



HOB5: Phenomics

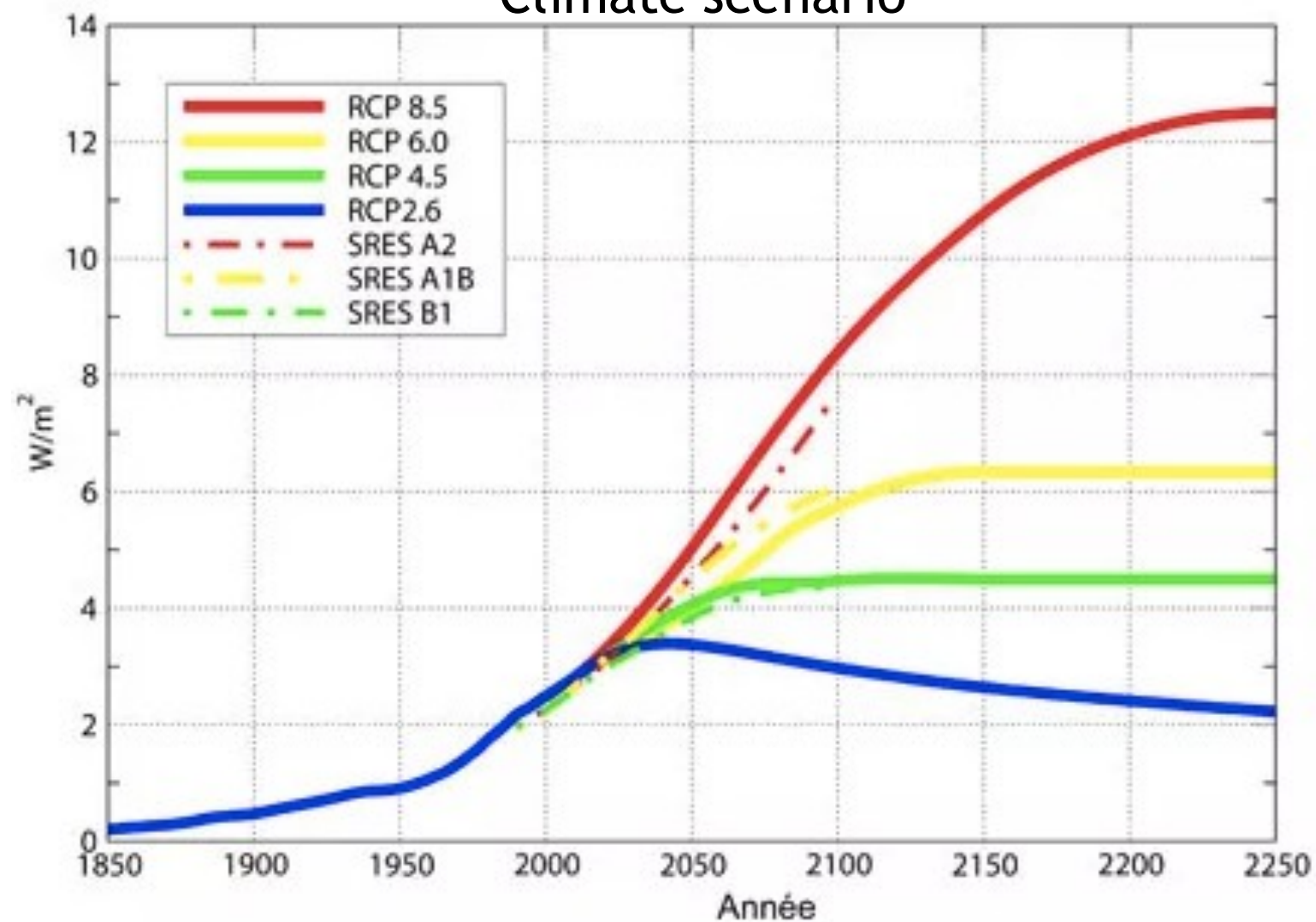
Methods of phenotyping based on imaging
with a focus on dedicated image processing techniques with an open
source software (Fiji).

David ROUSSEAU
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Why do we need phenomics?



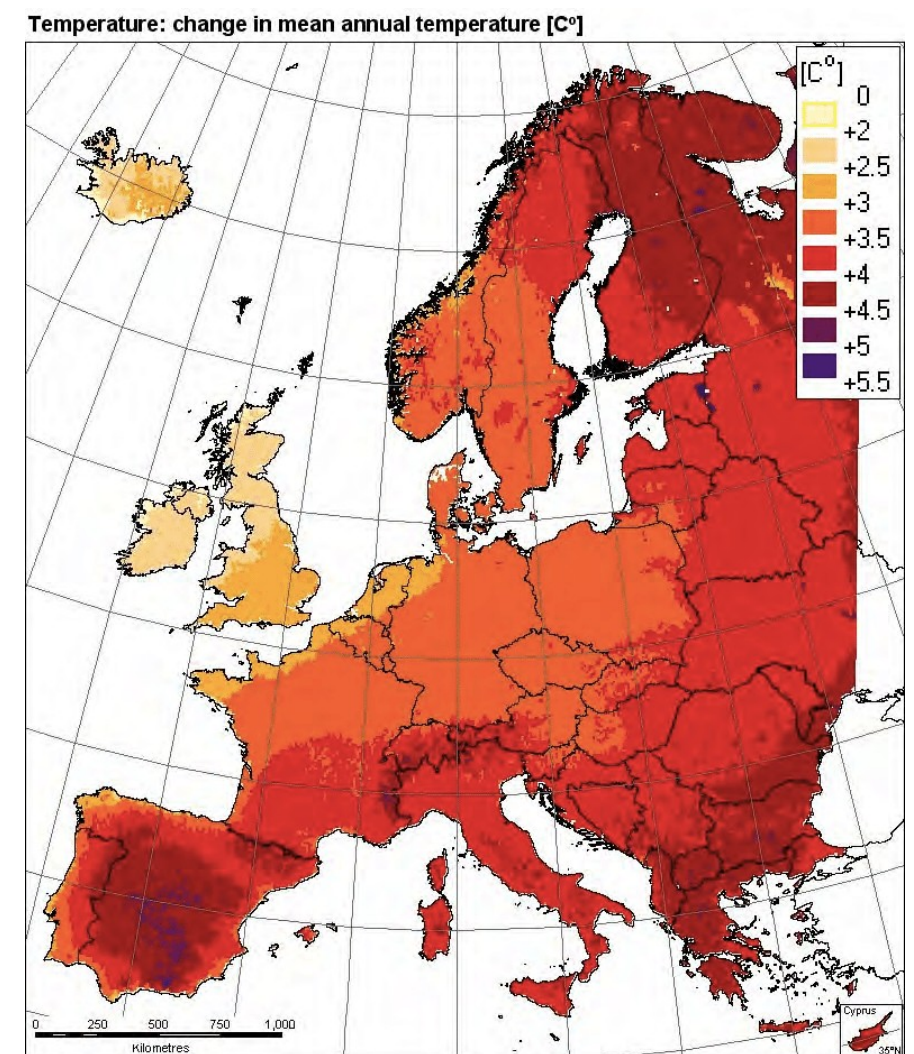
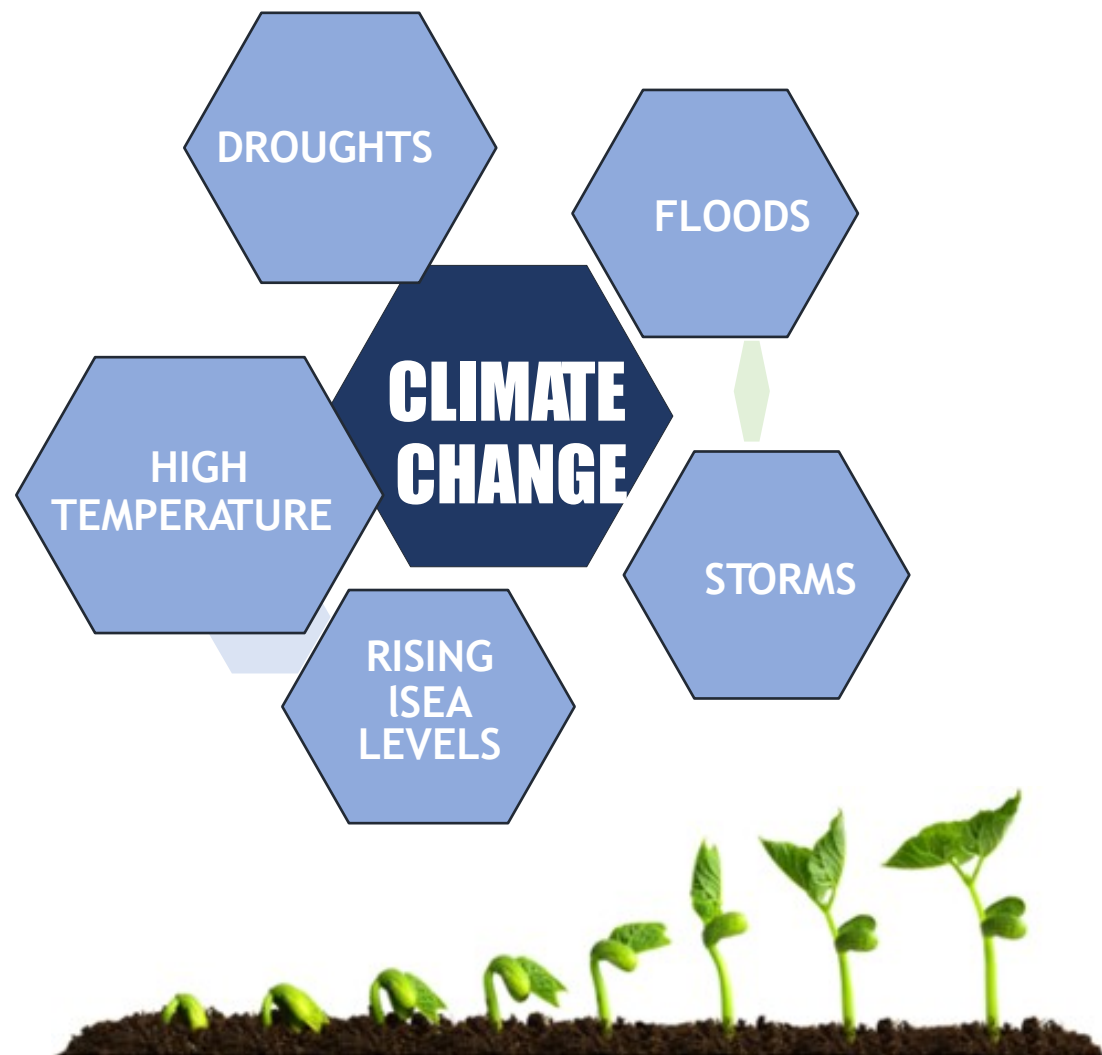
Climate scenario



What can I do to help?



Select new crop varieties



Issue

- * Long process (10 years)
- * Non objective procedures with visual inspection and manual measurements
- * Result in non uniform criteria and legislation between countries



Phenomics to the rescue

- * Speeding up annotation with autonomous devices
- * Objective measurements via standardized sensors
- * Possibility of a shared knowledge and legislation on variety selection



Should I be here?



Leader of phenotyping for new variety testing



Objective of the course

Learn basics of imaging and image processing for plant phenotyping

At the end of the course :

- 1) You will know which imaging modalities are used in Plant phenotyping
- 2) You will know how to select important parameters in the choice of sensors and illumination.
- 3) You will be able to design automatic image processing pipelines for basic problems



Organization of the course

Chapter 1 Plant phenotyping

Chapter 2 Sensor Illumination

Chapter 3 Image processing

Chapter 4 Hands on Exercise

20 hours with 50 % course and 50% hands on

Monday : 9H-12H ; 14H-17H

Tuesday : 14H-17H

Wednesday : 9H-12H ; 14H-17H

Thursday : 9H-12 ; 14H-17H




Assignment tasks/ Obligations

Solution of Hands on will have to be provided by you for Friday 20th December (work in duo)

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Phenomics (HOB5) - Folders


Below is the list of folder for this specific subunit. Folders that appear in **red color** are open for students to upload files to.
Select a folder to modify it, or to add files to it.
Folders that you will not use, you can delete or rename.



Syllabus
Created on Jul 04, 2019 by Ms. Rikounaki Chara



Reading material (7 item(s))
Created on Jul 04, 2019 by Ms. Rikounaki Chara



Uploads folder
Created on Jul 04, 2019 by Ms. Rikounaki Chara

[Add folder](#)


Responsibilities and obligations

A written Test will also be scheduled by the institution.
The final rate will be 50/50 of these two works.

The test of last year is available on the Intranet









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 Images for Hands On (15.5 MB) <i>Uploaded by Prof. Belin Etienne on Nov 05, 2019</i> Delete	 2018_TEST (2.31 MB) <i>Uploaded by Prof. Rousseau David on Dec 15, 2019</i> Delete

Responsibilities and obligations

Articles are provided to read after each course. Students will be questioned about their understanding of these reading at the beginning of each course









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Let's enjoy the course !

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