TMA 4315 Generalized Linear Models

Who:

Lecturer: Ingelin Steinsland

Teaching assistant: Xiangping Hu

Students:

What:

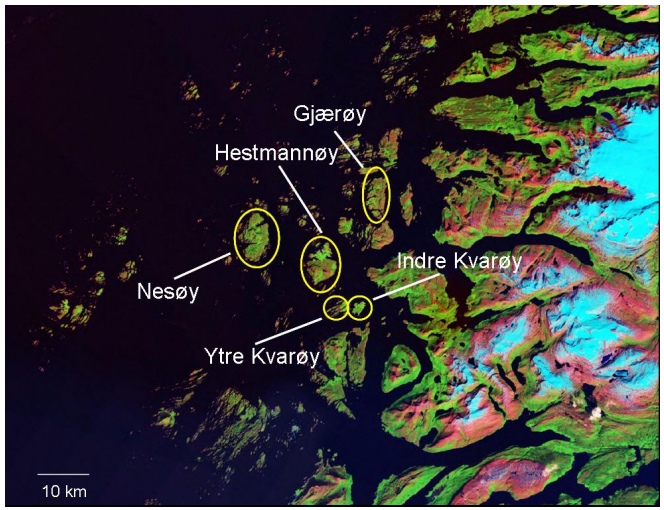
GLM: A class of linear models also for non-Gaussian data. Modeling, inference and evaluation.

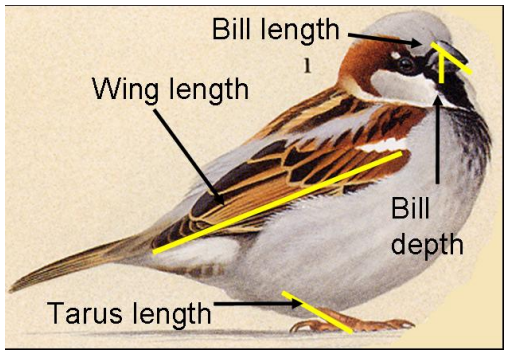
Why: Very useful!

How:

- Lectures
- Five mandatory assignments (with R). Groups of 2-3.
- Self-study

House sparrows at Helgeland





What:

- **Modeling:** Add GLM models in your toolbox, and how to use R for these models.
- **Inference:** Estimation of parameters.
- **Evaluation:** Able to evaluate and compare your models.

How

Assignments

- Five mandatory, using R. Deadline: see plan.
- In groups of 2 (or 3).
- For assignment 5, find your own data.
- Assistance: Xiangping (see Assignments for where and when)

Self-study

- Text book (ch. 1-9).
- Some recommended 'pen and pencil' exercises.

Lectures

- Follow the textbook.
- Small exercises during the classes.
- No lectures during assignment weeks (see plan).

Assignments

Assignment 2

- You form two groups, that do exercise 1 and 2 respectively.
- On 17.09 you present / lead a discussion about your part (make subgroups). Run R in class, discuss plot. Explain terms / what we are looking for / some R hints. Mandatory!
- Based on the discussion make one for part A (part B only for thous how could not attend).

Examples Assignment 5

- Raindays in Bergen, Trondheim and Oslo: Rain / no-rain vs air pressure.
- Hapatitt B. Number of new cases vs population density, Number of GPs and college or not
- Predicting Football results. Placement in Tippeligaen vs (least season) ponts, placement, number of spectaculars,...

Evaluation

- Assignments 30%

  Assignment 5: Report (5-10 pages) and 10 min presentation / discussion.

  Assignment 3 or 4: One part B is resubmitted, should be for another model then the one you have for assignment 5.

- Final exam 70%. December 13th.