

Welcome to Boudry

Montagne
de Boudry

Creux du Van

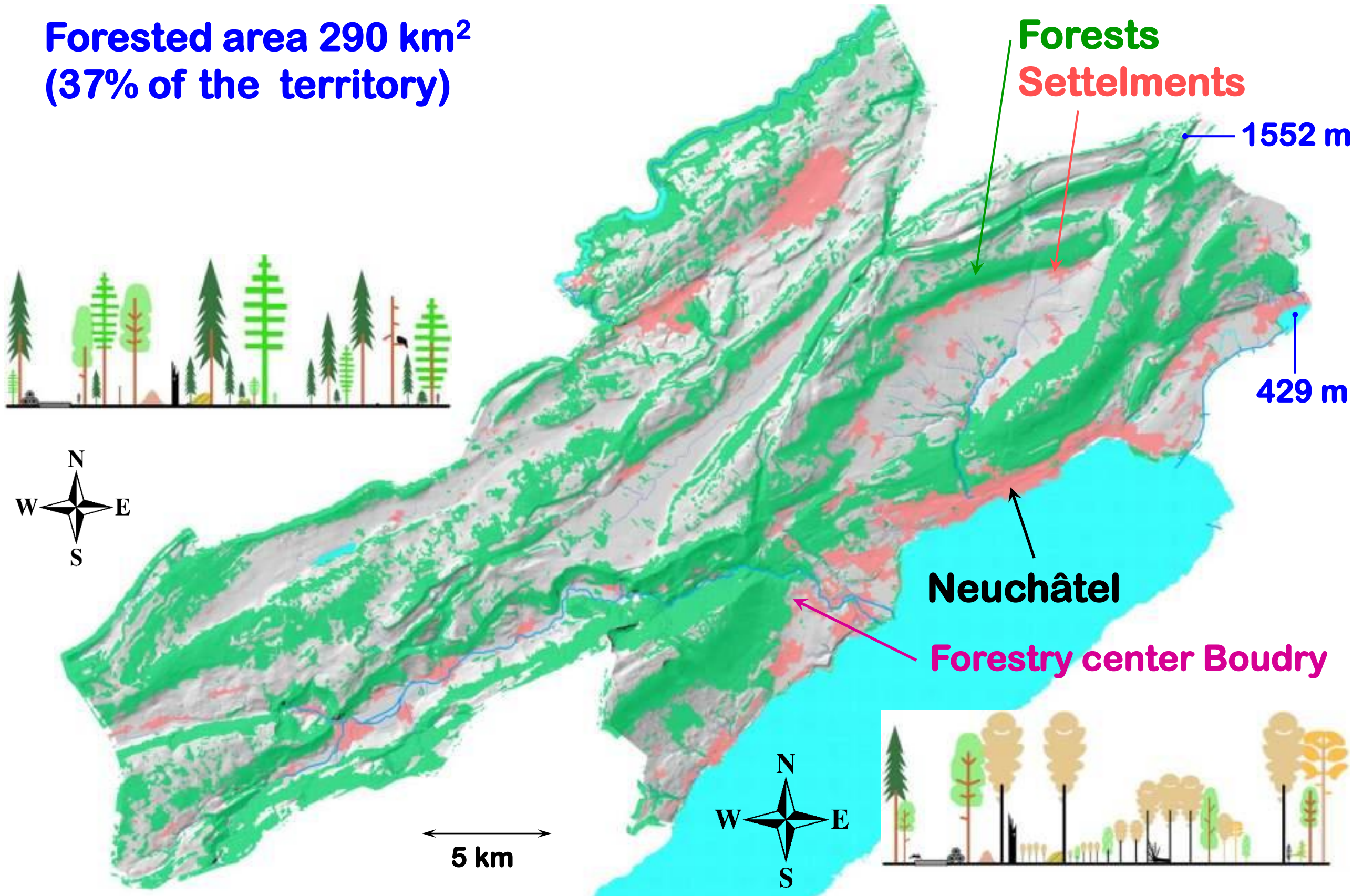
Gorges
of the
Areuse

Forestry
center

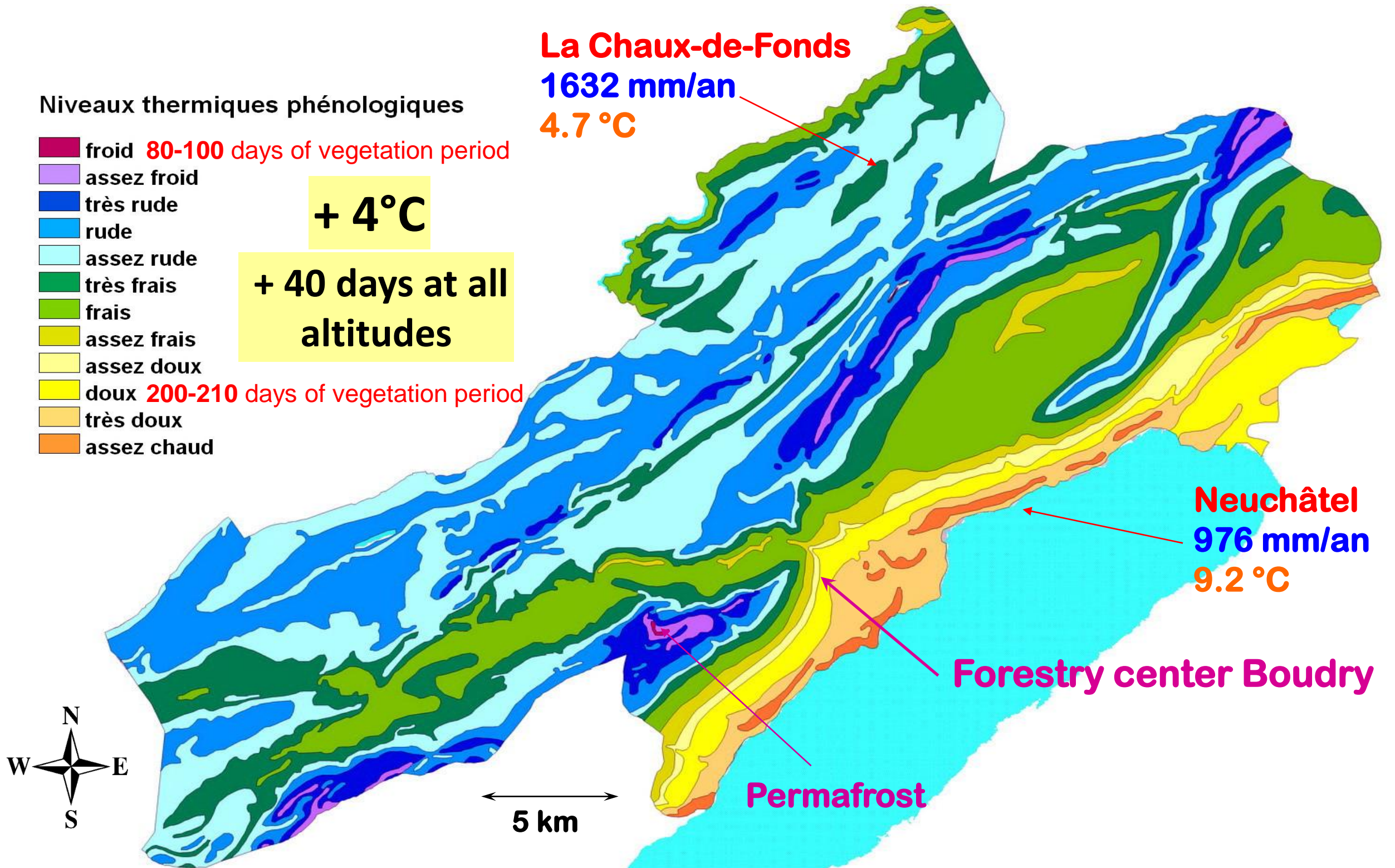


Geographical overview on the forest distribution

Forested area 290 km²
(37% of the territory)



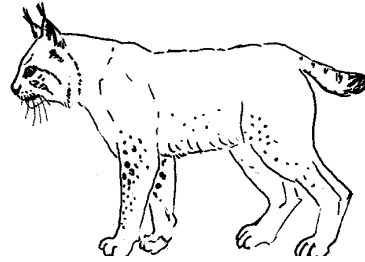
Today, a contrasted climate...



Complex living space

28 different site types

- 01. Chênaie à charme
- 02. Frênaie à érable s.l.
- 03. Aunaie s.l.
- 04. Chênaie buissonnante
- 05. Chênaie à gesse noirissante
- 06. Forêt mixte à tilleul
- 08. Hêtraie à luzules
- 09. Hêtraie à laiches
- 10. Mosaïque ou intermédiaire: H. à Luzules/ H. à Laicl
- 11. Hêtraie typique
- 12. Hêtraie à sapin
- 13. Hêtraie à érable
- 14. Hêtraie à soslérie
- 15. Hêtraie à tilleul
- 16. Erablaie à alisier
- 17. Erablaie à reine des bois
- 18. Erablaie à corydale
- 19. Erablaie à langue de cerf
- 20. Sapinière à prêle
- 21. Pessière à sphaignes
- 22. Pinaie à sphaignes
- 23. Pessière à asplénium
- 24. Pinaie à lycopode
- 25. Pinaie à daphné des alpes
- 26. Pinaie à calamagrostide, à molinie
- 27. Mosaïque de Fagion et de Vaccinio-piceion
- 28. Mégaphorbiaie



www.ne.ch/fne



Short forest chronology

before 1850	Overuse , deforestation, clear cuts, cattle pasture
1869	First cantonal forest law rules harvesting, avoids deforestation, limits pasture in forest.
1880	Henry Biolley (1858-1939) introduces treatment inspired from nature (cultural plentering).
1960	phytosociology steers silviculture to respect natural sites and potentialities of every site.
1996	New cantonal law . Maintenance of biodiversity is included to the three former other functions : protection, yield, recreation.
2001	Sylvicultural principles set rules of application ensuring respect of forest as heritage.
2003	Cantonal concept of forest preserves .
2020	Silviculture and climate change , recommendations to forest owners and managers.

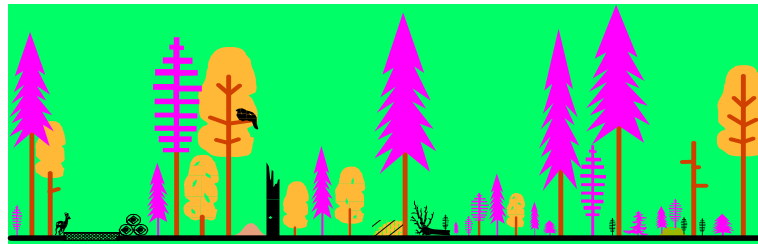
Main structures produced by different treatments

Deliberately not doing the same everywhere

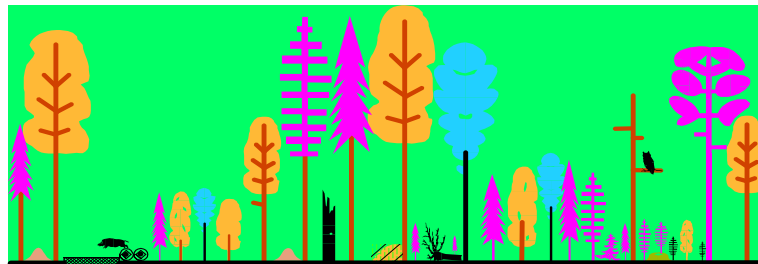
☞ **Stem by stem
plenter forest**



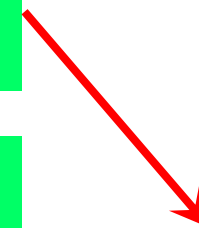
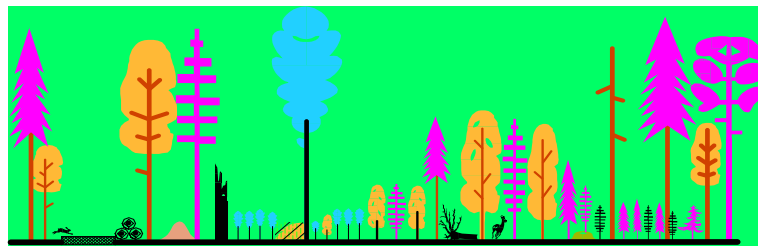
☞ **Group plenter forest**



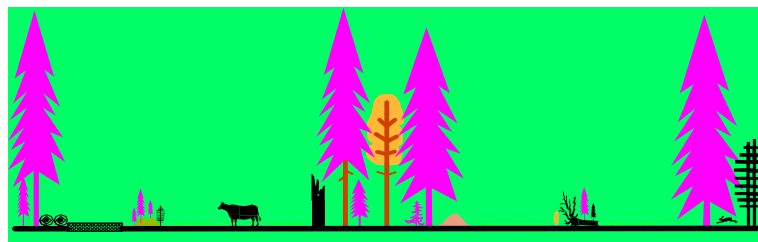
☞ **Irregular mosaic forest**



☞ **Irregular shelterwood
with expanded groups**

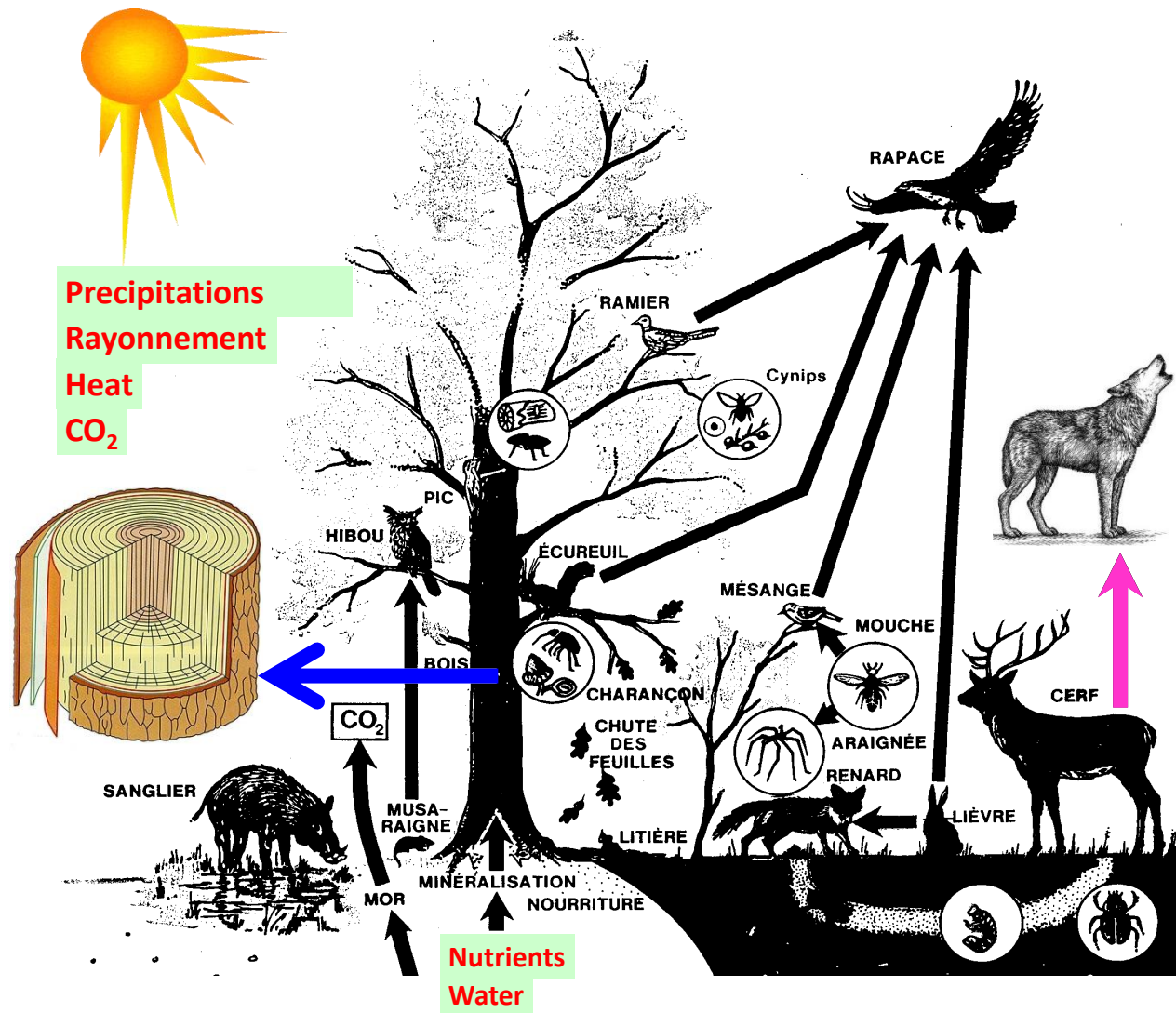


☞ **Pastured forest**



Combining the different structures enhances diversity

Forest is a fascinating, multitalented system



« As more complex the forest is – regarding mixtures, structures, microhabitats, interfaces – as more it is resistant, adaptativ, multifonctional, user-friendly and productive at long term ».

« Biodiversity is the life insurance of forest ecosystems ».

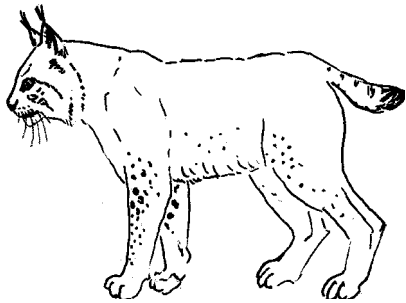
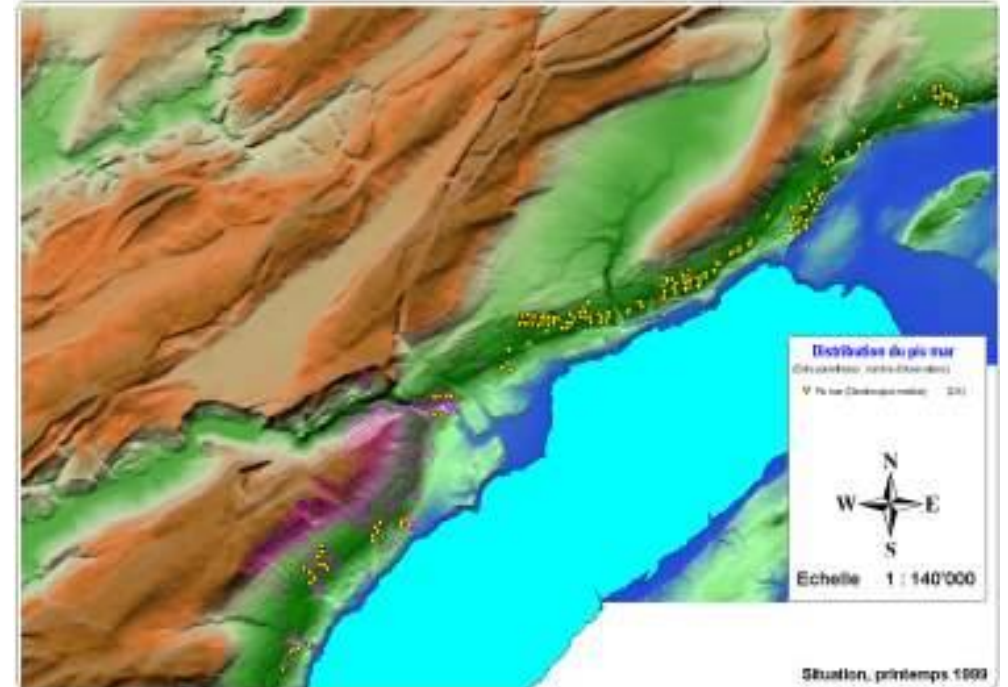
Promoting rares species

Bonasa bonasia



Sorbus torminalis

Distribution du pic mar sur le littoral neuchâtelois



Lucanus cervus



Castor fiber Beaver

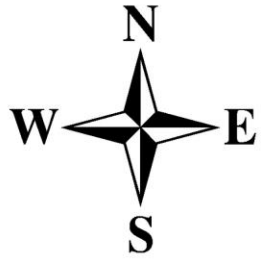


Epipogium aphyllum



Dendrocopos medius

Excursion



0 200 400 600 m

1. 11:30-12:15
Back to the future: lessons learnt from past-perturbations : plantation with integration of natural regeneration

①

Forestry center Boudry
12:15-13:15 Lunch

2. 13:45-14:30
Sylvicultural measures to enhance habitats for birds

②

③

3. 14:45-15:30
Forest reserves and old growth trees "islands", impacts of climate change to biodiversity. Tree App to identify climate fit tree species.

BVX35

COD25

BDY21

Montagne de Boudry

②

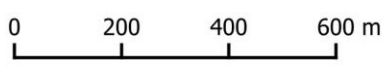
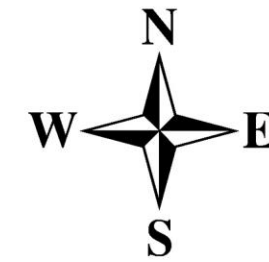
③

①

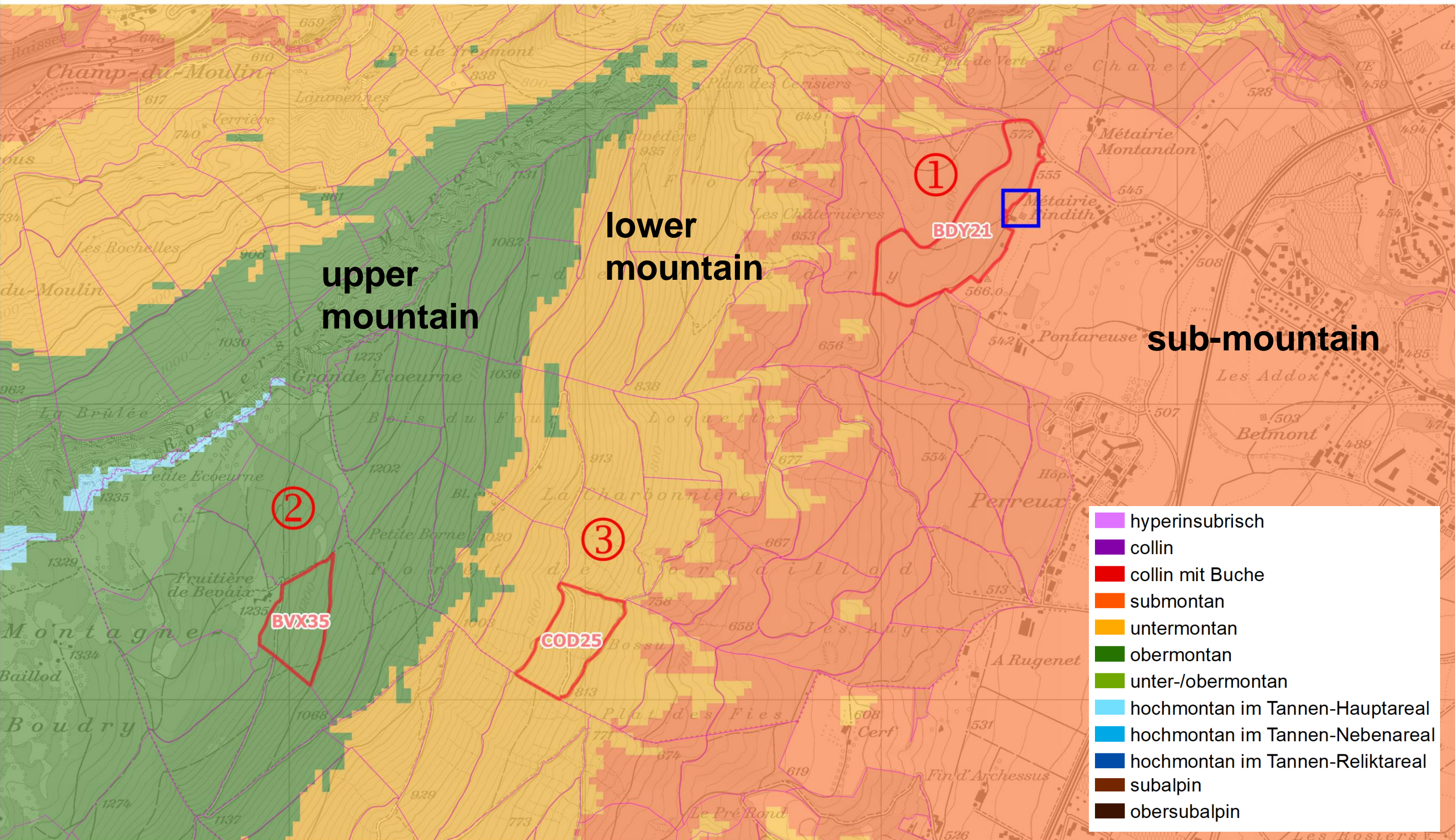
40 tree species inventoried (DBH > 17.5 cm)

7th EFI-Meeting in Neuchâtel, Switzerland

Excursion, wednesday 27th October 2021



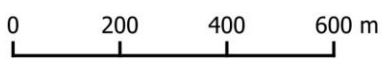
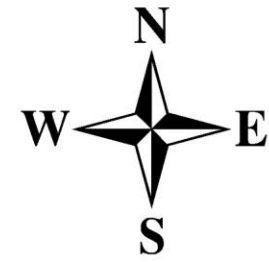
Altitudinal belts 1995



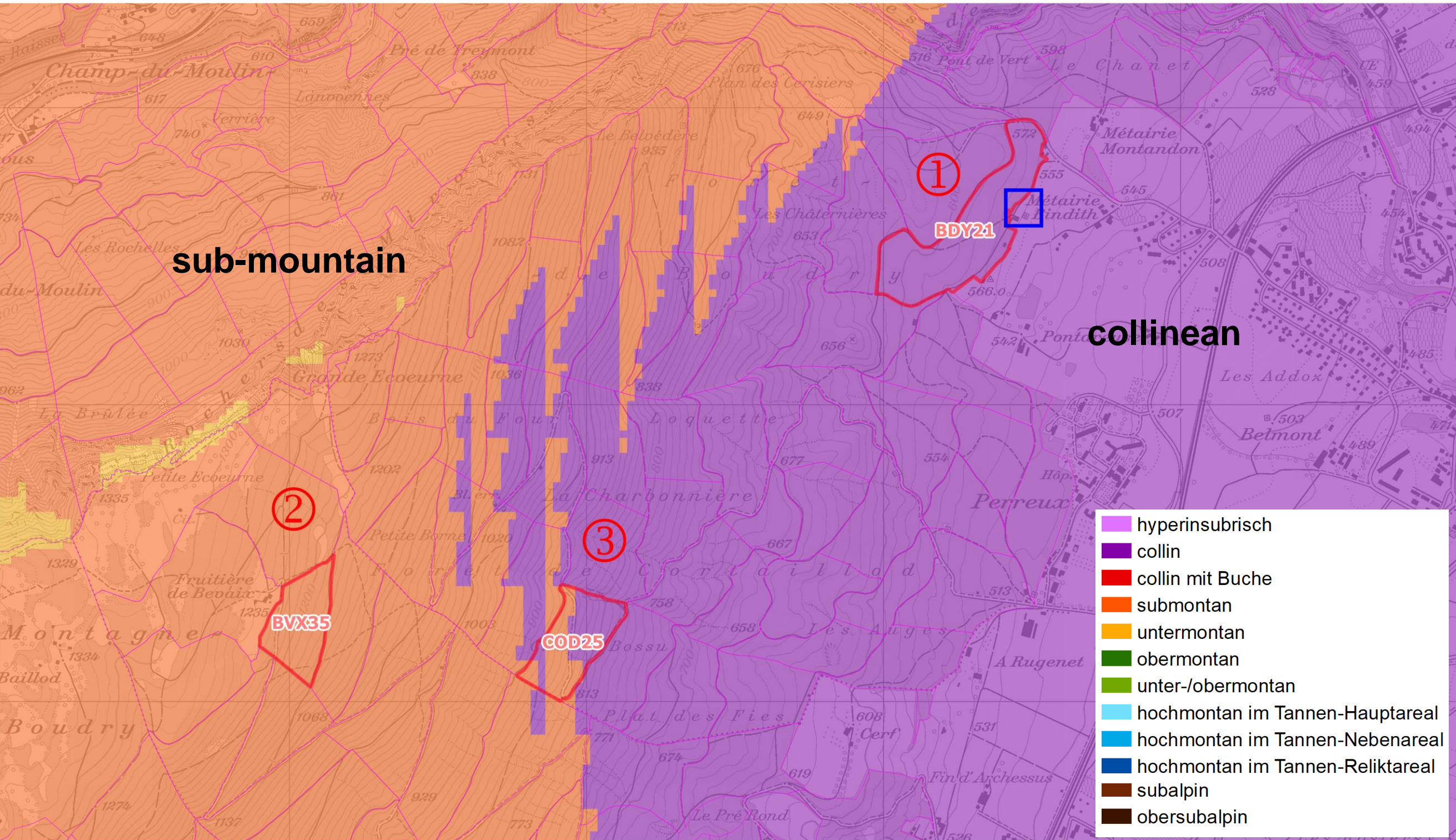
- hyperinsubrisch
- collin
- collin mit Buche
- submontan
- untermontan
- obermontan
- unter-/obermontan
- hochmontan im Tannen-Hauptareal
- hochmontan im Tannen-Nebenareal
- hochmontan im Tannen-Reliktareal
- subalpin
- obersubalpin

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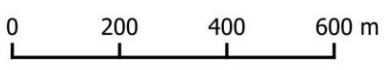
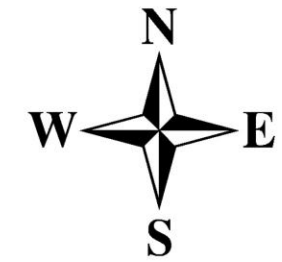


Altitudinal belts 2085, «Moderate» climate change

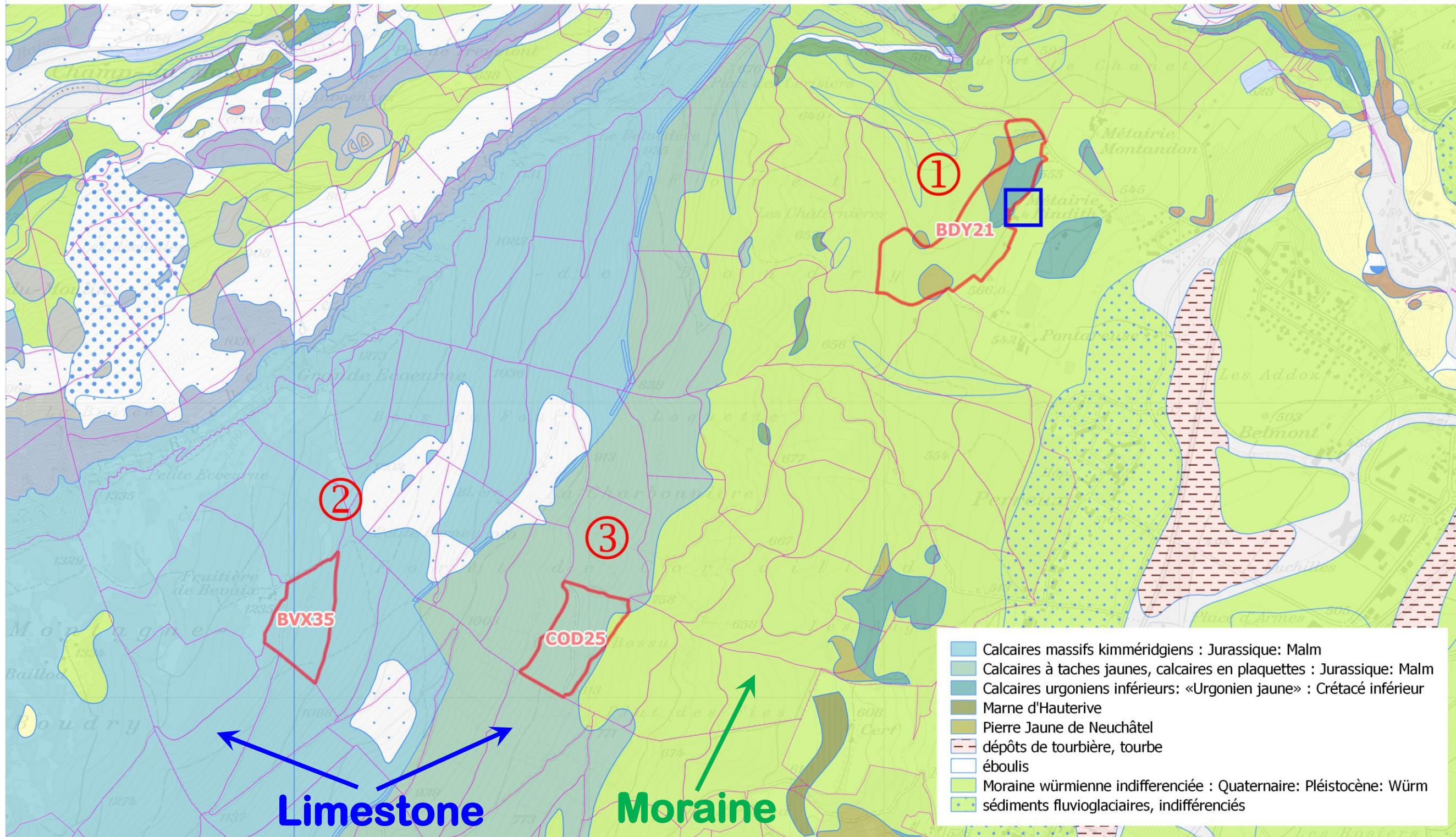


- hyperinsubrisch
- collin
- collin mit Buche
- submontan
- untermontan
- obermontan
- unter-/obermontan
- hochmontan im Tannen-Hauptareal
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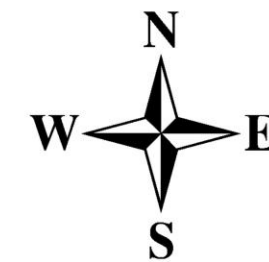


Geological map



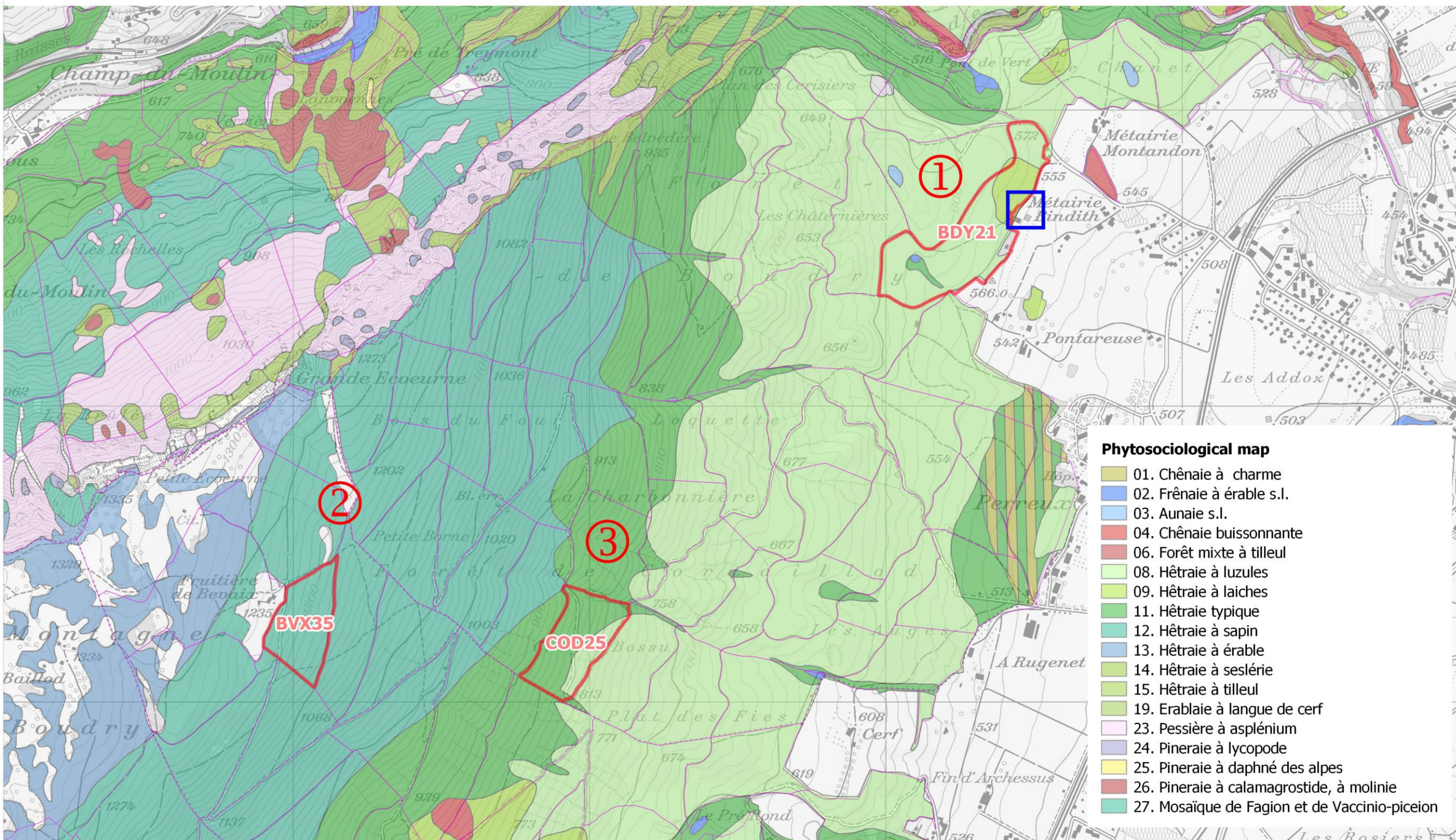
- Calcaires massifs kimméridgiens : Jurassique: Malm
- Calcaires à taches jaunes, calcaires en plaquettes : Jurassique: Malm
- Calcaires urgoniens inférieurs: «Urgonien jaune» : Crétacé inférieur
- Marne d'Hauterive
- Pierre Jaune de Neuchâtel
- dépôts de tourbière, tourbe
- éboulis
- Moraine würmienne indifférenciée : Quaternaire: Pléistocène: Würm
- sédiments fluvioglaciaires, indifférenciés

7th EFI-Meeting in Neuchâtel, Switzerland Excursion, wednesday 27th October 2021



0 200 400 600 m

Phytosociological map (site types)



Phytosociological map

- 01. Chênaie à charme
- 02. Frênaie à érable s.l.
- 03. Aunaie s.l.
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- 15. Hêtraie à tilleul
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- 23. Pessière à asplénum
- 24. Pineraie à lycopode
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- 26. Pineraie à calamagrostide, à molinie
- 27. Mosaïque de Fagion et de Vaccinio-piceion

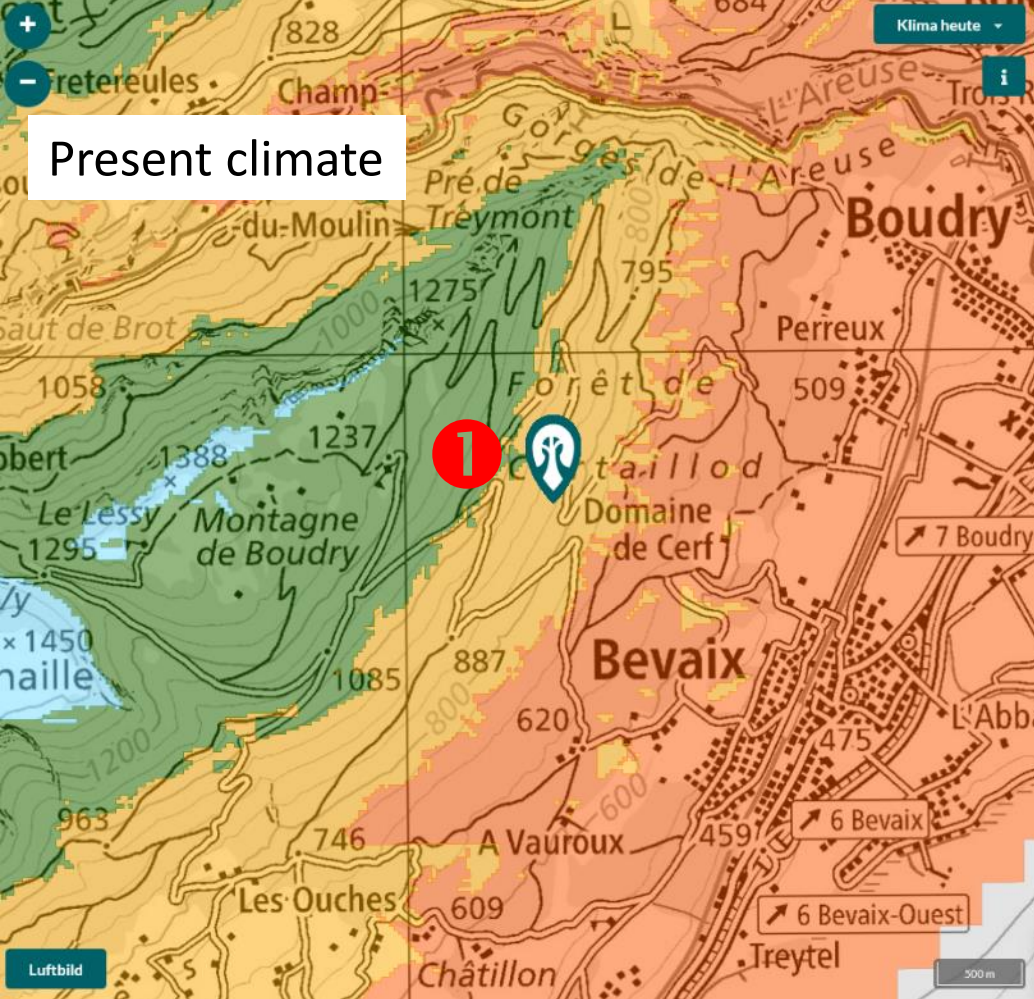
Tree App

Goal and approach of the Tree App (www.tree-app.ch)

- **Tree species recommendation** for any spot in Switzerland's forests
- Support for determining the site type (forest community)

Approach

- Based on the existing, well established classification of forest site types in altitudinal belts and biogeographic regions
- Modelling of climate-induced shifts of altitudinal belts for 2 climate projections (period 2070-2099 in comparison to 1981-2010), April to September)
- Moderate/marked change: +3.1 °C, -2 % precipitation vs. +4.3 °C, -19%



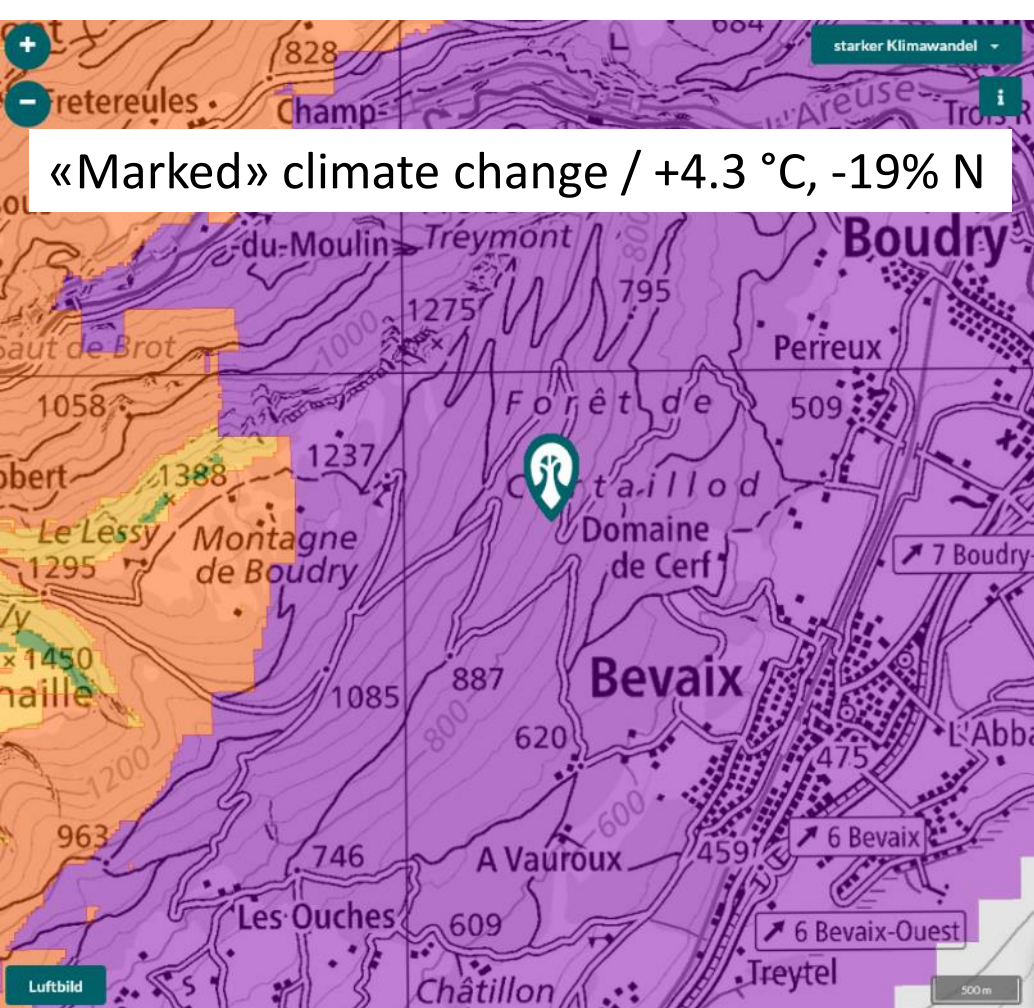
2'550'870, 1'199'119

Standortstyp **2**

12e - Trockener Binkelkraut-/Zahnwurz-Buchenwald

Übergangsstandort

Nein Ja



Empfehlung **3**

12e untermontan
Klima heute

10a submontan
mässiger Klimawandel

10a collin collin
starker Klimawandel

↑ Recommended tree species

✓ conditionally recommended tree species

↓ endangered tree species

⚠

Feldhorn Esche[†] Traubeneiche Sommerlinde
Schneeballblättriger Ahorn Spitzahorn Hagebuche
Winterlinde
Speierling Robinie

Hängebirke^{*} Stechpalme Waldföhre Zitterpappel^{*} Kirschbaum Salweide^{*}

Mehlbeere Vogelbeere Elsbeere Eibe Schwarzföhre Bergahorn Buche
Nussbaum Wildapfel Blumenesche Hopfenbuche Wildbirne Zerreiche Flaumeiche Feldulme[†]
Blauglockenbaum Steineiche

Tanne Lärche Fichte Stieleiche Bergulme[†]

Götterbaum

In Zukunft zusätzlich passende Baumarten einblenden

Standort Empfehlung Infos

3 Synthetic recommendation, as a synthesis of the recommendations from those for today's site type (12e), that for moderate climate change (10a) and that for strong climate change (10a colline).
 ↑ Recommended tree species, ✓ conditionally recommended tree species, ↓ endangered tree species.





Thank you for
your attention
Question(s) ?