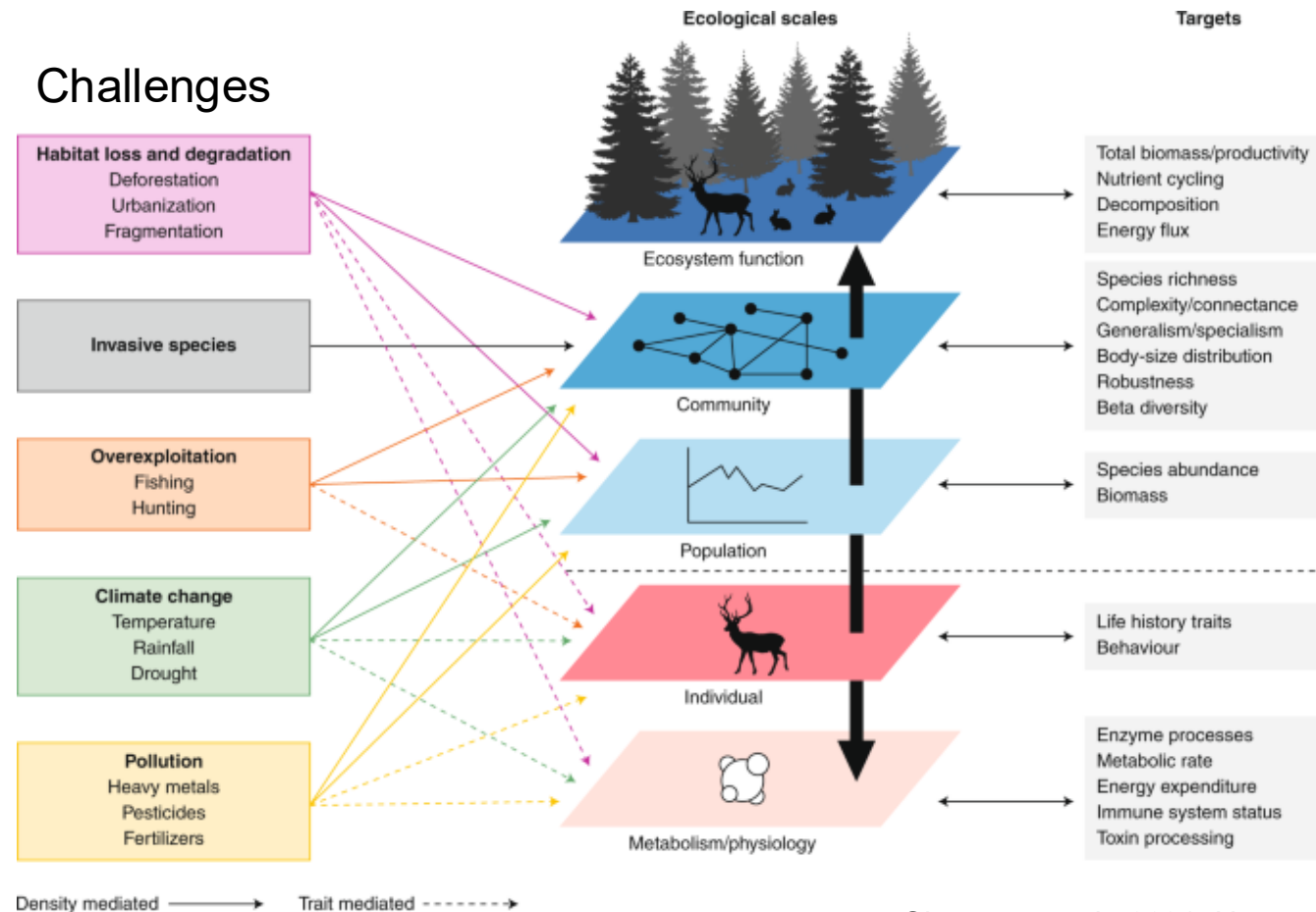


Applied Ecology

Introduction

Applied Ecology

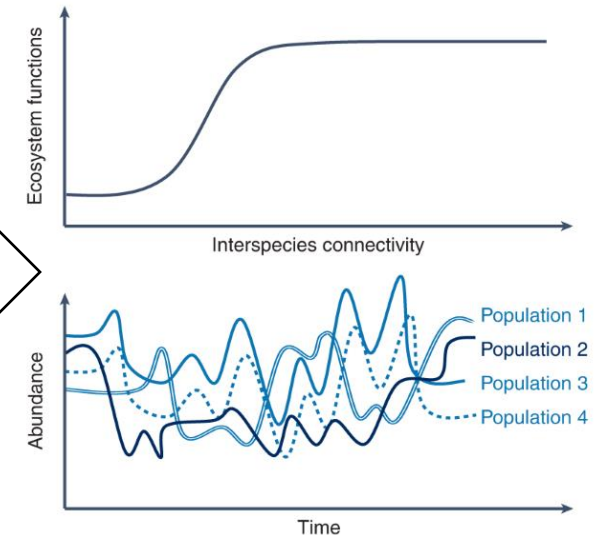
Applied ecology = the application of the science/concepts of ecology to real-world (usually management) questions.



Applied Ecology

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- Effective management of natural ecosystems depends on ecological knowledge.
- Applied ecologists use observation, experimentation and modelling.



Applied Ecology

Applied ecology = the application of the science/concepts of ecology to real-world (usually management) questions.

- Effective management of natural ecosystems depends on ecological knowledge.
- Applied ecologists use observation, experimentation and modelling.

Example of applications:

- Agro-ecosystem management
- Biodiversity conservation
- Ecosystem restoration
- Environmental engineering
- Invasive species management
- Protected areas management
- Wildlife management



Why should we manage ecosystems?



food production

slope stability

fire prevention

biodiversity

pollination

shelter for life stock

fodder production

carbon sequestration

water storage

tourist attraction

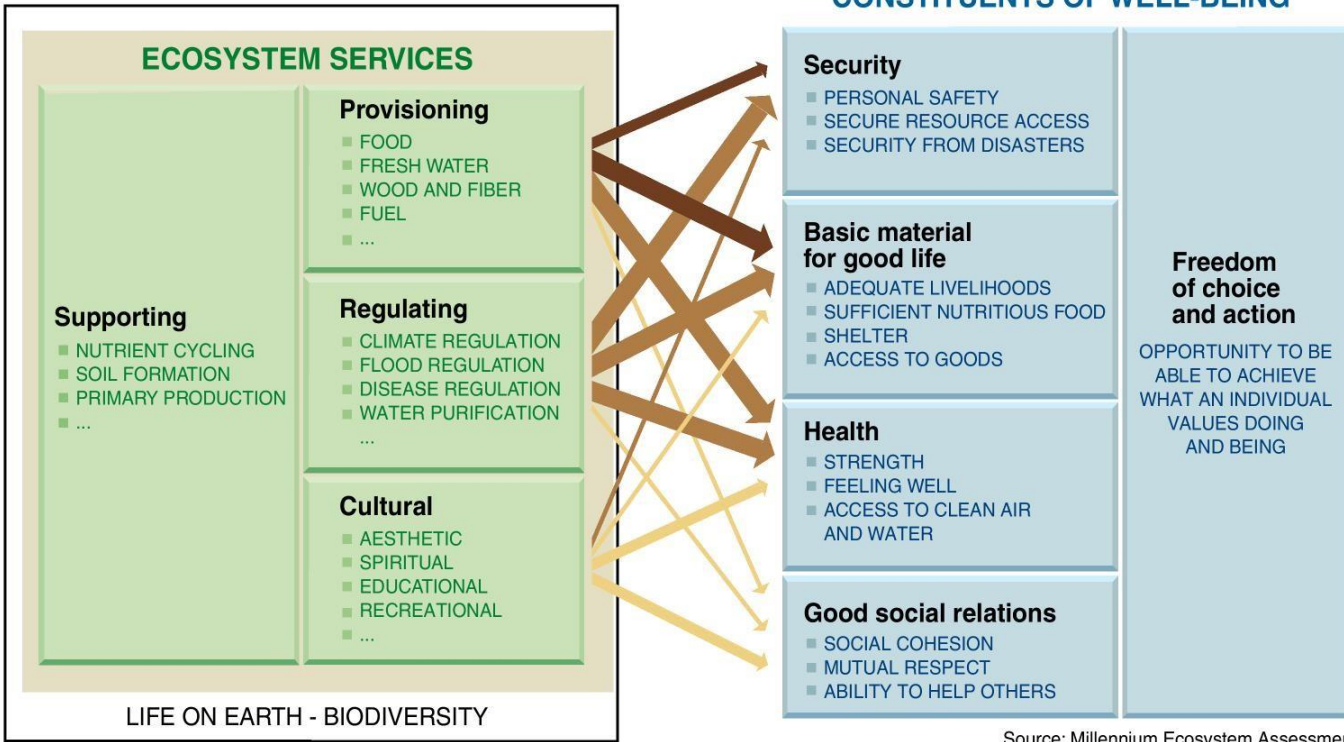
game reserve

fibre production

recreation

stabilising micro-climate

inspiration



Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Objectives of this course

(1) Analyze real-world cases

(2) Determine the importance of biodiversity on ecosystem multifunctionality in a field study

(3) Participate in field excursions and interact with applied ecologists

Objectives of this course

(1) Analyze real-world cases

(2) Determine the importance of biodiversity on ecosystem multifunctionality in a field study

(3) Participate in field excursions and interact with applied ecologists

Objectives of this lecture

(1) Analyze real-world cases

- **10 groups of 5 students** will work on a case study, which they will have to present at the end of the lecture in front of the class. All groups have to ask questions and participate in the discussion of the other groups.

Objectives of this lecture

(1) Analyze real-world cases

- **10 groups of 5 students** will work on a case study, which they will have to present at the end of the lecture in front of the class. All groups have to ask questions and participate in the discussion of the other groups.
- **Each group needs to develop their own case study.** We will provide examples in the class throughout the semester to help you prepare your own case.

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→ Register your group on Moodle [this week](#)



Group Choice

Here you can sign up for one group together with other students. **Groups have 5 participants maximum.** The groups will work together on their case study, fieldwork and report.

Objectives of this lecture

(1) Analyze real-world cases

- **10 groups of 5 students** will work on a case study, which they will have to present at the end of the lecture in front of the class. All groups have to ask questions and participate in the discussion of the other groups.
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- **Grading of the presentation (50% of the total grade with a 50/50 ratio for individual/group performance):** Students will be evaluated on the quality of the slides, especially their clarity, the quality of the research they did to develop their case, and the quality of the expression. Students will also receive feedbacks from their peers after the presentation.

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Deadline 1: Send the selected topic for your case to the teachers by **07/10/2025 latest**, so that we can provide feedback (about ½ page).

Objectives of this lecture

(1) Analyze real-world cases

- **10 groups of 5 students** will work on a case study, which they will have to present at the end of the lecture in front of the class. All groups have to ask questions and participate in the discussion of the other groups.
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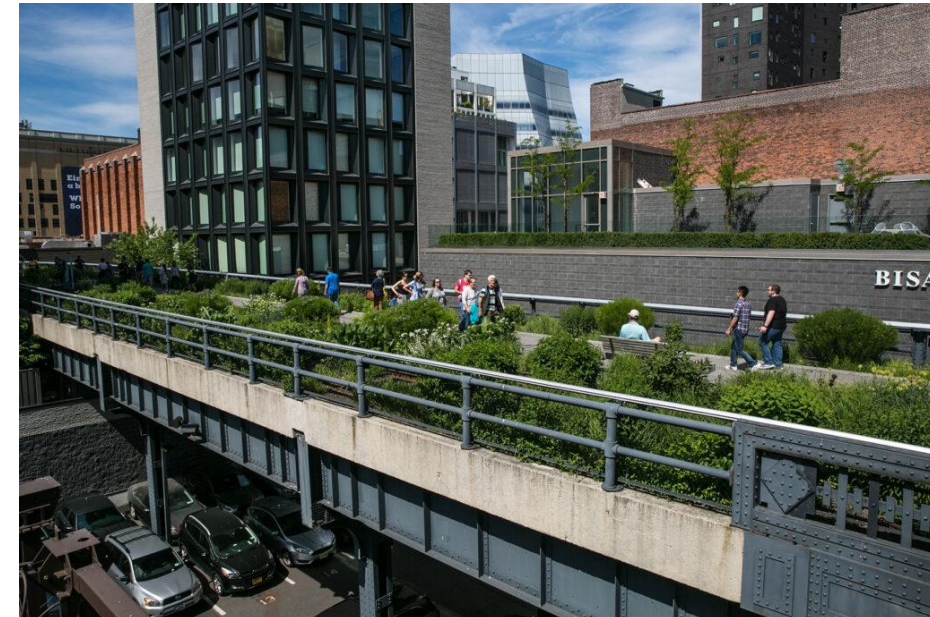
Deadline 2: Send your presentations to the teachers (with your names) on the day of your presentation latest (i.e., last two weeks of the course).

Objectives of this lecture

(1) Analyze real-world cases

Choosing your case study:

- Select a real case (not hypothetical) with a strong ecological basis.
- It should show how ecological processes (e.g., nutrient cycling, species interactions, disturbance regimes, succession, population dynamics, ecosystem services) are important for understanding what is happening.
- It should also illustrate how these processes are susceptible to human activities (e.g., land use, pollution, climate change, exploitation of resources, introduction of invasive species).



Objectives of this lecture

(1) Analyze real-world cases

Choosing your case study:

- Examples could range from restoration projects, conservation conflicts, invasive species management, urban ecology interventions, agricultural landscapes, marine protected areas, or climate-related ecosystem shifts.
- Make sure there is enough information available (scientific literature, reports, data) for you to explain and analyze in depth the case.



Objectives of this lecture

(1) Analyze real-world cases

Your presentation should cover the following elements clearly and concisely:

1. Context of the case study (What and where)

- Where is it taking place?
- What is the ecological setting (habitat type, key species, ecosystem characteristics)?
- What human activities are involved?
- What makes this case important or emblematic?

2. Key ecological principles (How ecology explains what happens)

- Which ecological processes are central to this case? (e.g., trophic cascades, competition, resilience, nutrient dynamics, succession)
- How do these processes operate in this ecosystem?
- How are they being altered or challenged by human actions?

Objectives of this lecture

(1) Analyze real-world cases

Your presentation should cover the following elements clearly and concisely:

3. Broader consequences (Why it matters beyond the site/study/ecosystem)

- What are the ecological, social, or economic consequences?
- Does this case have implications for biodiversity conservation, ecosystem services, climate mitigation, or policy?
- Are there lessons for other ecosystems or regions?

4. Potential solutions and management options

- What interventions could be proposed or implemented?
- What are their benefits (ecological improvement, cost-effectiveness, stakeholder acceptance)?
- What are their pitfalls or trade-offs (unintended impacts, social conflicts, limitations in scalability)?

Objectives of this lecture

(1) Analyze real-world cases

Time: 15 minutes presentation + ~15 minutes Q&A.

Format: Use slides (e.g., PowerPoint, Google Slides, etc.) to support your talk with images, maps, diagrams, and concise bullet points.

Depth: Go beyond description—show that you understand the underlying ecological mechanisms and their relevance to human decisions.

Sources: Cite your sources (scientific papers, reports, data) clearly.

Clarity: Keep your presentation well-structured and accessible for your peers.

→ On Moodle [you can find the grading sheet](#)

Objectives of this lecture

Examples of case studies presented during the semester

Case #1: Forest and fire: impact on the local water resources of a mega city



Case #2: Human-made rewilding experiment and the consequences for local fauna



Case #3: Superblocks in Barcelona: How to improve urban green spaces



Objectives of this lecture

Examples of case studies presented during the semester

Case #4: The great green wall of China, consequences for local economies and climate feedback



Case #5: Reintroduction of the wolf



Case #6: Managing the invasion of the windmill palm in Switzerland



Case #1: Forest and fire, impact on the local water resources of a mega city



Melbourne is a growing city with increasing water demand. Though not located in an arid region, water is a highly critical resource, and strong droughts and forest fires caused water levels in the reservoirs of the nearby forested mountainous regions (the main water supply for the city) to strongly decrease.

Case #2: Human-made rewilding experiment and the feedback to local fauna



In the first year of the establishment of the Oostvaardersplassen reserve, a dense willow grove rapidly developed, reducing the value of the habitat. To avoid this, park managers have introduced large herbivores. Many herbivores died during the 2017-2018 winter due to insufficient food. In the face of protests, two-thirds of the red deer population had to be preemptively slaughtered.

Case #3: Superblocks in Barcelona: How to improve urban green spaces



Due to continued urbanisation, cities are becoming larger and denser, and heat up compared to the rural surroundings. Urban green spaces are considered a sustainable solution to ameliorate the urban climate. In densely populated Barcelona, city officials have tried to implement an innovative concept to make the city more livable: Superblocks. However, the project has recently been stopped...

Case #4: The great green wall of China: strategies for a successful dryland restoration



Drylands worldwide have seen an increase in use by humans for food production, expansion of urban areas, etc. This has led to the degradation of drylands around the globe. In northern China, degradation of drylands increase the problem of regular sandstorms that affect large areas in north-east Asia. China has therefore started a huge afforestation program in the 70's to prevent desertification. With mixed success...

Aforestation efforts in the Mu Us Desert. (Photo: Baijitan Nature Reserve)

Case #5: How should we manage the reintroduction of the wolf in Europe?



Around the 20's century, the wolf (*Canis lupus*) has suffered from a deliberate human prosecution, reducing its range to about one-third of its original range. The local eradication of the wolf's population has caused significant impacts in ecosystems since the wolf is considered a key species. Nonetheless, the wolf's reintroduction in some rural areas has caused conflict between wolves and humans.

Case #6: Managing the invasion of the windmill palm in Switzerland



The windmill palm is native to Southeast China and was imported into Europe in the early 1800s as an ornamental plant. In southern Switzerland (Tessin), this species is appreciated and widely planted in individual gardens. The windmill palm is a symbol of the tropics and vacations and is largely used to promote tourism in the region. Unfortunately, since the 2000s, the species has spread in natural ecosystems due to global warming. The spread of the windmill palm in forests leads to a decrease in the regeneration of native species. It also increases landslides, rockfalls, and wildfires risk and magnitude.

Objectives of this course

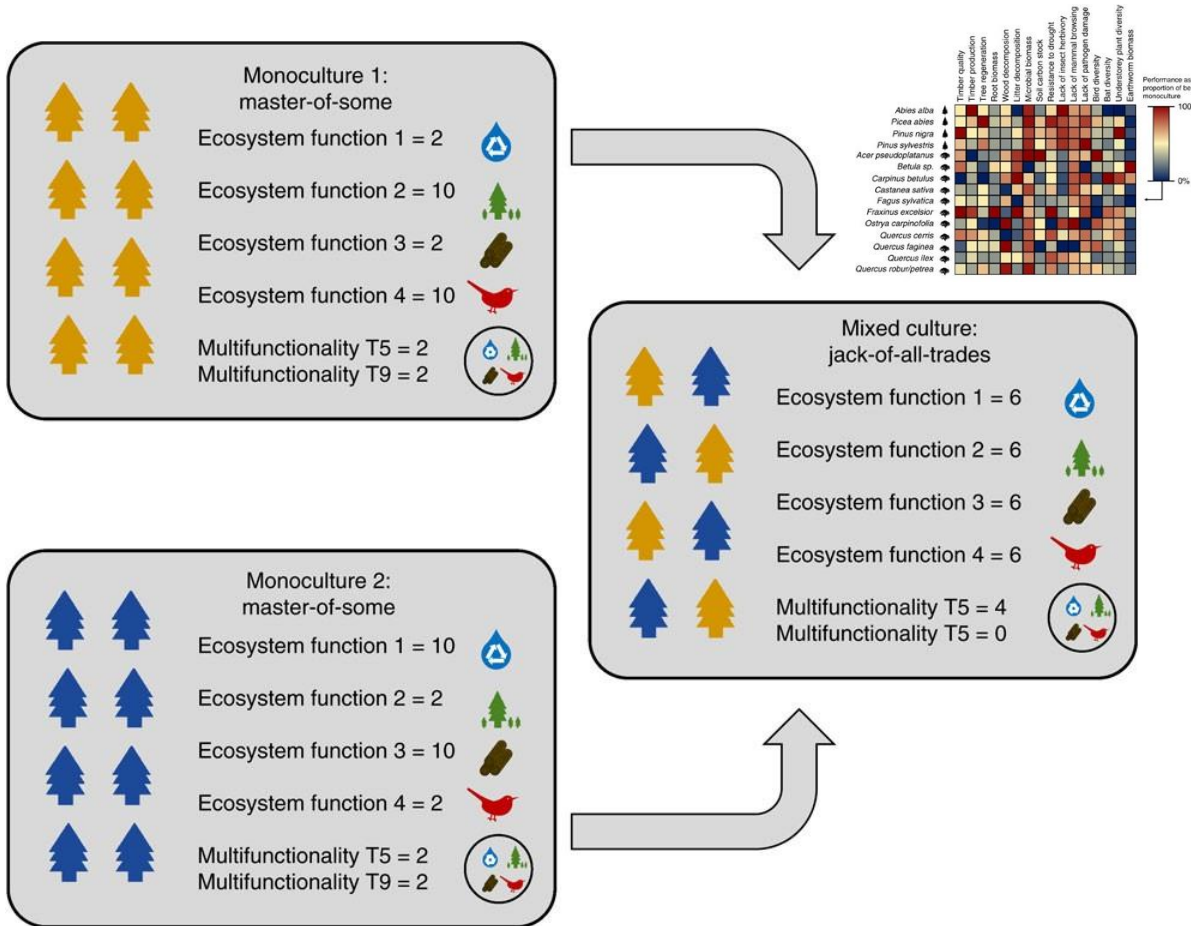
(1) Analyze real-world cases

(2) Determine the importance of biodiversity on ecosystem multifunctionality in a field study

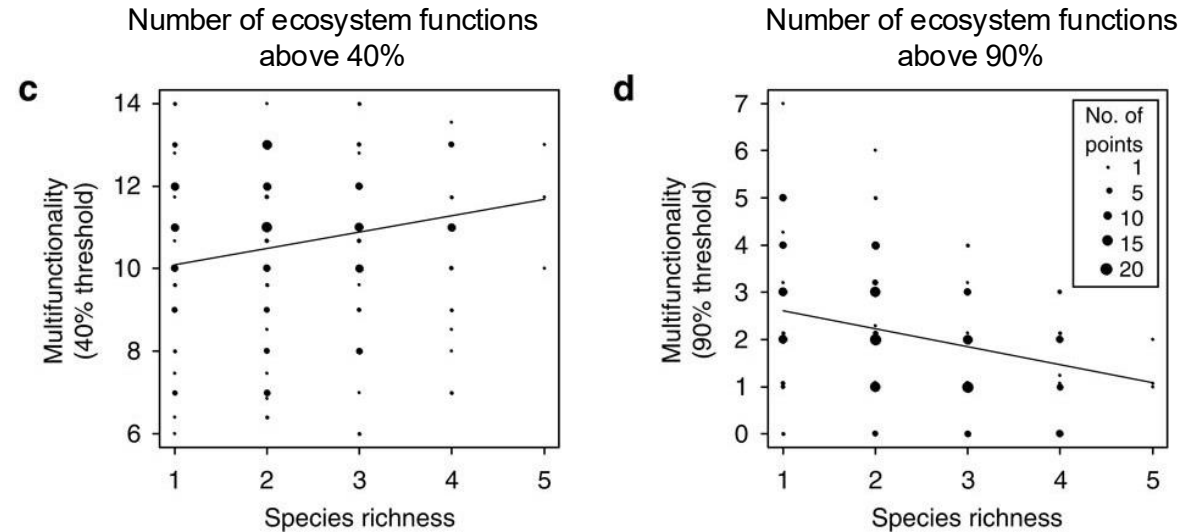
(3) Participate in field excursions and interact with applied ecologists

Objectives of this lecture

(2) Compare the ecosystem services provided by a monoculture plantation vs. a semi-natural forest



Diverse tree communities are jack-of-all-trades but master-of-none



Tree diversity can promote multifunctionality at intermediate levels

Tree diversity reduces multifunctionality at high levels

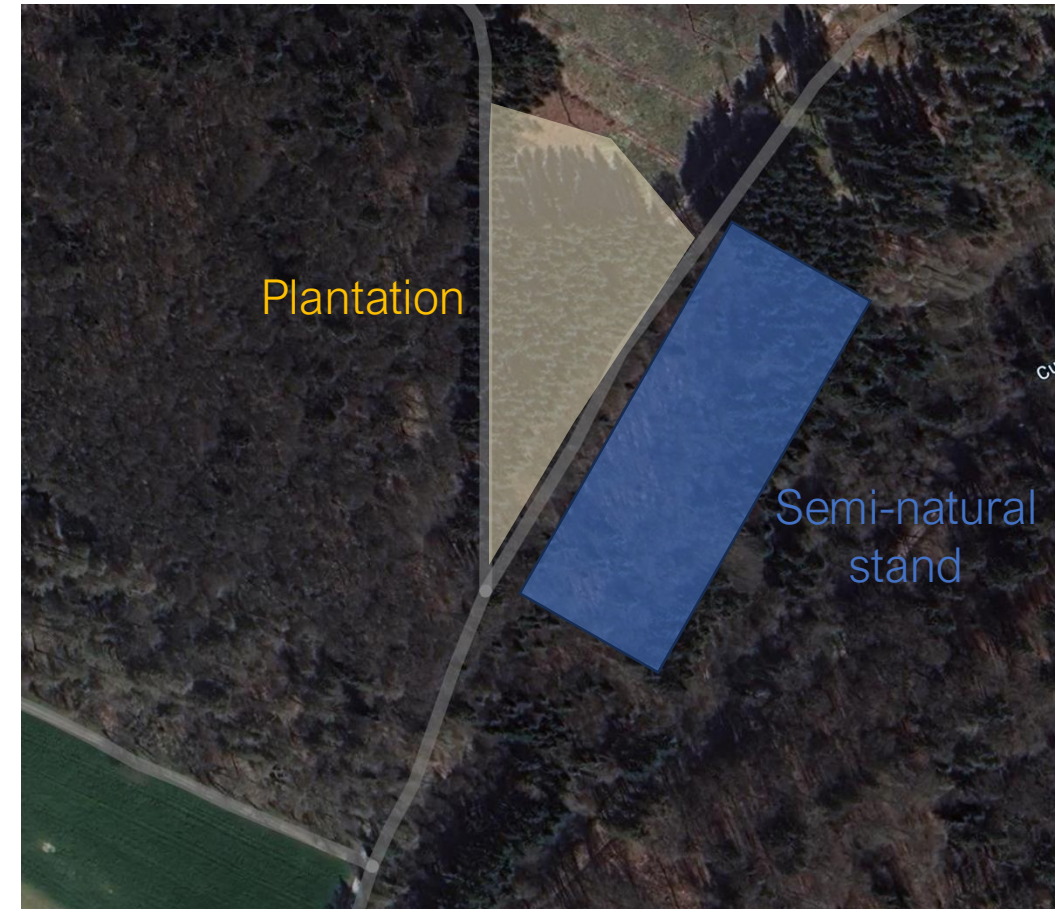
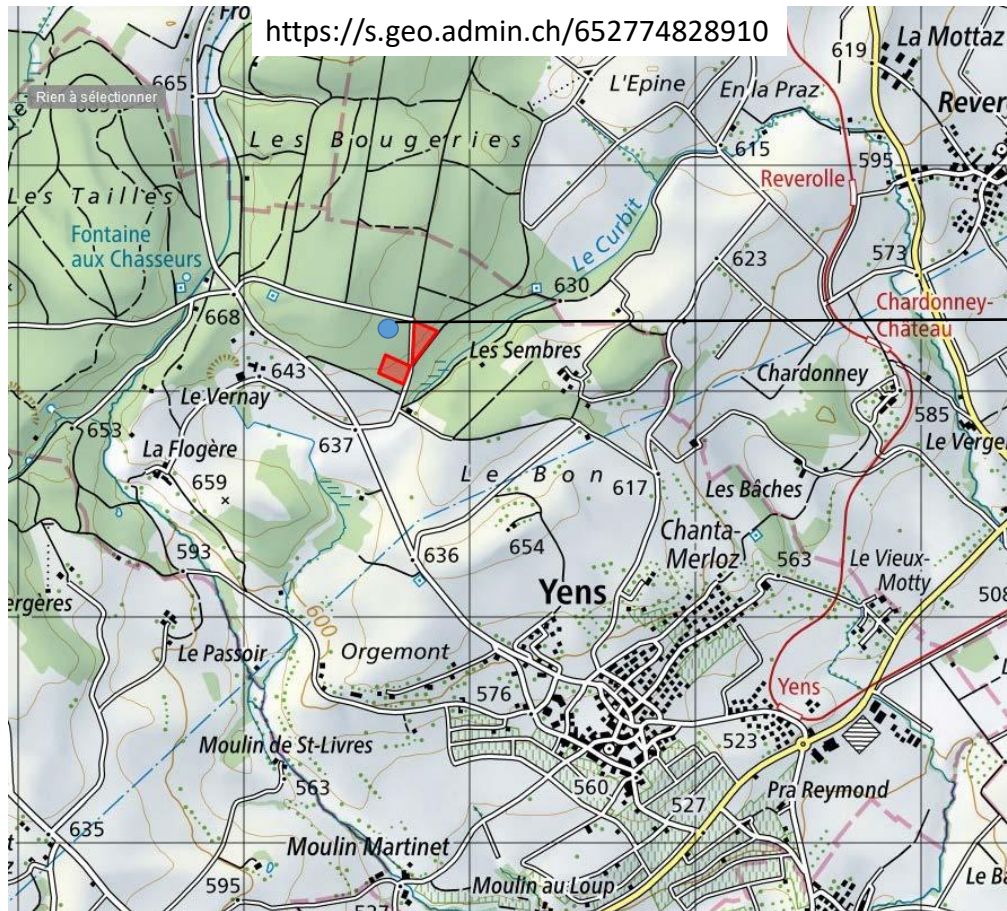
Objectives of this lecture

(2) Compare the ecosystem services provided by a monoculture plantation vs. a semi-natural forest

- **Fieldwork:** You will work in 2 forested sites: 1 tree plantation vs. a semi-natural forest with limited intervention. Students will measure multiple ecosystem services, including a biodiversity index (IBP) and the amount of wood produced. At the end of the fieldwork, you will prepare a report in groups (same groups as in Task #1).

Objectives of this lecture

(2) Compare the ecosystem services provided by a monoculture plantation vs. a semi-natural forest





The plantation site



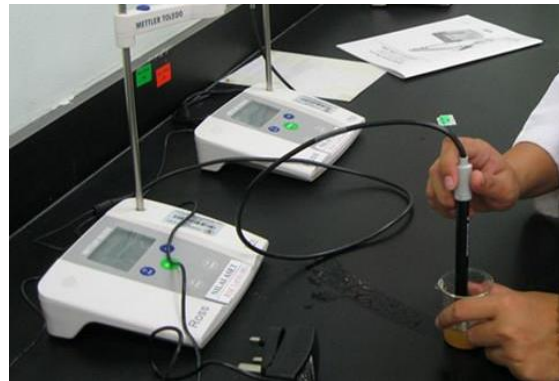
The “natural” forest



Objectives of this lecture

(2) Compare the ecosystem services provided by a monoculture plantation vs. a semi-natural forest

- Potential biodiversity index (IBP)
- Shannon index (H)
- Diameter at breast height (DBH), tree height, and tree density
- Presence of dendro-microhabitats
- Soil pH
- Plot Leaf Area Index (LAI)
- Aboveground wood production



- read the files on Moodle
- Come prepared for fieldwork

Objectives of this lecture

- All groups will select 1 plot of 10 x 10 m in each forest type (2 plots per group in total)
- Measurements will take place over two days
- At the end of the work, all students will upload their data on Moodle so that all students can use them for the analyses (to increase sample size)



Objectives of this lecture

(2) Compare the ecosystem services provided by a monoculture plantation vs. a semi-natural forest

- **Grading of the report (50% of the total grade with 50/50 ratio for the whole group and your individual contribution to the work):** You will be evaluated based on the description of the context (literature review), the presentation of the methods and results (methods and results are separated parts) and the discussion (use the literature to place the results in a wider context by explaining the consequences of the results).
- The report should not exceed 7 pages, excluding the references, and should not have more than 4 figures.
- In the report, students need to explain their individual contribution.

Deadline: By 04/11/25 , at the latest, midnight, you need to send your reports to the teachers.

Go on Moodle for further information

Environmental Sciences and Engineering (SIE) / SIE - Master

Applied ecology

[Course](#) [Settings](#) [Participants](#) [Grades](#) [Reports](#) [More](#) ▾



This course is currently **hidden**. Only enrolled teachers can access this course when hidden. You can change the visibility in the **course settings**.

▾ General

[Collapse all](#)

Summary

The course will provide the ecological systems' knowledge needed to question applied sustainability solutions. We will critically assess the complexity of current environmental issues, illustrating basic ecological concepts and principles.

The course combines elements of a classic lecture, group discussions, problem-based learning, and fieldwork. Our central aim is to balance participants' respect for complexity with a sense of possibility by providing examples from the vast solution space offered by ecological systems, such as e.g. green infrastructure to manage water. The class will include two excursions where the students will have the opportunity to discuss critical ongoing problems faced by environmental managers.

Keywords

applied ecology, resource management, forest ecosystems, trees, community ecology, species interactions, ecosystem functions and services, biodiversity, climate change

Evaluation

- 50% Oral presentation and discussion of a case study in a group (**only presentation, no report**)
- 50% Written report of a field study in the same group (**deadline: December 19th, 2023**)



[Announcements](#)



[Group Choice](#)



[Practical resources Applied Ecology](#)



[Evaluation of oral presentations](#)

Objectives of this lecture

(3) Participate in three excursions

- **Excursion 1: Urban trees in Lausanne**



Michaël Rosselet, responsable du patrimoine arboré de Lausanne

- How to select suitable tree species?
- Experiences from past plantations: what can we keep, what do we need to change?
- Trade-offs of green spaces with other services in the city
- Diversity of urban trees: species and genes
- Habitat trees in the city
- Urban forests
- and more...

Ecoquartier "Plaines-du-loup"

Objectives of this lecture

(3) Participate in three excursions

- Excursion 2: the Bison conservation forest of Suchy

How we can conserve species using re-introduction



clickacsoophie



Projet de cellule de conservation du bison d'Europe



Historique et état actuel du bison d'Europe

Préhistoire : Le plus grand mammifère de nos forêts, sa population était très importante.

Moyen-âge : Plusieurs facteurs l'ont contraint à émigrer au nord-est de l'Europe :

- déforestation
- chasse : viande
- braconnage : fourrure, cornes

11^{ème} siècle : Disparition du bison d'Europe du Plateau suisse.

1920 : Suite à la première guerre mondiale, plus que quelques bisons d'Europe dans des zoos.
 → programme d'élevage et de croisement des derniers survivants entre parcs animaliers
 → réintroduction en Pologne

1939-1945 : Seconde guerre mondiale, frein au projet : 30 % de perte.

1952 : Réactivation du projet
 Nouveaux lâchers de bisons d'Europe en forêt polonaise et en Biélorussie
 D'autres ont suivi en Europe de l'est.

1963 : Liste rouge de l'IUCN (Union Internationale pour la Conservation de la Nature).
 Bison d'Europe : «vulnérable».
 → risque d'extinction très élevé à l'état sauvage
 → consanguinité
 → maladie bovines

Aujourd'hui : 3 000 bisons en Europe :
 → 2 000 en liberté (Pologne, Roumanie, Biélorussie ...)
 → 1 000 en captivité dans des zoos ou en semi-captivité (cellules de conservation) dans des réserves ou des parcs

Distribution du bison d'Europe
 juste après la glaciation (en jaune)
 Au XIII - XV^{ème} siècle (en vert)
 Etat actuel (en rouge)



Echelle de temps



En Europe de l'ouest, il n'y a plus de forêts assez vastes et bien préservées pour permettre à de nouvelles populations de bisons d'Europe de vivre en liberté.

Objectives of this lecture

(3) Participate in three excursions

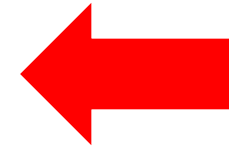
- **Excursion 3: EPFL's thermal power plant**

How invasive species affect EPFL and UNIL thermal power plant



Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
| 16/9/25 | 8-12h | Presentation of cases 1, 2 and 3 | 2 | CHB 330 | |
| 23/9/25 | 8-12h | Field work #1 | 3 | Field | |
| 30/9/25 | 8-12h | Field work #2 | 4 | Field | |
| 7/10/25 | 8-12h | Excursion to Lausanne | 5 | Field | Deadline to provide case study topic: 1/2 page summary |
| 14/10/25 | 8-12h | Lab work | 6 | GR B2 423 | Deadline to upload your data on Moodle |
| HOLIDAYS | | | | | |
| 28/10/25 | 8-12h | Presentation by Spaak Piet (Eawag) at 9h15 | 7 | CHB 330 | |
| | | Work on data and report | | | |
| 4/11/25 | 8-12h | Excursion to Suchy | 8 | CHB 330 | Deadline to submit the written report |
| 11/11/25 | 8h30-10h 10-12h | Presentation of cases 4, 5, and 6 | 9 | CHB 330 | |
| 18/11/25 | 09-11h 8-12h | Excursion EPFL Energy platform (1.5 h) | 10 | CHB 330 | |
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Today

Schedule of the lectures

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Case presentations
CHB 330

Schedule of the lectures

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Fieldwork

We meet at 7h45 at the bus stop on Avenue Piccard. We plan to be back at EPFL at 12h.



Schedule of the lectures

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Excursion 1

We meet in Lausanne, Plaine du Loup, Station Bois-Gentil at 08:30. The excursion ends at the Plaine du Loup at 11:30

Deadline 1

You need to send us $\frac{1}{2}$ page summary of your case study by 07/10/25

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| 4/11/25 | 8-12h | Excursion to Suchy | 8 | CHB 330 | Deadline to submit the written report |
| 11/11/25 | 8h30-10h 10-12h | Presentation of cases 4, 5, and 6 | 9 | CHB 330 | |
| 18/11/25 | 09-11h 8-12h | Excursion EPFL Energy platform (1.5 h) | 10 | CHB 330 | |
| | | Work on Presentation | | | |
| 25/11/25 | 09-11h 8-12h | Excursion EPFL Energy platform (1.5 h) | 11 | CHB 330 | |
| | | Work on Presentation | | | |
| 2/12/25 | 8-12h | Work on Presentation | 12 | CHB 330 | |
| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Labwork

Each group will be assigned a time slot to come to GR B2 423 to conduct their lab work.

The time slots will be available on Moodle in week 3 (once all groups are formed).

Deadline 2

All groups need to upload their final data on Moodle by the end of week 6

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
| 16/9/25 | 8-12h | Presentation of cases 1, 2 and 3 | 2 | CHB 330 | |
| 23/9/25 | 8-12h | Field work #1 | 3 | Field | |
| 30/9/25 | 8-12h | Field work #2 | 4 | Field | |
| 7/10/25 | 8-12h | Excursion to Lausanne | 5 | Field | Deadline to provide case study topic: 1/2 page summary |
| 14/10/25 | 8-12h | Lab work | 6 | GR B2 423 | Deadline to upload your data on Moodle |
| HOLIDAYS | | | | | |
| 28/10/25 | 8-12h | Presentation by Spaak Piet (Eawag) at 9h15 | 7 | CHB 330 | |
| | | Work on data and report | | | |
| 4/11/25 | 8-12h | Excursion to Suchy | 8 | CHB 330 | Deadline to submit the written report |
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| 25/11/25 | 09-11h 8-12h | Excursion EPFL Energy platform (1.5 h) | 11 | CHB 330 | |
| | | Work on Presentation | | | |
| 2/12/25 | 8-12h | Work on Presentation | 12 | CHB 330 | |
| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Presentation by Prof. Spaak Piet about the case of invasive mussels in Switzerland's lakes (at 9h15 in CHB 330)

+

Dedicated time in class (CHB 330) to work on your data analyses, figures, and report

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
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| 30/9/25 | 8-12h | Field work #2 | 4 | Field | |
| 7/10/25 | 8-12h | Excursion to Lausanne | 5 | Field | Deadline to provide case study topic: 1/2 page summary |
| 14/10/25 | 8-12h | Lab work | 6 | GR B2 423 | Deadline to upload your data on Moodle |
| HOLIDAYS | | | | | |
| 28/10/25 | 8-12h | Presentation by Spaak Piet (Eawag) at 9h15 | 7 | CHB 330 | |
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| 2/12/25 | 8-12h | Work on Presentation | 12 | CHB 330 | |
| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Excursion 2

We meet at 8h45 at the bus stop on Avenue Piccard. We plan to be back at EPFL at 12h.



Deadline

Send your written reports by 04/11/25 latest at midnight

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
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| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
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| 7/10/25 | 8-12h | Excursion to Lausanne | 5 | Field | Deadline to provide case study topic: 1/2 page summary |
| 14/10/25 | 8-12h | Lab work | 6 | GR B2 423 | Deadline to upload your data on Moodle |
| HOLIDAYS | | | | | |
| 28/10/25 | 8-12h | Presentation by Spaak Piet (Eawag) at 9h15 | 7 | CHB 330 | |
| | | Work on data and report | | | |
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| | 8-12h | Work on Presentation | | | |
| 2/12/25 | 8-12h | Work on Presentation | 12 | CHB 330 | |
| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Case presentations
CHB 330

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
| 16/9/25 | 8-12h | Presentation of cases 1, 2 and 3 | 2 | CHB 330 | |
| 23/9/25 | 8-12h | Field work #1 | 3 | Field | |
| 30/9/25 | 8-12h | Field work #2 | 4 | Field | |
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| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Excursion 3 at the EPFL Energy Platform. Excursions will be in groups of 15 students at a time. Once all groups are formed, we will inform you on your specific time slot for the visit.

Other students: Dedicated time slot to work on your presentation in CHB 330.

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
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| 2/12/25 | 8-12h | Work on Presentation | 12 | CHB 330 | |
| 9/12/25 | 8-12h | Student presentations I | 13 | CHB 330 | Groups 1-5 |
| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Dedicated time in CHB330 to work together on your presentations

Schedule of the lectures

| Autumn semester 2025 | | | | | |
|----------------------|--------------------|--|------|-----------|--|
| Date | Time | Topic | Week | Location | Note |
| 9/9/25 | 8-12h | Introduction | 1 | CHB 330 | |
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| 16/12/25 | 8-12h | Student presentations II | 14 | CHB 330 | Groups 6-10 |

Student presentations in CHB 330

Groups #1-5 on 9/12 and #5-10 on 16/12.

The teaching team

Charlotte Grossiord



Christoph Bachofen



Helena Vallicrosa



Giovanni Bortolami



How to prepare the scientific report

Structure of the report

General Requirements

Length & formatting:

- Stay within the page limits (not counting the cover page and bibliography).
- Include an abstract summarizing the report.
- Follow proper reference formatting (use a consistent style such as APA, Harvard, or journal-specific).

 **Tip:** Double-check page limits and make sure your figures/tables fit neatly within the layout.

Structure of the report

General Requirements

Introduction (5–6 paragraphs)

Context & state of knowledge

- Situate your topic clearly: What is known in the field?
- Summarize findings from at least 5 relevant scientific papers.

Identify research gap

- Explain what is not well understood or what problem remains unresolved.

Objectives & hypothesis

- State clearly what you aim to investigate.
- Formulate one or more testable hypotheses.

Structure of the report

General Requirements

Materials & Methods

Principles of the method

- Explain the general approach (e.g., field observation, experiment, modeling).

Experimental setup / site description

- Describe the site(s) and/or experimental design in enough detail for someone else to replicate.

Measurements

- Explain how data were collected (tools, frequency, variables).

Statistical analysis

- Mention which tests were used, software or packages, and why they are appropriate.

Structure of the report

General Requirements

Results

Figures and tables

- Provide clear, relevant, and well-labeled visuals.
- Include units, error bars, legends, and captions.

Text description

- Highlight key findings, patterns, and significant statistics (p-values, confidence intervals).
- Present results objectively, without interpretation yet.

Structure of the report

General Requirements

Discussion

Interpret results

- Explain what the results mean in relation to your objectives and hypotheses.
- Link them back to ecological principles.
- Compare with literature
- Discuss how your findings align or contrast with published studies.

Limitations

- Be transparent about uncertainties, errors, or constraints in your study.

Broader consequences

- Deduce implications for ecosystem management, conservation, or policy.

Structure of the report

General Requirements

Conclusion

- Summarize
- Recap your main findings and their significance.
- Suggest practical steps or further research directions.

Structure of the report

General Requirements

Final Checklist

→ Check the grading sheet on Moodle

- ✓ Abstract included
- ✓ References properly formatted
- ✓ Figures/tables with units and captions
- ✓ Introduction covers context, gap, and hypotheses
- ✓ Methods allow replication and include statistical details
- ✓ Results clearly presented (with scientific rigor)
- ✓ Discussion links results to literature, limits, and broader implications
- ✓ Conclusion summarizes and proposes improvements.

**See you next week in
the same room as today**

GRB330