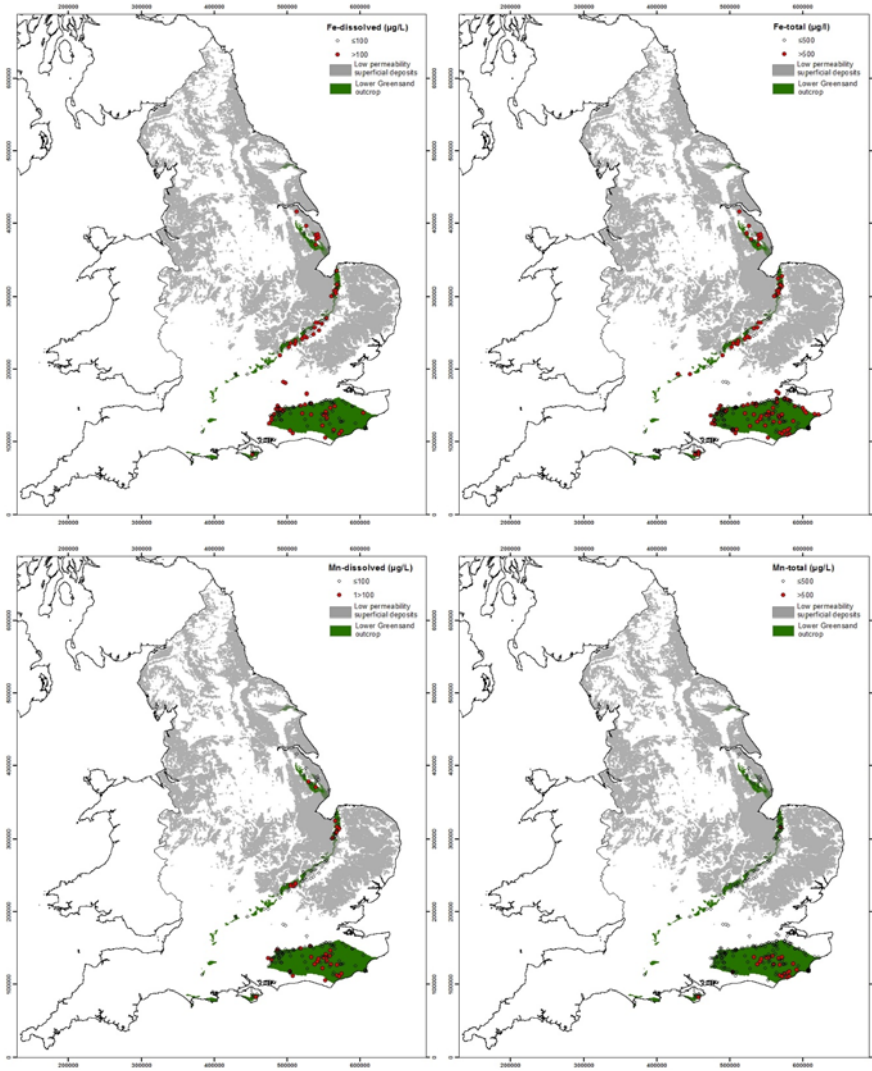


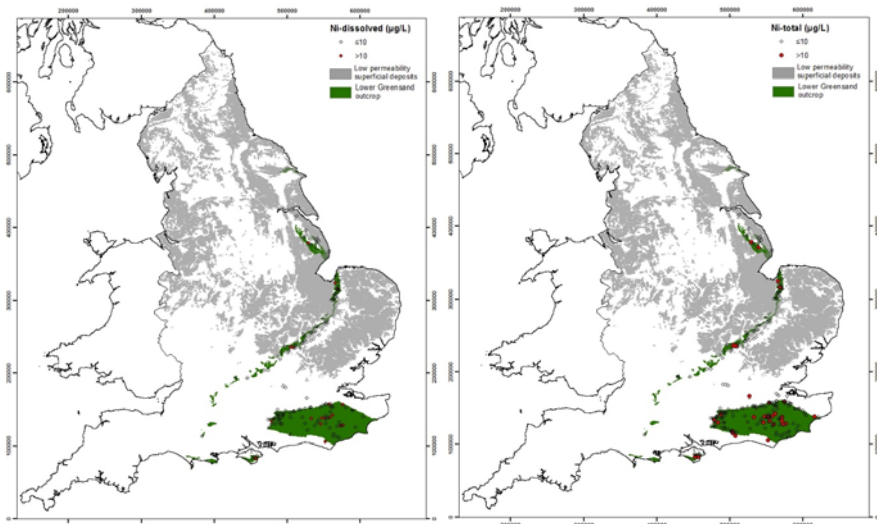
LOWER GREENSAND

*N species*

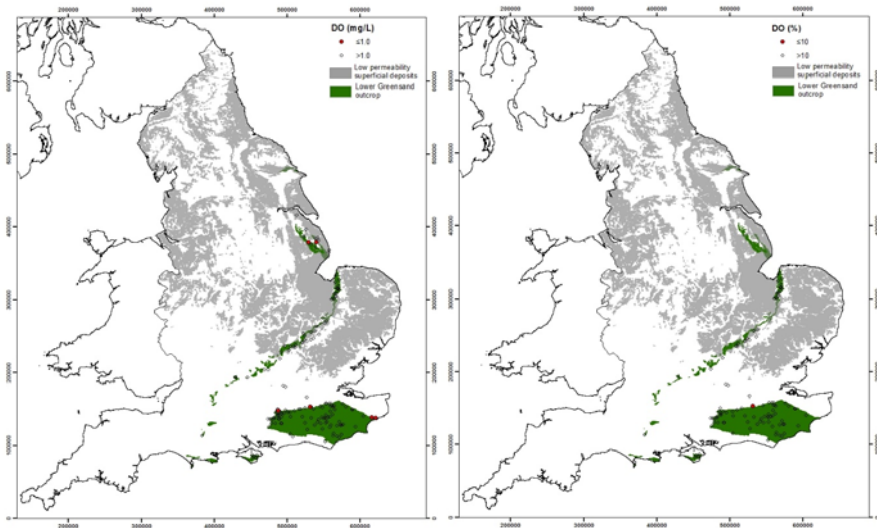


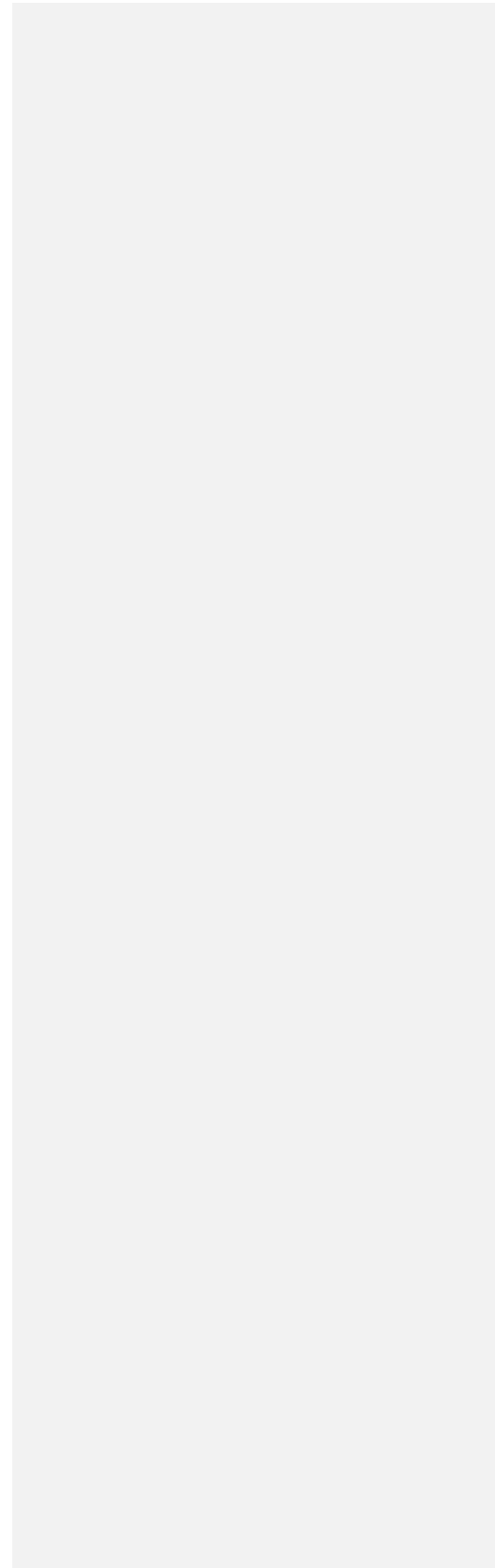
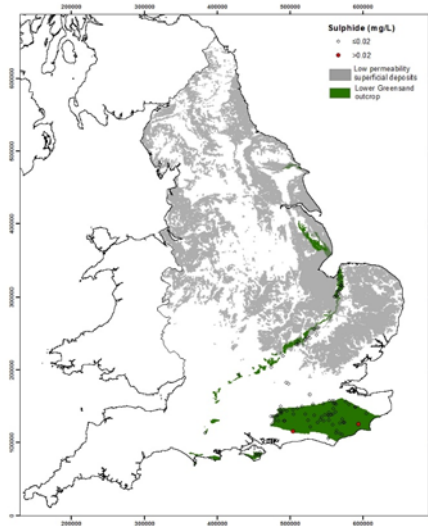
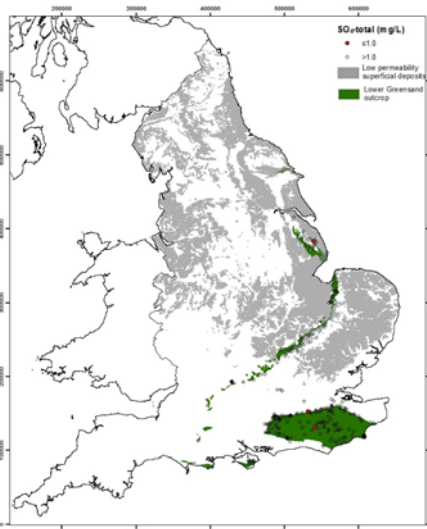
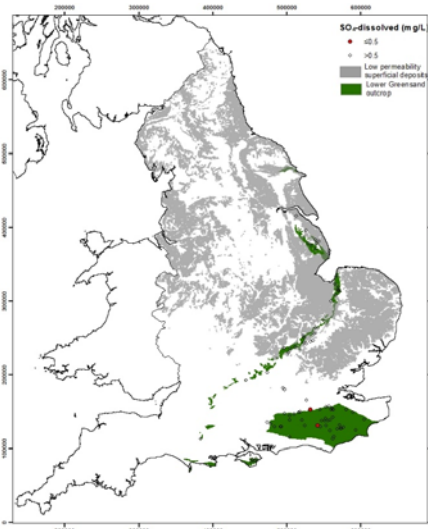
Trace metals



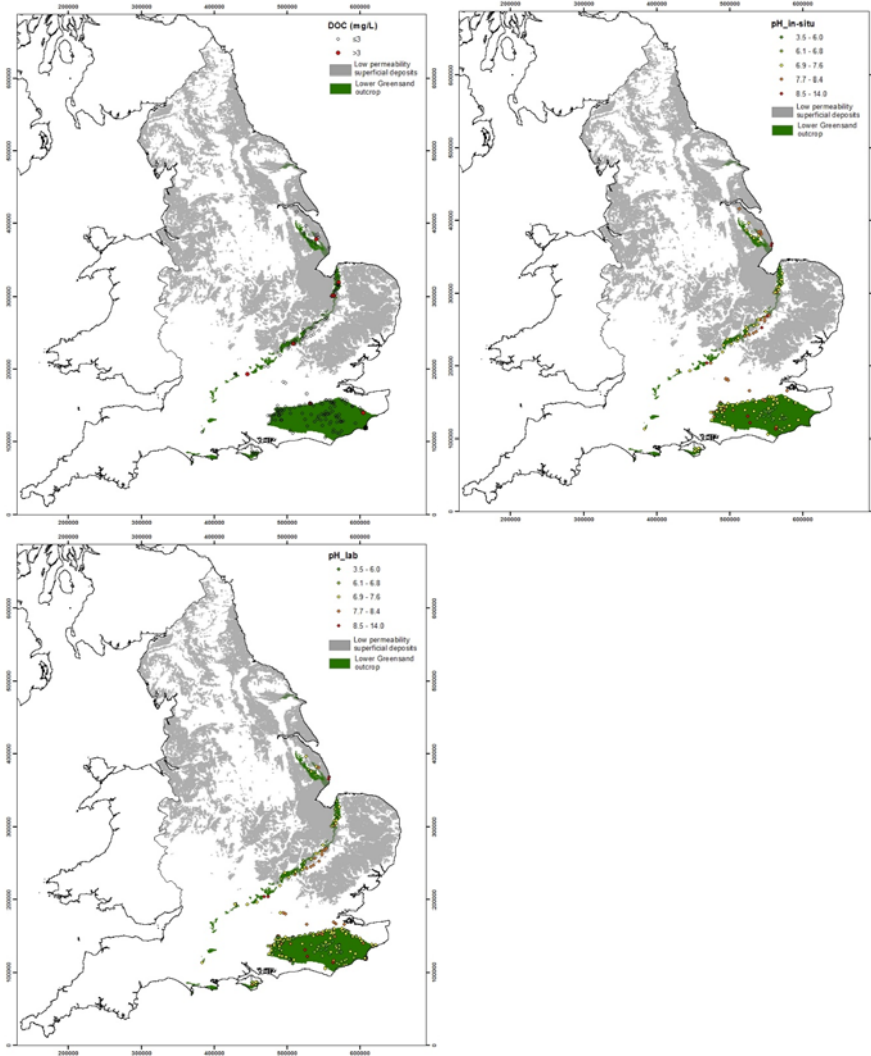


*Oxygen and S species*



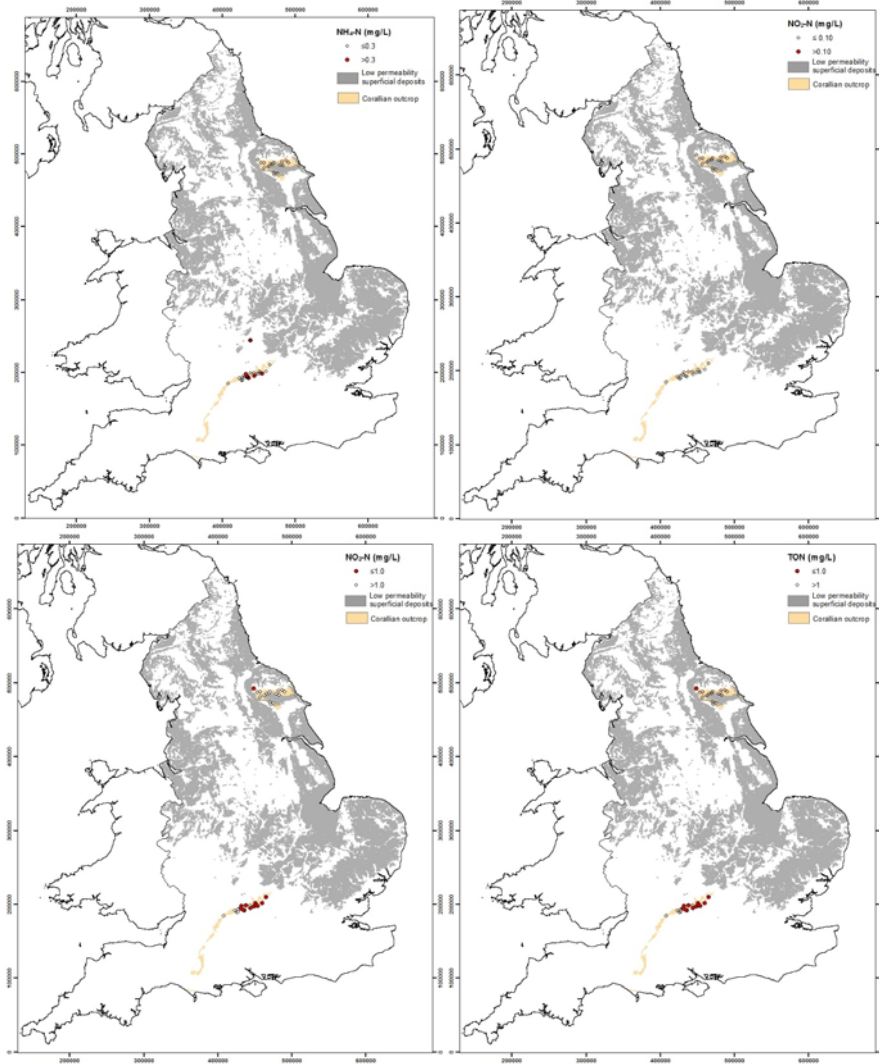


DOC and pH

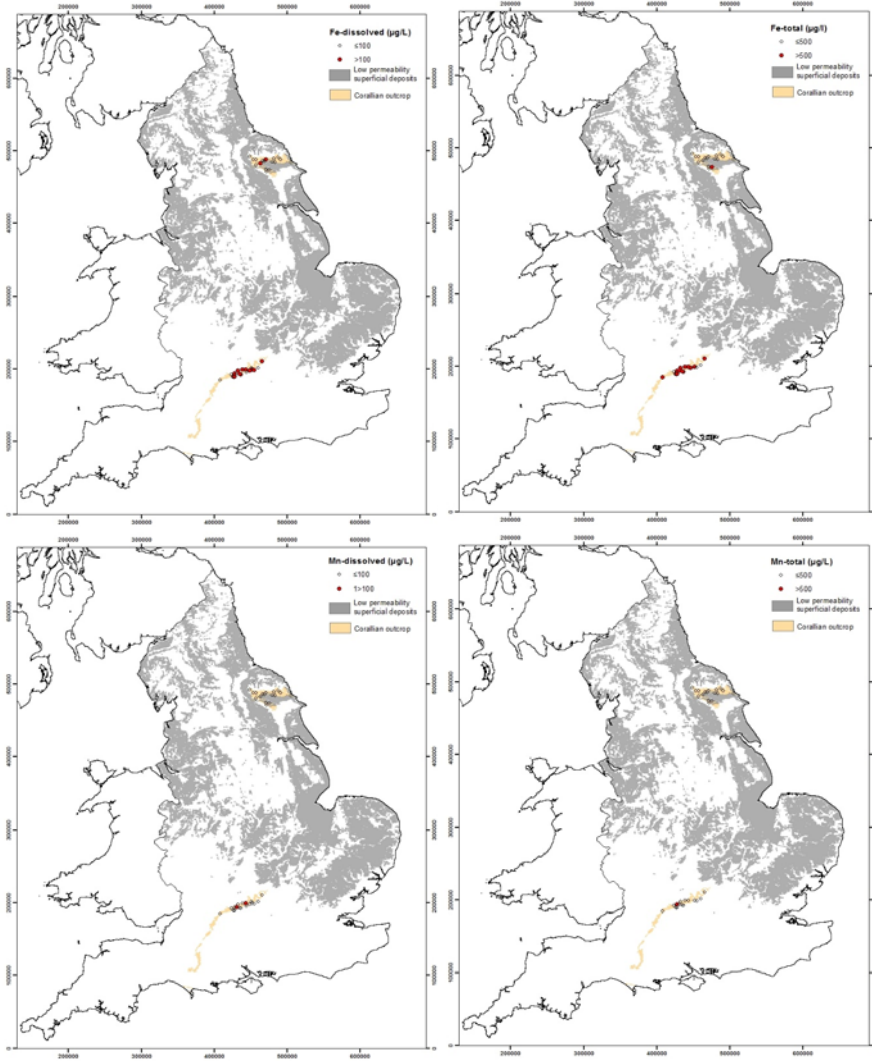


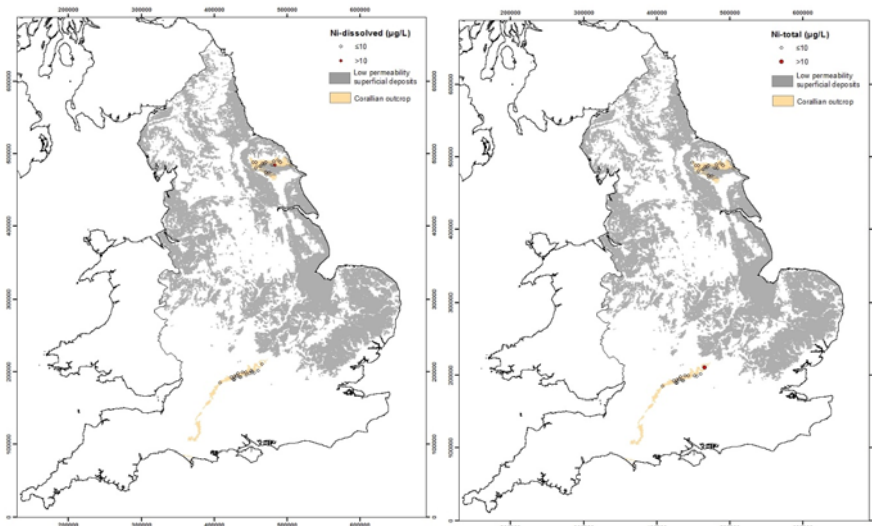
CORALLIAN

*N species*

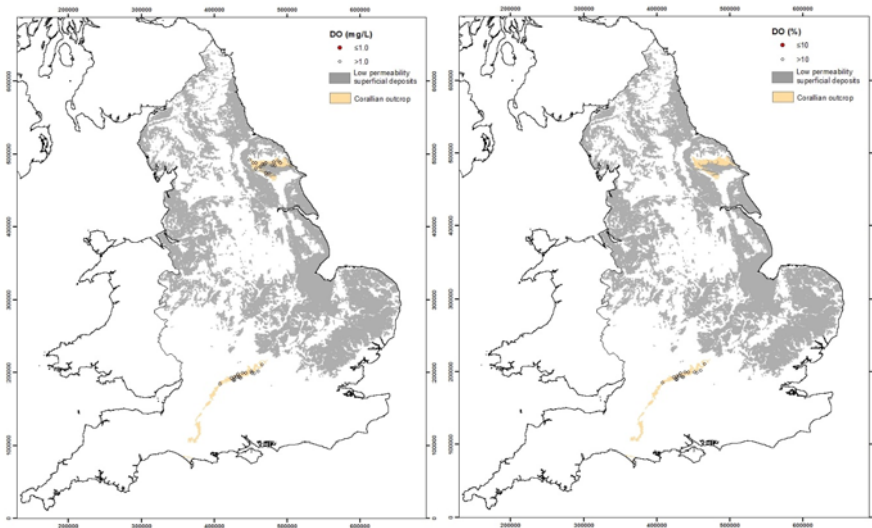


Trace metals

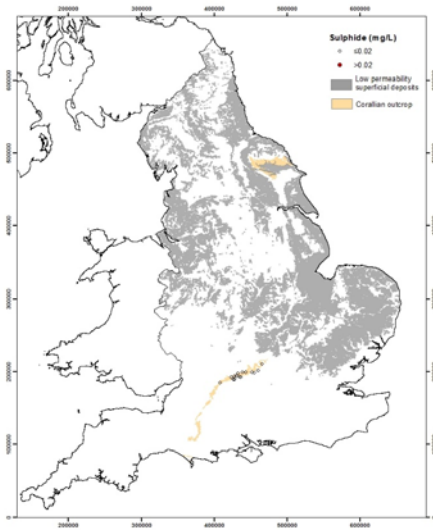
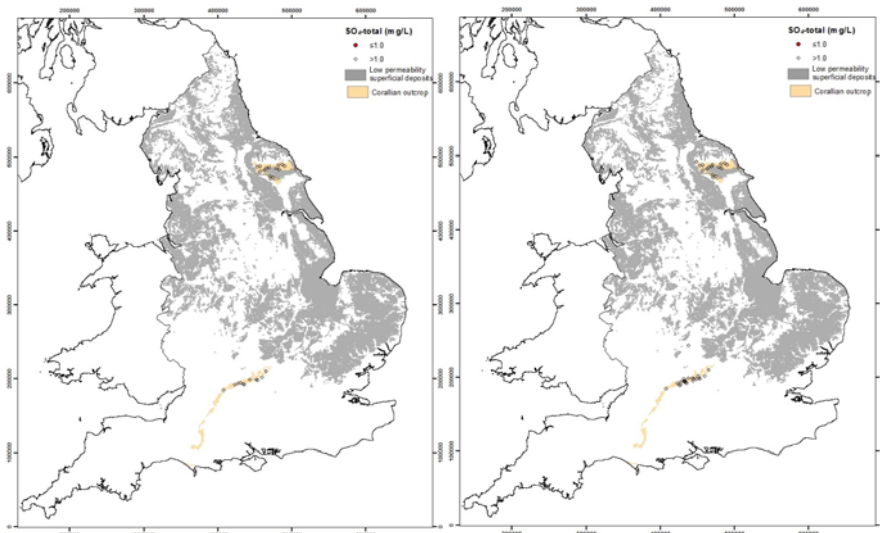




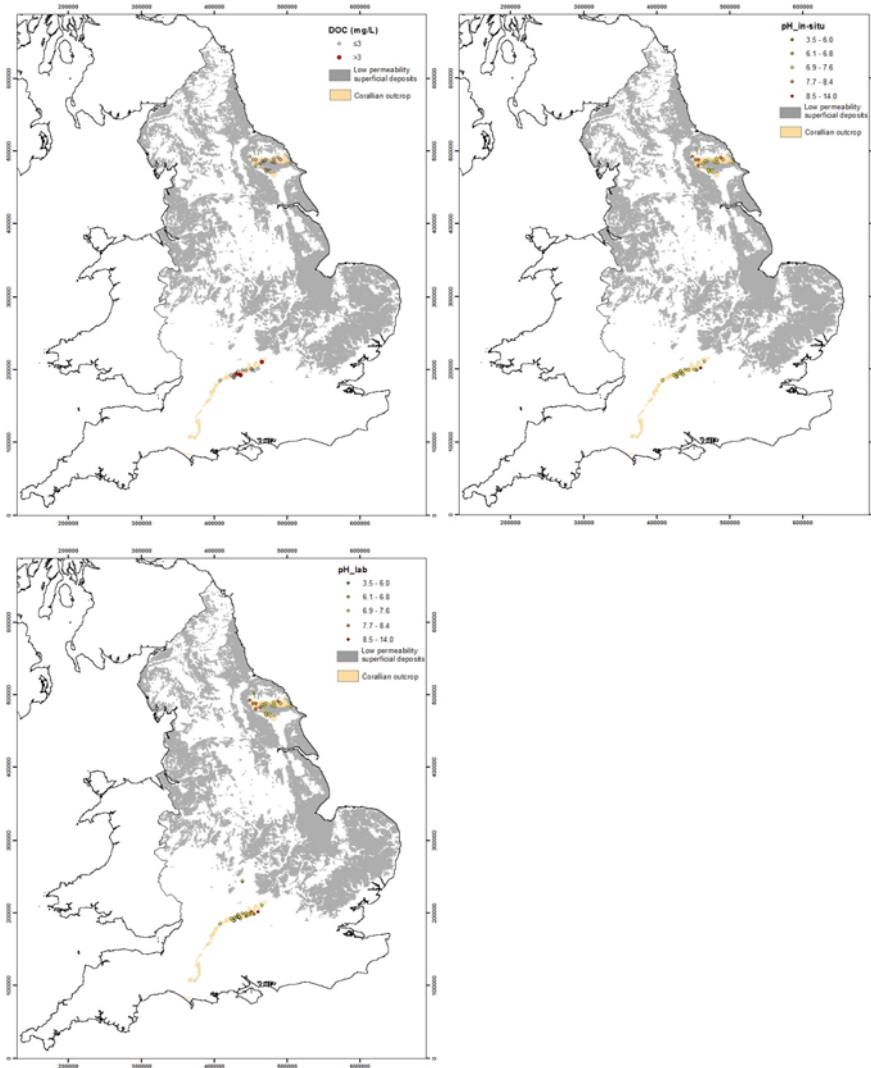
*Oxygen and S species*





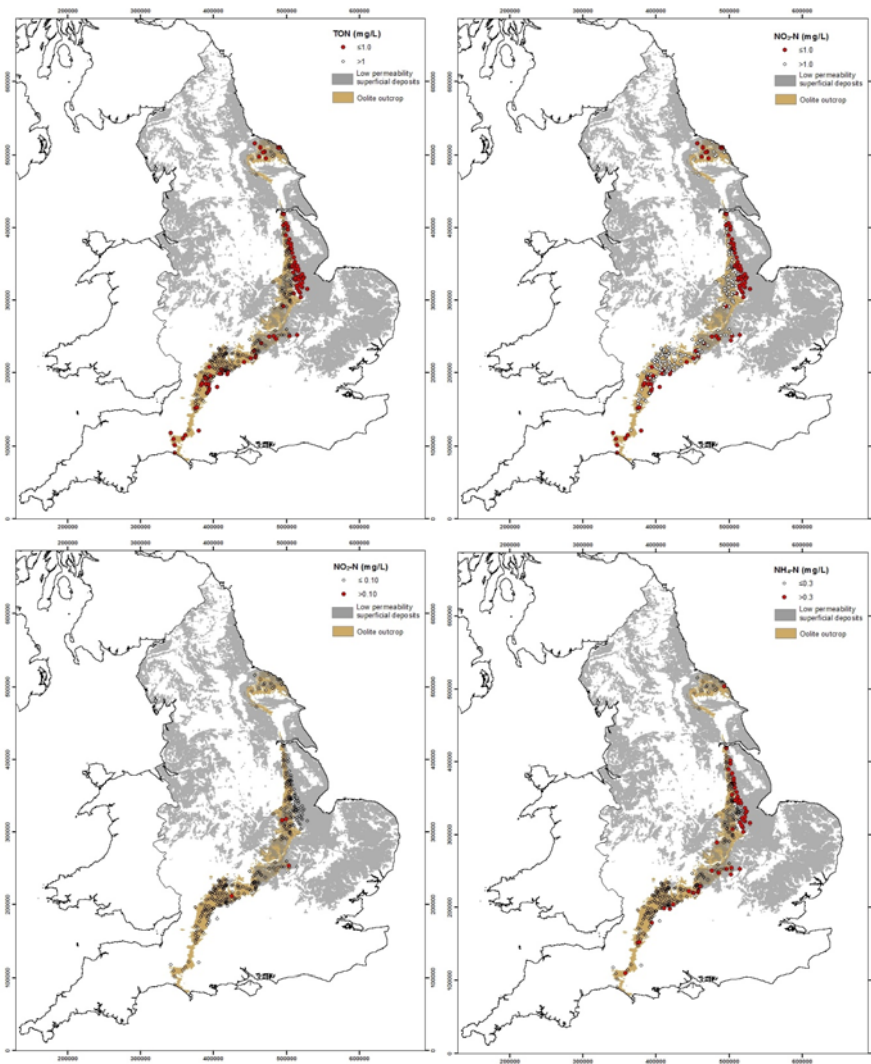


DOC and pH

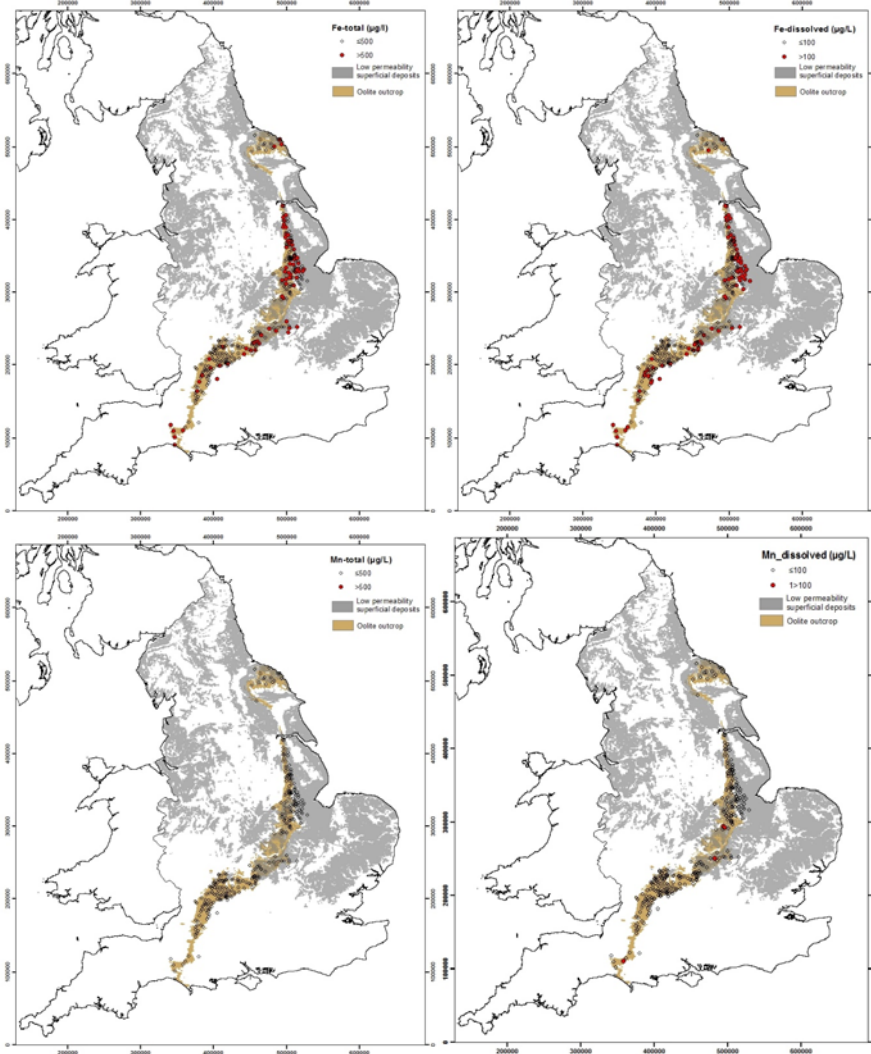


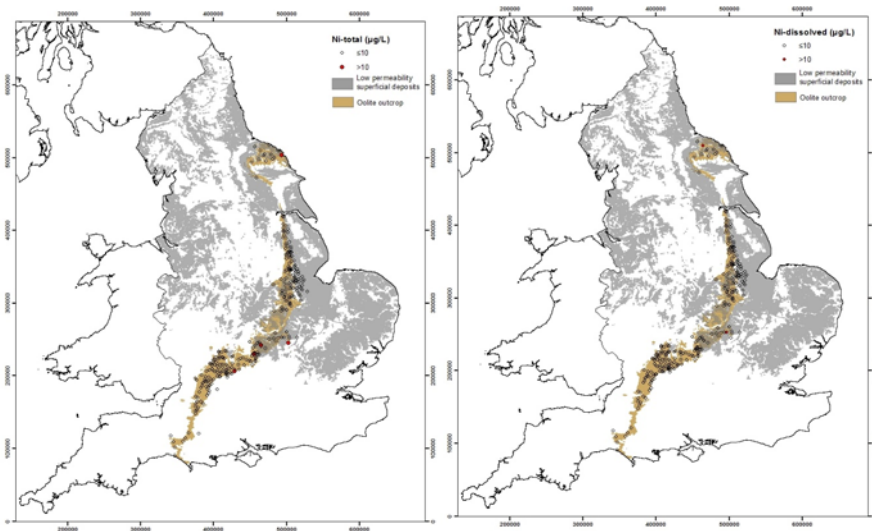
OOLITE

*N species*

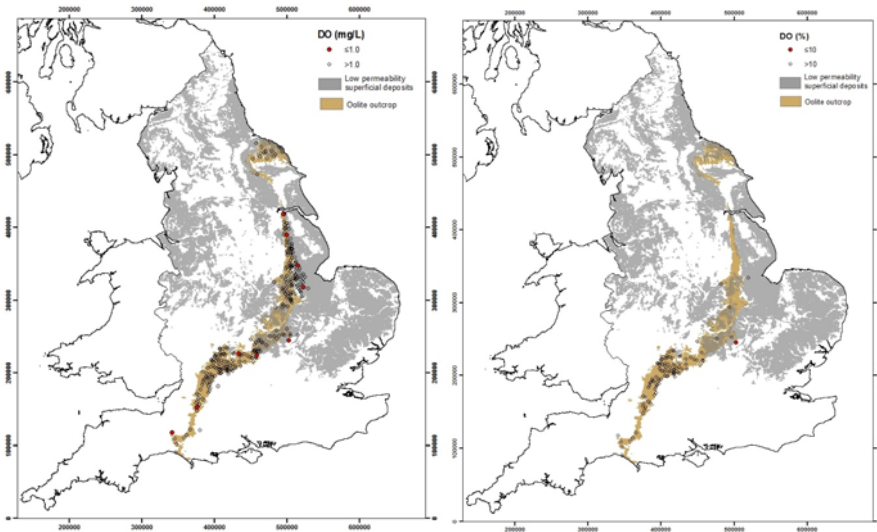


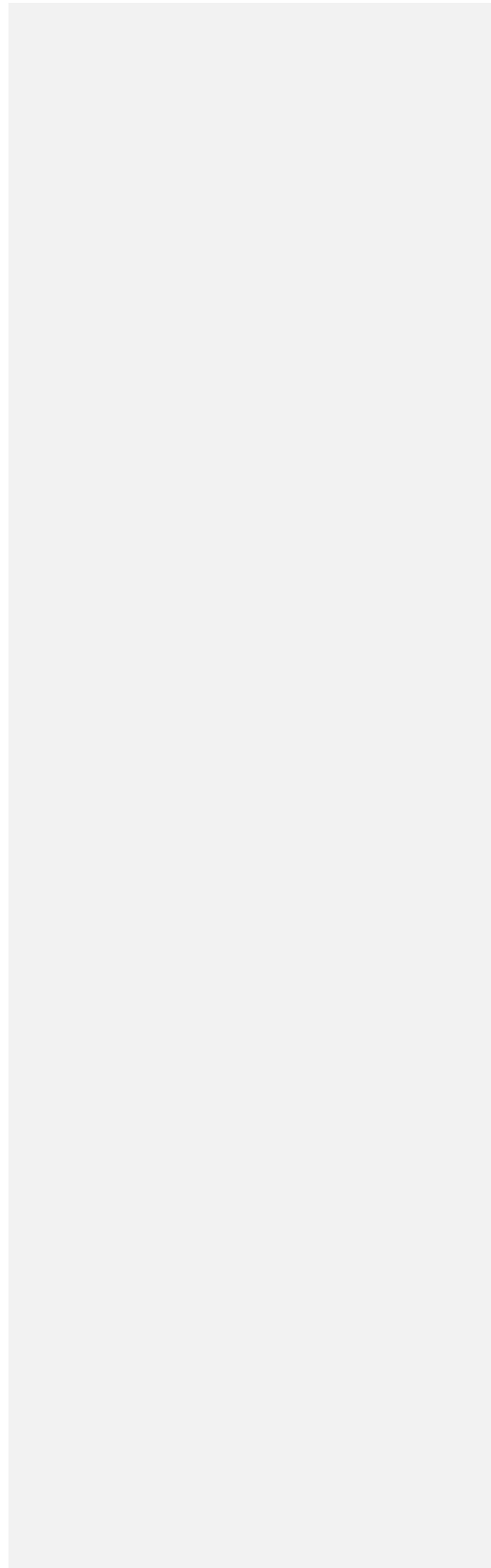
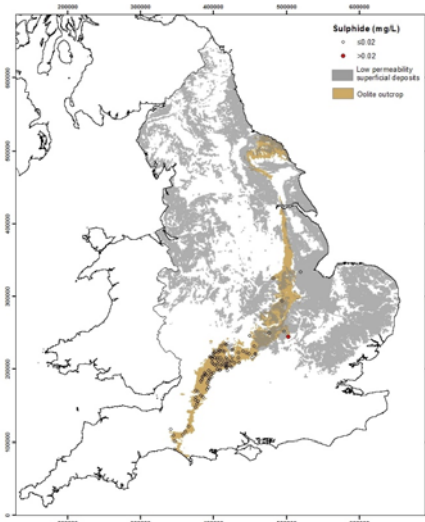
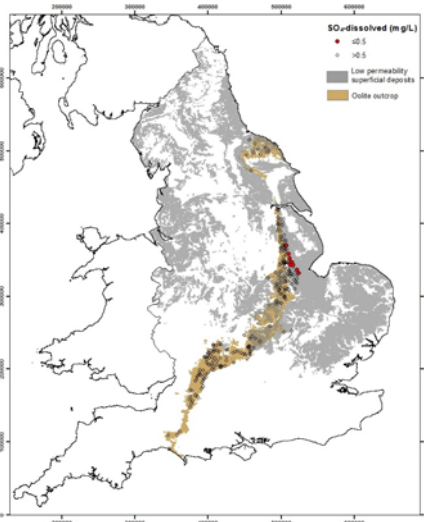
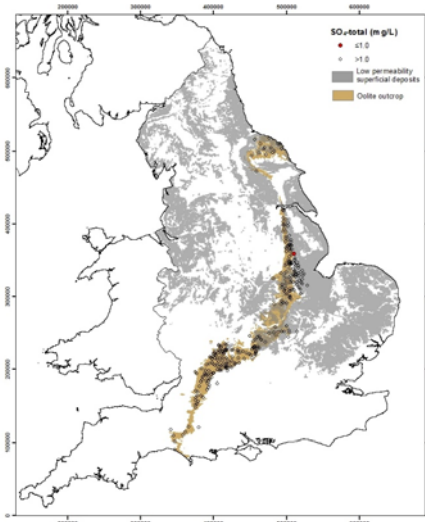
Trace metals



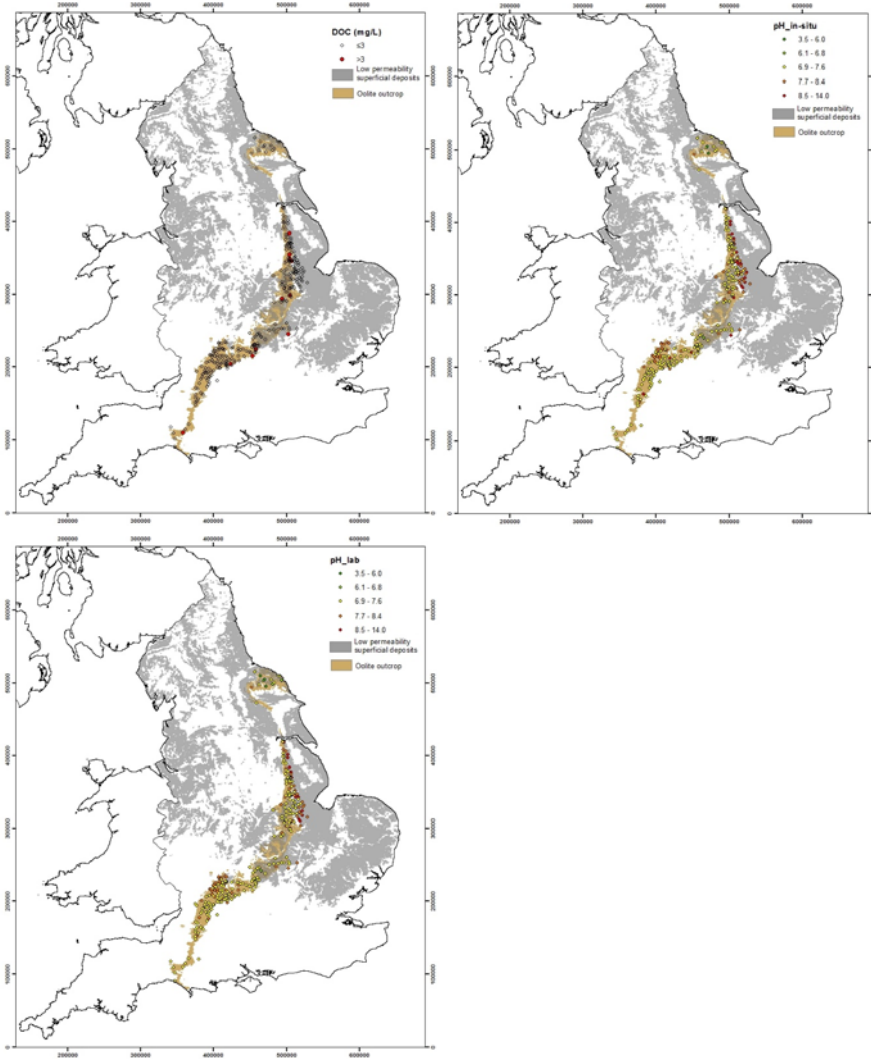


*Oxygen and S species*



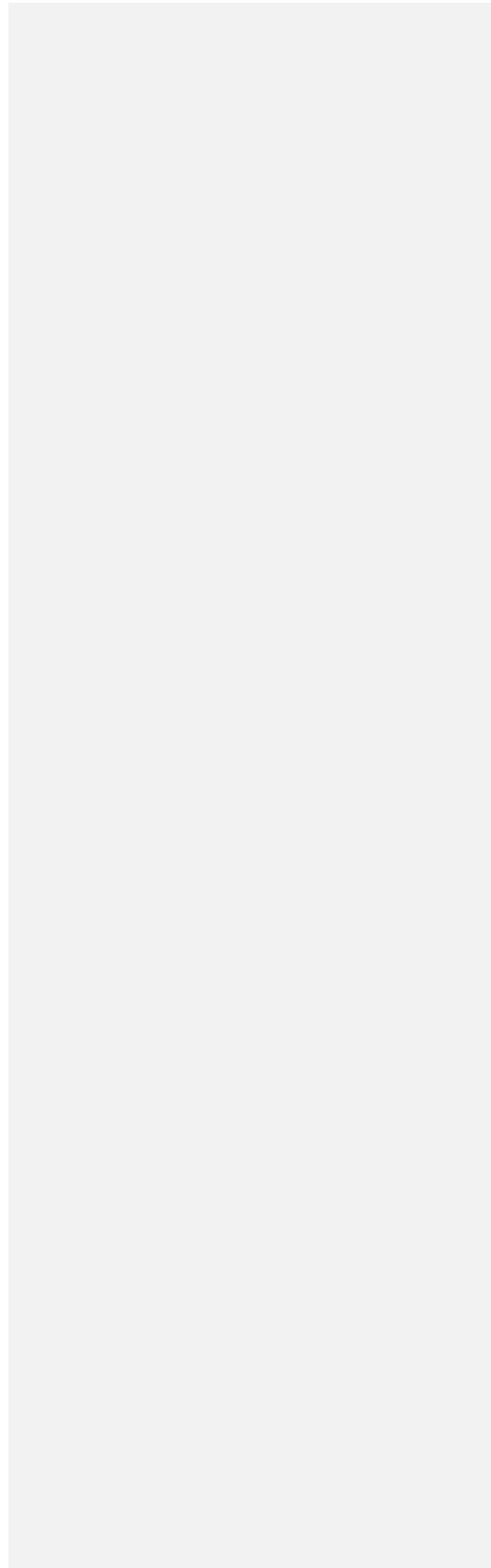
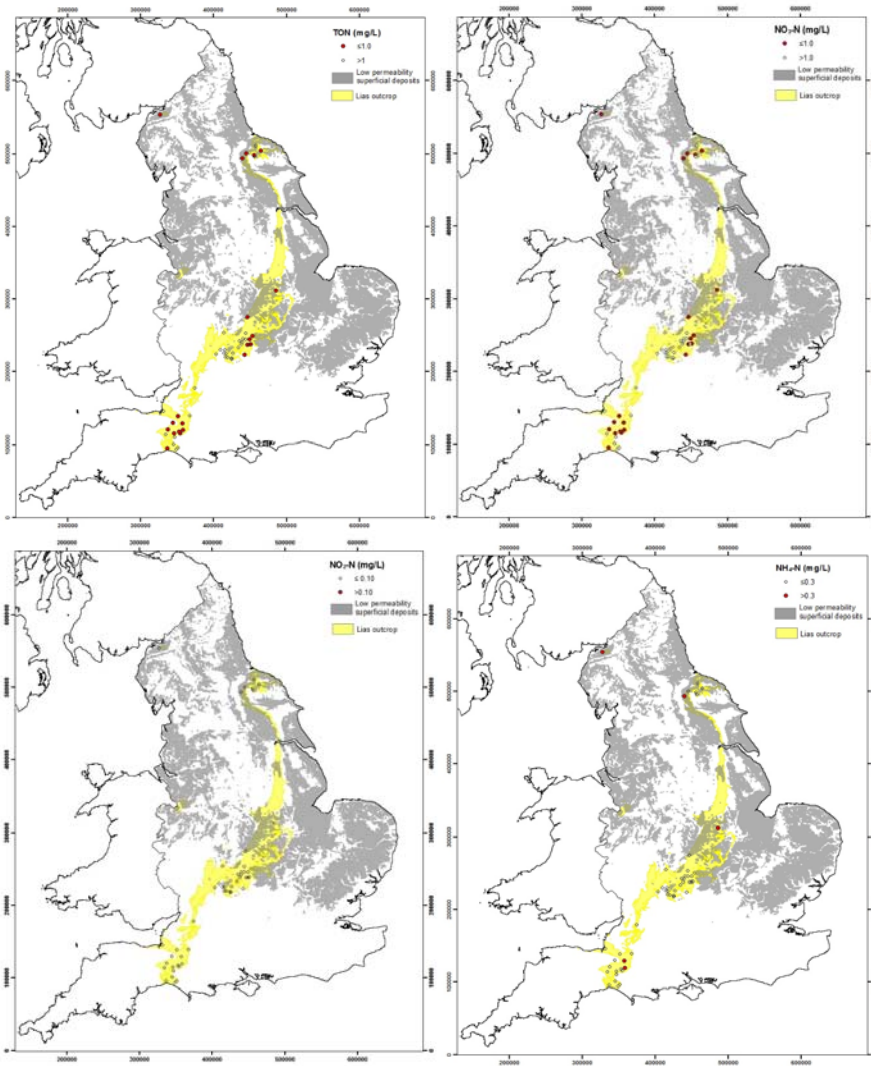


DOC and pH



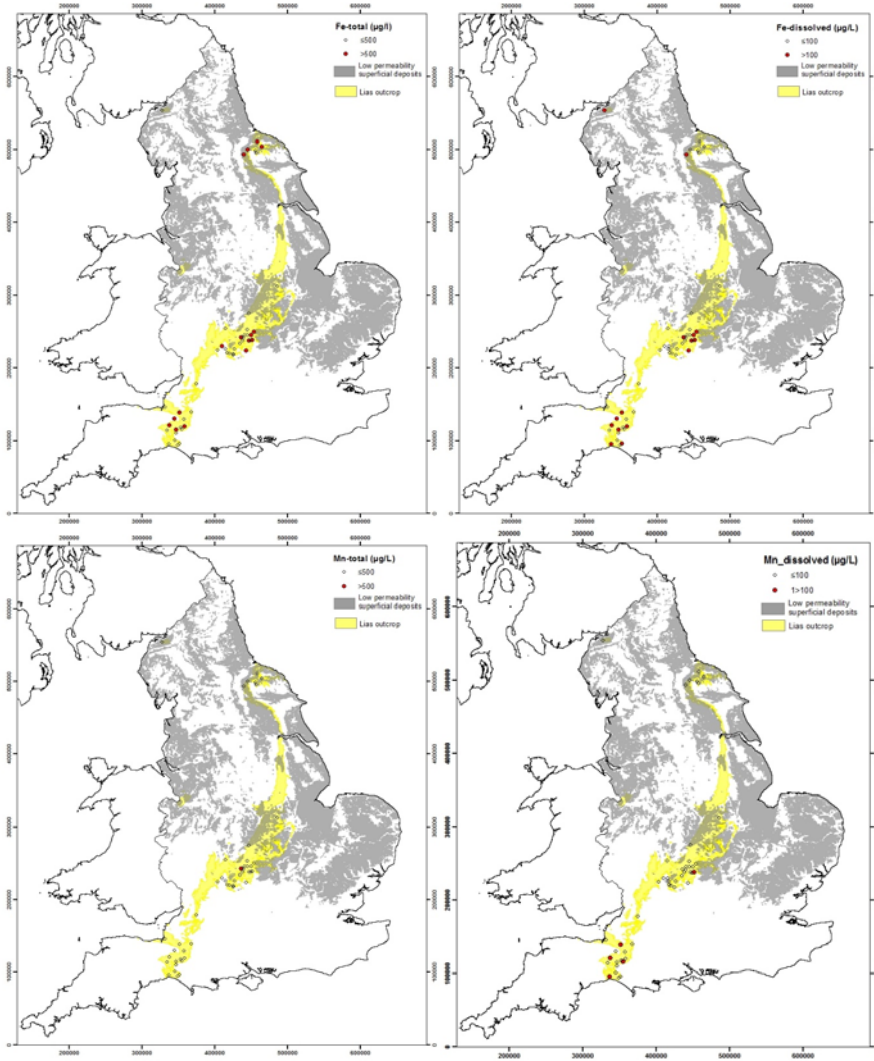
LIAS

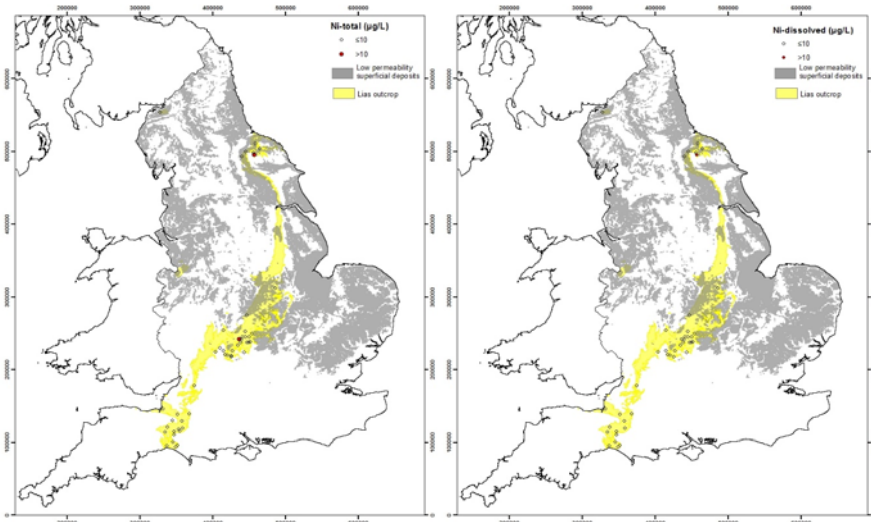
*N species*



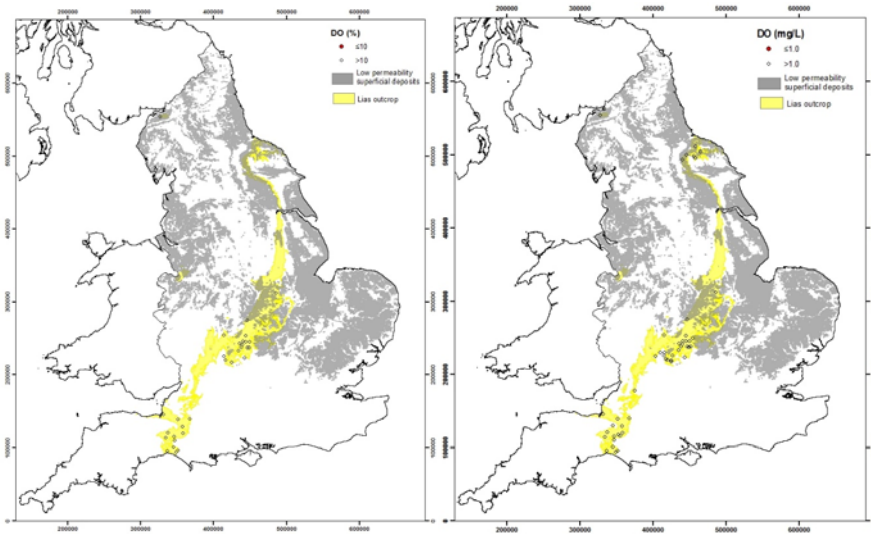


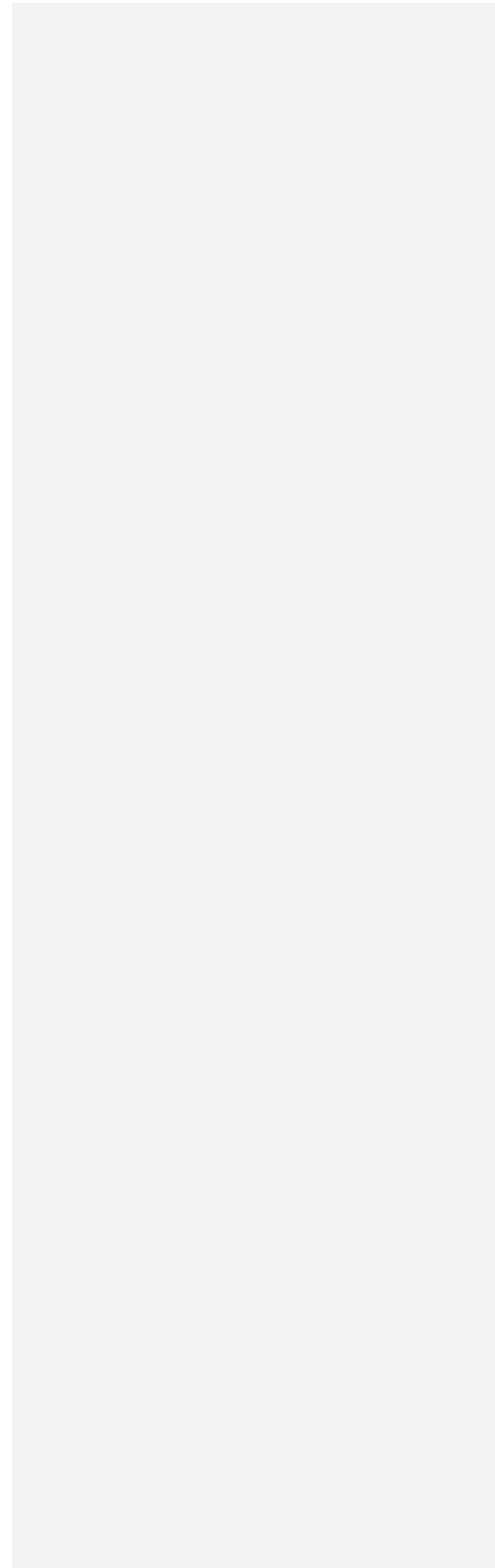
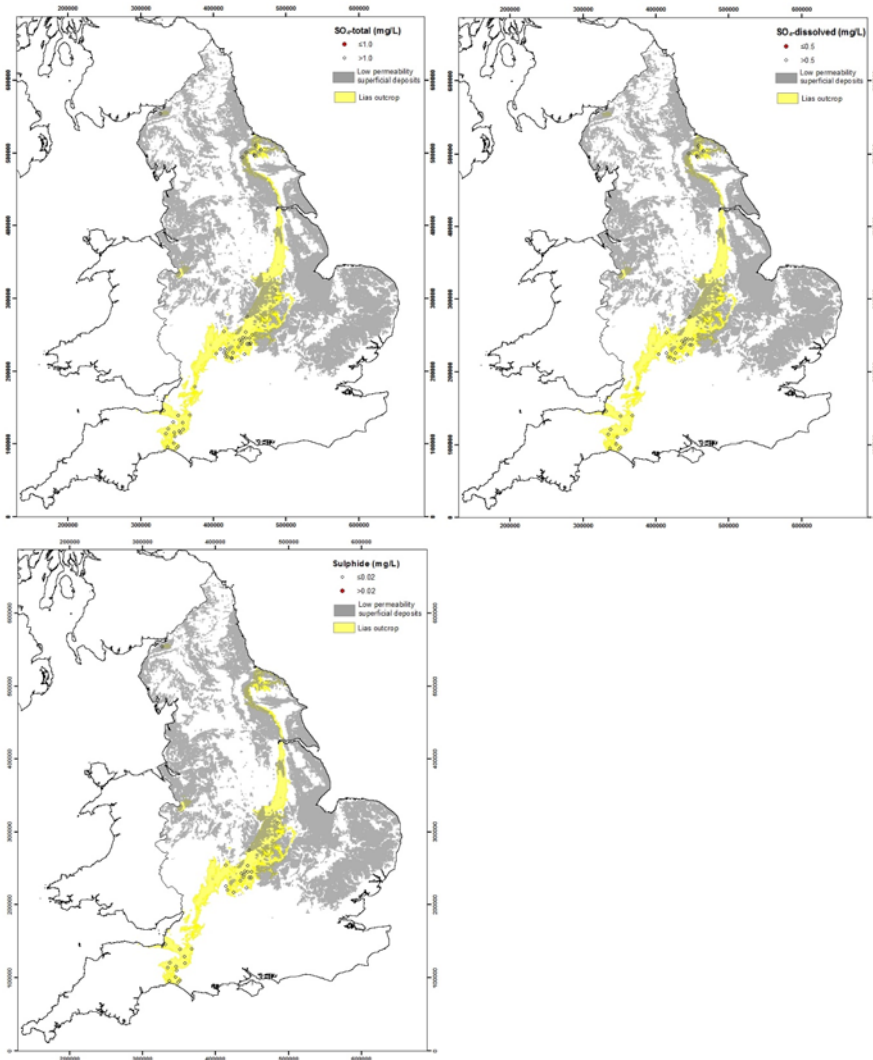
Trace metals



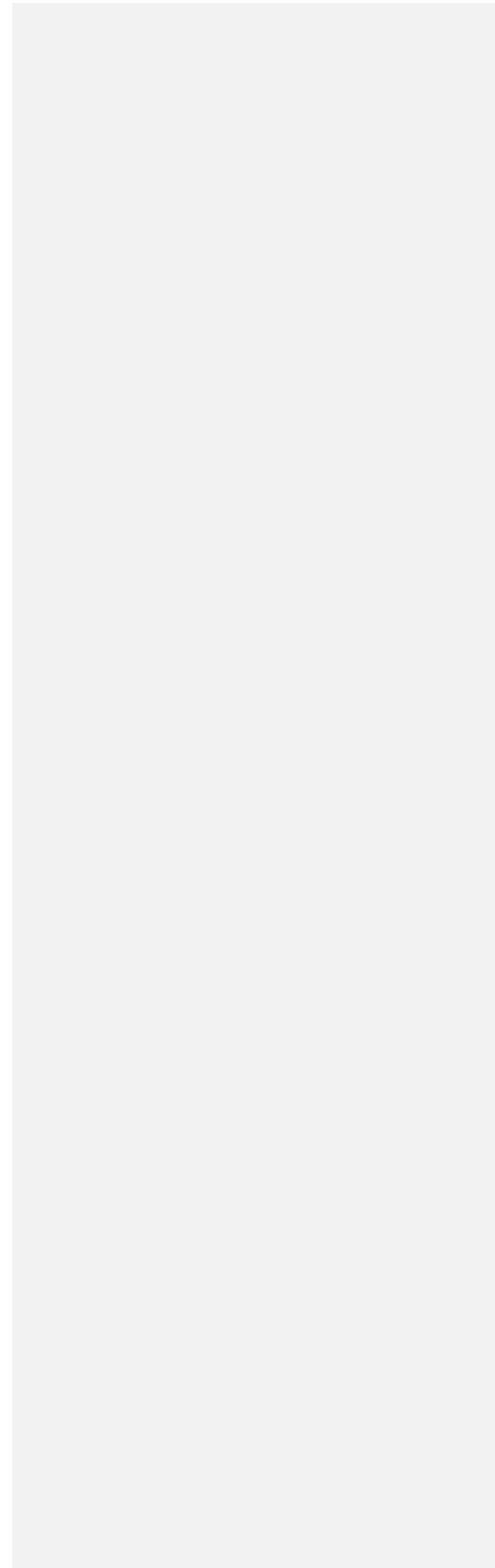
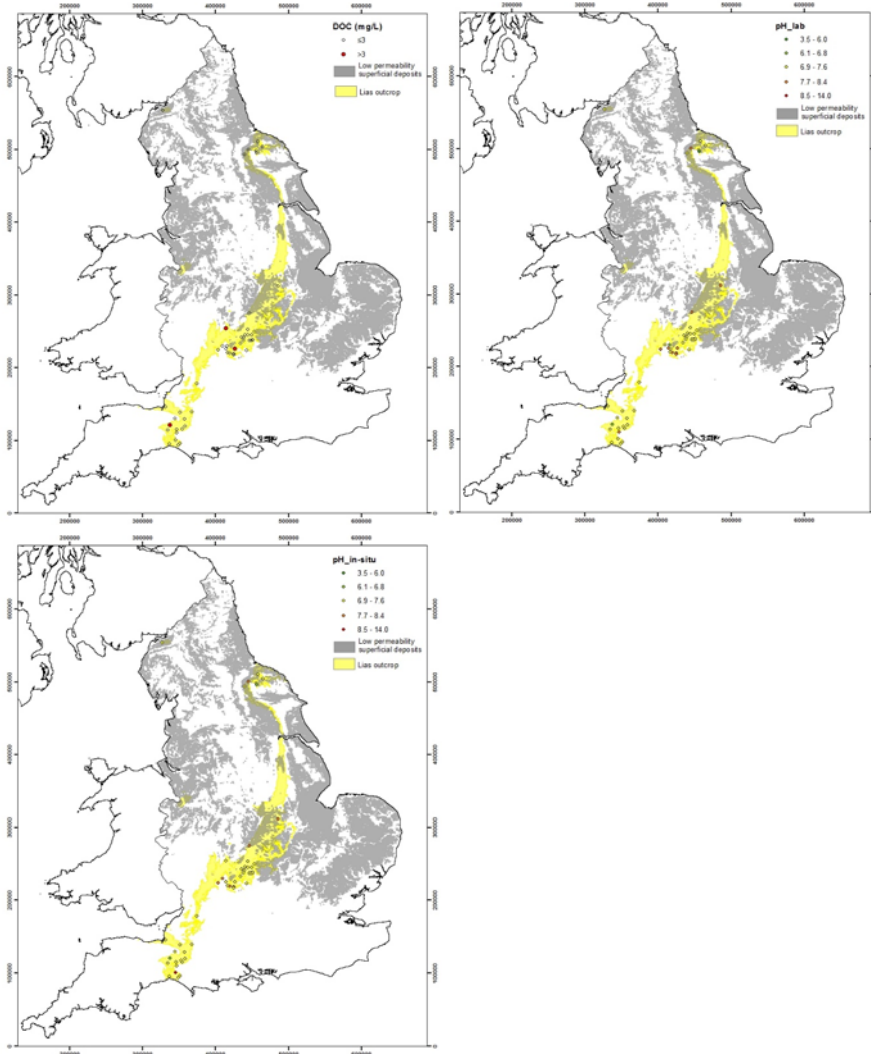


*Oxygen and S species*



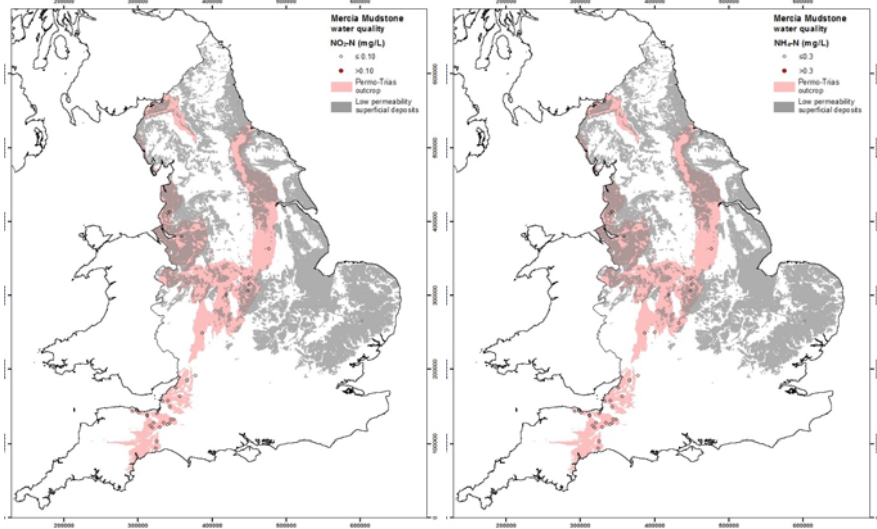
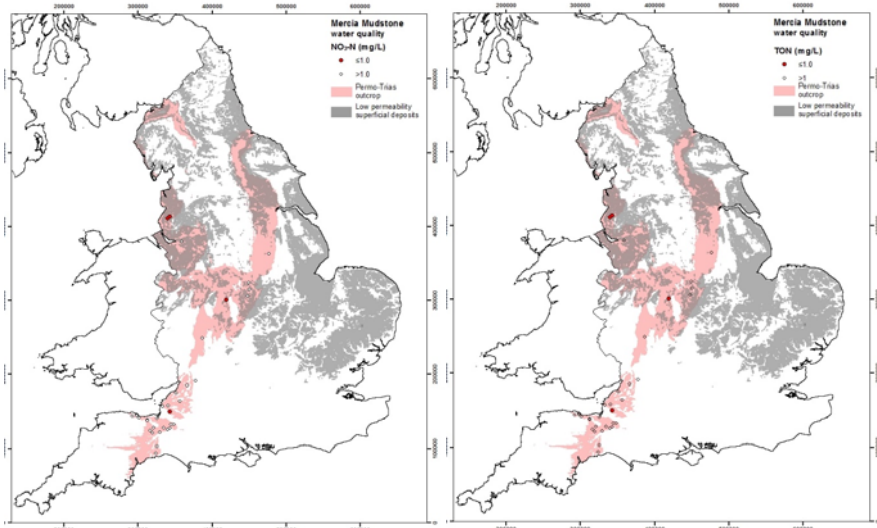


DOC and pH



## MERCIA MUDSTONE

### *N-species*



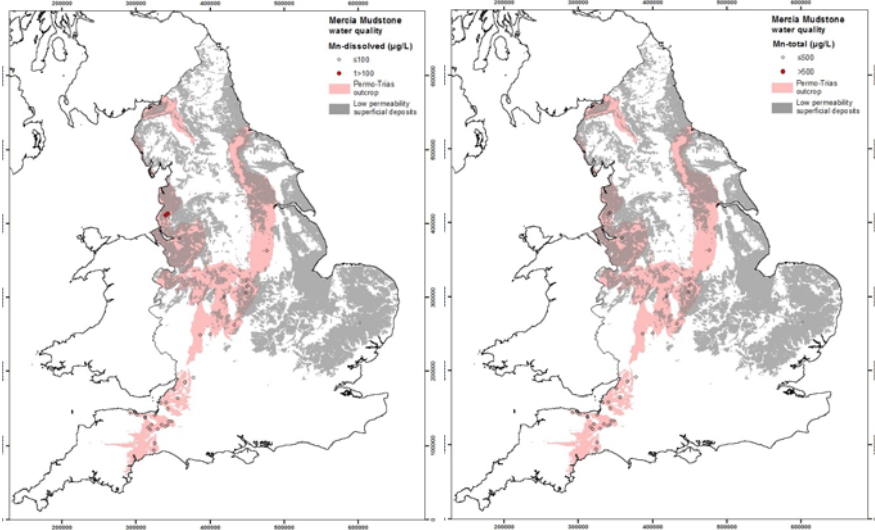
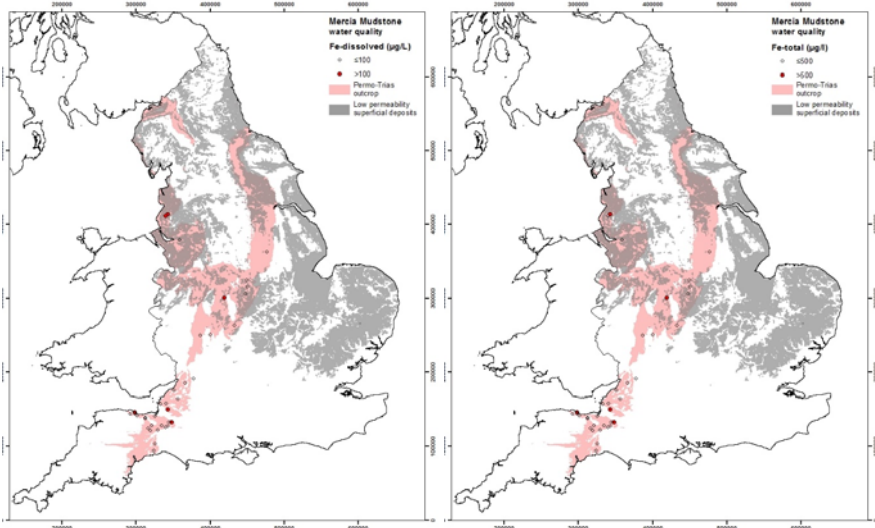
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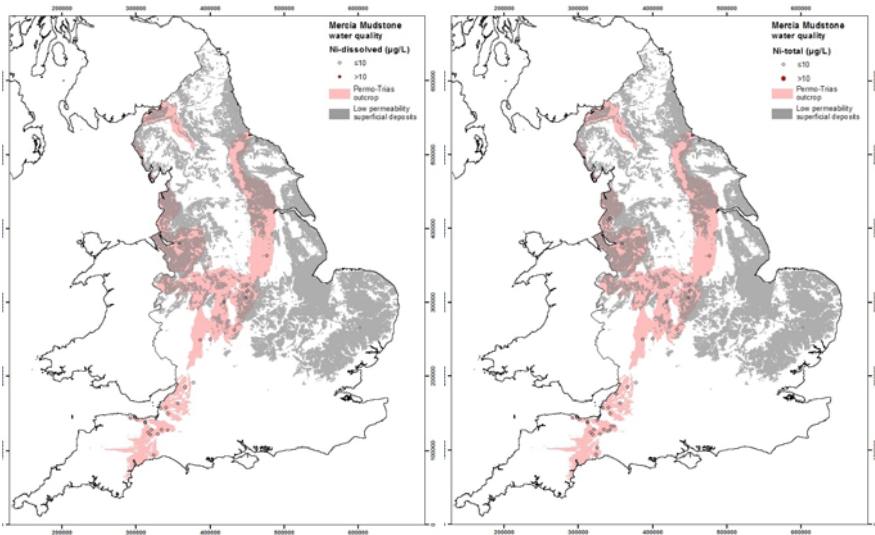
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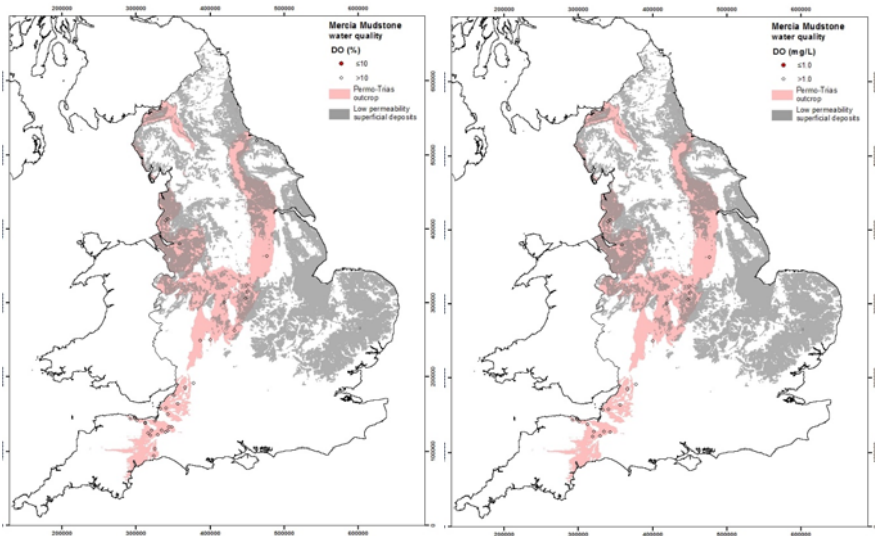
*Trace metals*

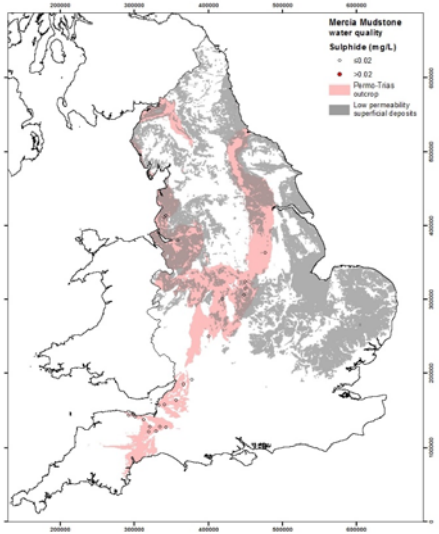
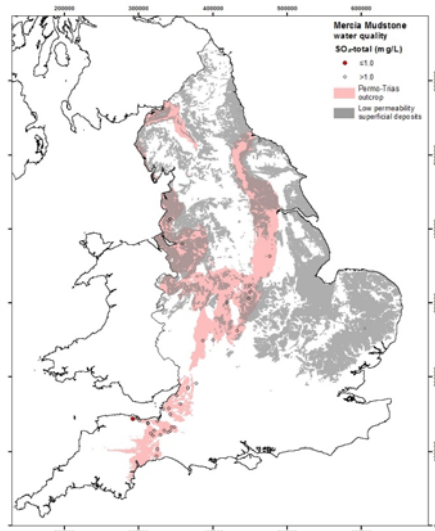
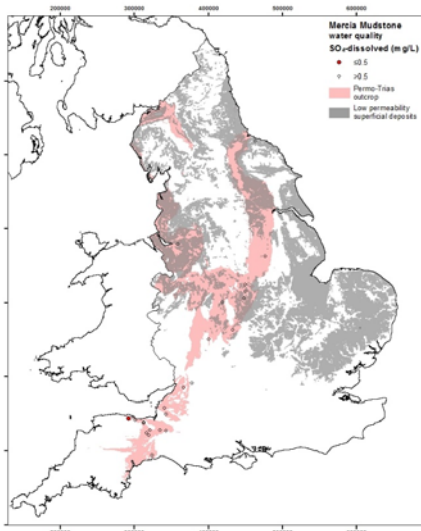
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*O and S Species*

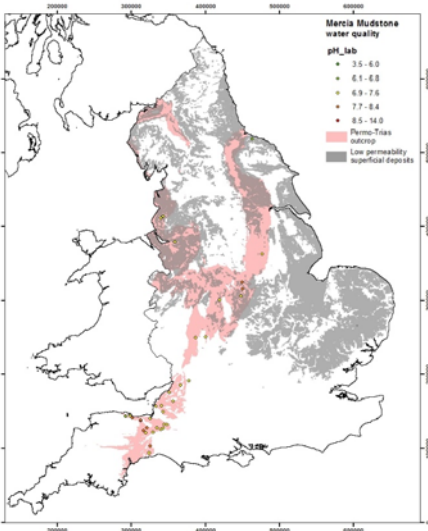
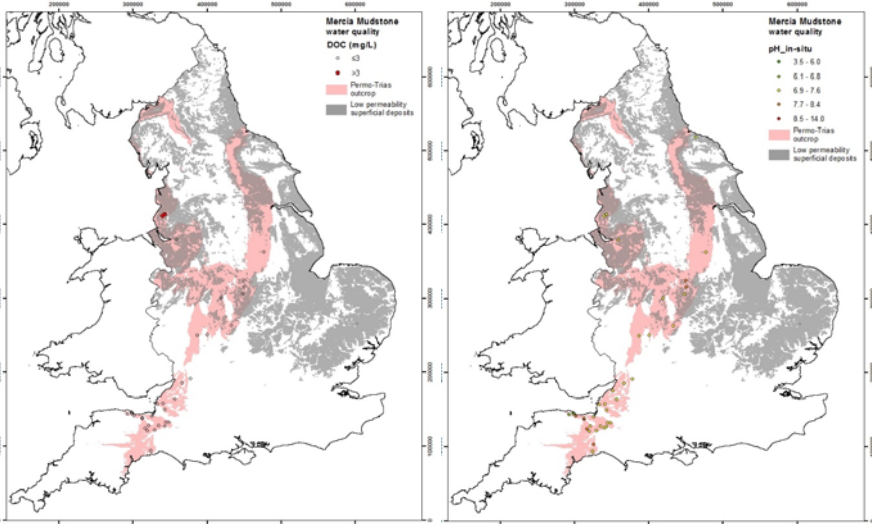






*DOC and pH*

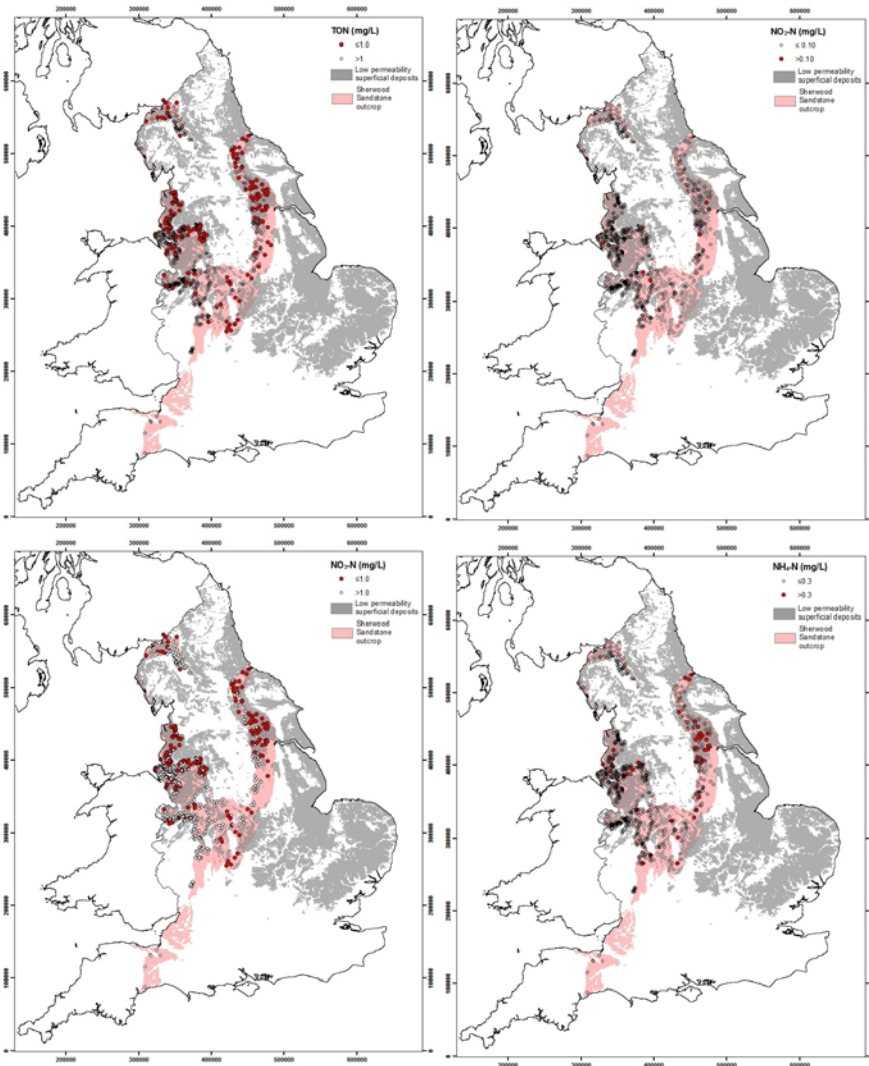
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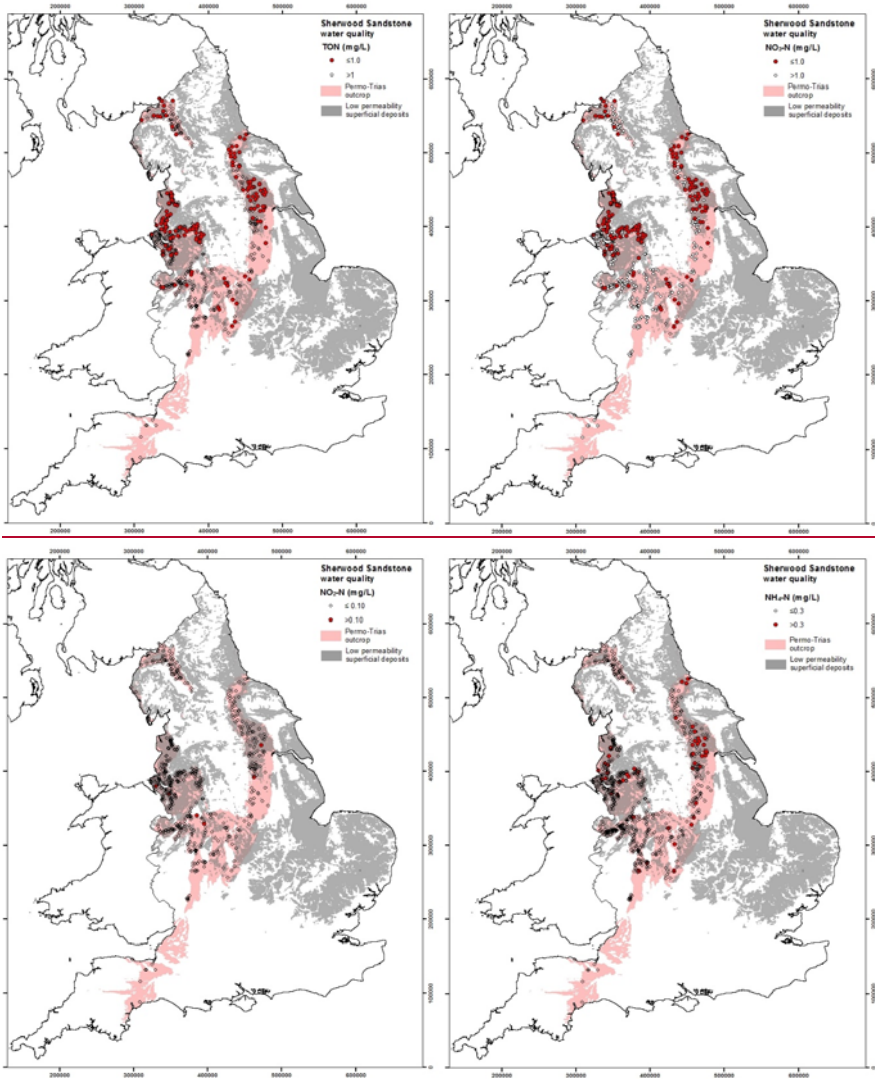


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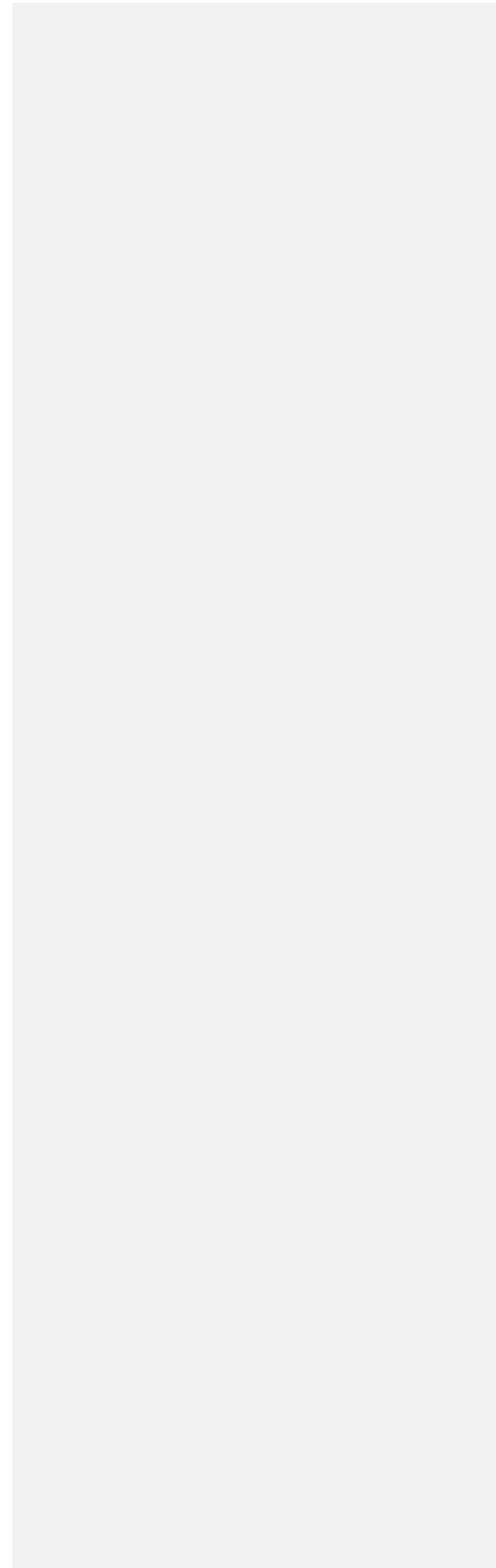
SHERWOOD SANDSTONE

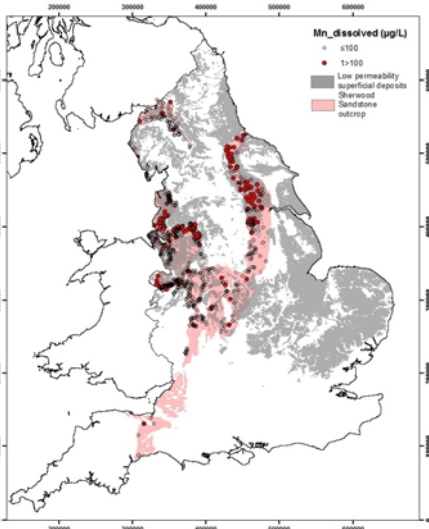
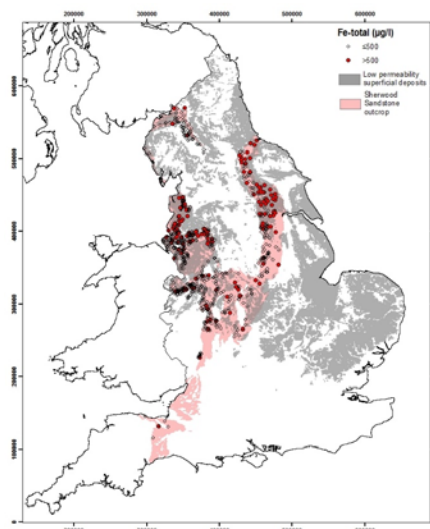
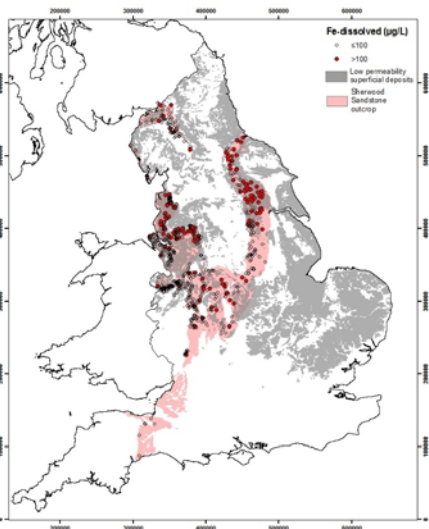
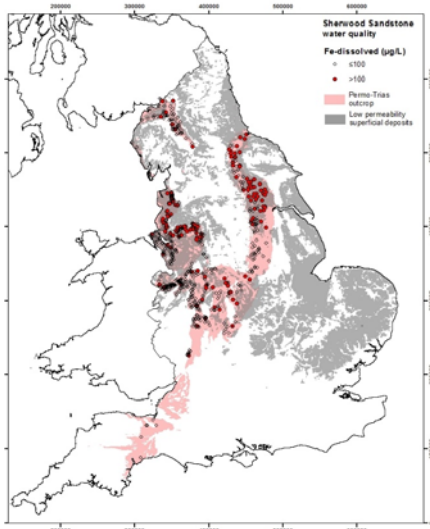
*N species*

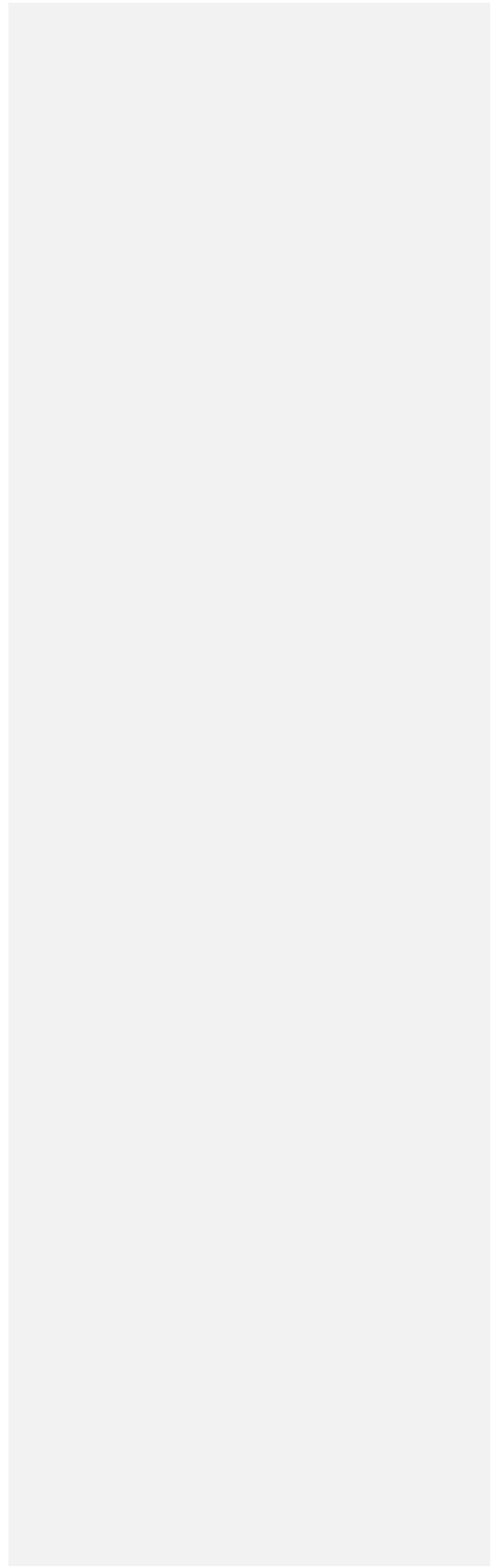
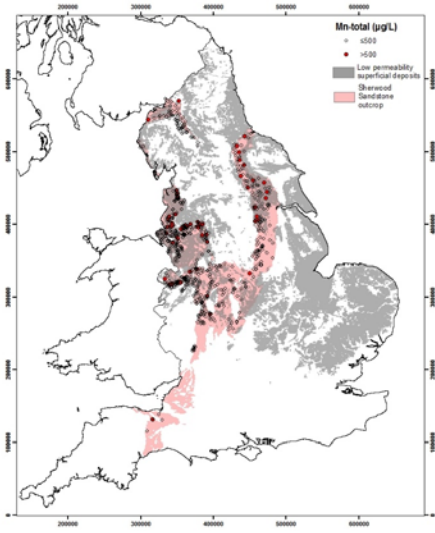


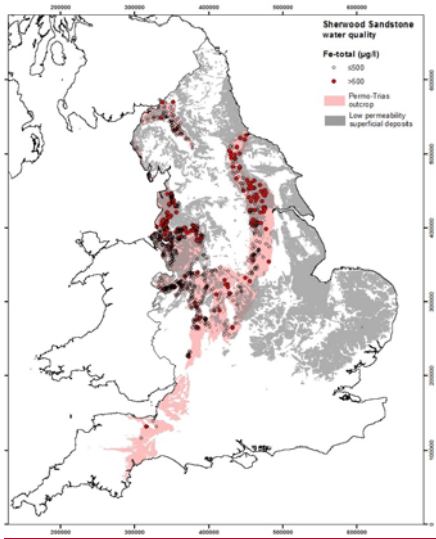
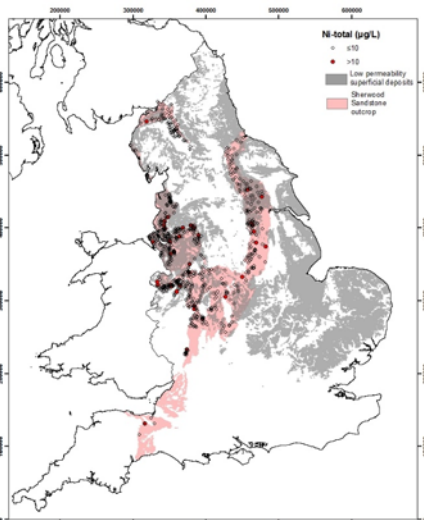
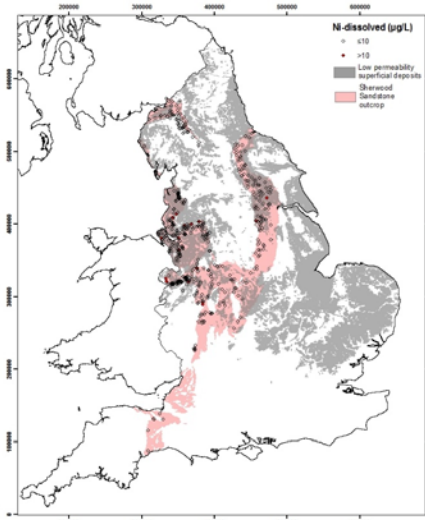


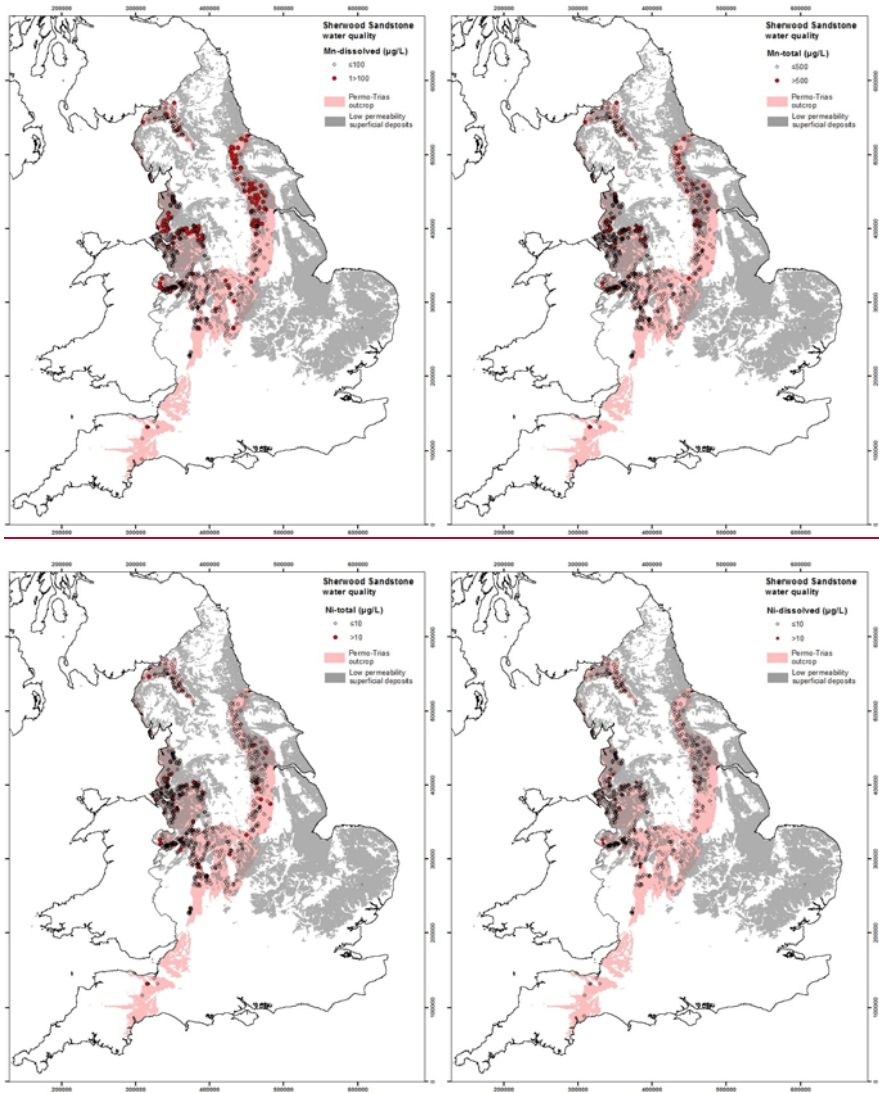
*Trace metals*





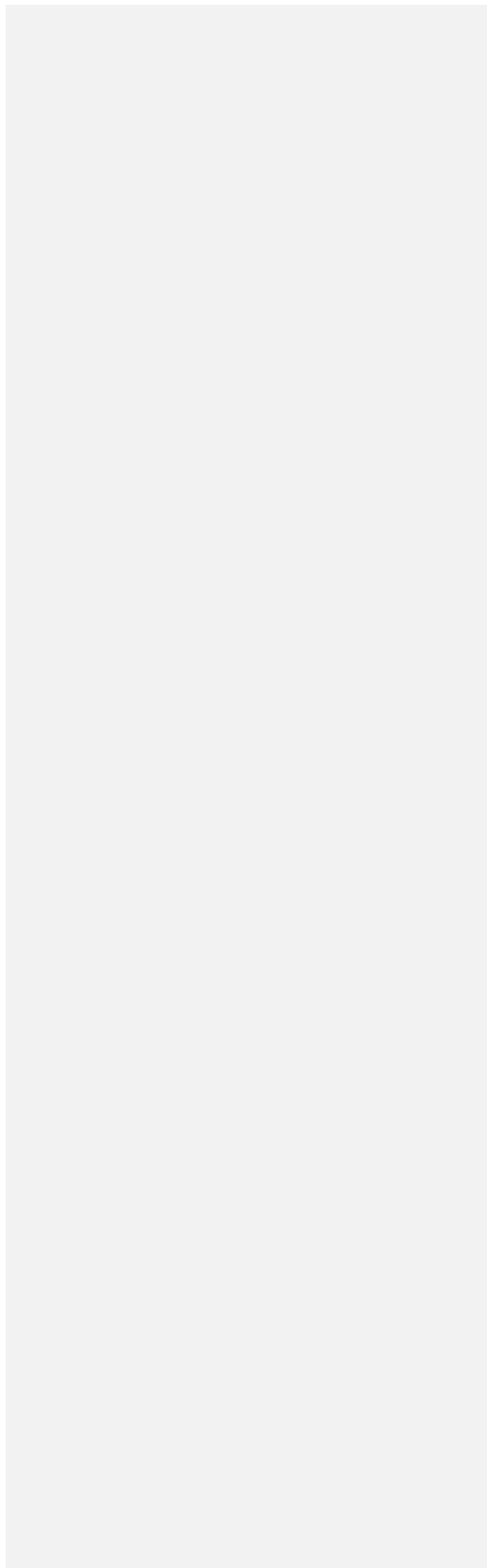
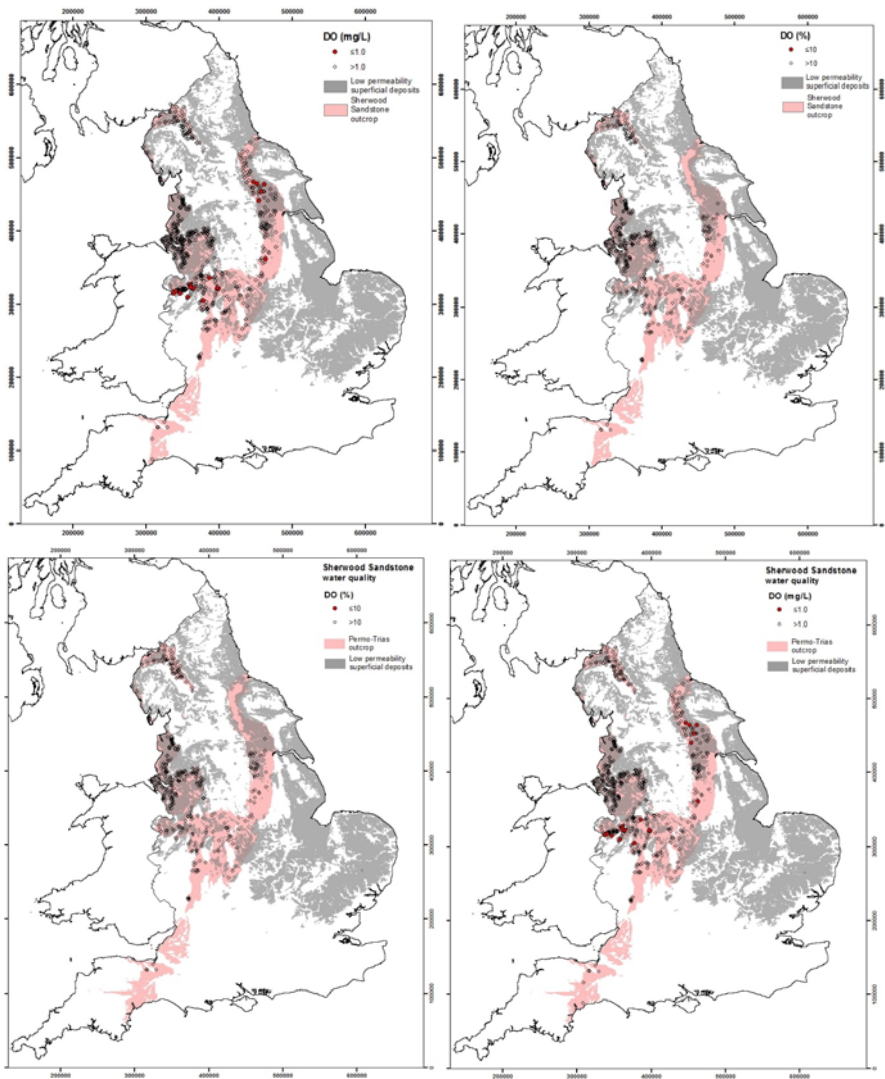


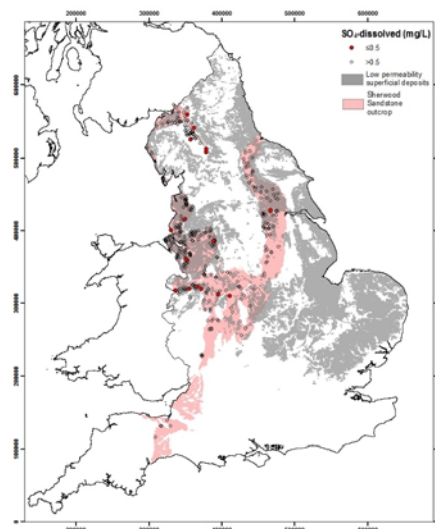
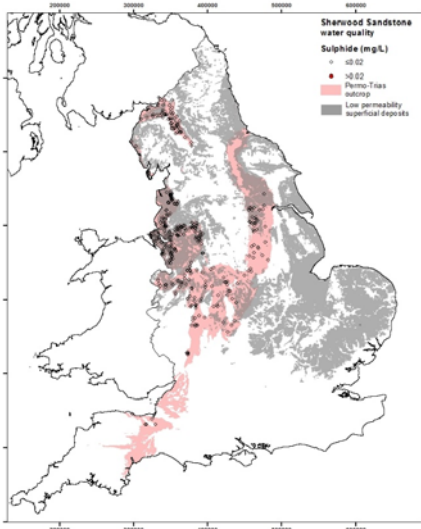
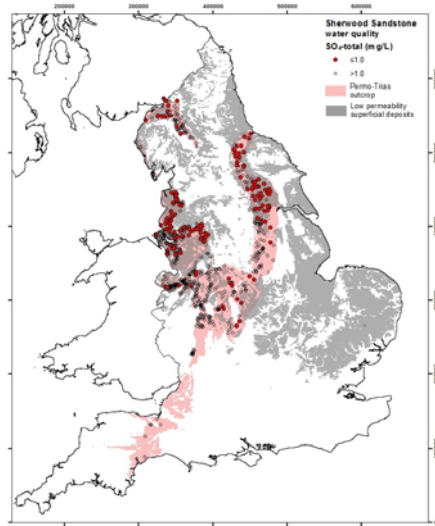
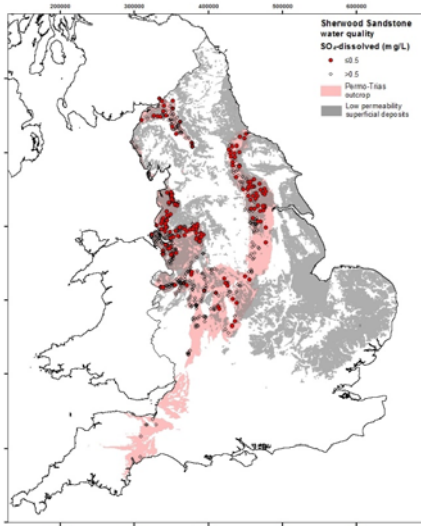


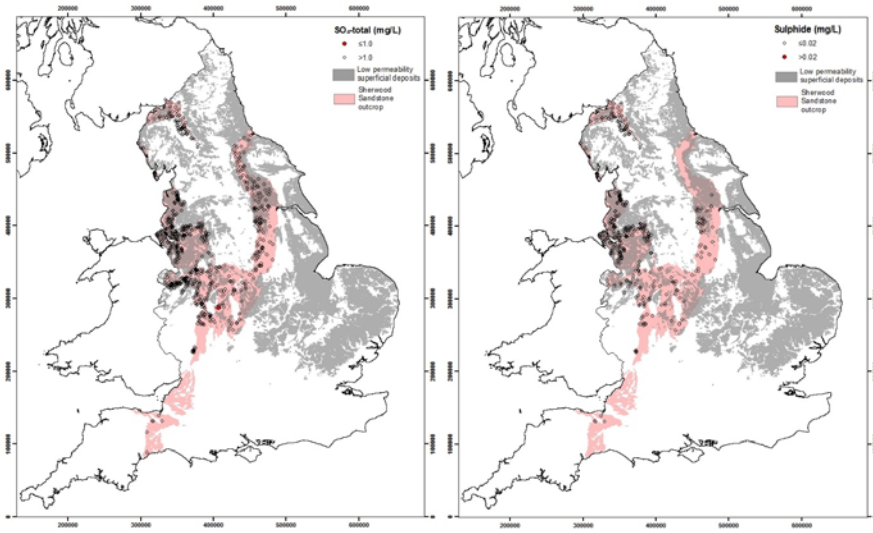


Oxygen and S species

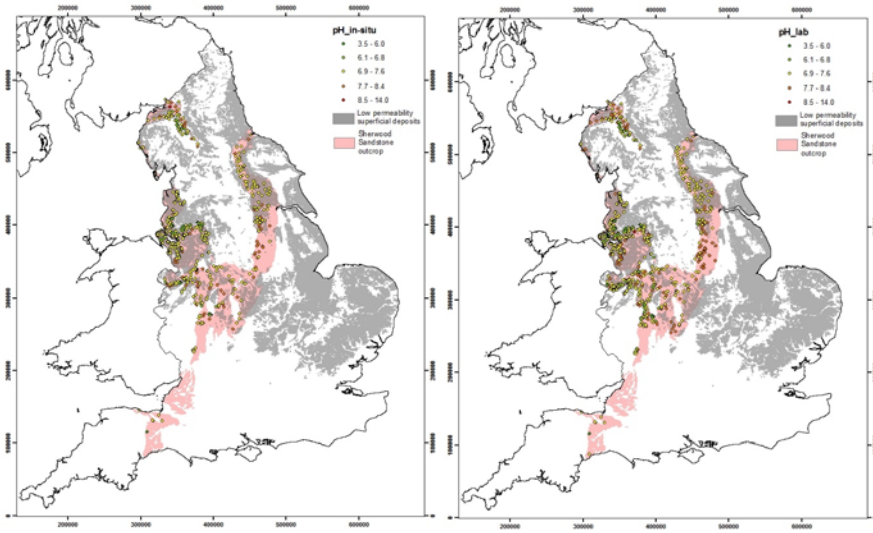


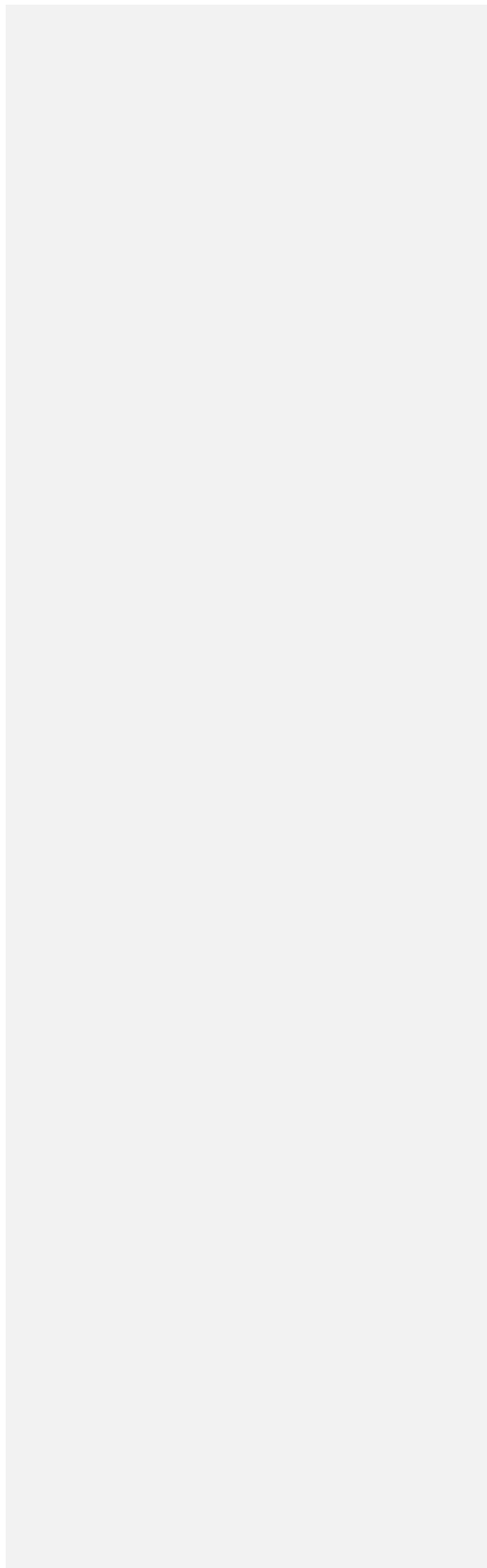
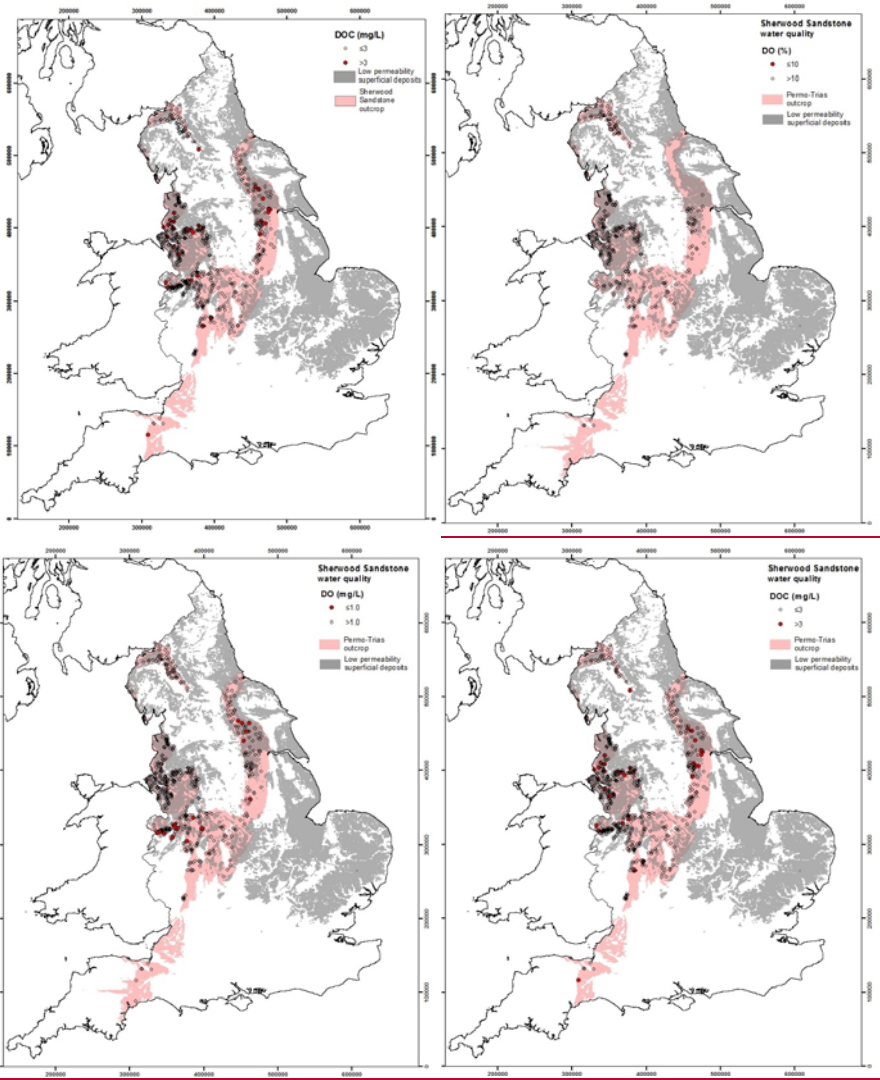






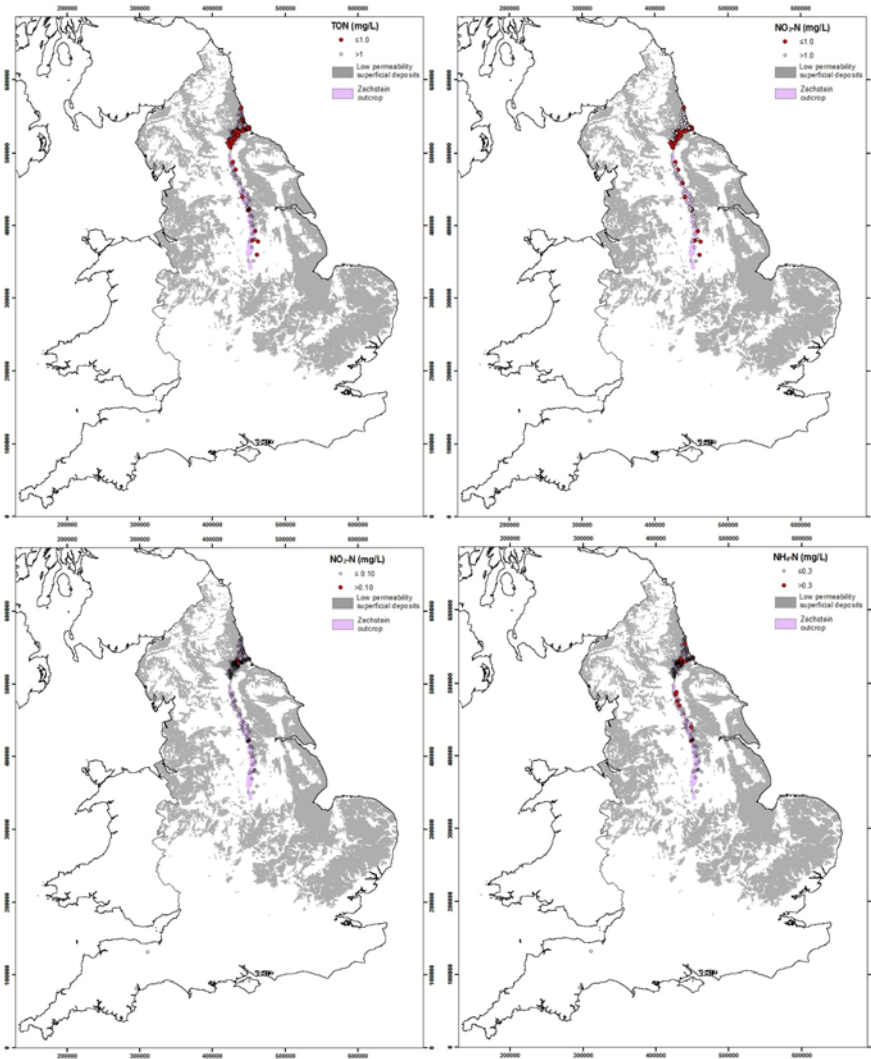
DOC and pH



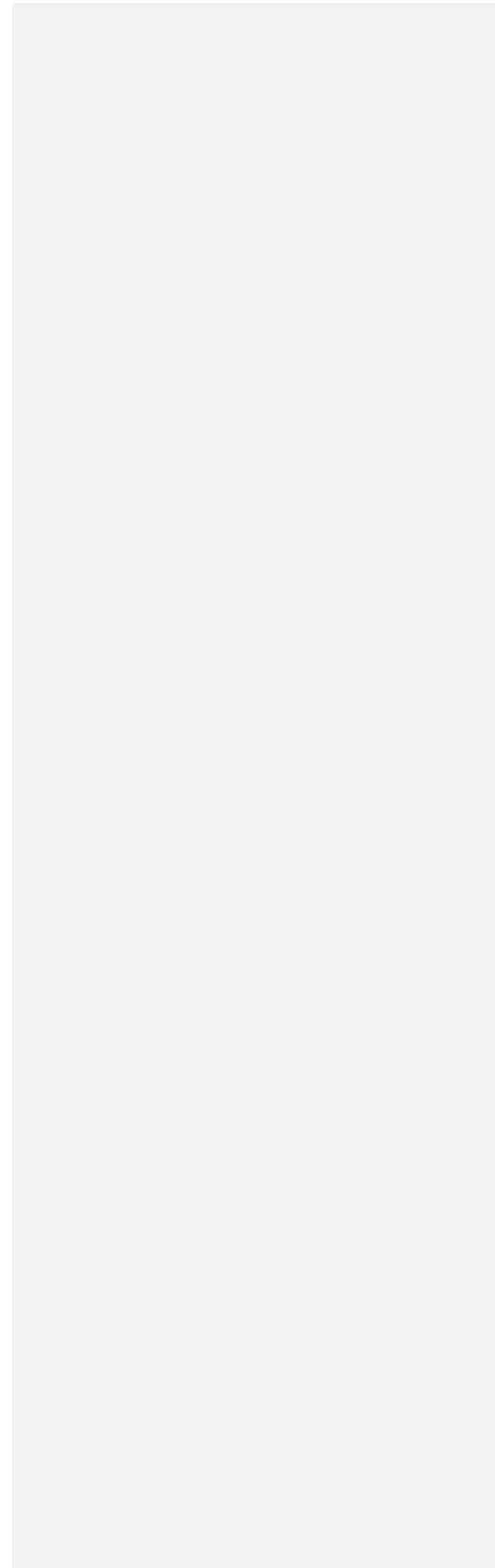
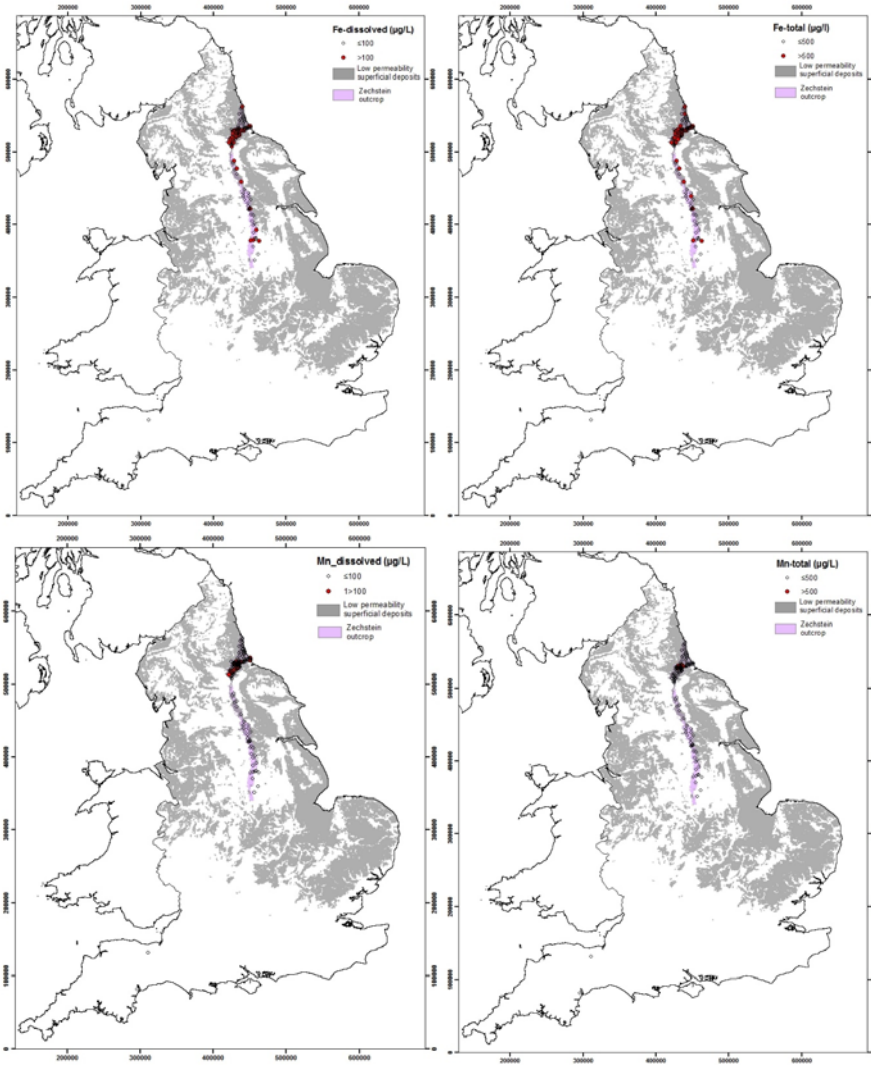


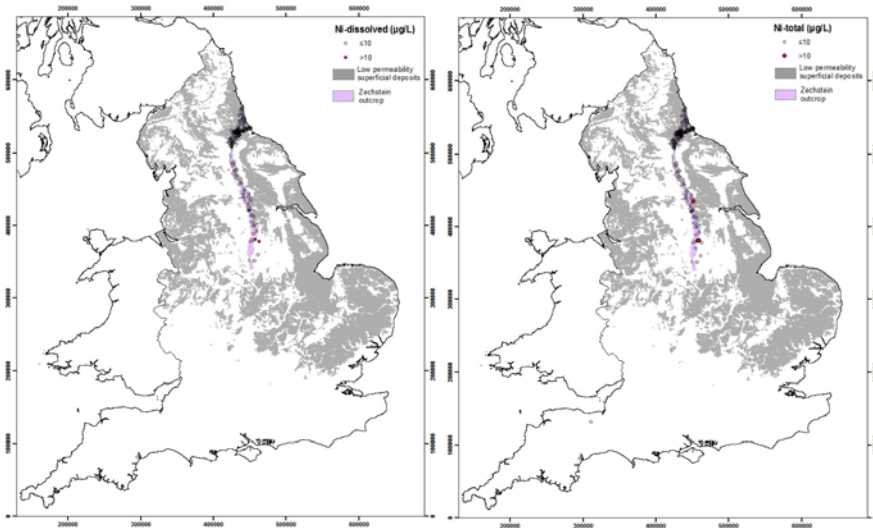
ZECHSTEIN (MAGNESIAN LIMESTONE)

*N species*

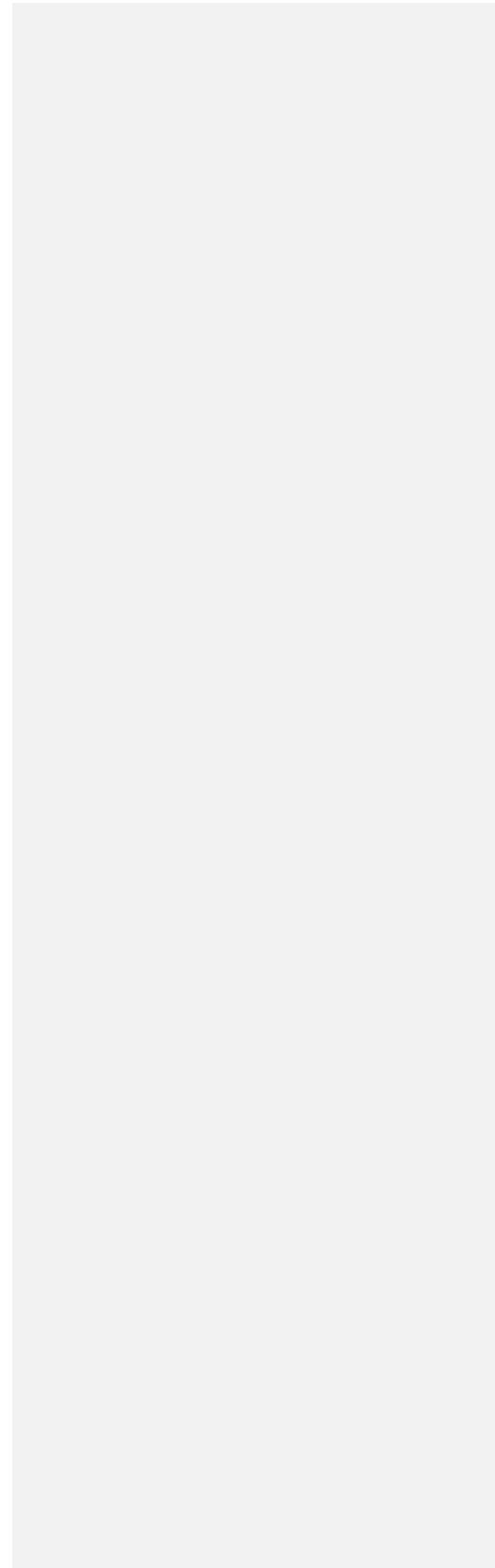
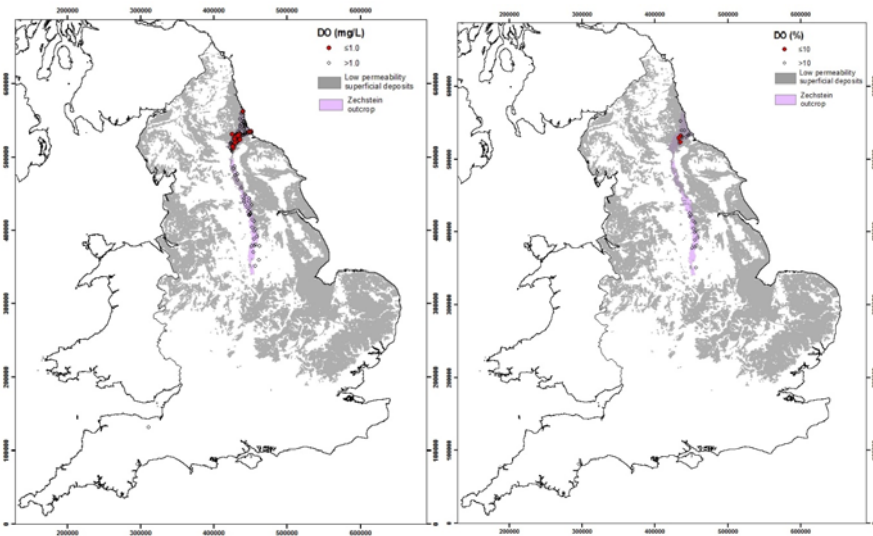


Trace metals

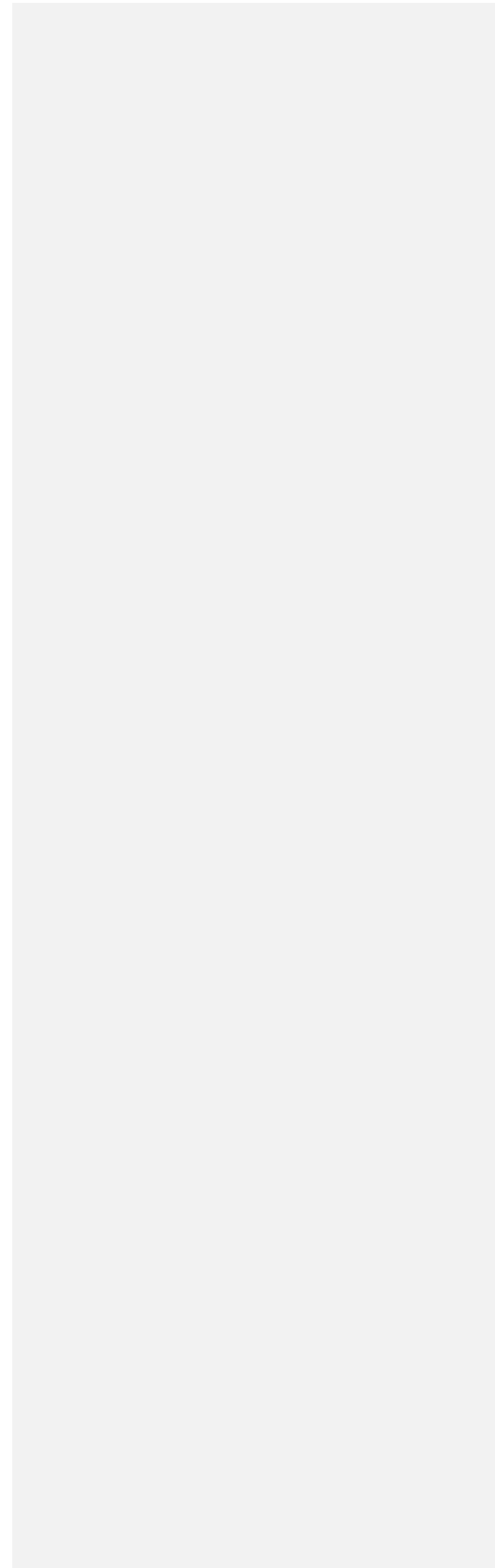
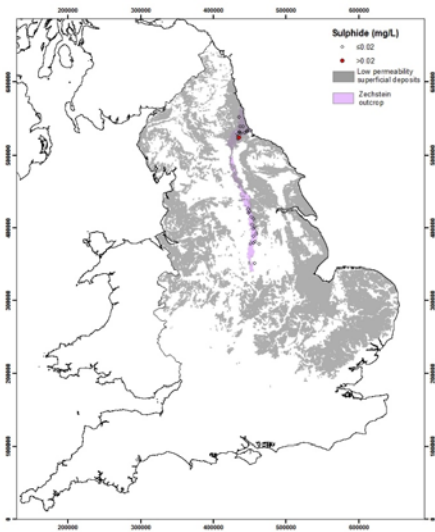
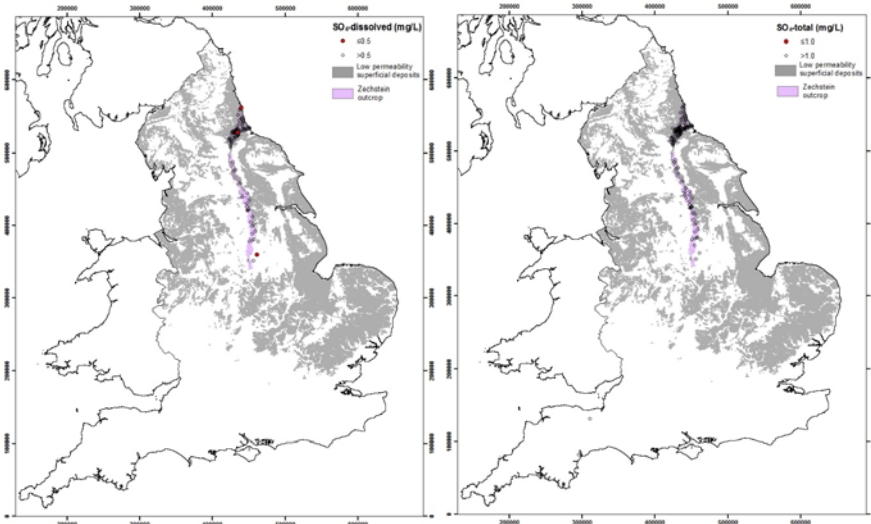




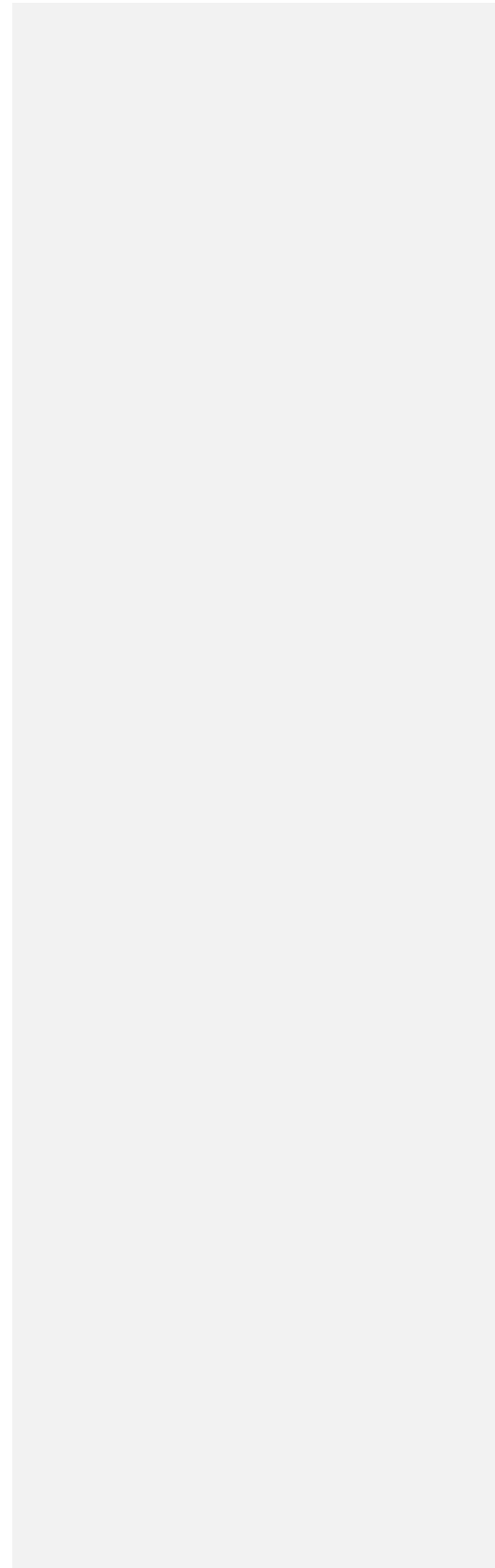
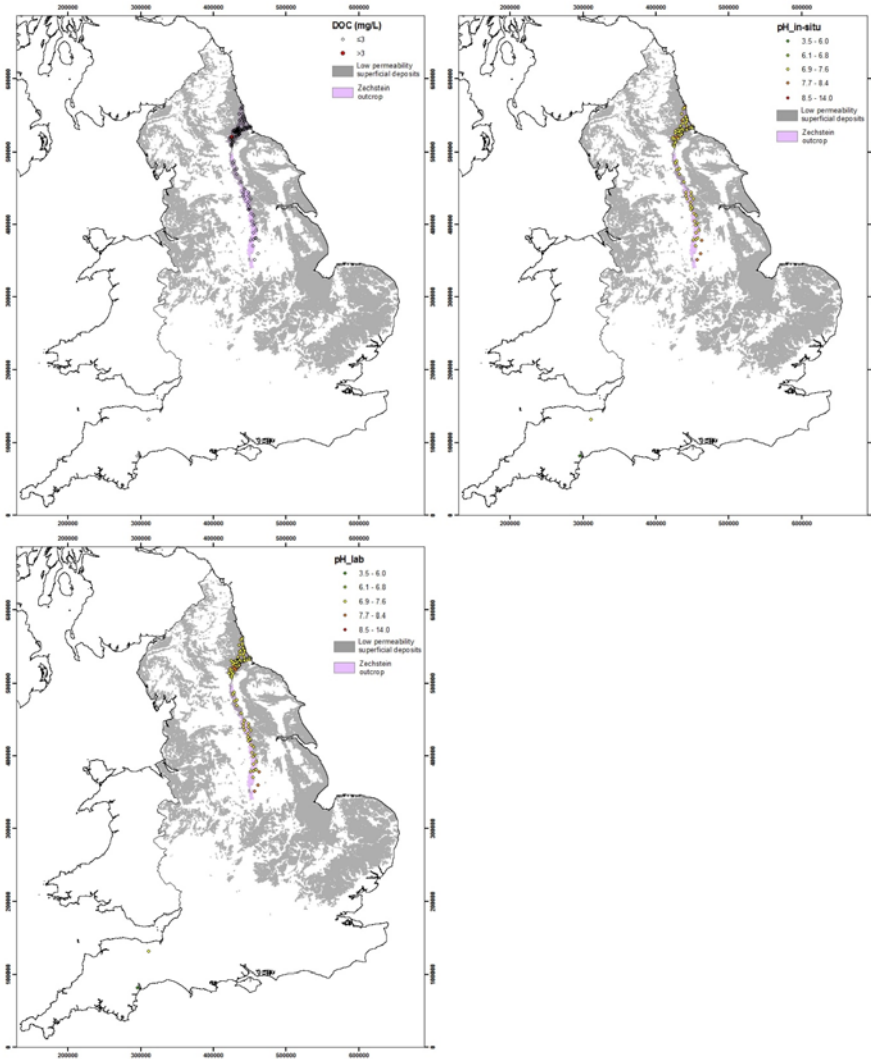
*Oxygen and S species*





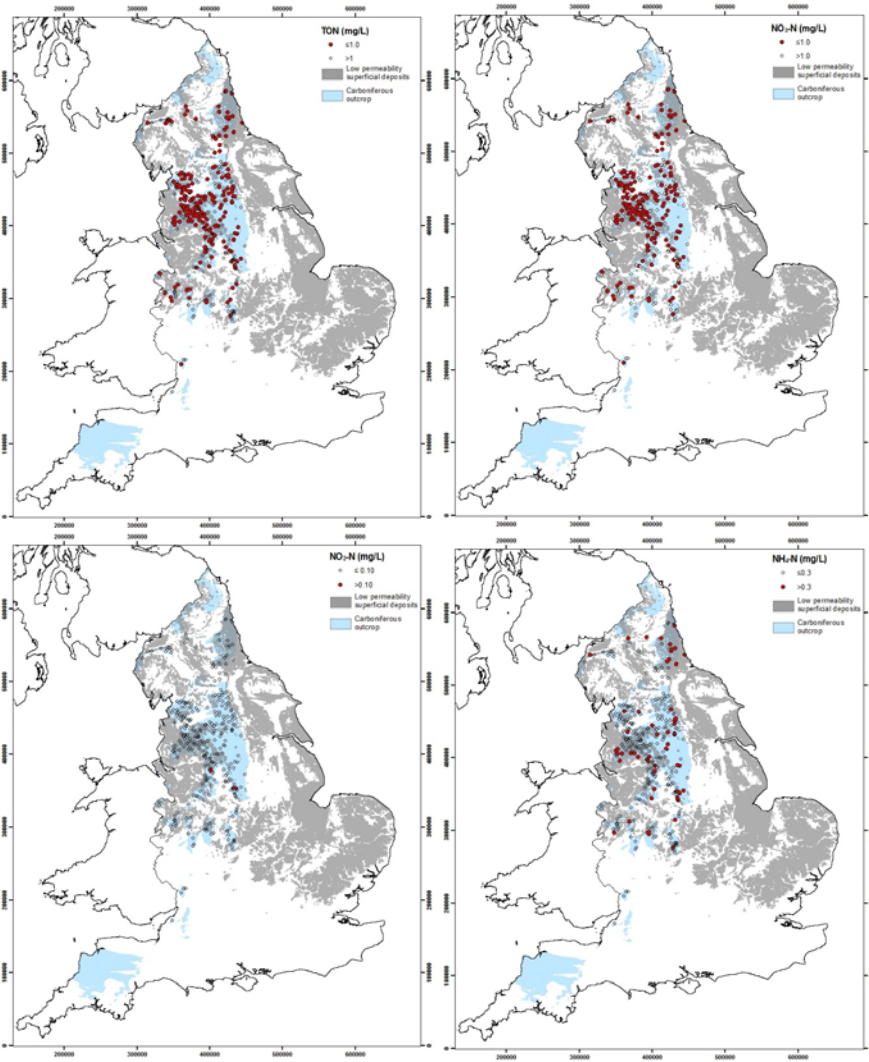


DOC and pH

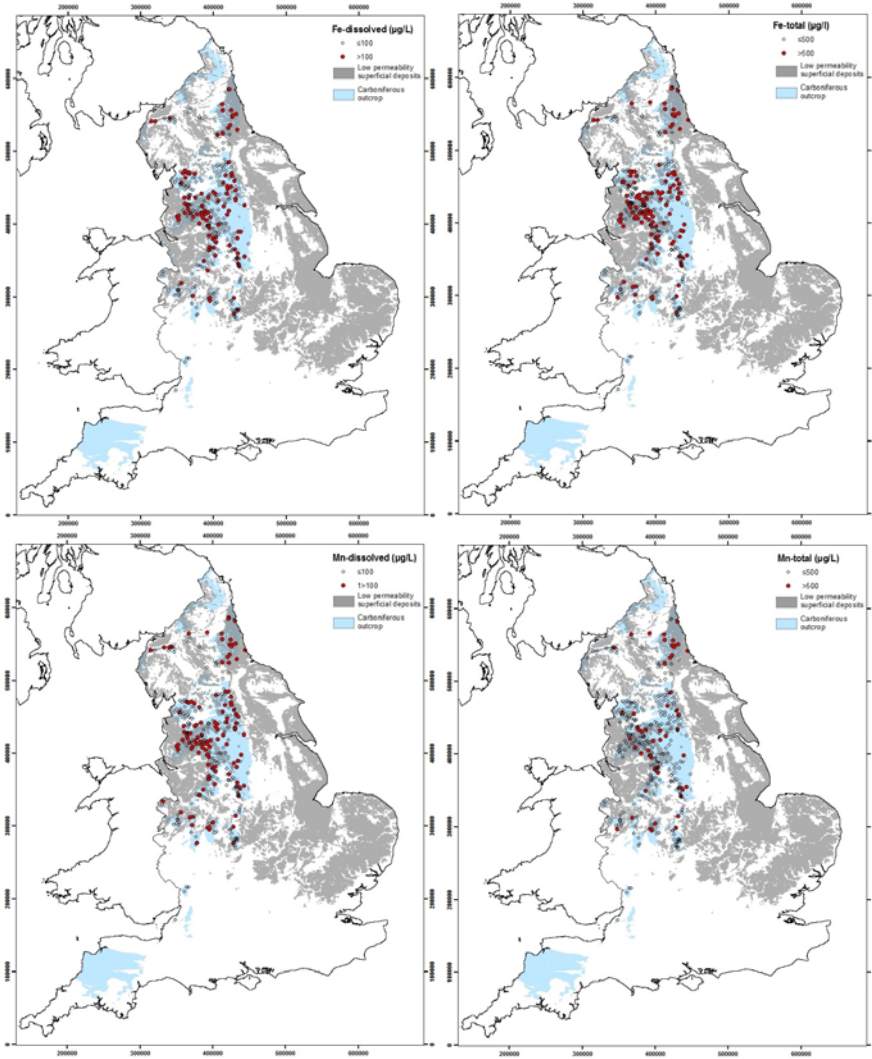


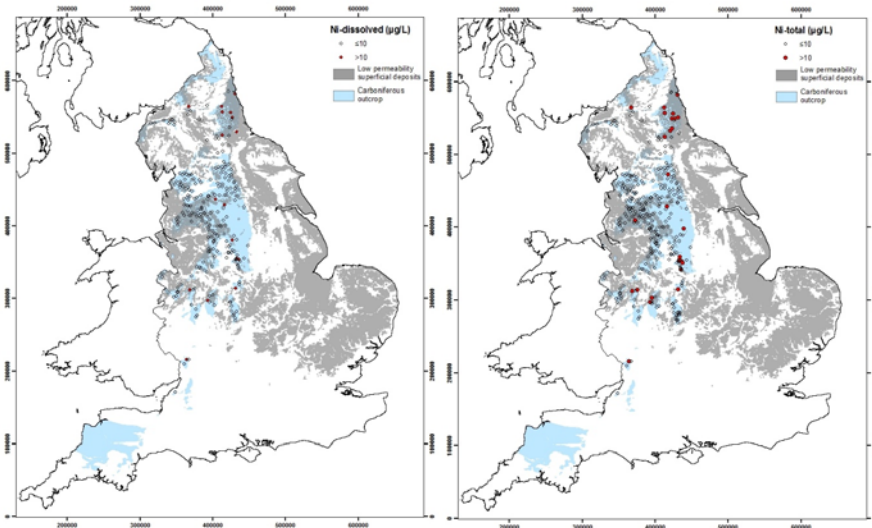
CARBONIFEROUS

*N species*

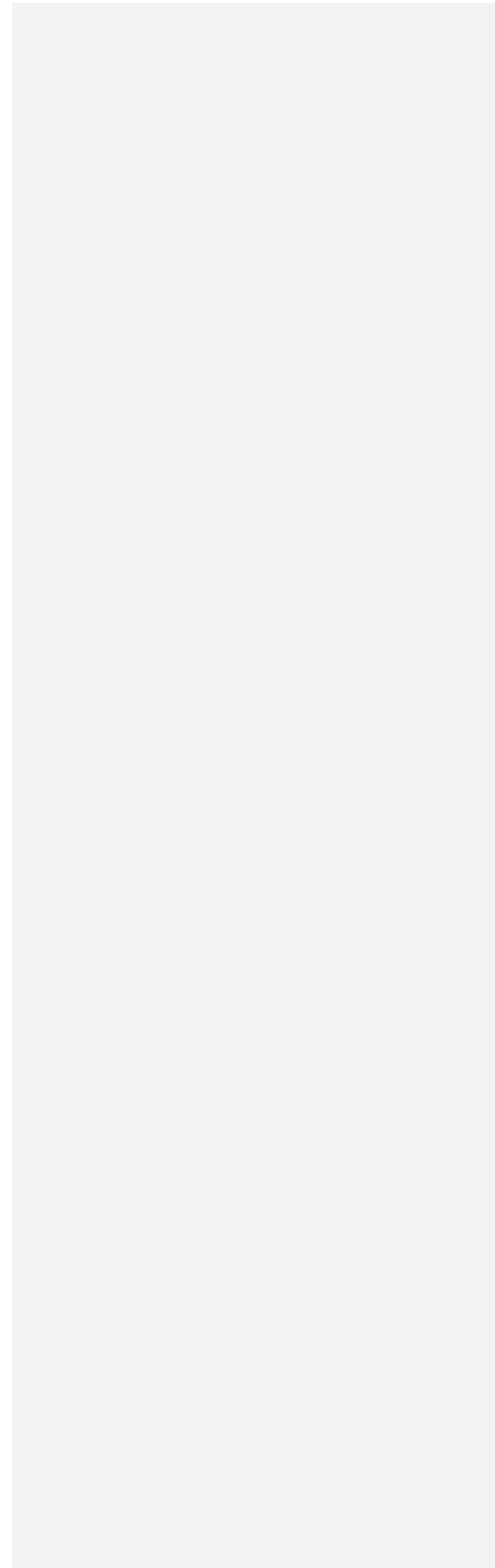
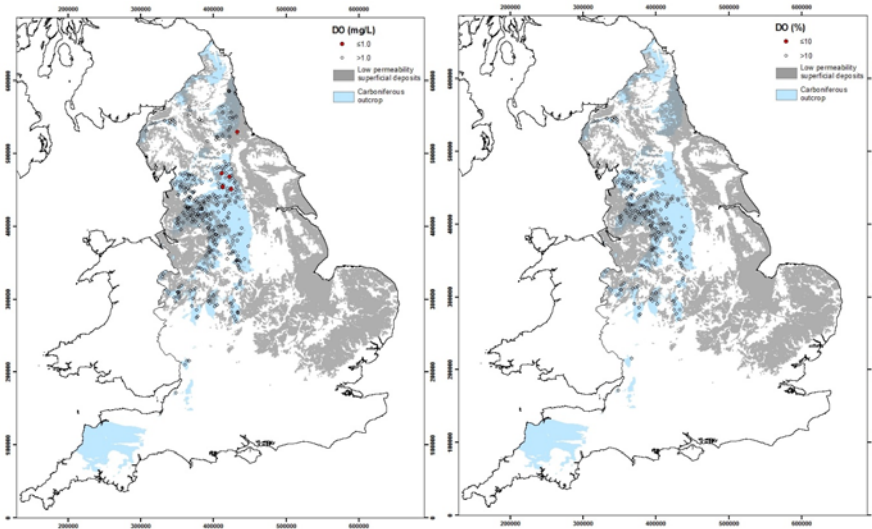


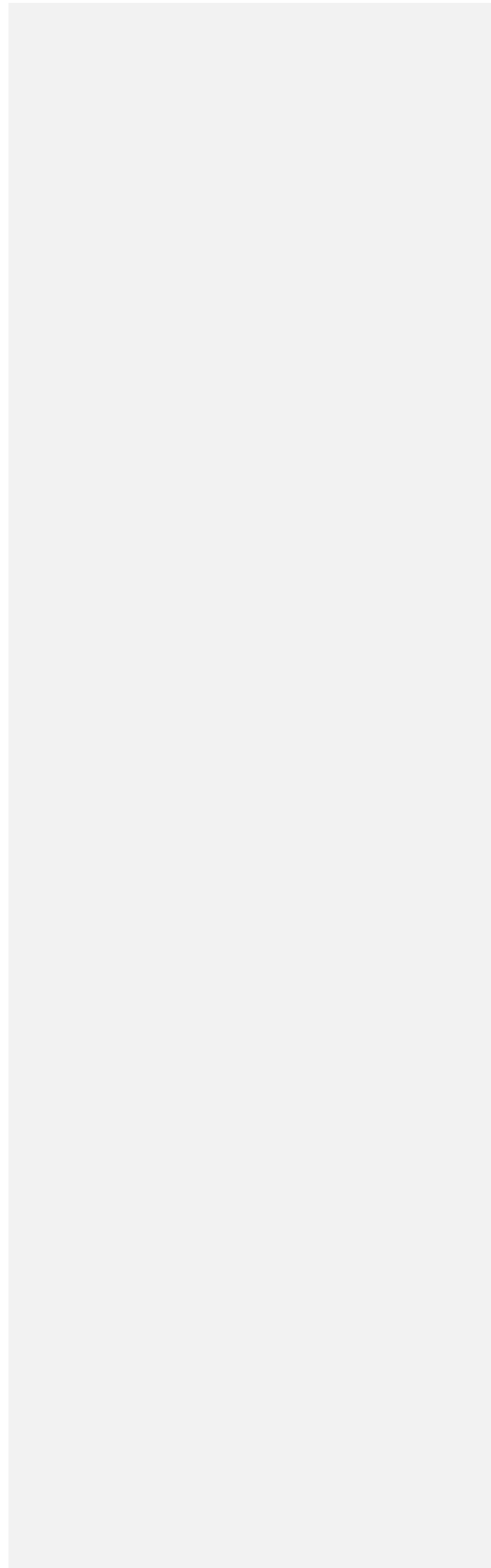
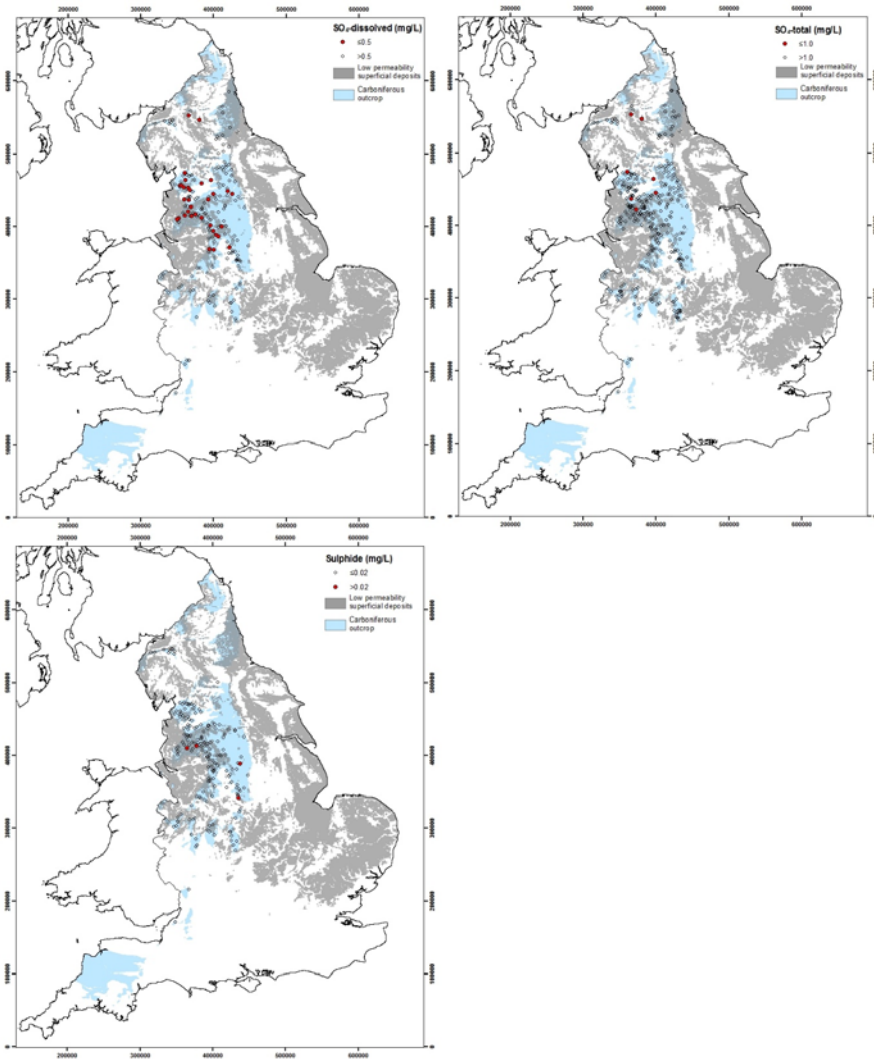
Trace metals



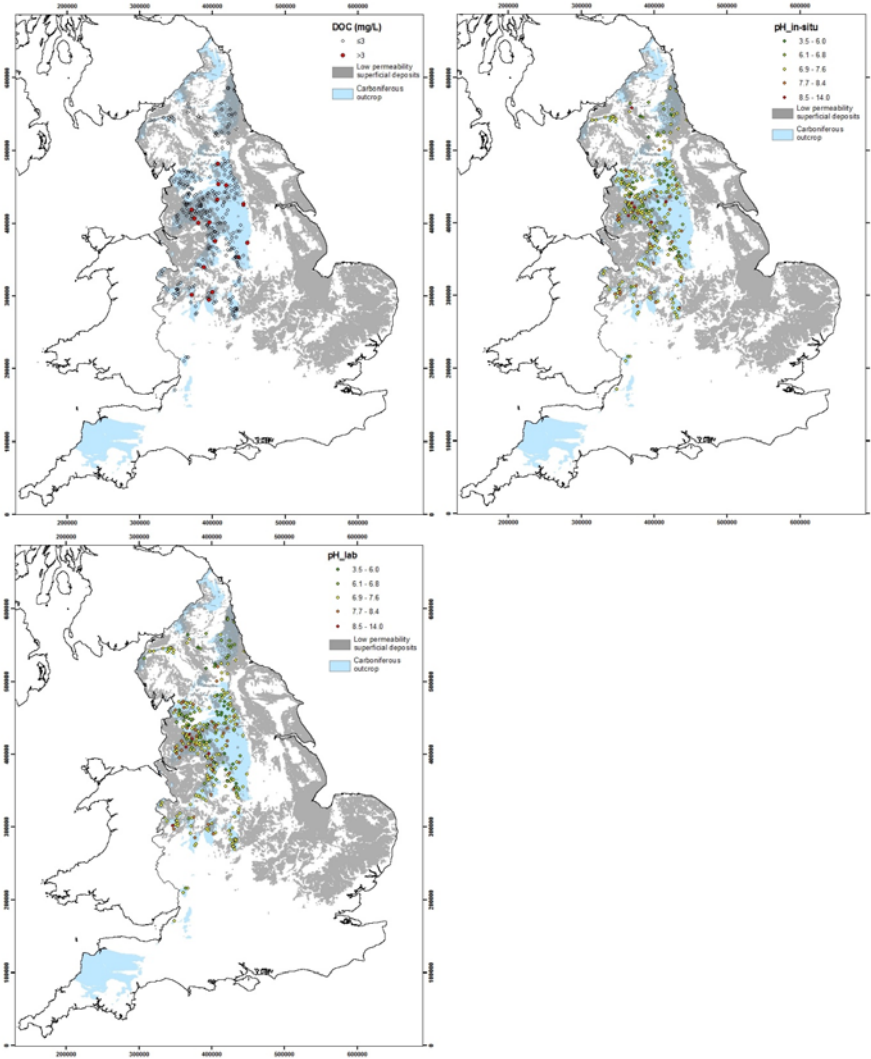


*Oxygen and S species*



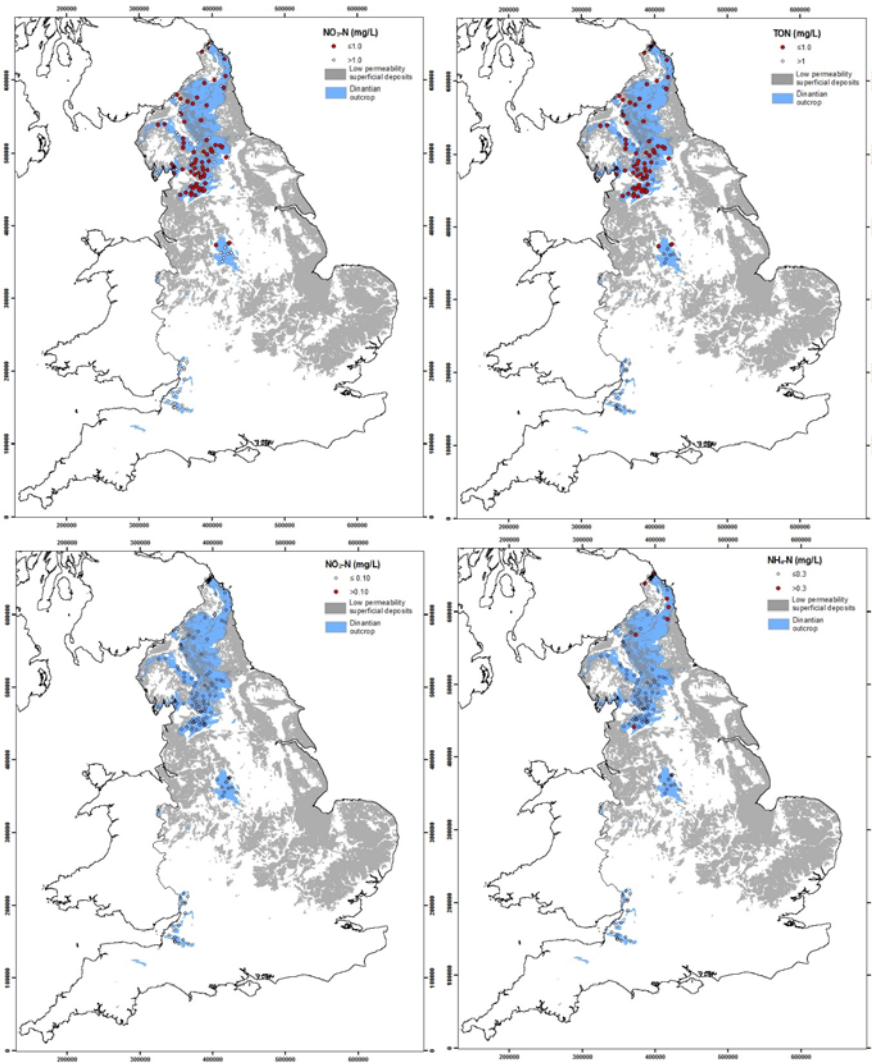


DOC and pH



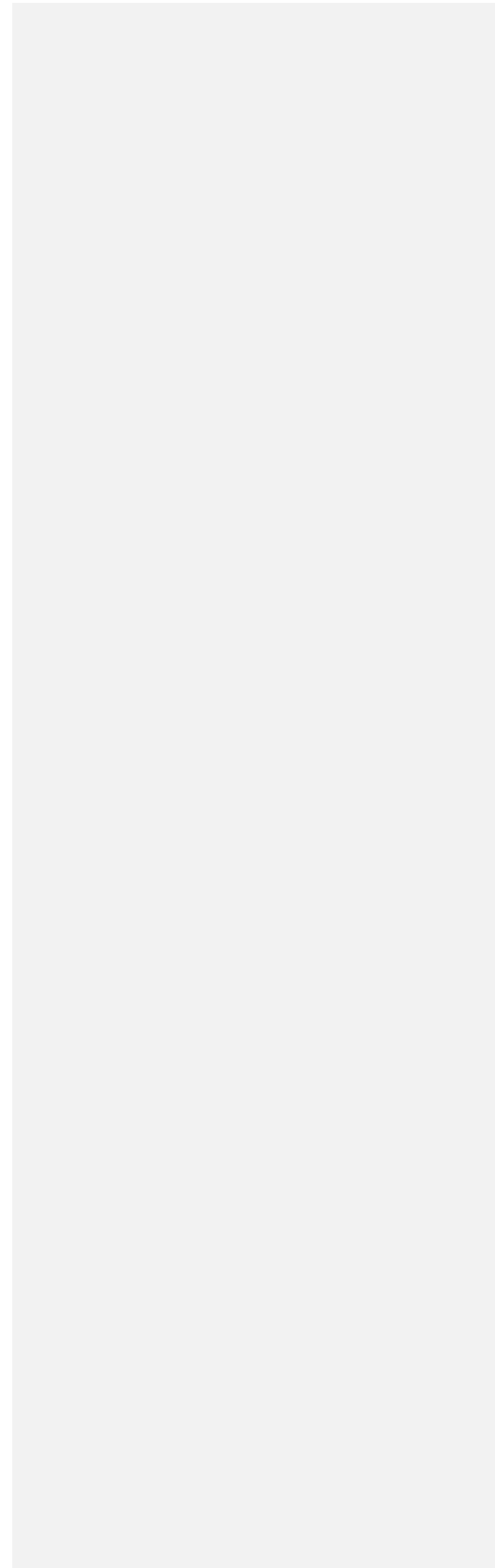
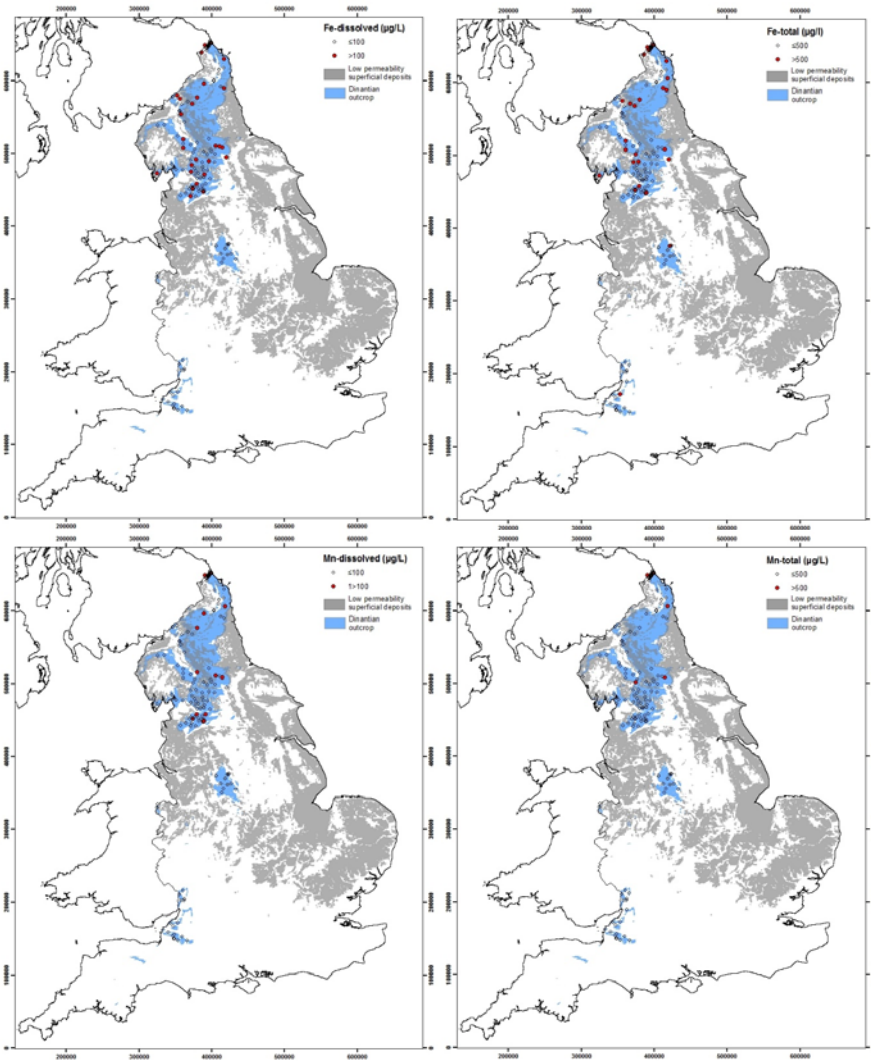
DINANTIAN (LOWER CARBONIFEROUS)

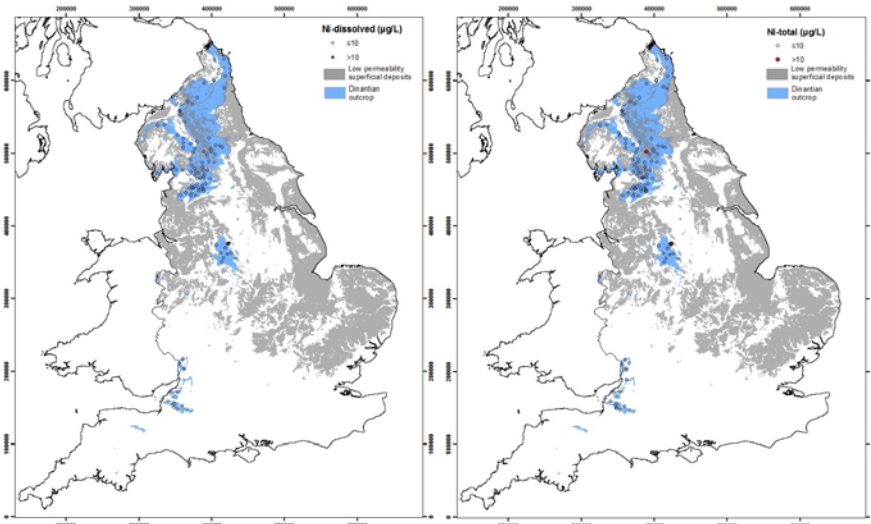
*N species*



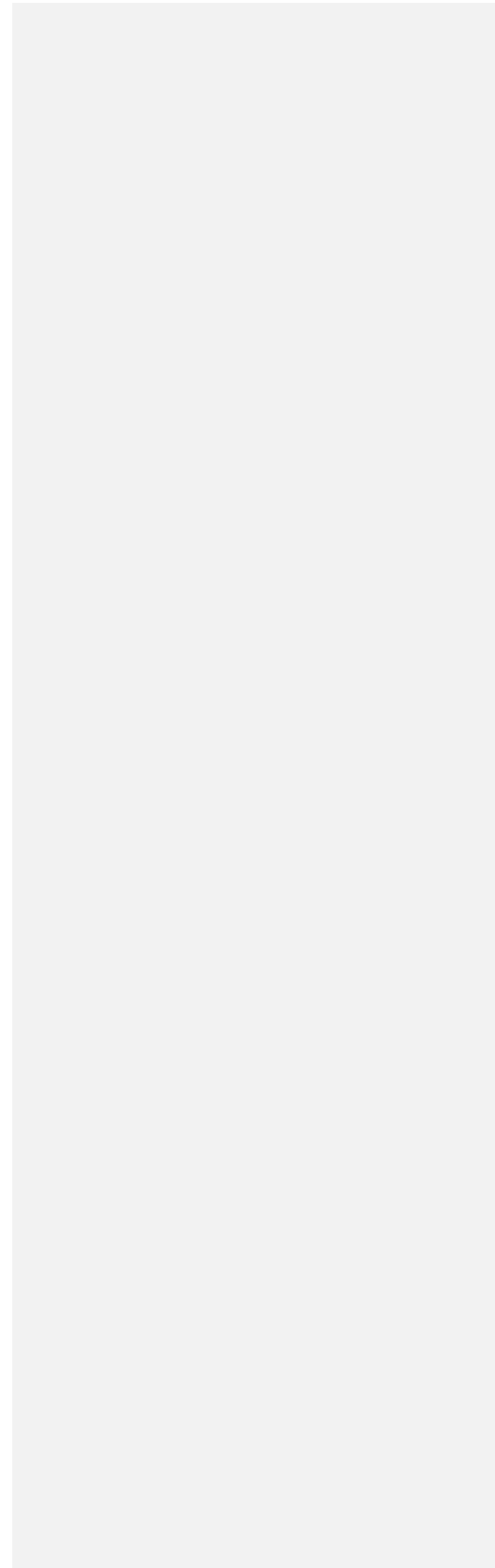
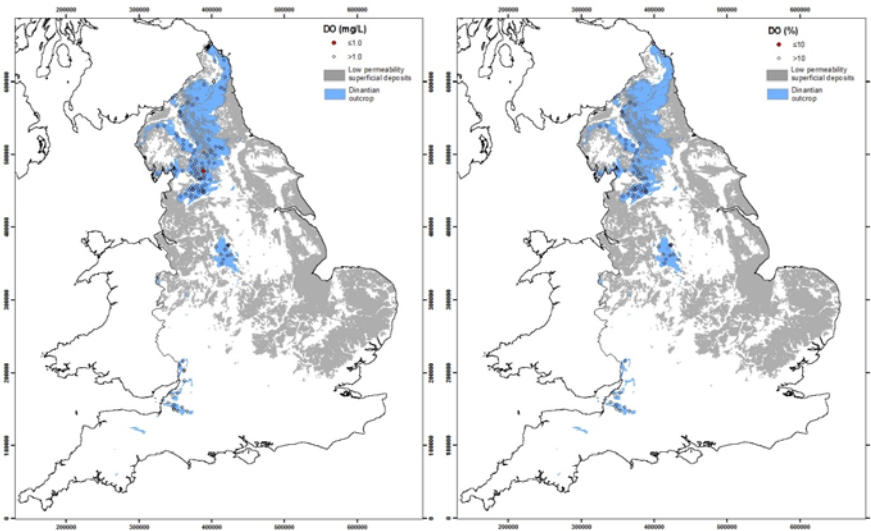


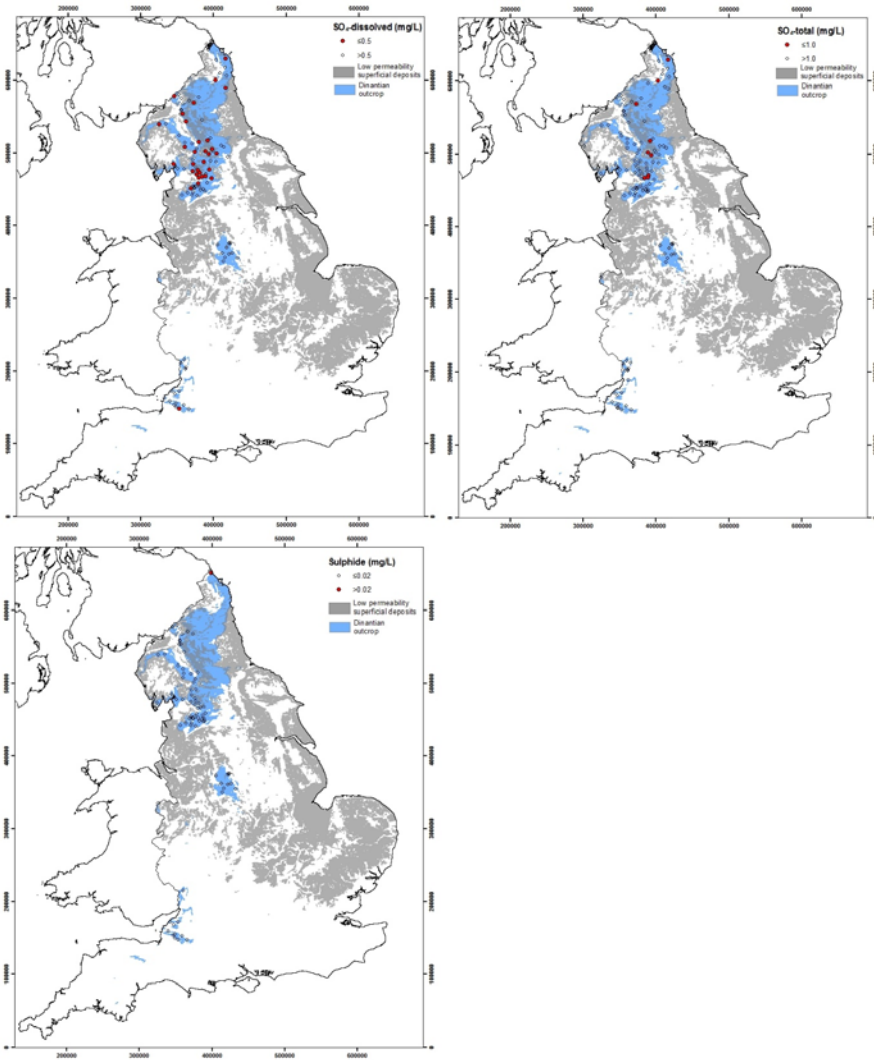
Trace metals



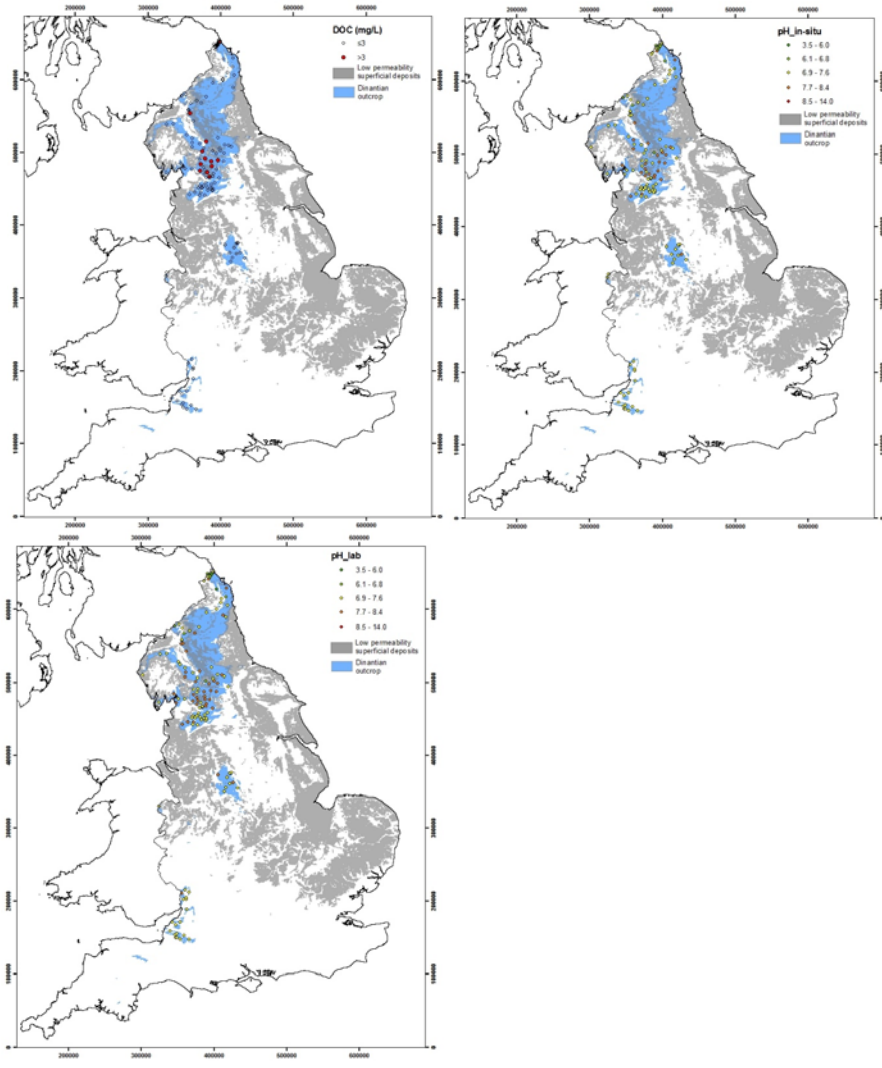


*Oxygen and S species*

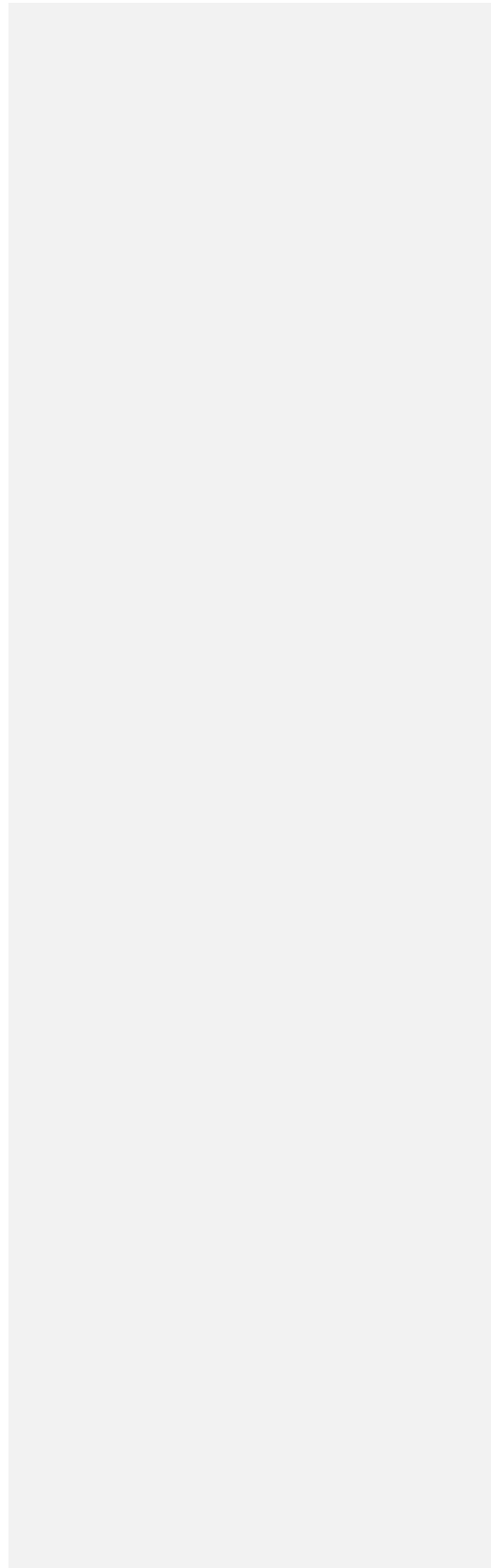
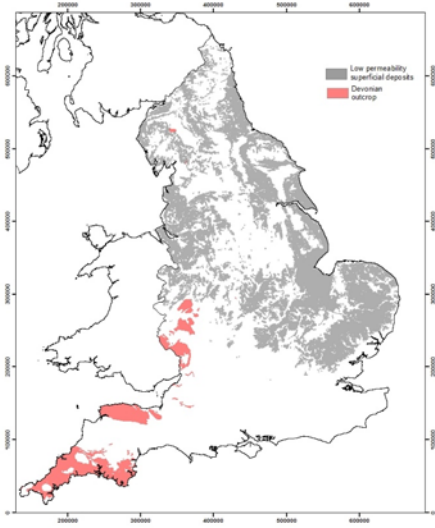




DOC and pH

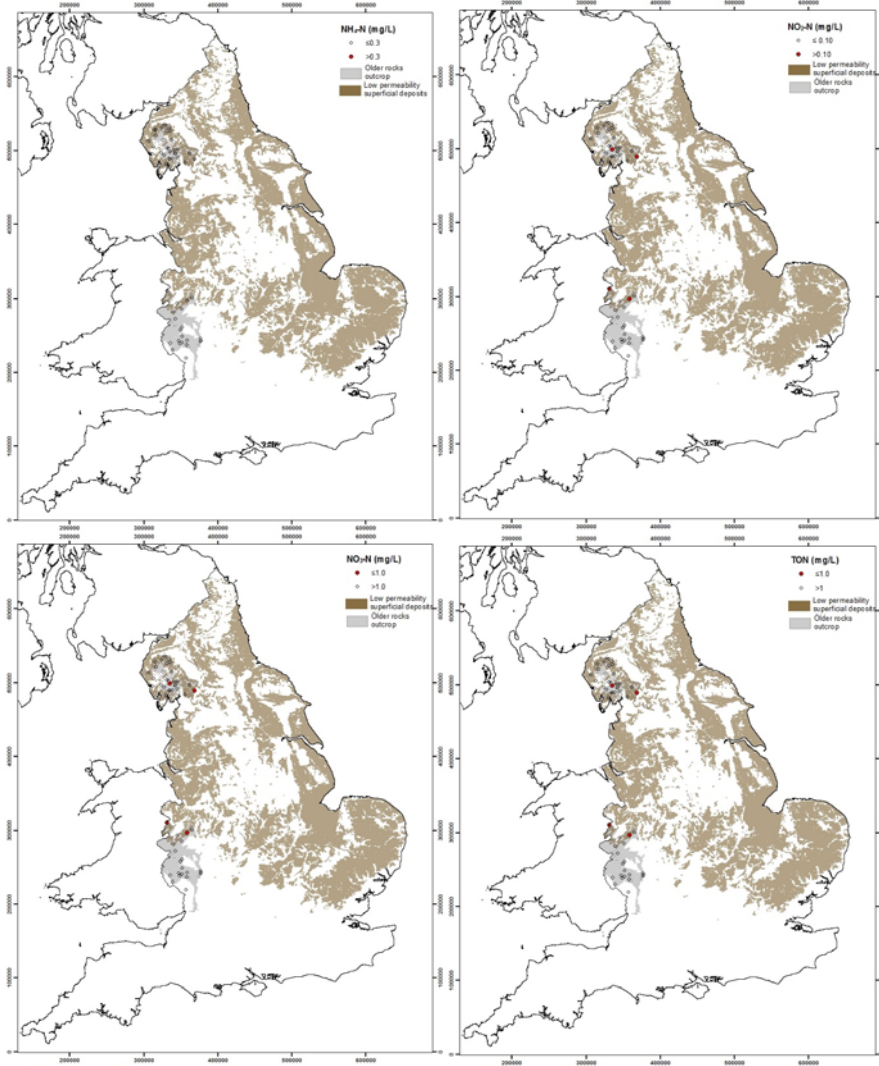


# DEVONIAN

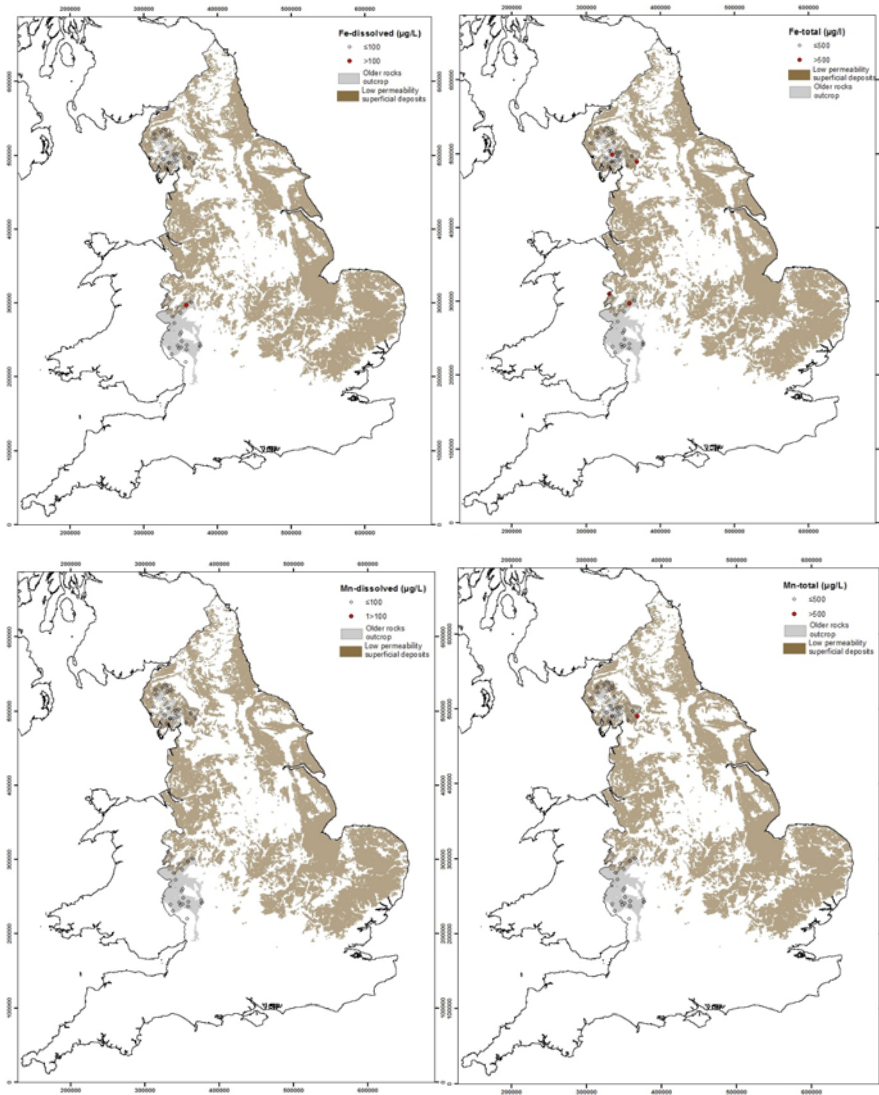


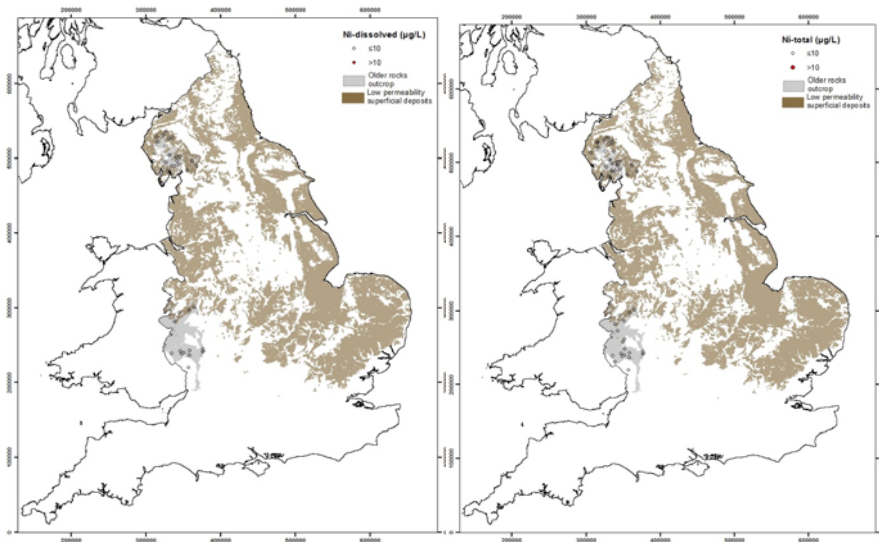
OLDER

*N-species*

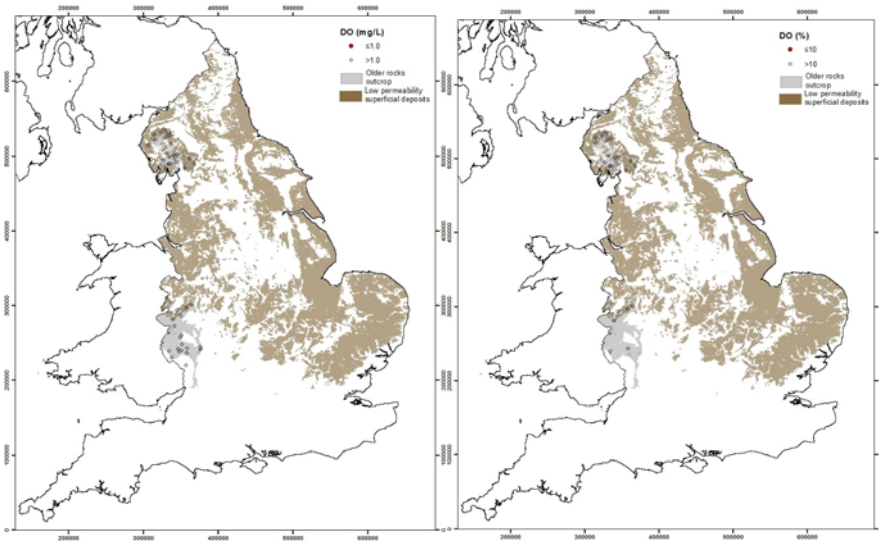


Trace metals

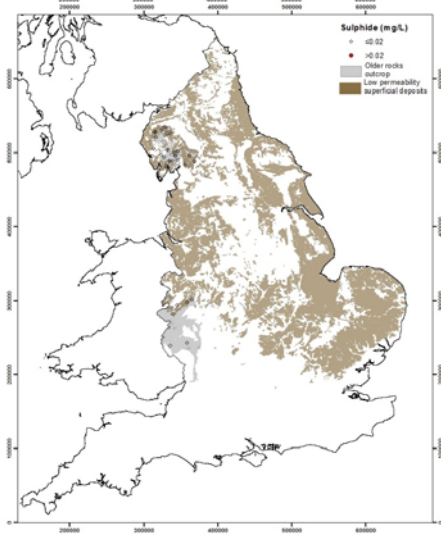
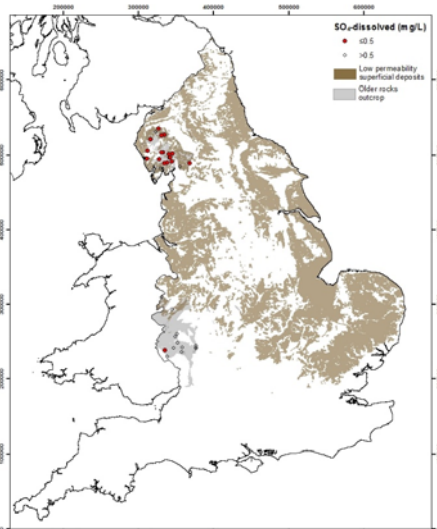
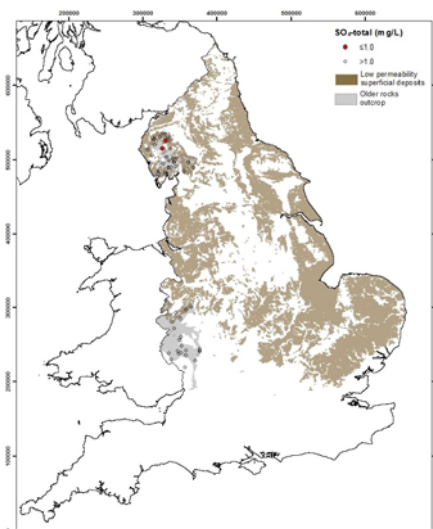




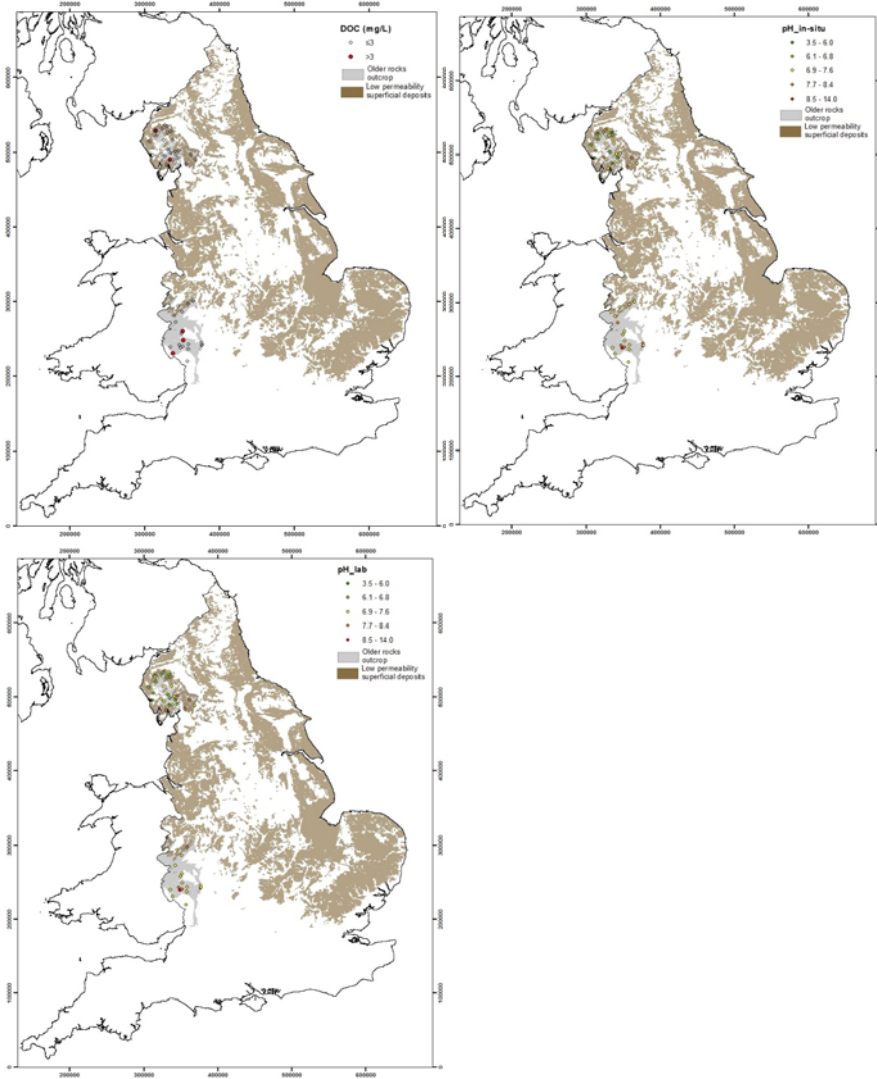
*DO and S-species*





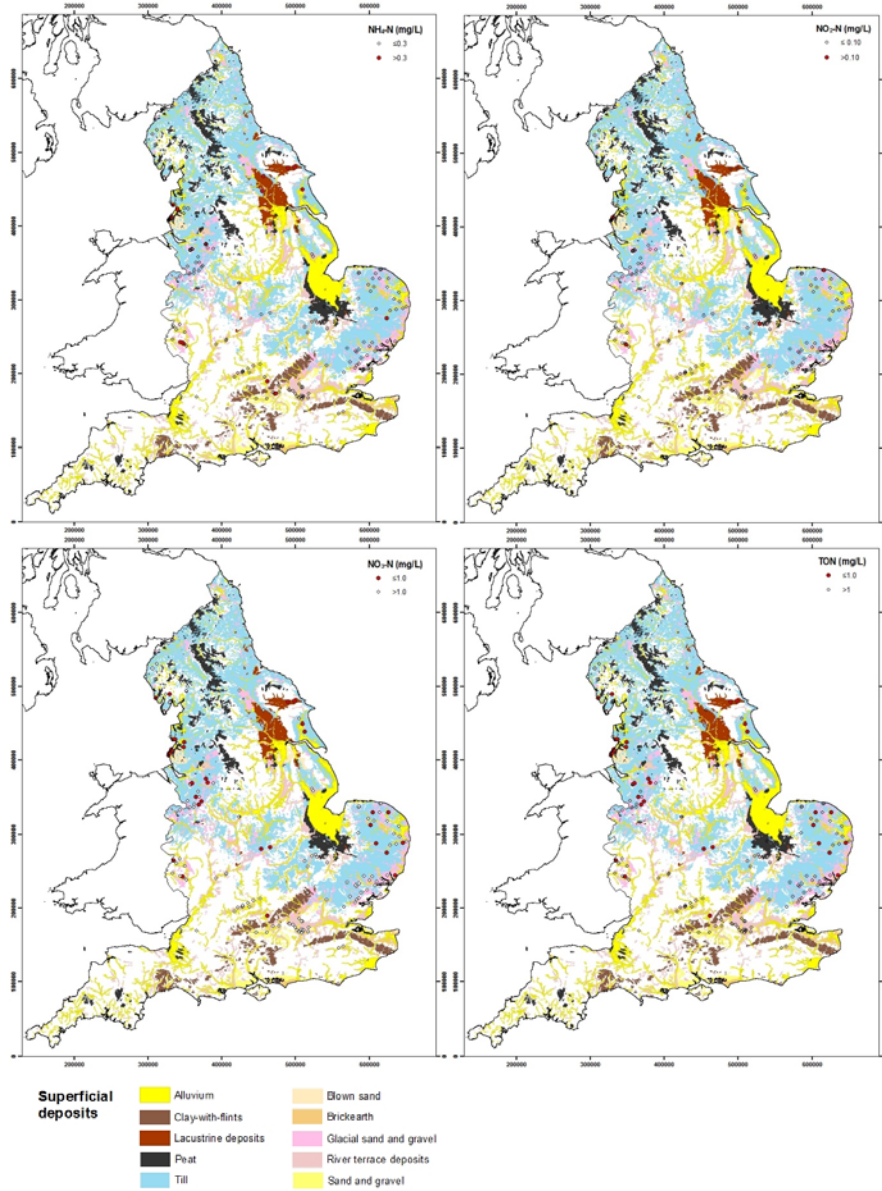


DOC and pH

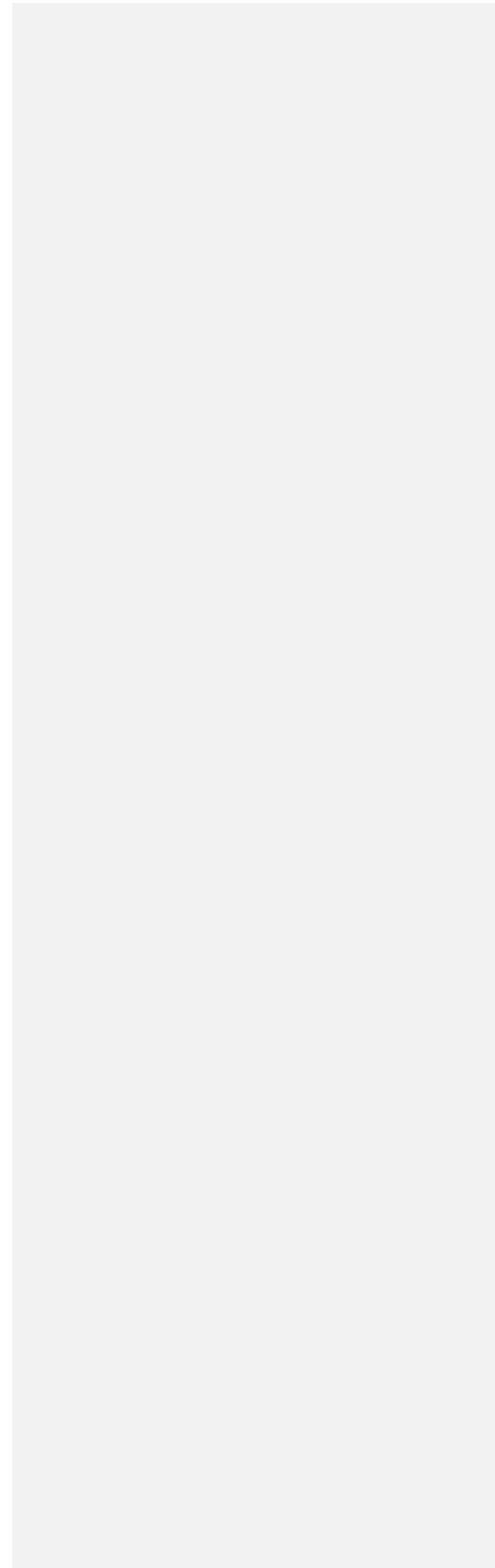
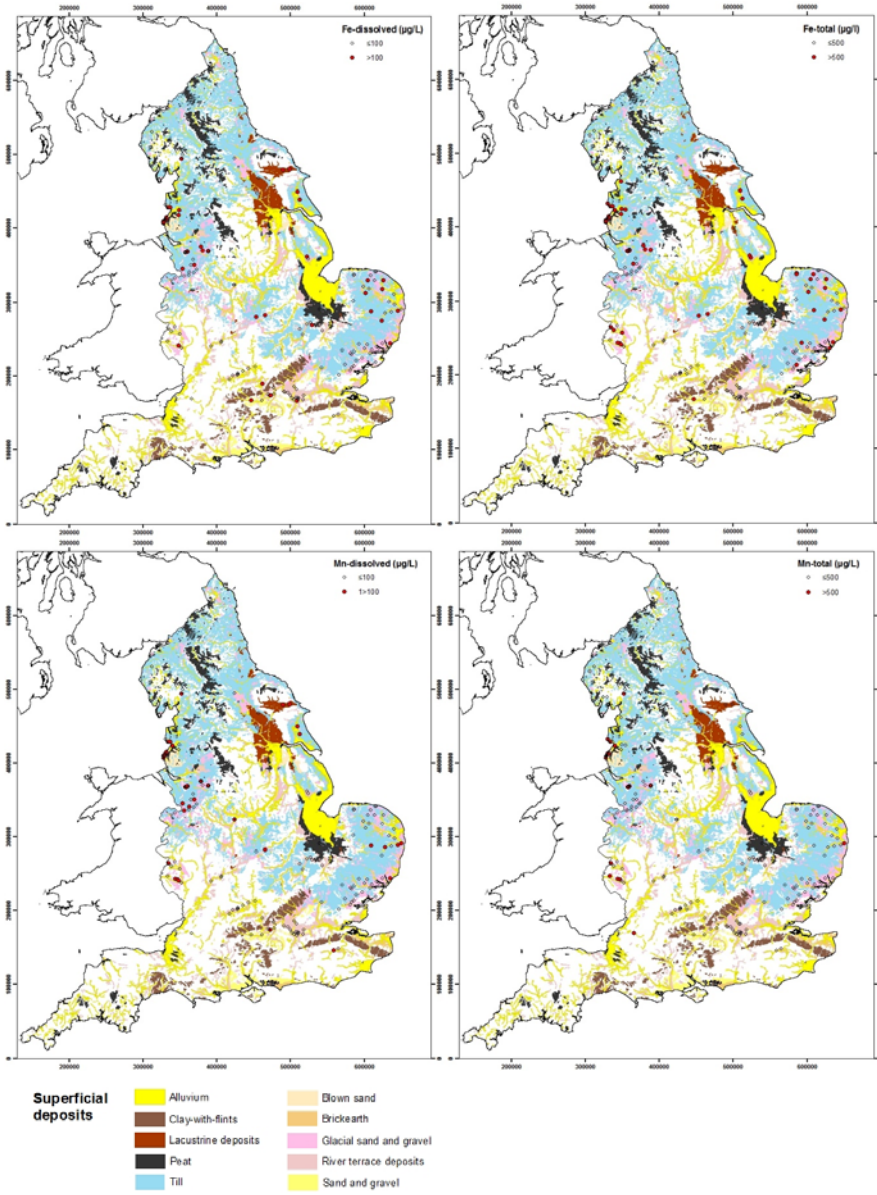


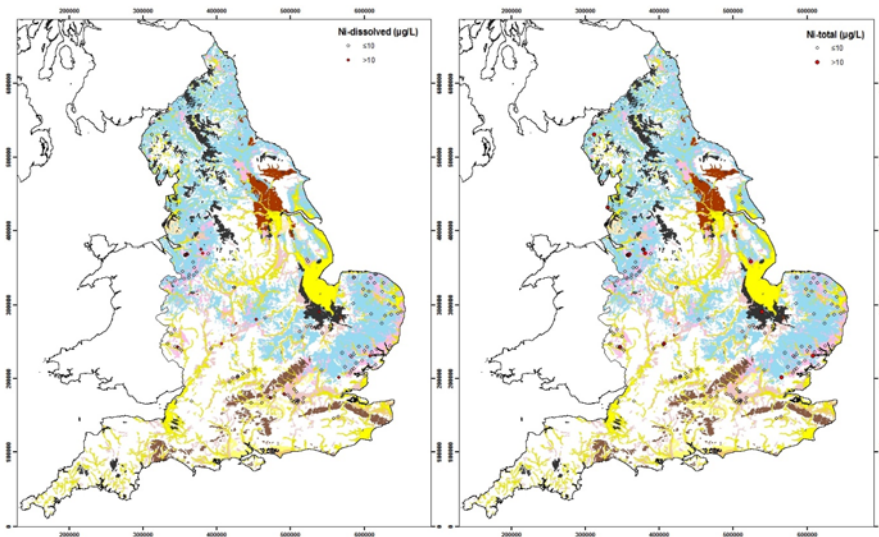
### A2.3 SUPERFICIAL DEPOSITS

#### *N*-Species

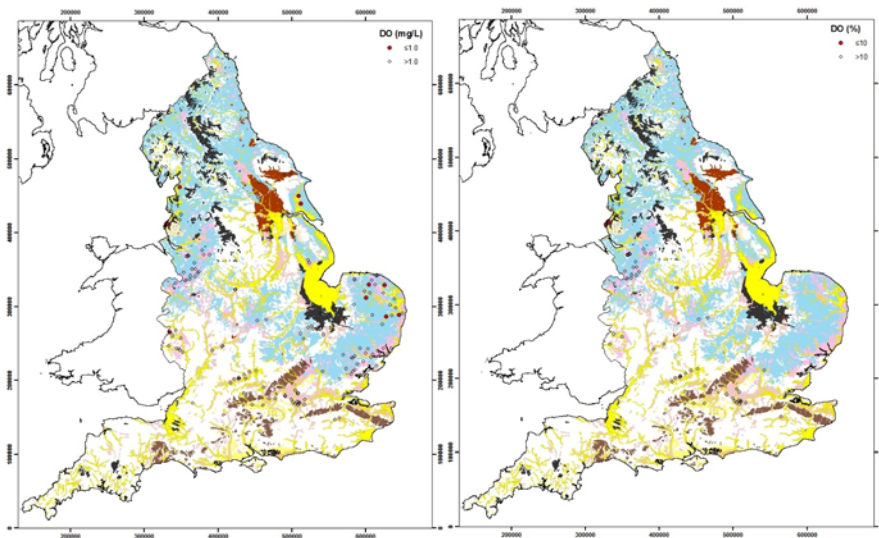


Trace metals



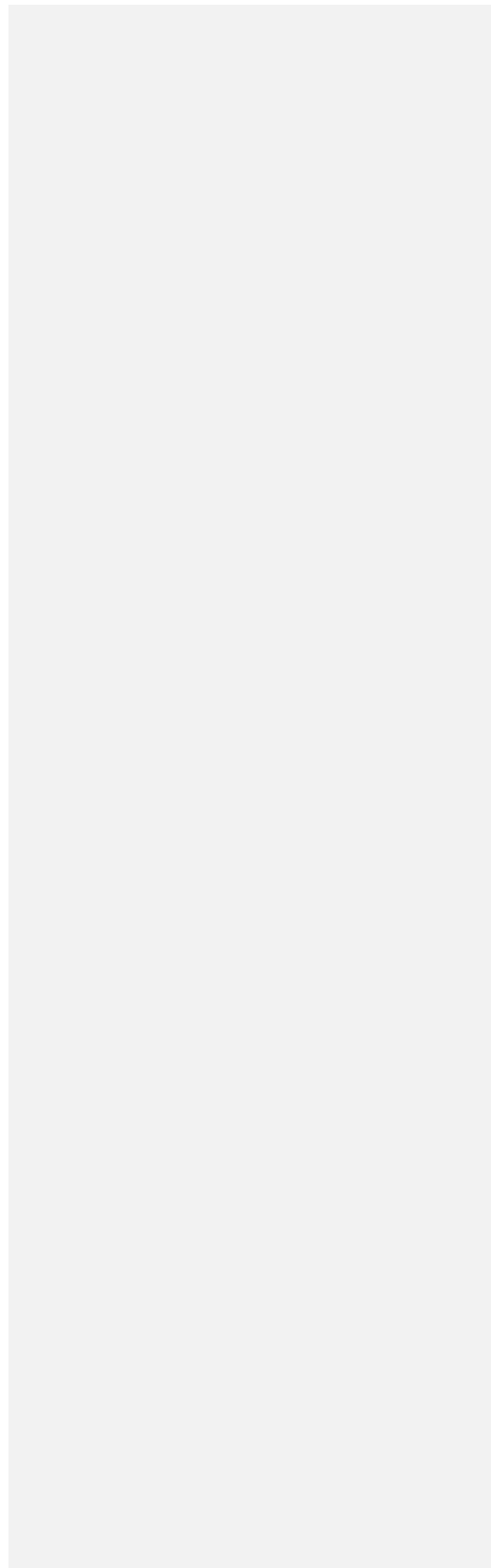


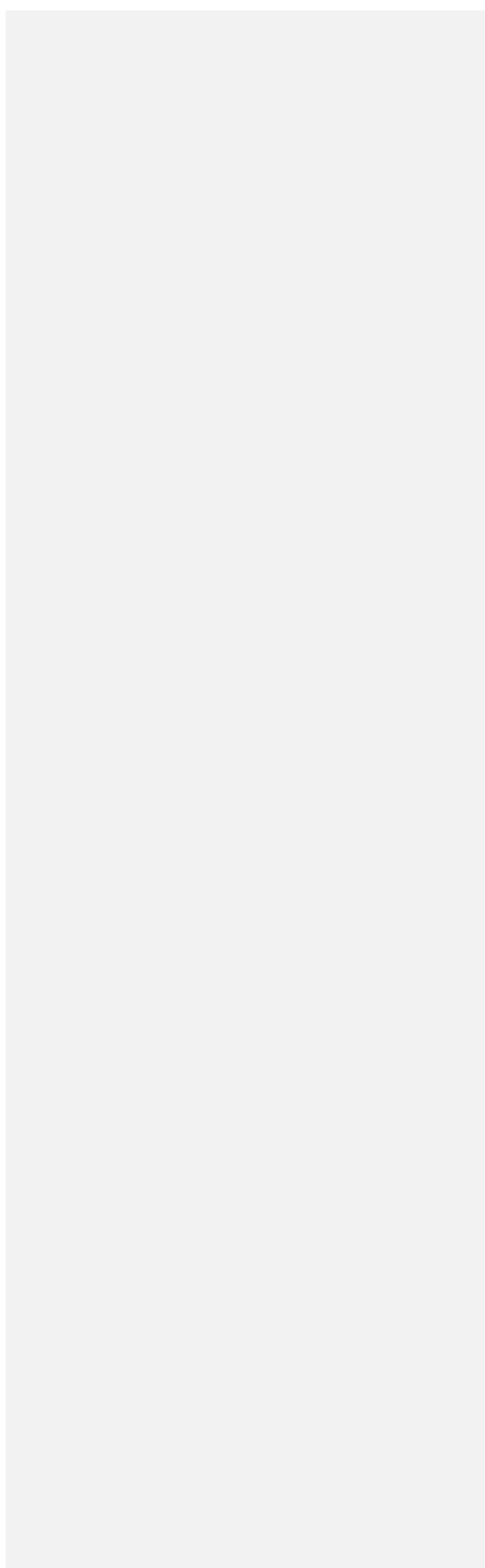
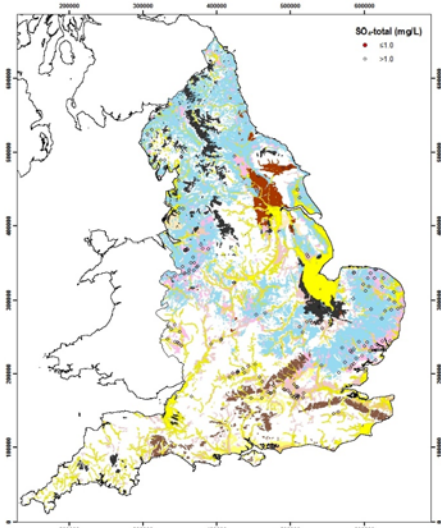
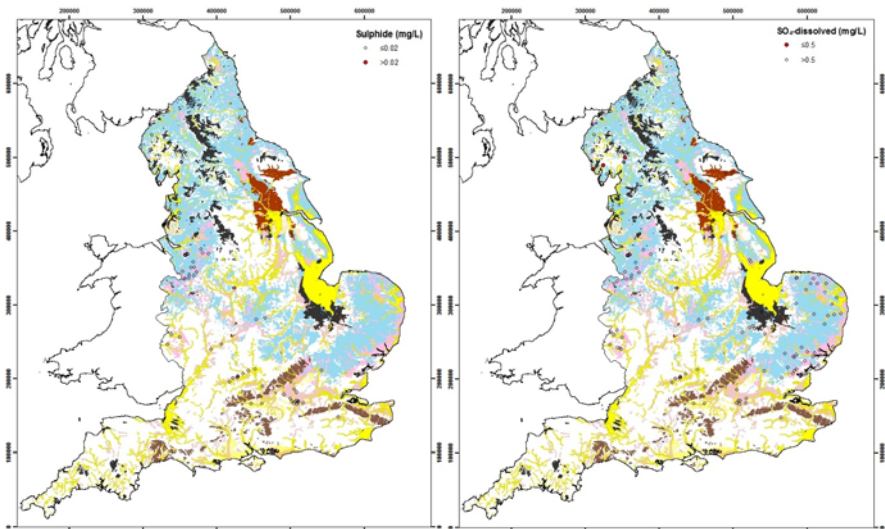
*Oxygen and S species*



**Superficial deposits**

- |                     |                         |
|---------------------|-------------------------|
| Alluvium            | Blown sand              |
| Clay-with-flints    | Brickearth              |
| Lacustrine deposits | Glacial sand and gravel |
| Peat                | River terrace deposits  |
| Till                | Sand and gravel         |





DOC and pH

