



Introduction to the course

- Overview of the course content
- Course registration
 - sign the list that you are going to participate
 - check address and e-mail!
- General information about LU and INES
- Course information
 - intro to Global Ecosystem Dynamics



NGEN03

In relation to the course evaluation 2015

Content	hours	Responsible
Past climate, late quaternary change in terrestrial biosphere	14	Mats R, Chiara M
Assessment of climate impacts on our environments	13	AMJ
Climate change, aquatic systems	3	Martin B
Can forest combat climate change?	7	Dan M
Vegetation history, What causes ecosystem dynamics?	11	Richard B
Landscape structures	3+5	Oscar L
Drivers of species diversity	5+5,5	Honor P
Ancient and present water stress in arid lands	3	Ulrik M
Project	10	Lena S, Ulrik M
Study visit to EEA	1 dag	Ulrik M, AMJ

Reduced overlap
New - in stead of several small lectures

		2016	2017
Yr 1	ht 1	NGEN04 Greenhouse gases	NGEN14 Biogeochemical processes
	ht 2	NGEN03 Ecosystem Dynamics	NGEN01 Climate change
	vt 1	NGEN02 Ecosystem modelling	NGEN02 Ecosystem modelling
	vt 2	NGEN08 Remote sensing	NGEN08 Remote sensing
Yr 2	ht 1	NGEN10 Ecosystem hydrology	NGEN15 Biogeophysical processes
	ht 2	NGEN01 Climate change	NGEN03 Ecosystem Dynamics
	vt 1	NGEM01	NGEM01
	vt 2	NGEM01	NGEM01

UM 2016-08-23

INES

Information from the department

<http://www.nateko.lu.se/>

<https://www.facebook.com/physicalgeography>

Course homepage

<http://www.nateko.lu.se/education/courses-advanced/global-ecosystem-dynamics>

<http://www.nateko.lu.se/gis-centre-website/education/ngen03-global-ecosystem-dynamics/ngen03-global-ecosystem-dynamics>

My contact info:

Anna_Maria.Jonsson@nateko.lu.se

Phone: 046 - 222 94 10



<http://www.nateko.lu.se/student-services>

http://www.nateko.lu.se/student-services

Department of Physical Geography and
Ecosystem Science

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SEARCH

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Our facilities

Se sidan på svenska

Student services

Our student expedition consists of [Eva Andersson](#) and [Eva Kovacs](#). We are happy to help you with:

- registering documents and grades into LADOK,
- room bookings,
- schedules,
- re-exams,
- sale of compendiums and more

You'll find us on the third floor, Geocentre II, Sölvegatan 12, Lund.

Opening hours

Mondays, Tuesdays and Thursdays 8.00am to 11.00am.

Page Manager: ricardo.quillen@nateko.lu.se | 28/09/2016

IT resources

Rights & guidelines

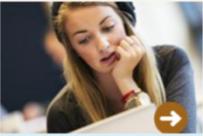
Academic honesty

The Student Council

Internships & thesis suggestions

Links & resources

Anonymised exams



Need study counselling?
Contact our study advisor.



- **Login** to INES computer system
 - will be generated after registration
 - if you don't get a login, contact Ricardo Guillén

- **Data storage**

- When logging in to any of our computers, you can access a network drive mapped as *U:*. It holds a maximum of 1 GB of data. If you need more storage space, please contact your teacher.

1. Fetch original data from *R:*
2. Work with data in *C:\Tempdata*
3. Store your data in *U:*



Avoid plagiarism

- <http://www.lunduniversity.lu.se/current-students/academic-matters-support/academic-support-centre/avoiding-plagiarism>

What is plagiarism?

Lund University's guidelines and regulations on plagiarism states that "Plagiarism is a lack of independence in the design and/or wording of academic work presented by a student compared to the level of independence required by the educational context. Deceitful plagiarism is a lack of independence combined with an intent on the part of the student to present the work of others as his or her own."

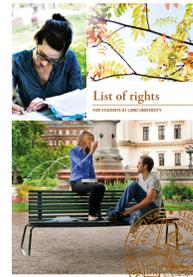
[Read the University's Guidelines and Regulations on Plagiarism \(PDF 353 kB\)](#)

- SNG (*Studierådet för naturgeografer och geologer*) represents students in the decision-making boards of the two departments

- List of rights for students at LU

<http://www.lunduniversity.lu.se/current-students/academic-matters-support/student-rights-and-guidelines>

- Select one or two course representatives



Global ecosystem dynamics



Ecosystem, the complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space.

Dynamics, branch of physical science and subdivision of mechanics that is concerned with the motion of material objects in relation to the physical factors that affect them: force, mass, momentum, energy.

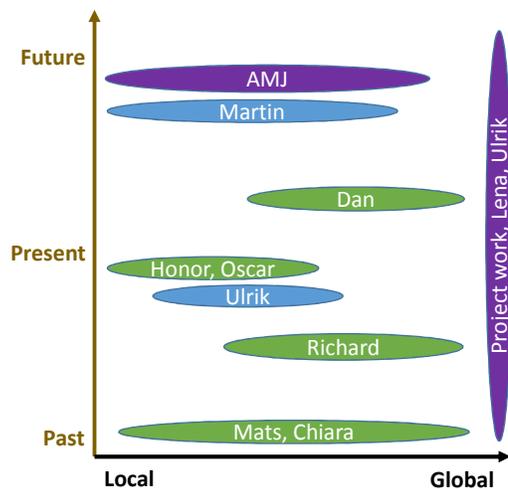
[Encyclopædia Britannica](#)

Ecosystem dynamics (biology-online dictionary)

- Those intrinsic ecological functions through which an ecosystem becomes self-regulating, self-sustaining, and capable of recovery from external forces (for example, damaging storm events).
- These intrinsic processes may cause continual change in biotic composition and structure at specific localities. Collectively, these changes represent internal flux, rather than substantive and permanent alteration of the ecosystem regionally.

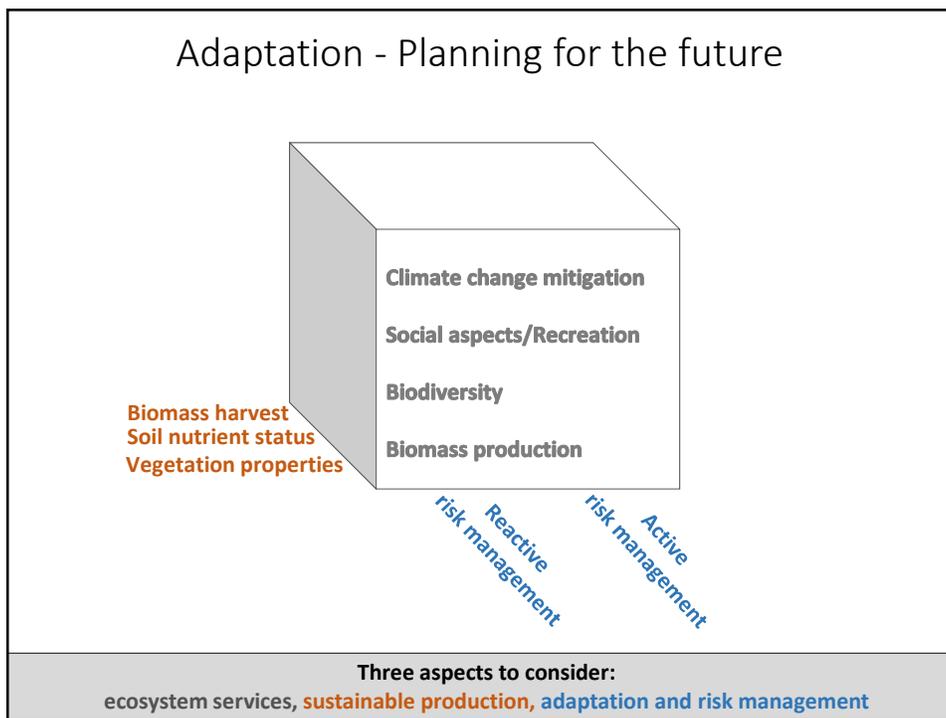
NGEN03 - Global Ecosystem Dynamics

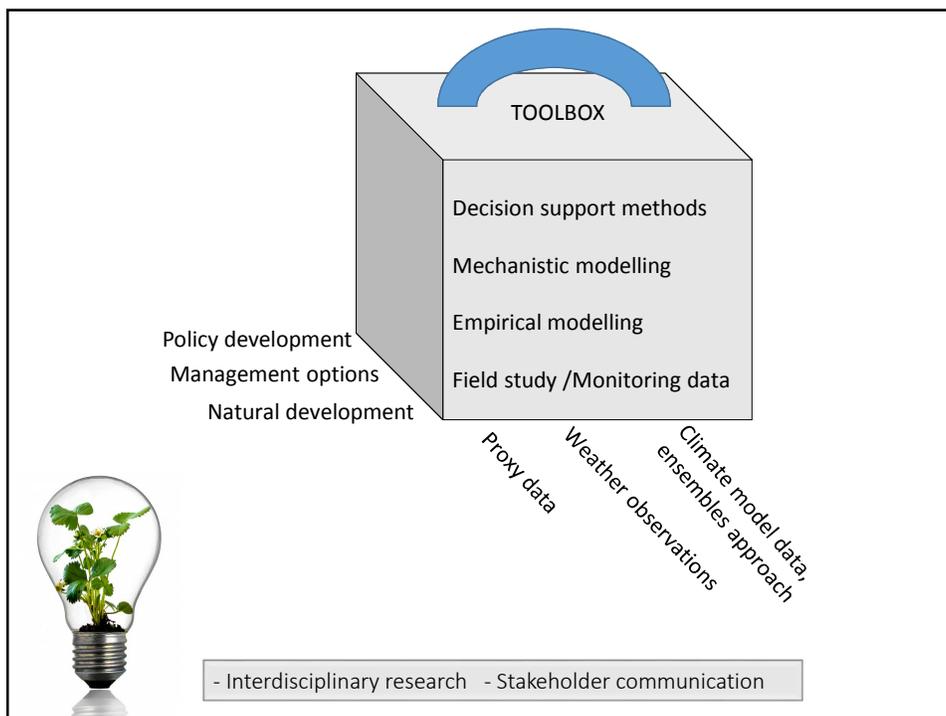
- Space
 - Local
 - Regional
 - Global
- Time
 - Past
 - Present
 - Future
- Human influence
 - Land use
 - Defragmentation
 - Climate change



Water, Vegetation, Water&Vegetation

	Keywords	Teachers	Comments
Week 1	Introduction, Past climate, late quaternary change in terrestrial biosphere	AMJ MR, CM	exercise
Week 2	Environmental consequences related to climate change. Climate change, aquatic systems Can forest combat climate change?	AMJ MB DM	start of problem solving project exercise
Week 3	Vegetation history, What causes ecosystem dynamics? Start of project Landscape structures Drivers of species diversity	RB OL HCP	exercise
Week 4	Map exercise Ancient and present water stress in arid lands	HCP, OL U AMJ	map presentation cont. problem solving project
Week 5	Project plan presentations and revisions	AMJ UM, LS HCP	oral presentations hand in - maps
Week 6	EXAM Project supervision study visit to EEA	UM, AMJ	
Week 7 - 10	LOV		
Week 11	Project presentations/opposition	UM, LS	Project presentations/opposition





Litterature (same as in 2015)



Climate Change Biology (Second Edition)

Author(s):
Lee Hannah
ISBN: 978-0-12-420218-4
Add to Favorites

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20 chapters, 4 sections

- Introduction: climate change biology
- The impacts of human induced climate change
- Lessons from the past
- Looking into the future

<http://www.sciencedirect.com/science/book/9780124202184>

The following reading list is recommended titles. Some teacher may refer to sections and chapters in these and in most cases also provide separate reading lists of special papers covering specific aspects of different course modules.

- R Bradshaw & MT Sykes (2014): Ecosystem dynamics: From the past to the Future. Wiley Blackwell
- CK Kelly, MG Bowler, GA Fox (2013): Temporal Dynamics and Ecological Processes. Cambridge University Press
- A Lowe, S. Harris, P Ashton (2004): Ecological genetics. Blackwell
- Chivian & Bernstein (2013): Sustaining life: How human health depends on biodiversity. Oxford University Press
- IPCC AR5 Chapter 5: Paleo Climate

Grading

20% : four smaller projects that are presented in written format and discussed during seminar sessions

30% : a large project running from December to the end of the course

50% : a written exam in the beginning of December

In order to pass the course you have to pass all course components and attend all compulsory exercises, seminars and presentations.

Study visit to EEA
Copenhagen,
December 12.

