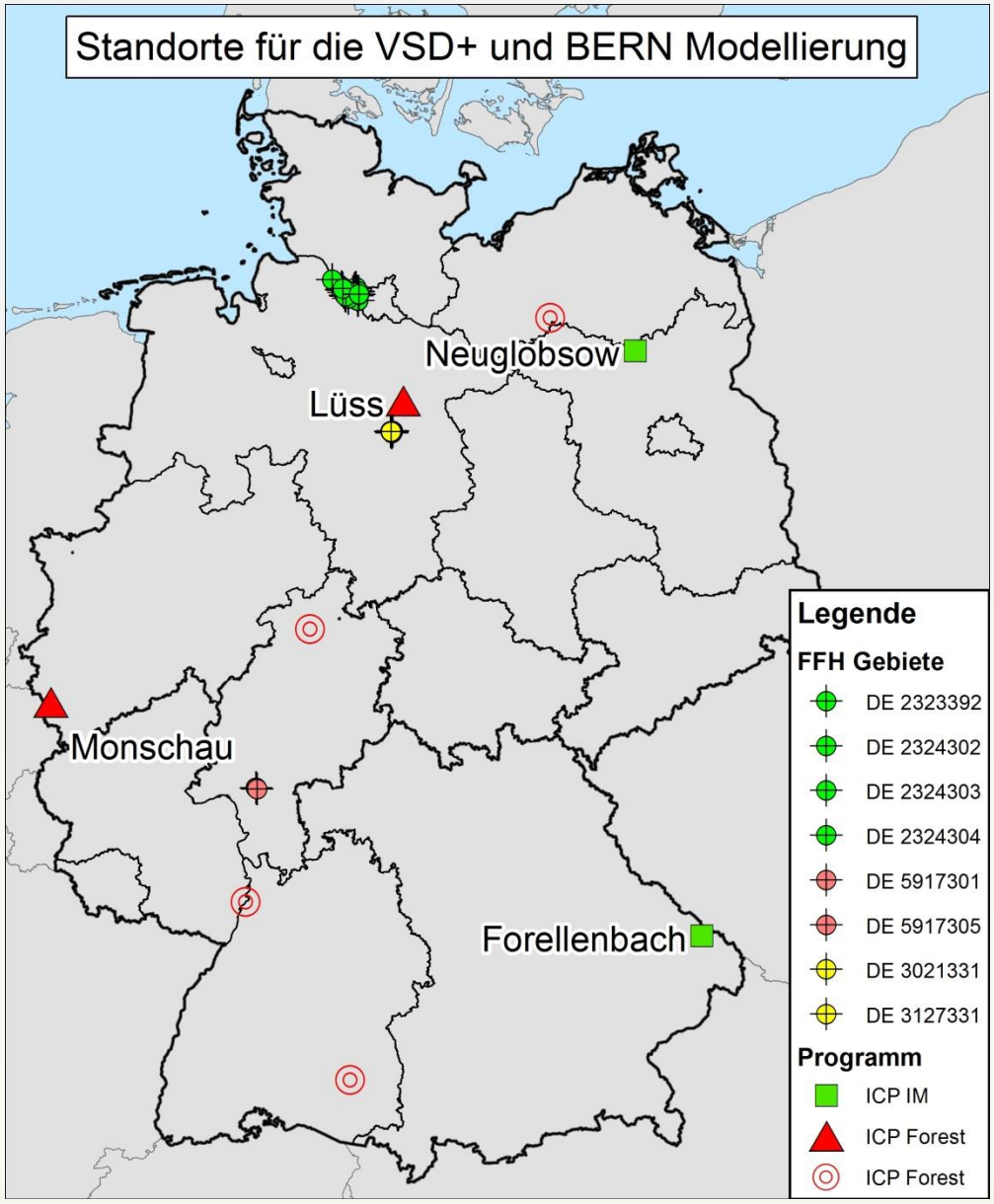
OEKO-DATA

22th ICP IM Workshop Westport, 07.05.2014

Dynamic modelling on German ICP IM plots

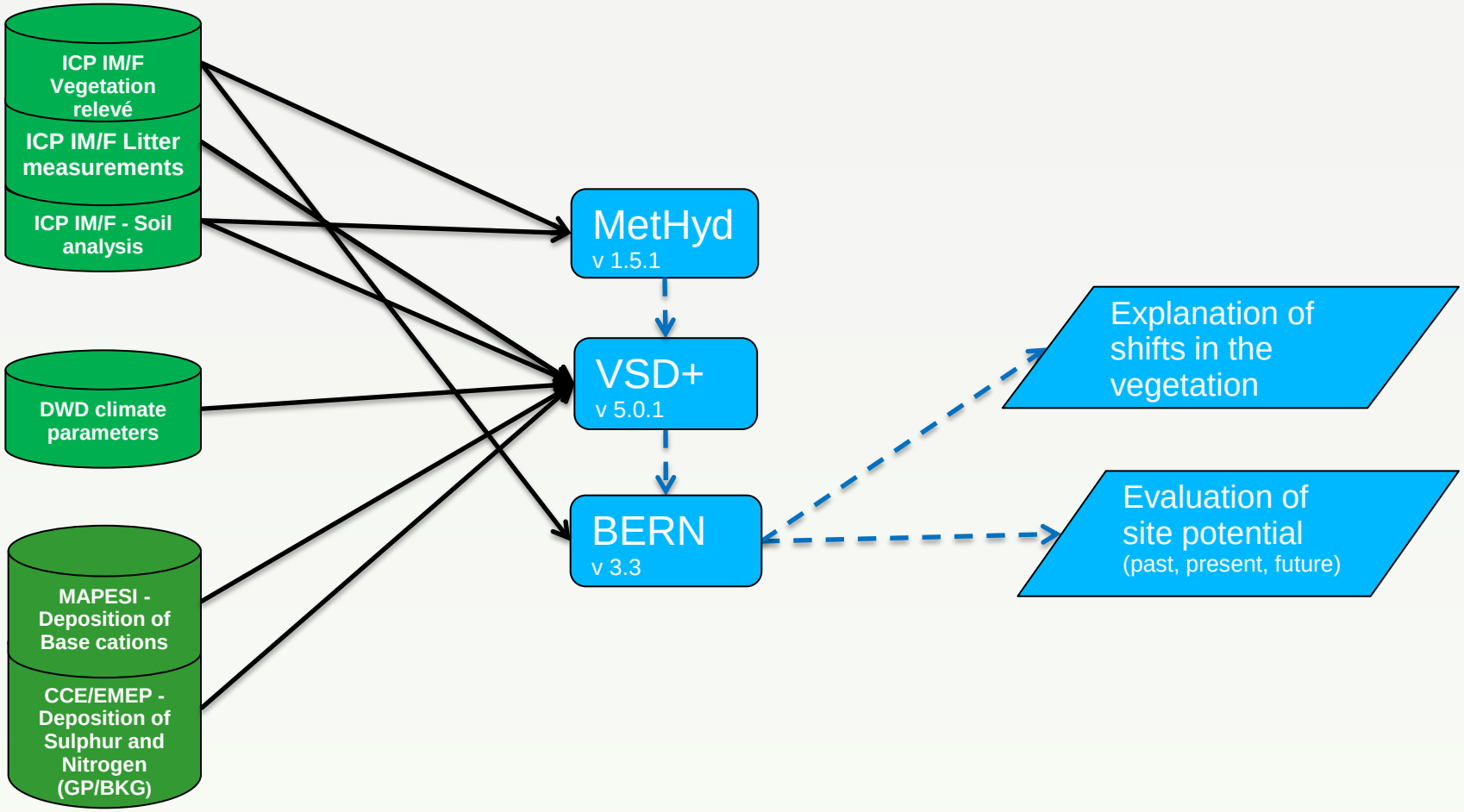
Ecosystem Analysis
Environmental Data Management


Standorte für die VSD+ und BERN Modellierung
Neuglobsow
Lüss
Monschau
Forellenbach
Legende
FFH Gebiete
DE 2323392
DE 2324302
DE 2324303
DE 2324304
DE 5917301
DE 5917305
DE 3021331
DE 3127331
Programm
ICP IM
ICP Forest
ICP Forest

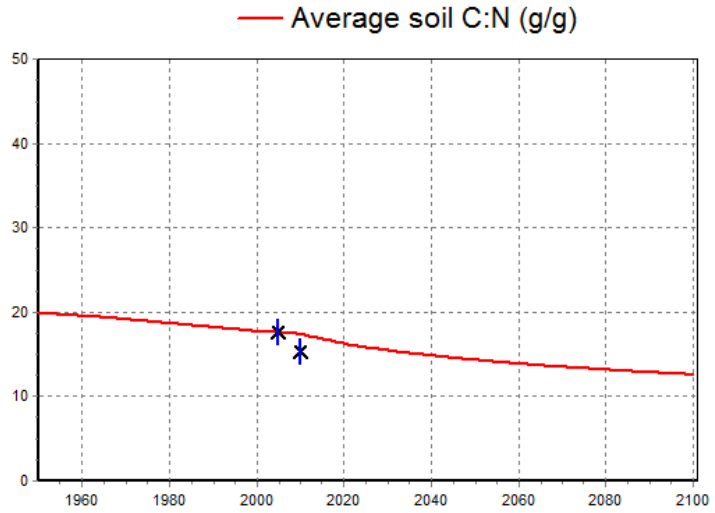
Data sources:

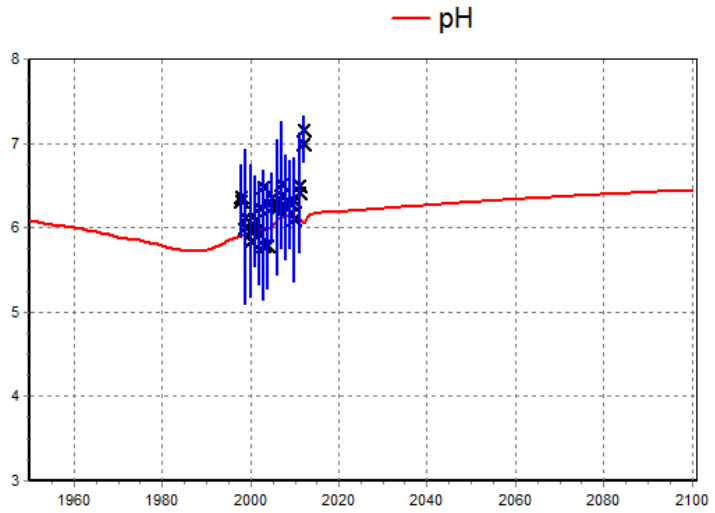
Methods/Models:

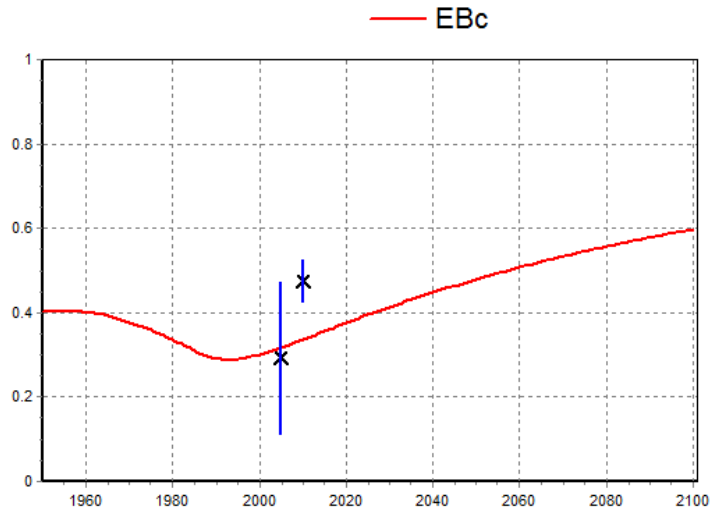
Results:

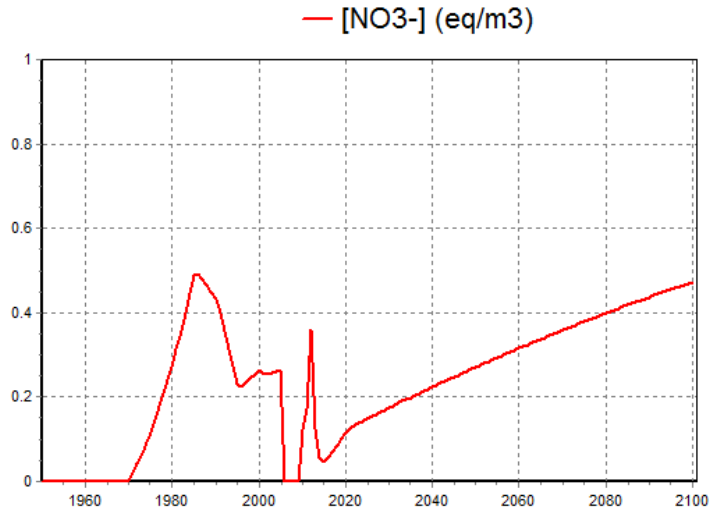


Neuglobsow


Average soil C:N (g/g)
50
40
30
20
10
0
1960
1980
2000
2020
2040
2060
2080
2100


pH
8
7
6
5
4
3
1960
1980
2000
2020
2040
2060
2080
2100


EBc
1
0.8
0.6
0.4
0.2
0
1960
1980
2000
2020
2040
2060
2080
2100


[NO3-] (eq/m3)
1
0.8
0.6
0.4
0.2
0
1960
1980
2000
2020
2040
2060
2080
2100

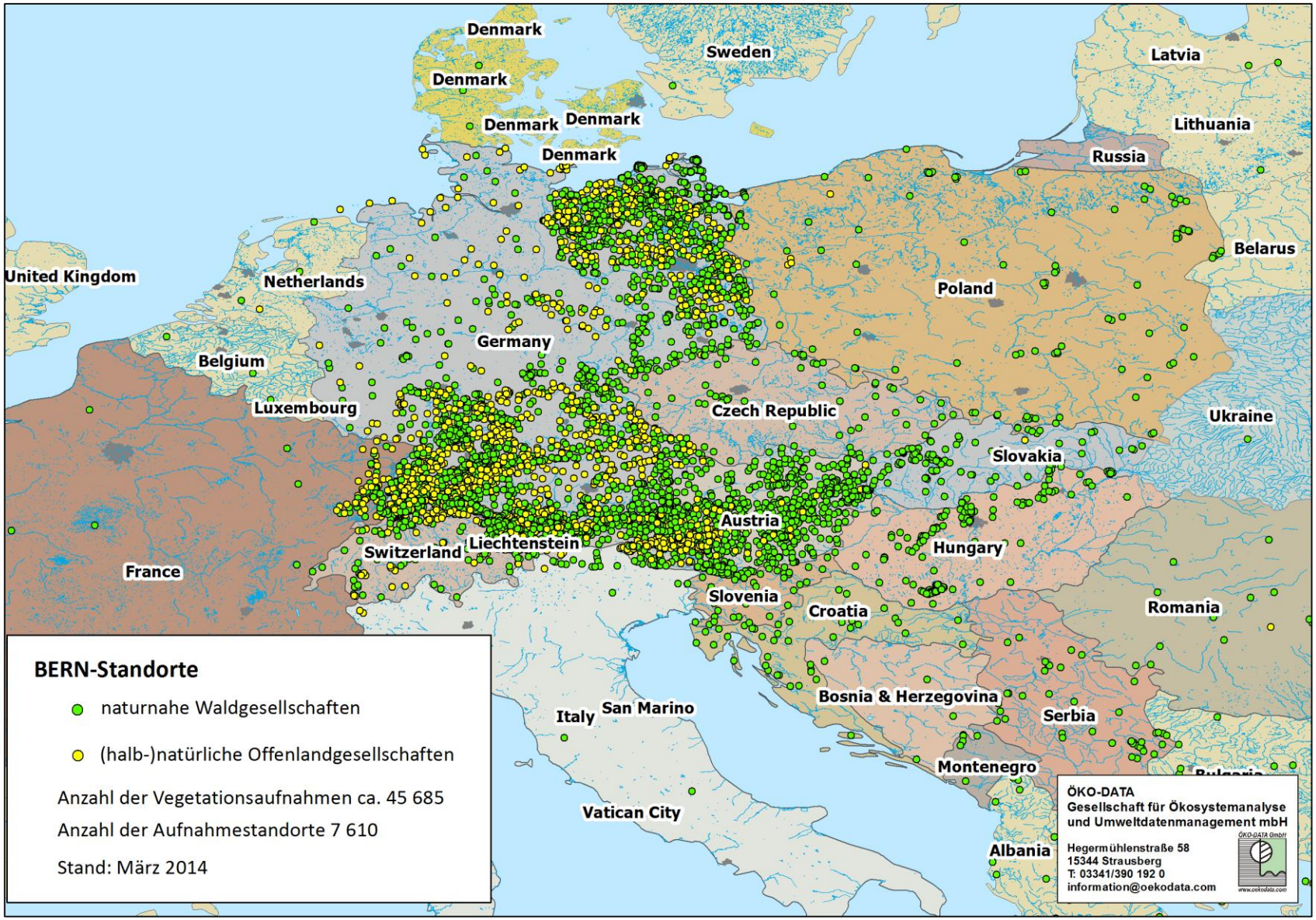
The BERN model:

Bioindication of

Ecosystems

Regeneration towards

Natural Conditions

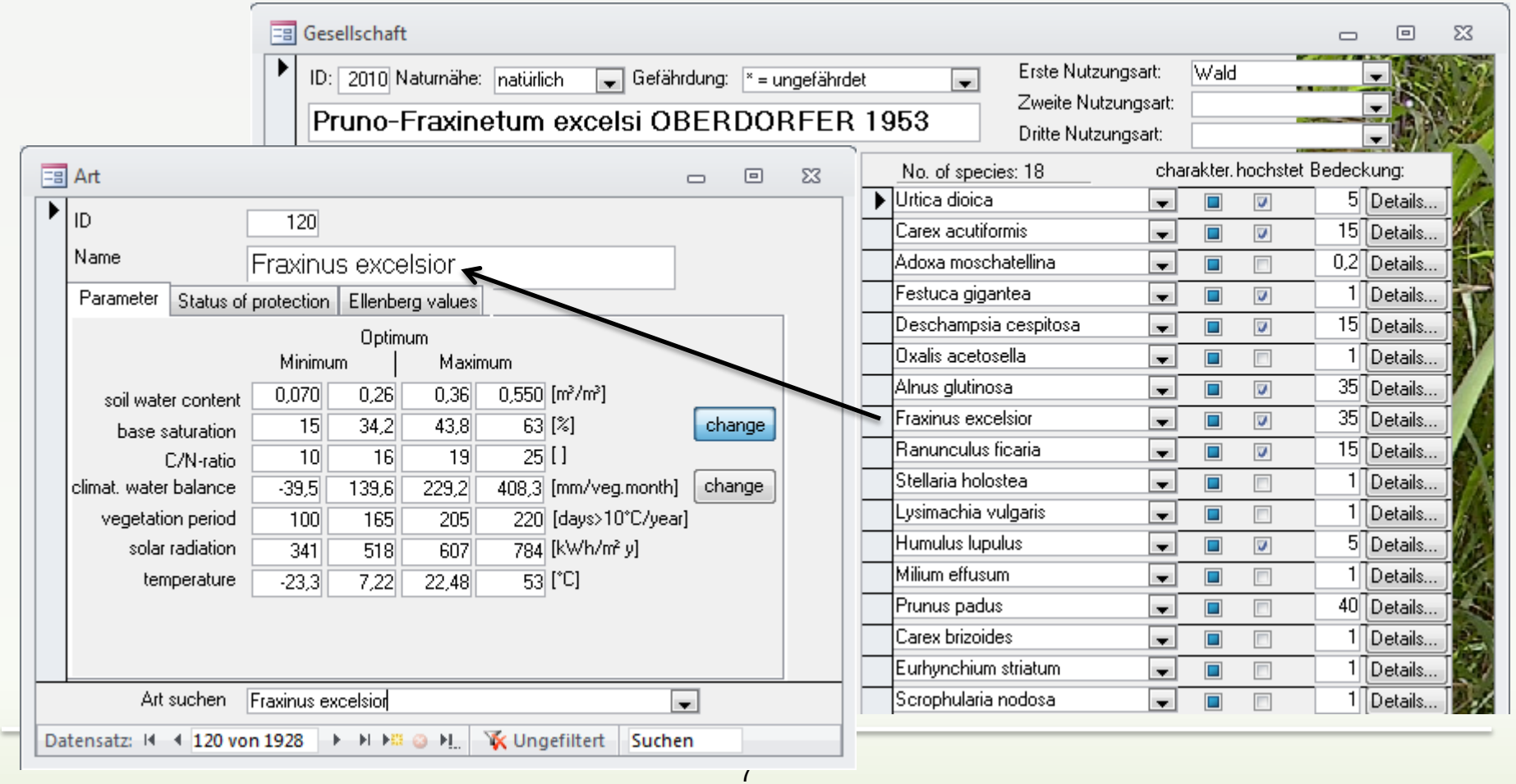


http://bit.ly/1ndndfm

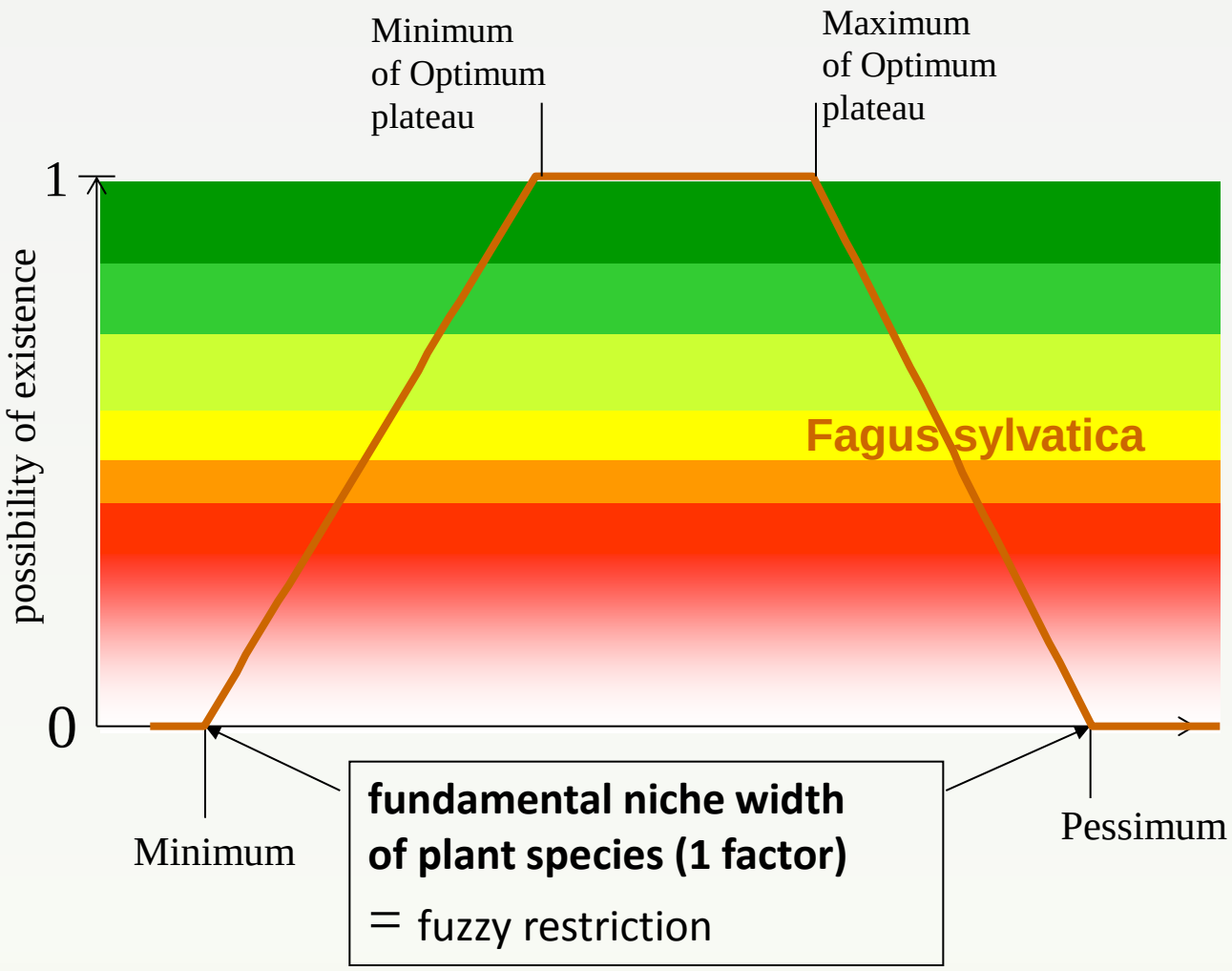
BERN Model: Database

- 673 natural or semi-natural plant communities

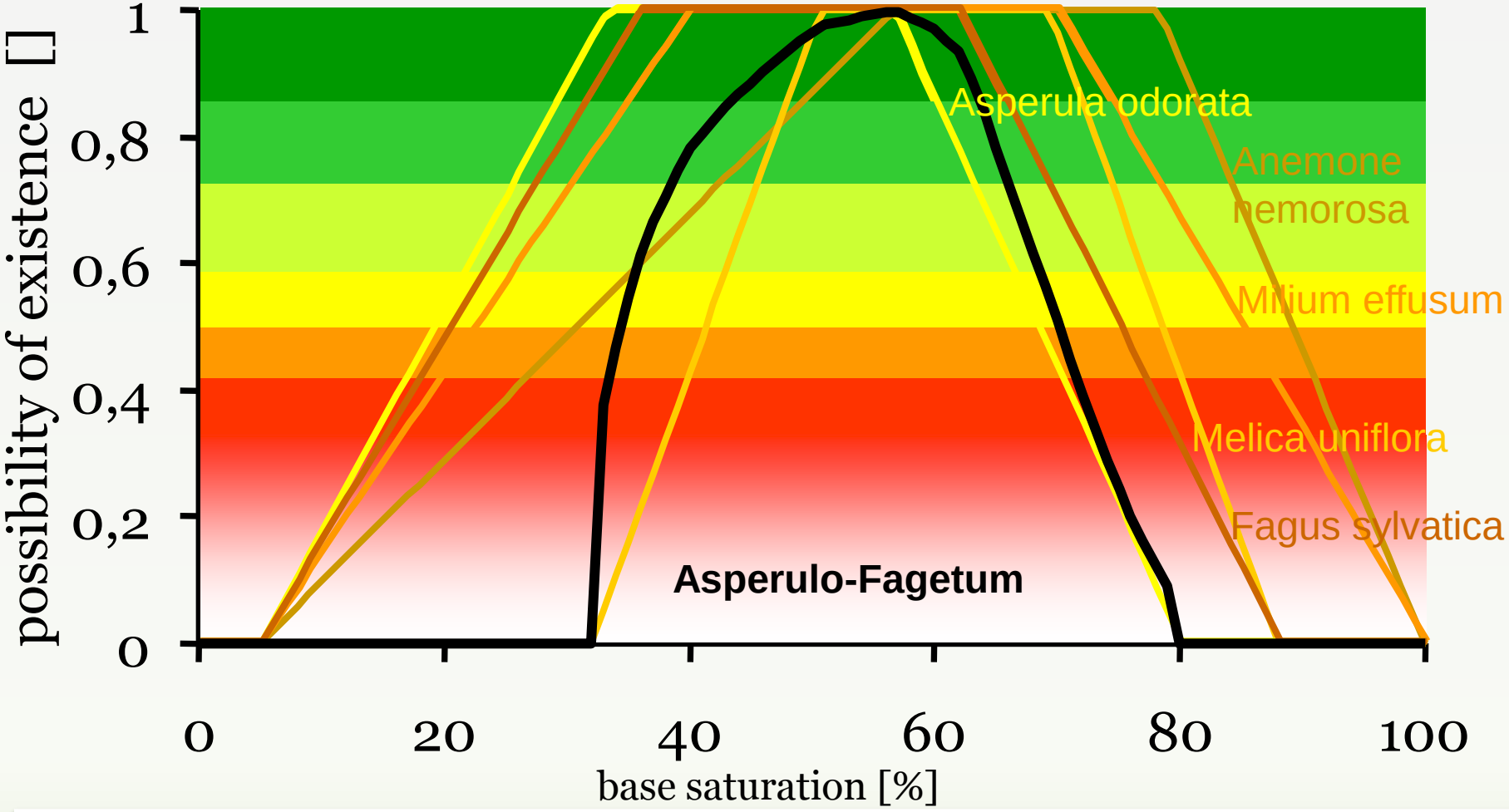
- 1928 constant plant species of communities

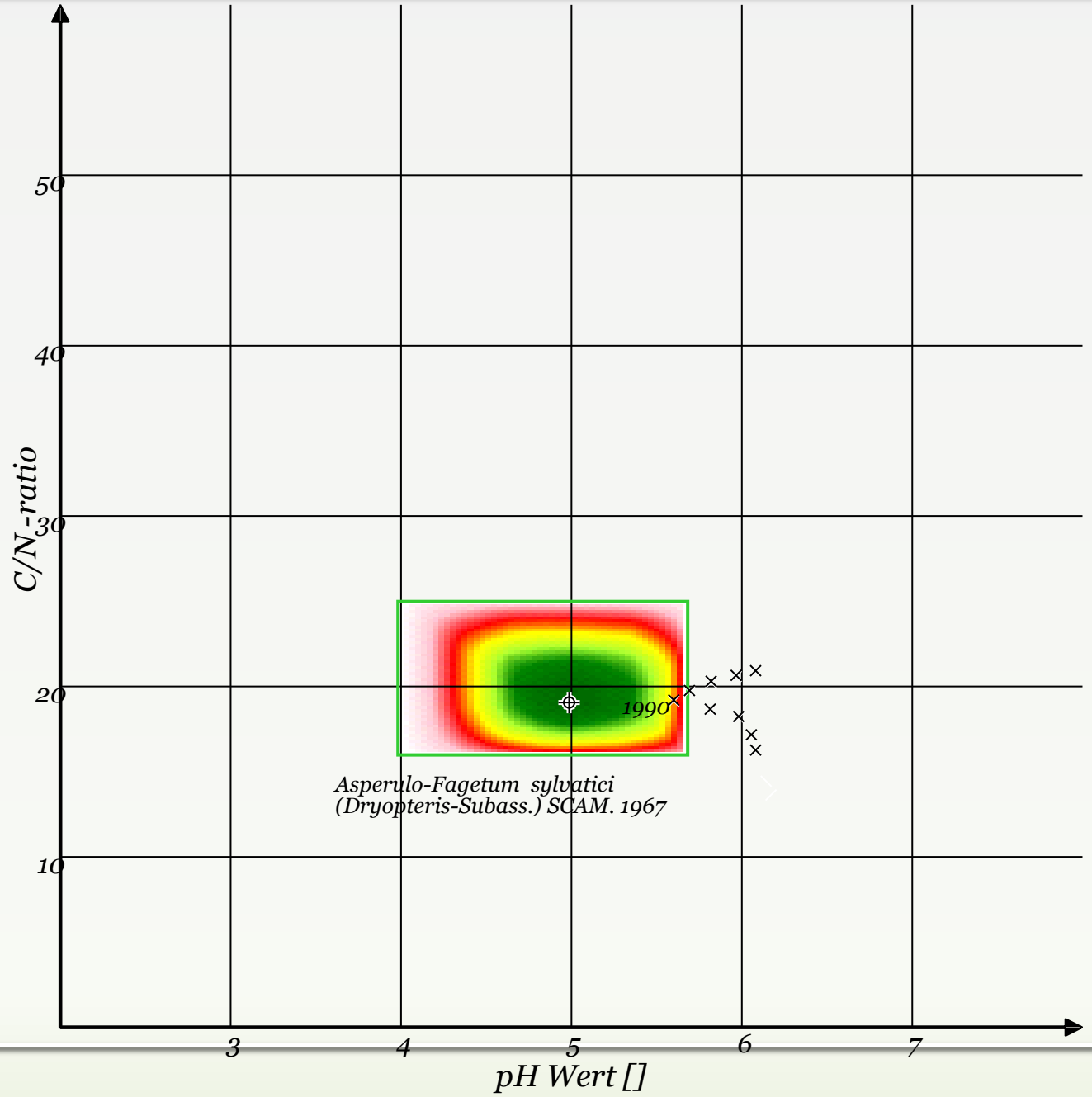


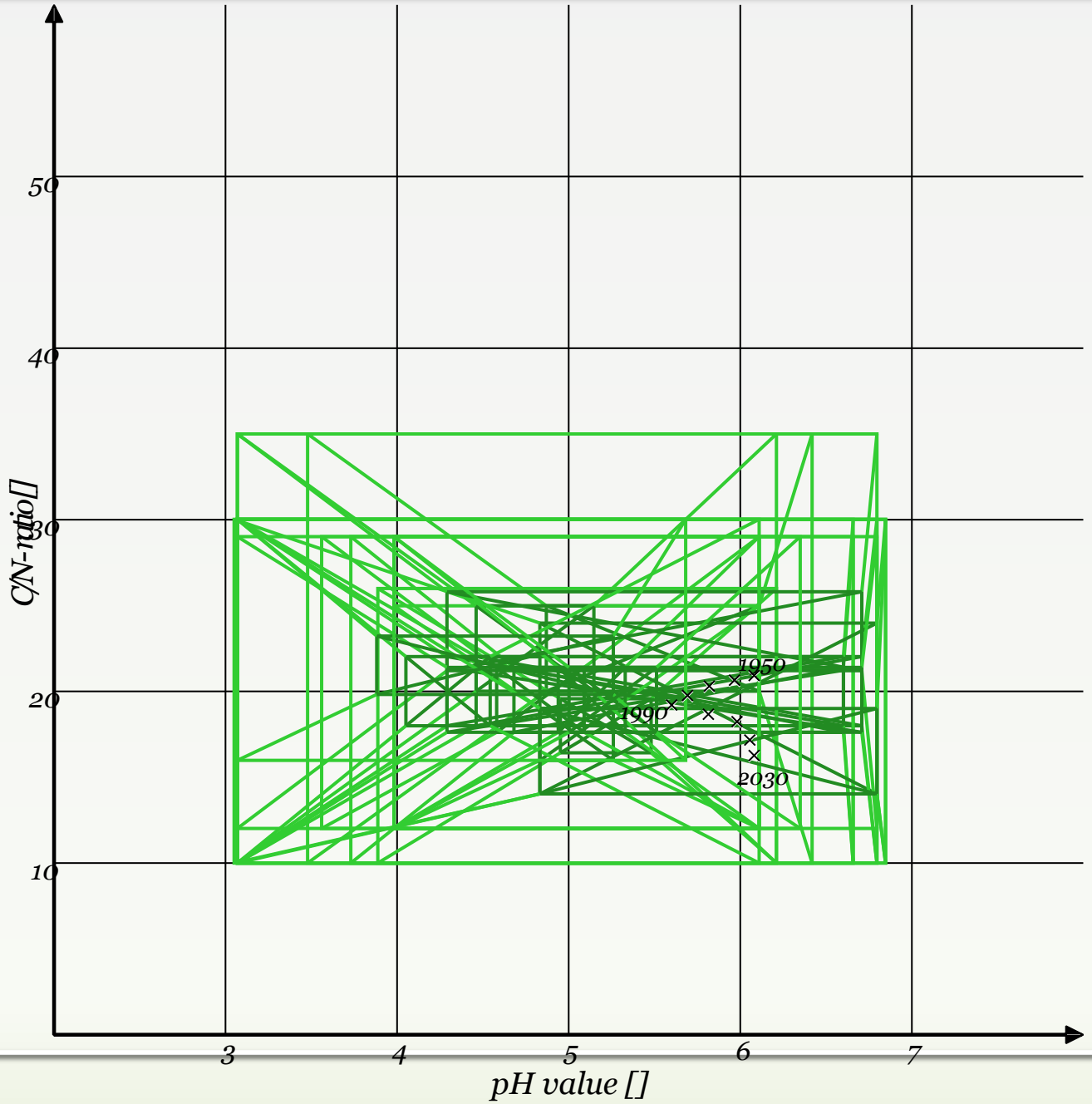
Possibility distribution function (PDF) (acc. ZADEH (1978))

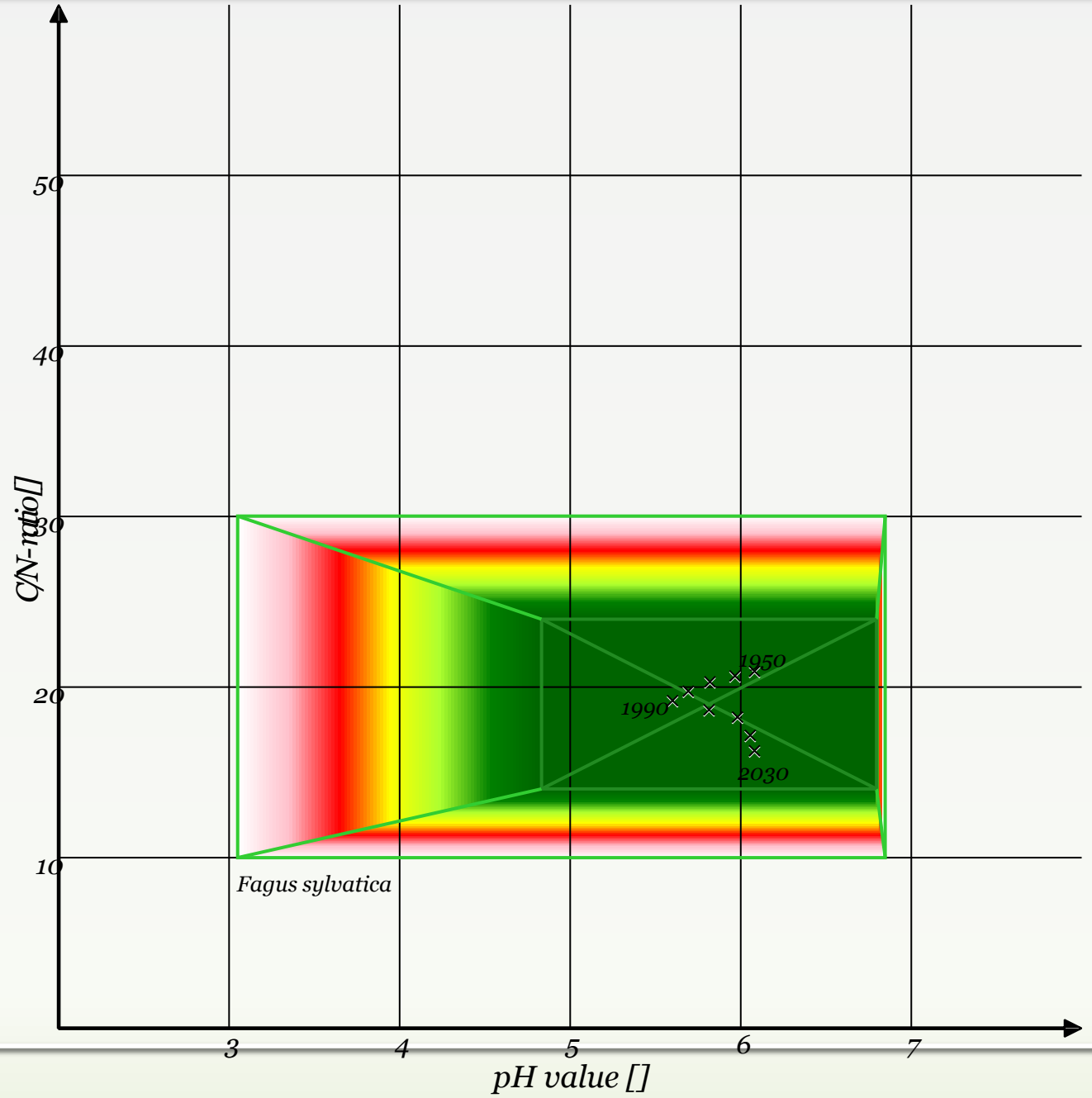


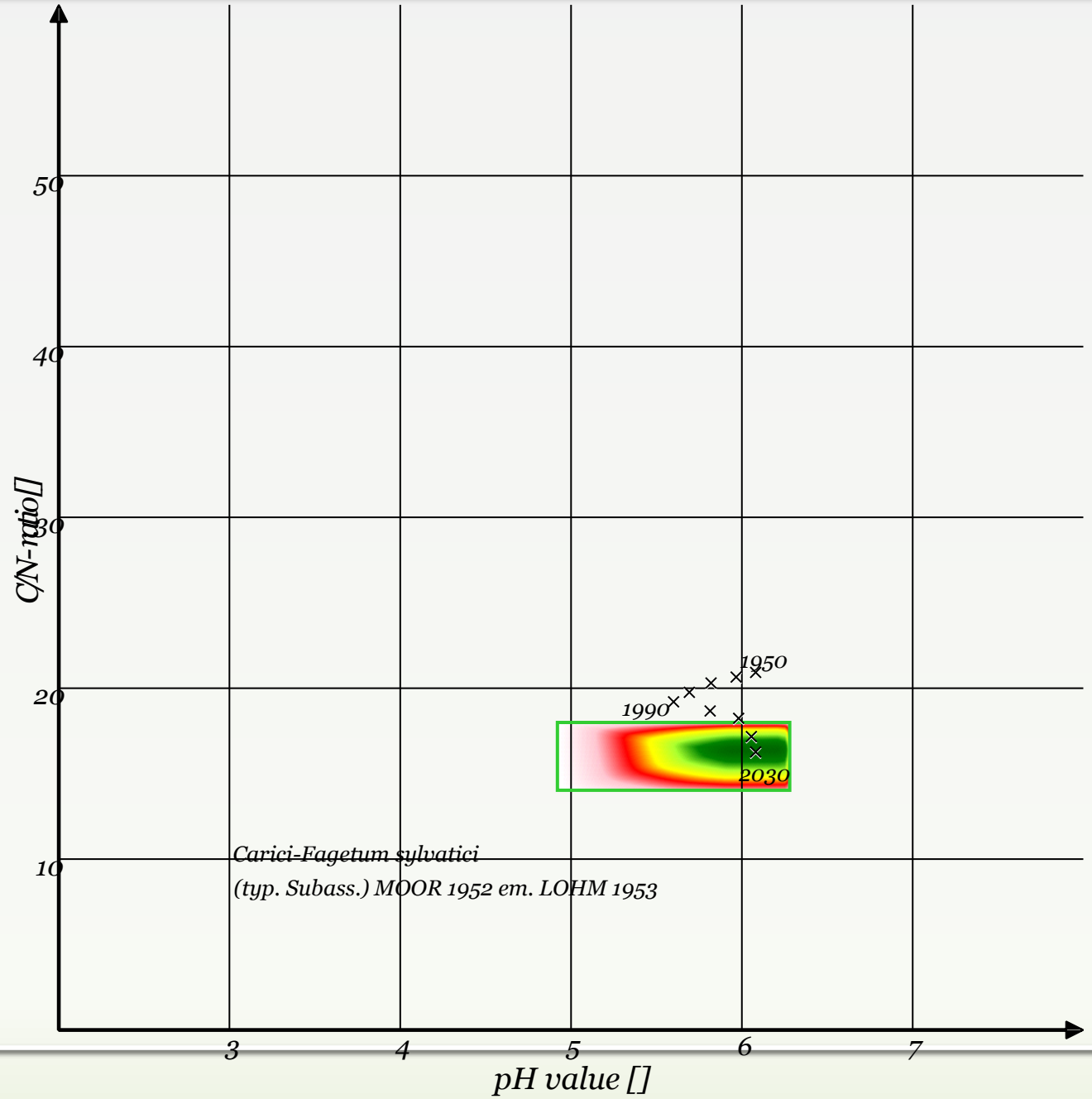
BERN Model: Possibility distribution function of constant species

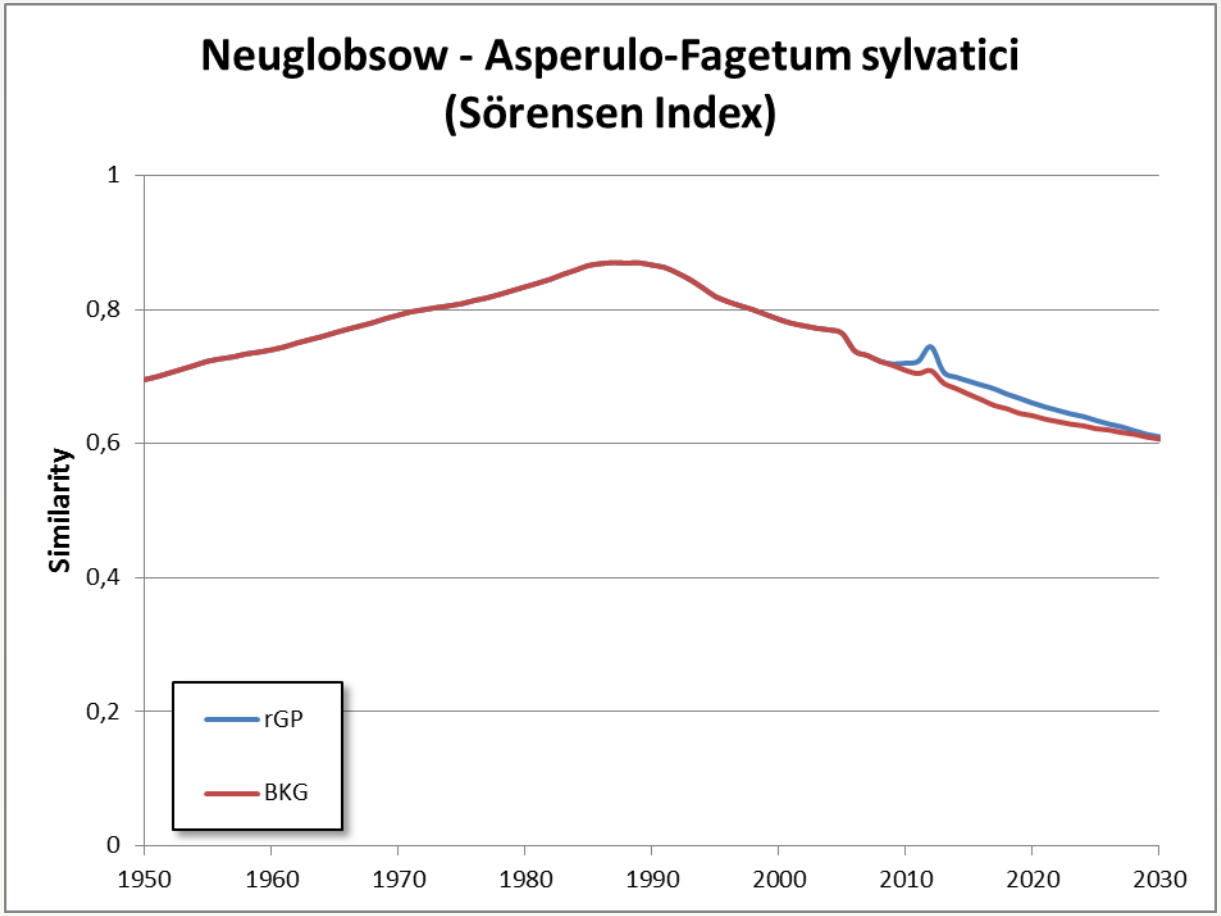


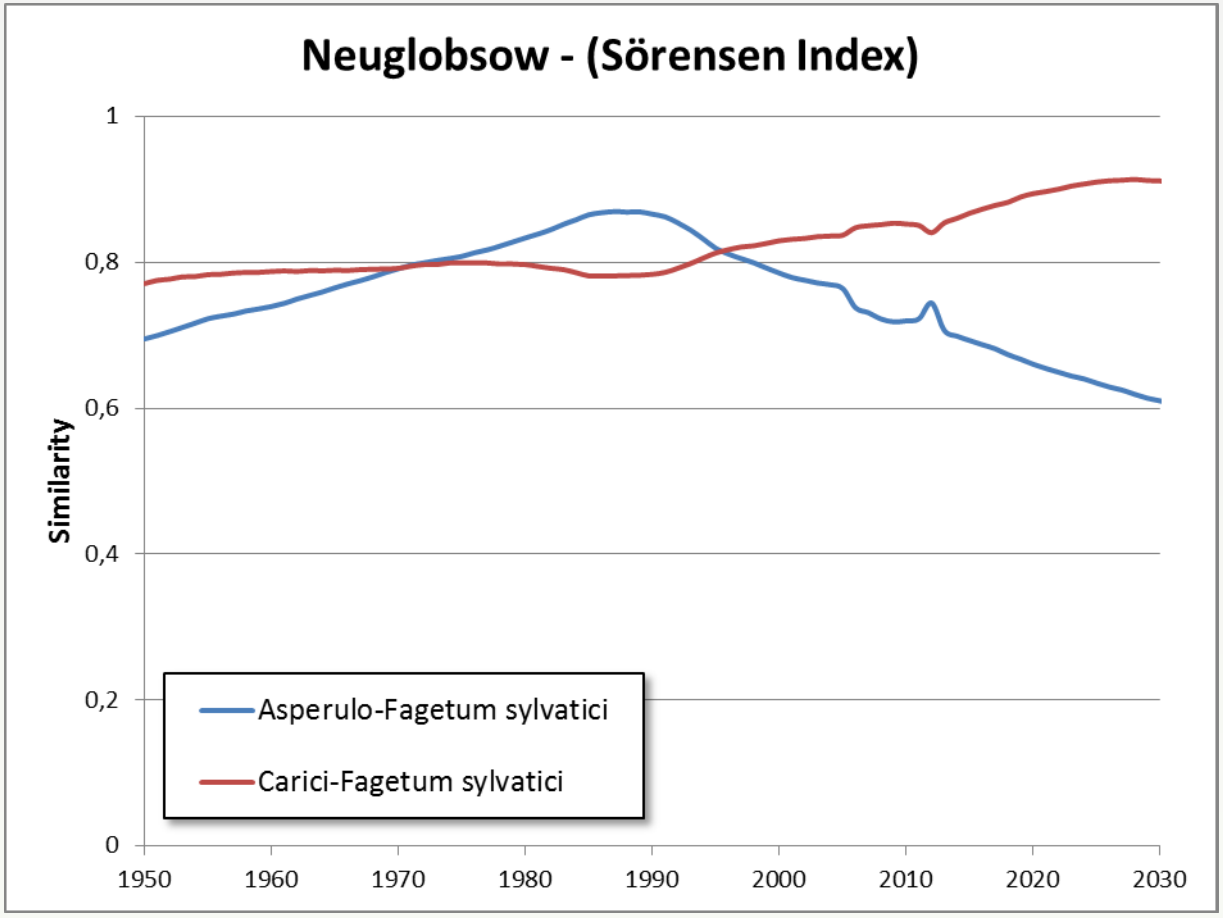

C/N-ratio
50
40
30
20
10
3
4
5
6
7
pH Wert []
1990
Asperulo-Fagetum sylvatici
(Dryopteris-Subass.) SCAM. 1967


50
40
30
20
10
C/N-ratio []
3
4
5
6
7
pH value []
1950
1990
2030


50
40
30
20
10
C/N-ratio []
3
4
5
6
7
pH value []
1950
1990
2030
Fagus sylvatica


50
40
30
20
10
C/N-ratio []
3
4
5
6
7
pH value []
1950
1990
2030
Carici-Fagetum sylvatici
(typ. Subass.) MOOR 1952 em. LOHM 1953


Neuglobsow - Asperulo-Fagetum sylvatici
(Sörensen Index)
Similarity
1
0,8
0,6
0,4
0,2
0
1950
1960
1970
1980
1990
2000
2010
2020
2030
rGP
BKG


Neuglobsow - (Sörensen Index)
Similarity
1
0,8
0,6
0,4
0,2
0
1950
1960
1970
1980
1990
2000
2010
2020
2030
Asperulo-Fagetum sylvatici
Carici-Fagetum sylvatici

Lessons learned so far:

Outlook:

- Continue the work
- Extent to other sites (other networks)
- Formalize needed input data and models for such exercises

Many thanks to Burkhard Beudert and Hubert Schulte-Bisping!

Thank you for your attention

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