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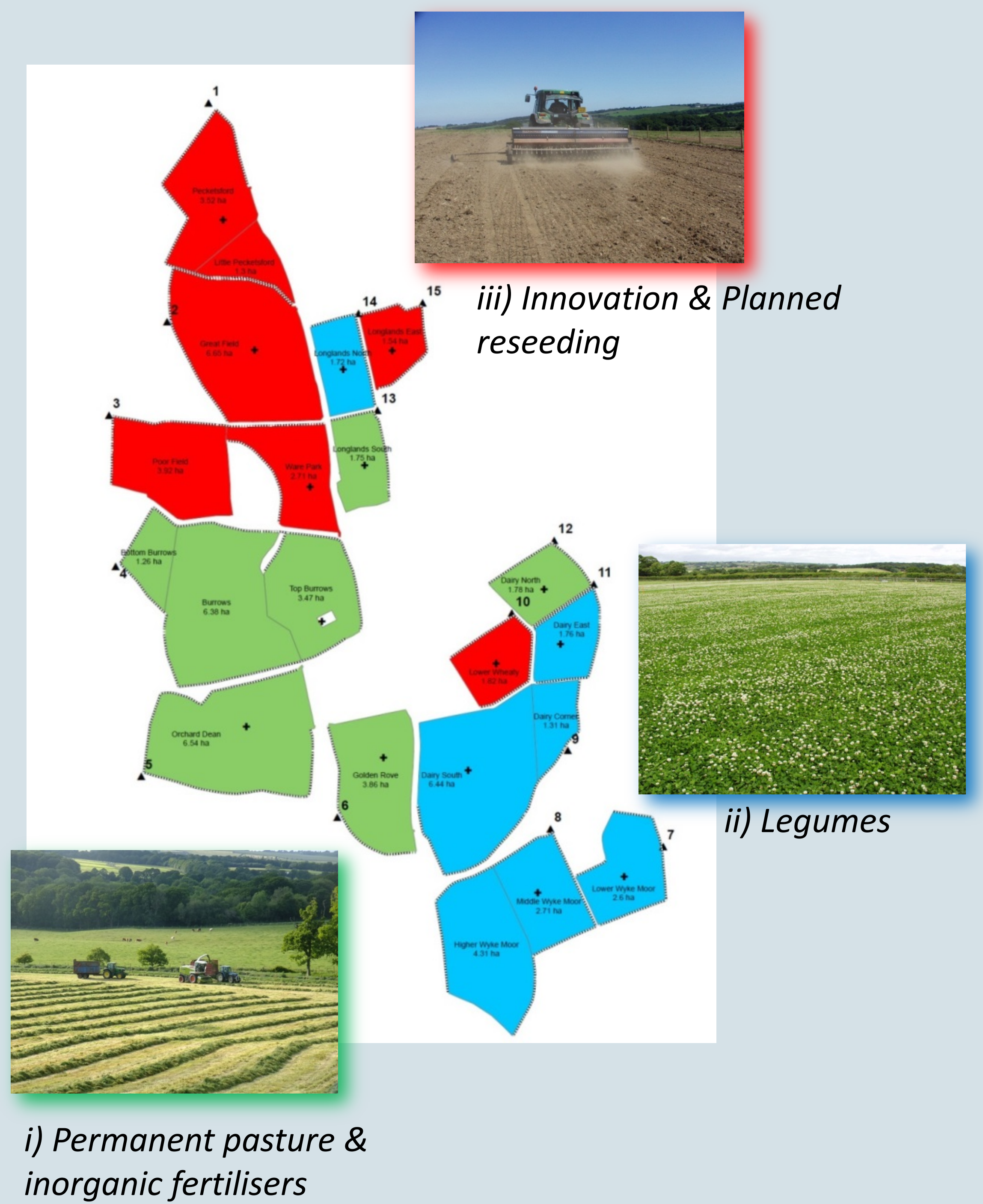
1. Introduction

The North Wyke Farm Platform (NWFP) at Rothamsted Research in the South-West of England is a large, farm-scale experiment for collaborative research, training and knowledge exchange in agro-environmental sciences. The aim at the 63 ha site is to address agricultural productivity and ecosystem responses to different management practices, capturing the spatial and/or temporal data necessary to develop a better understanding of the dynamic processes and underlying mechanisms. The data collected is publically available and can be used to model how agricultural grassland systems respond to different management inputs.

2. The three systems

The NWFP is divided into three 21 ha farmlets where, through beef and sheep production, 3 contrasting grassland systems are examined:

- Improvement of permanent pasture through use of mineral fertilisers.
- Improvement through the use of legumes.
- Improvement through planned reseeding and innovation.



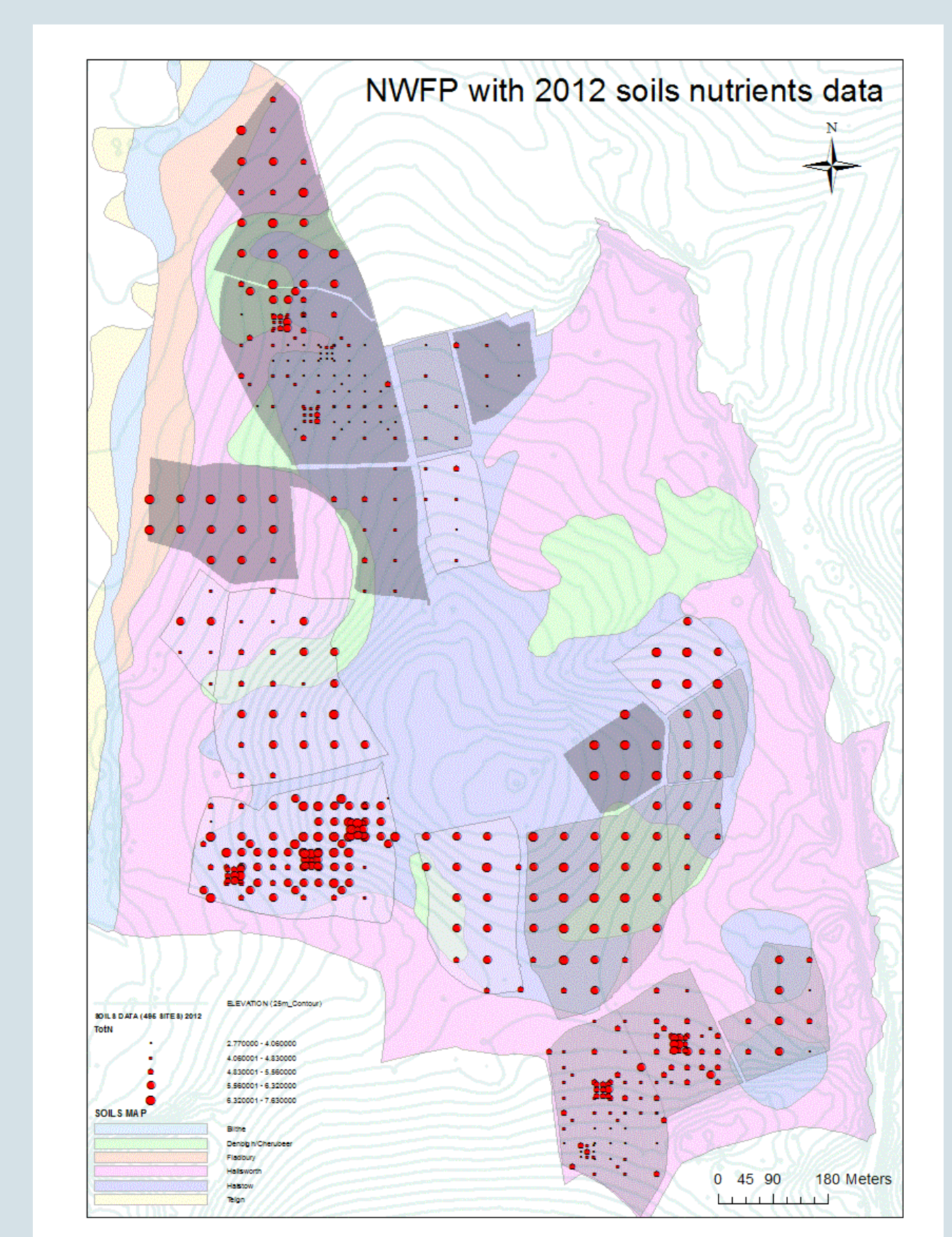
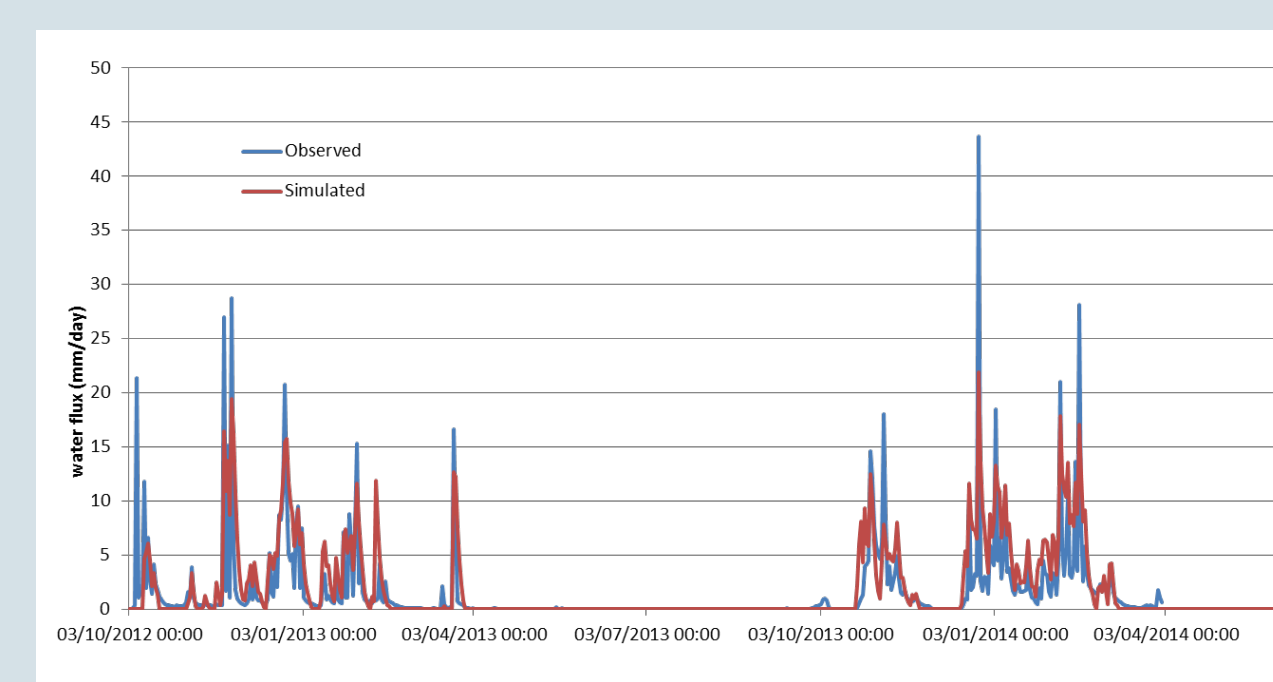
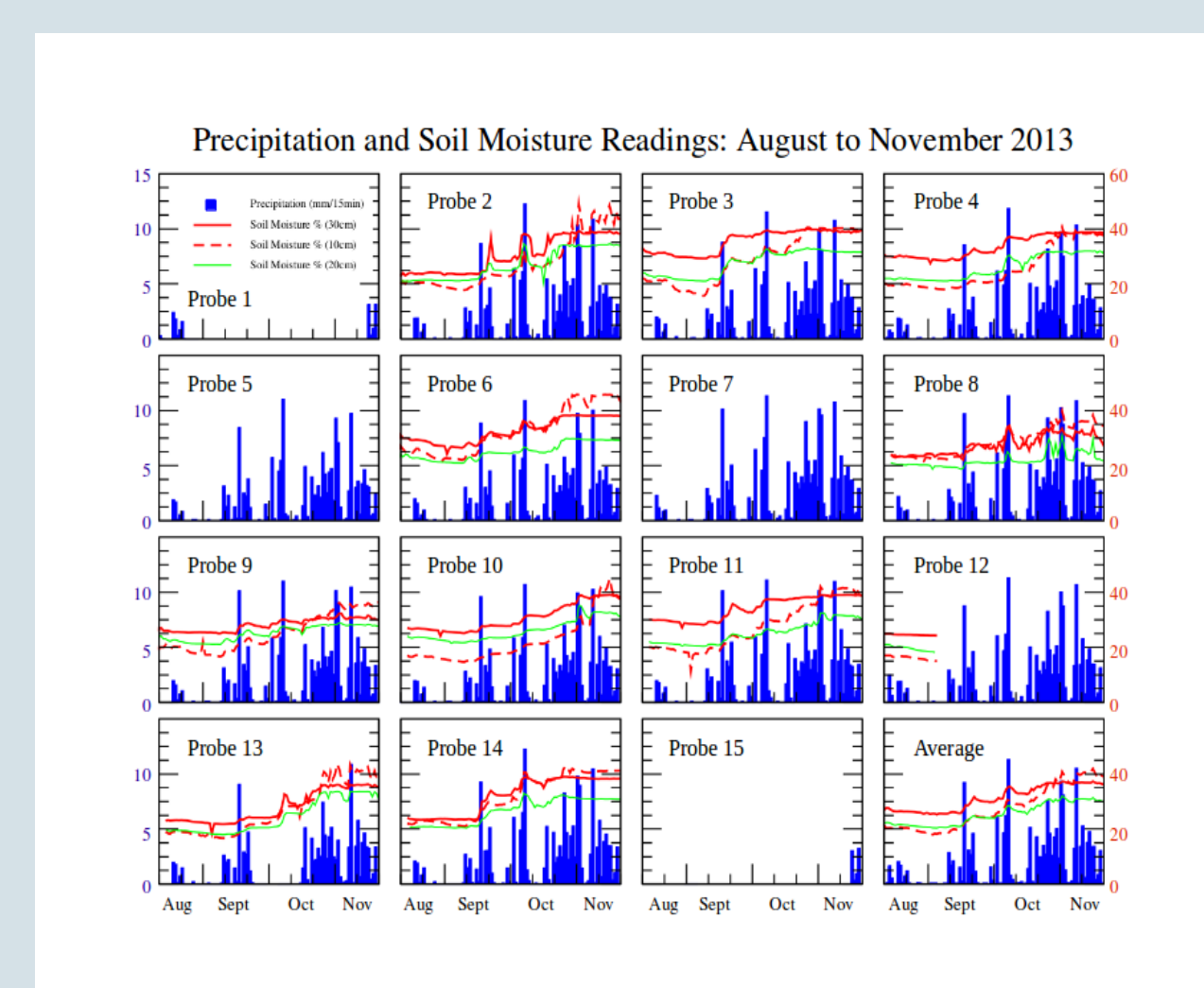
The 3 farmlets are further subdivided into 5 (15 in total) hydrologically isolated sub-catchments through a combination of the existing topography, the impermeable nature of the clay soils and through the introduction of French drains bounding the perimeters. The drains, dug to 0.8m, containing a perforated pipe and backfilled to the surface with stone, intercept surface and subsurface flow and channel it to one of 15 primary flow devices (H flumes). Each sub-catchment is equipped with a range of state of the art, in situ, environmental monitoring equipment, sensing in real time: the quantity and quality of run-off; a range of soil variables; meteorological parameters and greenhouse gas emissions.

Separate cattle housing, silage and manure storage facilities exist or the three systems over the winter period.

3. Farm Platform data sets

Numerous multivariate, temporal, spatial, and spatio-temporal data sets are available, including:

- ❖ Water runoff/flow/turbidity, water chemistry, soil moisture/temperature, and meteorological data collected every 15 minutes in 15 sub-catchments;
- ❖ Greenhouse gas emissions;
- ❖ Field surveys for soil nutrients, herbage and biodiversity;
- ❖ Remote sensing data collected at various spatial, temporal and spectral resolutions;
- ❖ LiDAR, soils class and related contextual spatial data sets that are fixed;
- ❖ Farm management data, e.g. applications of fertilizer/manure; re-seeding times & chosen crop variety; livestock movement; livestock weight gain;



4. Opportunities for the LiveM network

- Instrumented farm-scale grassland based livestock production systems for use in case studies
- Detailed data sets for model development and/or validation
- Opportunities to visit and work with the Farm Platform team, the data, conduct additional measurements, ...

