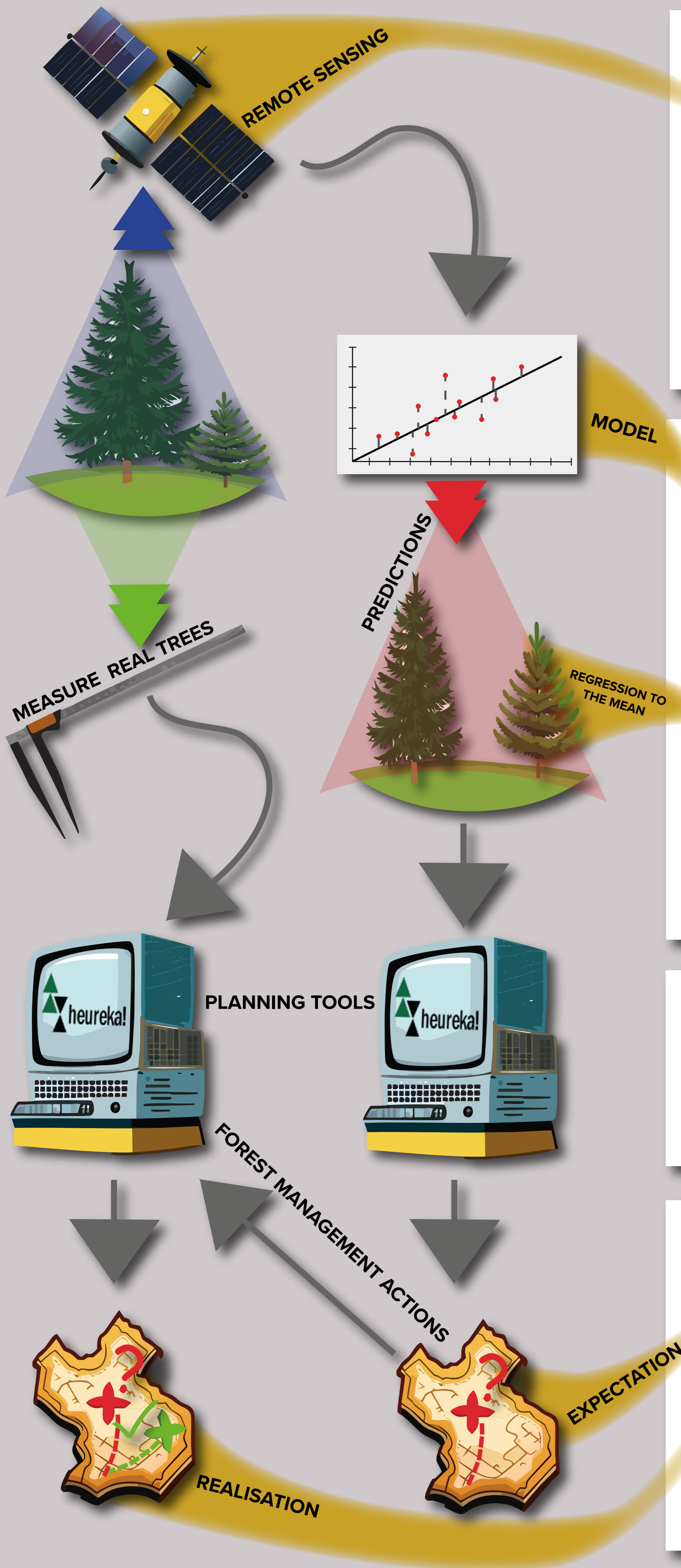




Making decisions based on remote sensing information: good or bad?

Patrik Ulvdal, Lars Sängstuvall, Göran Ståhl, Ljusk Ola Eriksson, and Karin Öhman

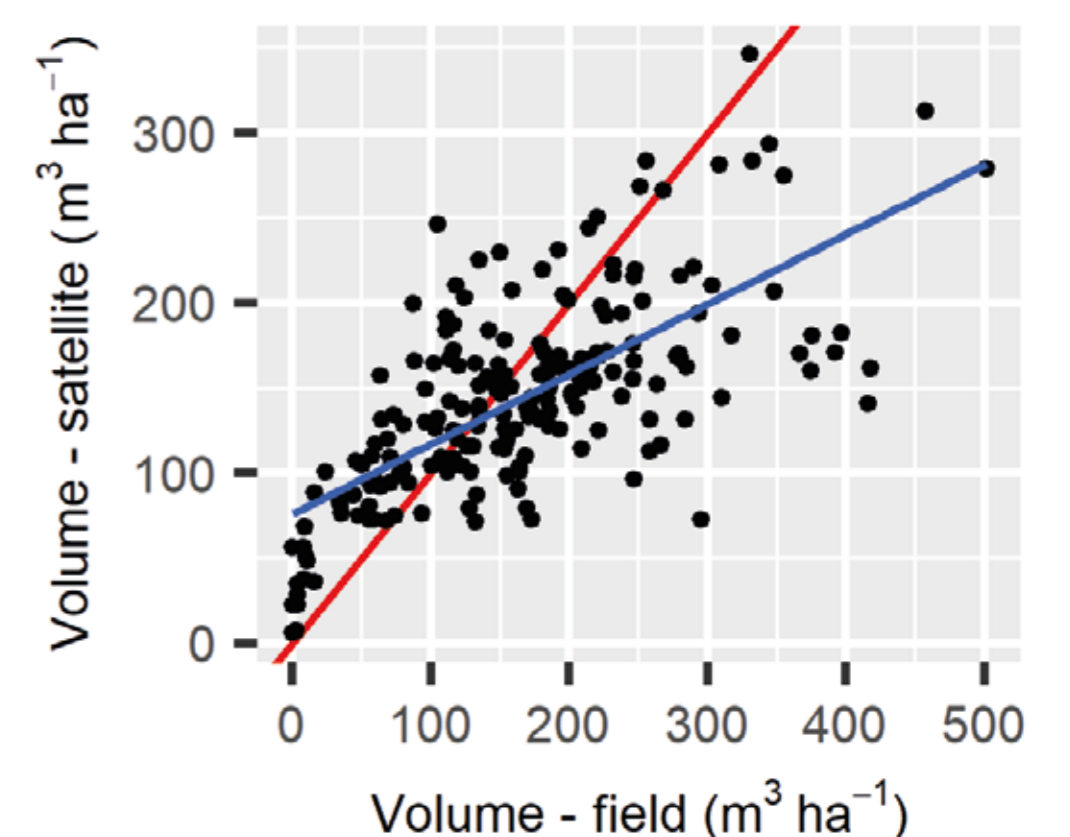


BACKGROUND

- Drive to gather more information about forests with **remote sensing**.
- Development of new **monitoring programmes** based on remote sensing.
- Remote sensing predictions will be **used for decision making**.

PROBLEM

- Remote sensing predictions are **produced with models** that suffers from the **regression towards the mean**.
- Predictions will **underestimate** large true values and **overestimate** small true values.
- This bias results in lost variance.



QUESTION

- What **will happen** if we make **decisions about the future** of forests based on remote sensing information?

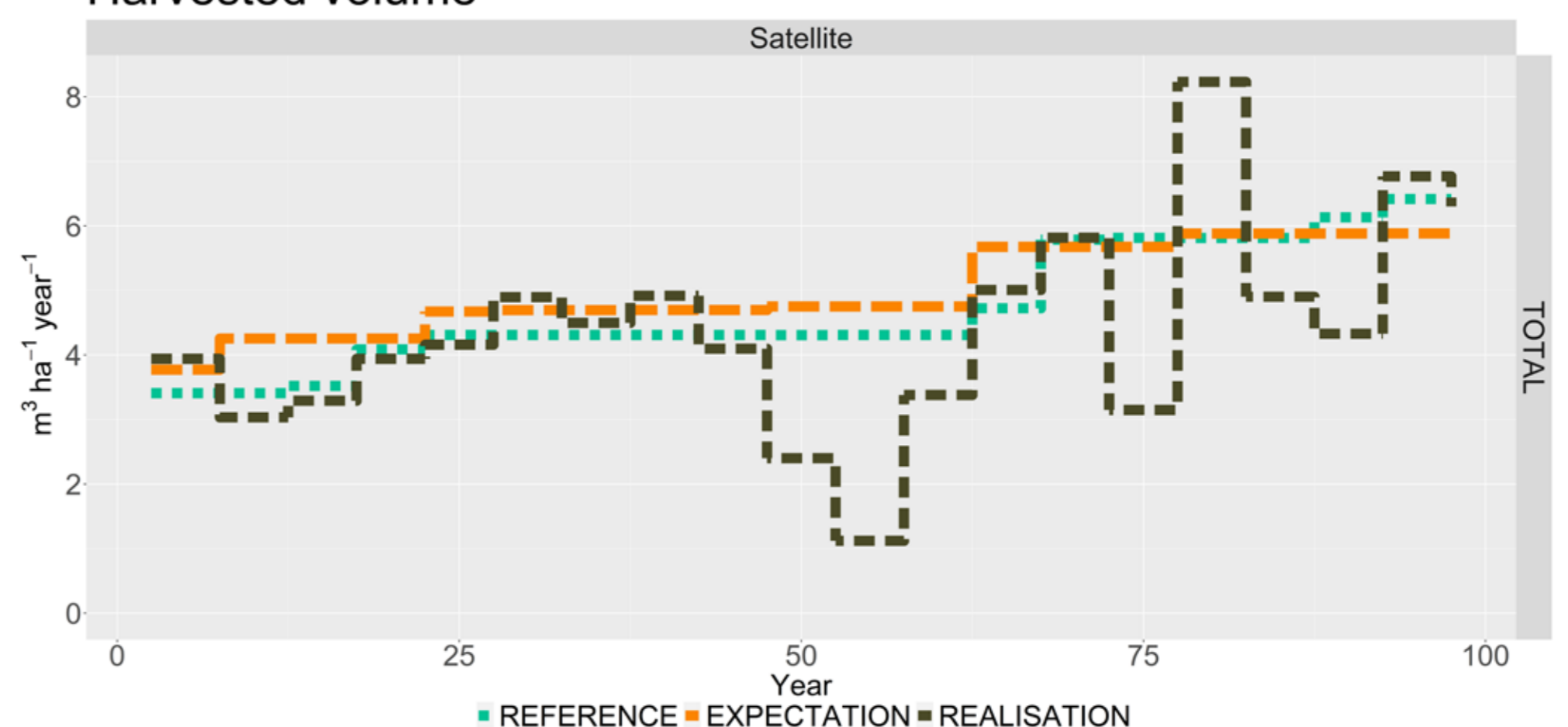
RESEARCH

- **Predict a future** where decisions about forest management has been **based on remote sensing** predictions.
- Investigate the **difference** between this **expectation** and the probable **realisation** by applying decisions to real trees.

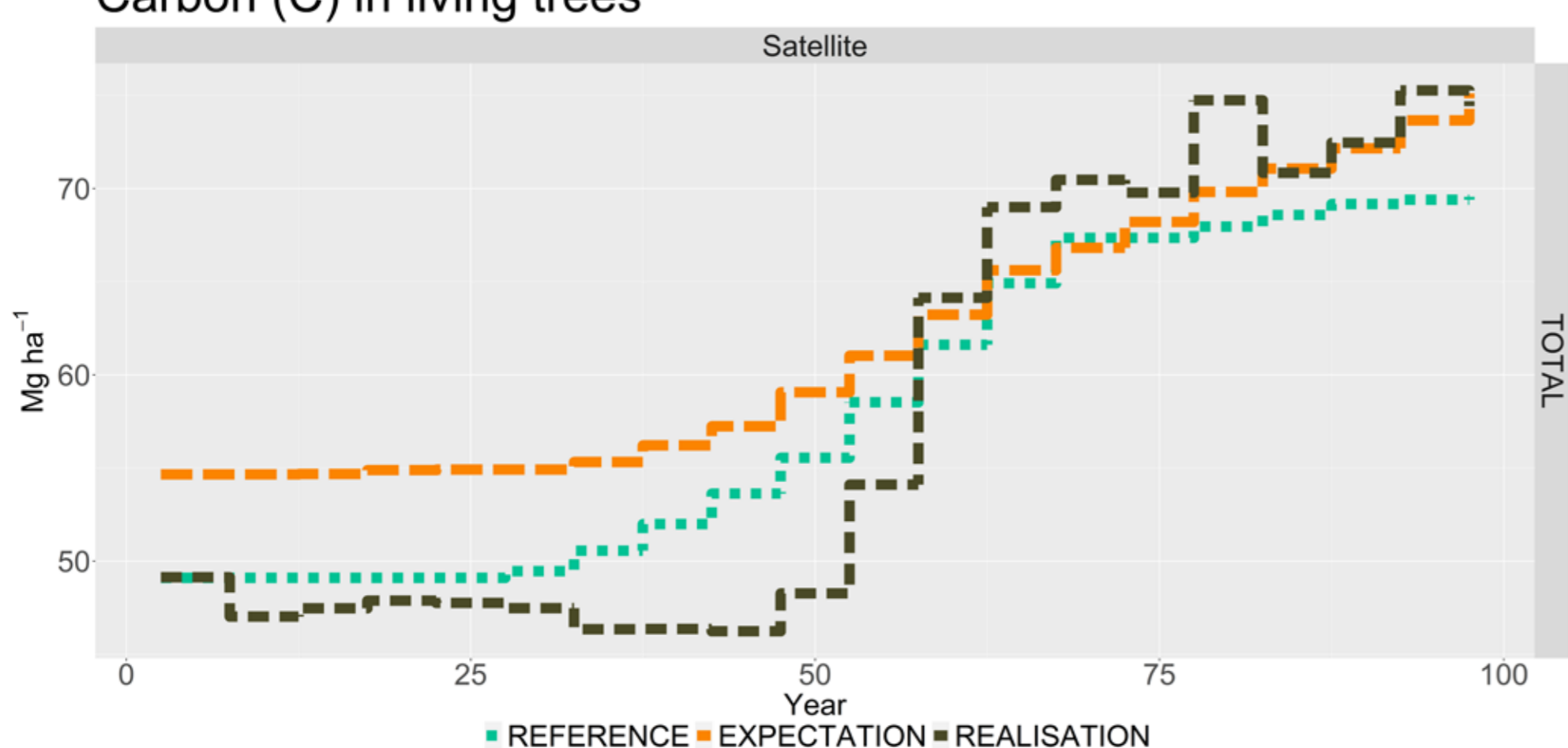
RESULTS

- Loss in net present value was **-6 to -9 %**.
- Harvests overestimated with **14 %**.
- Carbon stocks overestimated with **10 to 20 %**.
- **Difficult** to plan for increase of biologically valuable forests.

Harvested volume



Carbon (C) in living trees



Proportion of the area fulfilling any of the ecological indicators

