



A World  
Leading SFI  
Research  
Centre



# Network of Resources Report

Title: Farm0C: Climate Neutral Resilient Dairy  
Farming

ID: 220881

HOST INSTITUTION

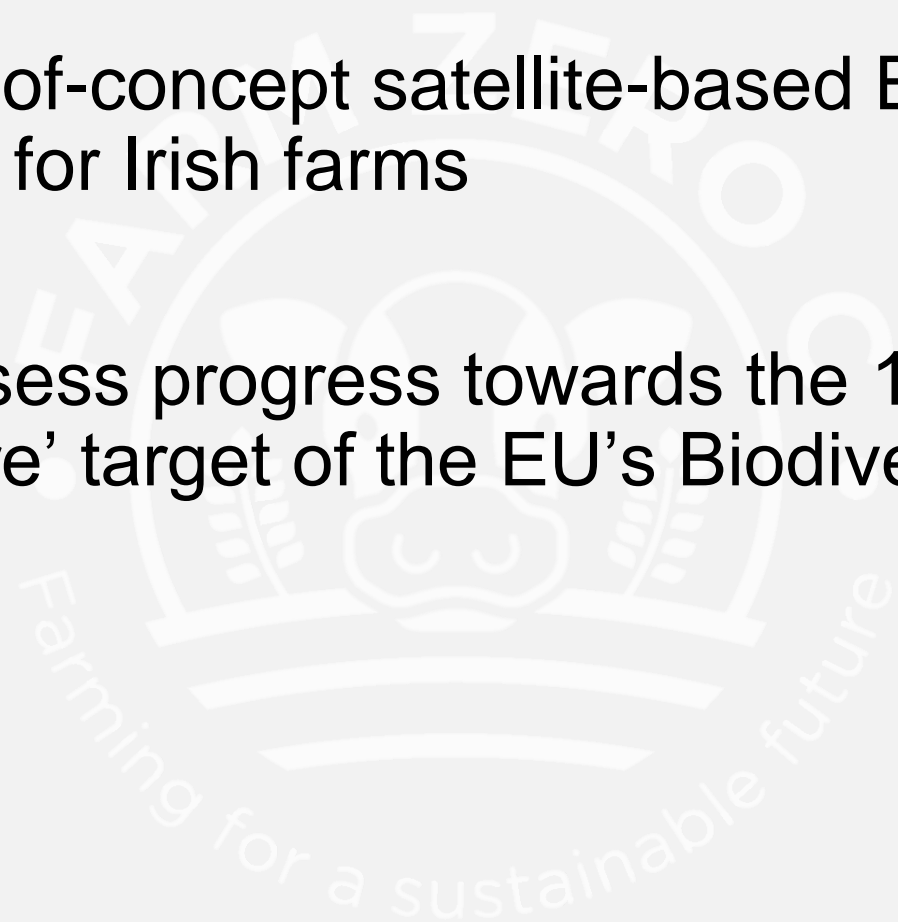


PARTNER INSTITUTIONS



# Objectives

- Develop a proof-of-concept satellite-based Biodiversity Mapping service for Irish farms
- This will help assess progress towards the 10% 'high diversity landscape feature' target of the EU's Biodiversity Strategy and Green Deal.



# Network of Resources Request

- Requested Pleiades Data through NoR
  - Very high resolution – can pick up linear habitats like hedgerows that are difficult to pick up using imagery with pixels  $>1\text{m}$
  - Got imagery for 10 farms in SouthWest Ireland.
- Sentinel Hub Basic Subscription
  - Used to access Sentinel Imagery
  - Ended up using OpenEO instead of Sentinel Hub as found the OpenEO python API cheaper and easier to use.

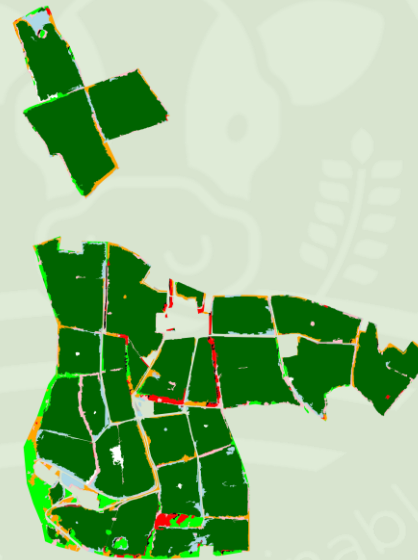
# Results

- Developed a python image processing workflow to analyse Pleiades and Sentinel Imagery and produce extent and condition maps of Irish Farms.

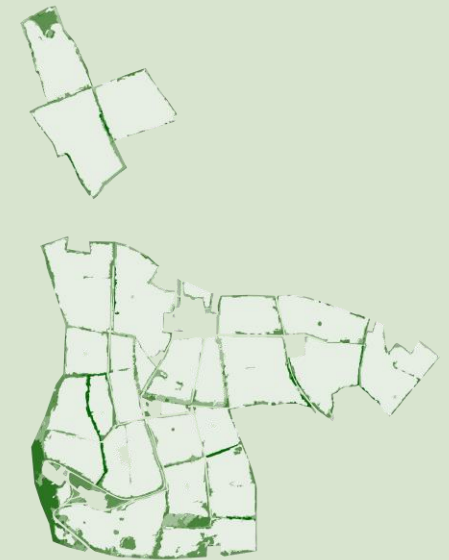
## Satellite Based Habitat Mapping System



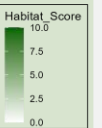
AOI + Pleiades  
Image



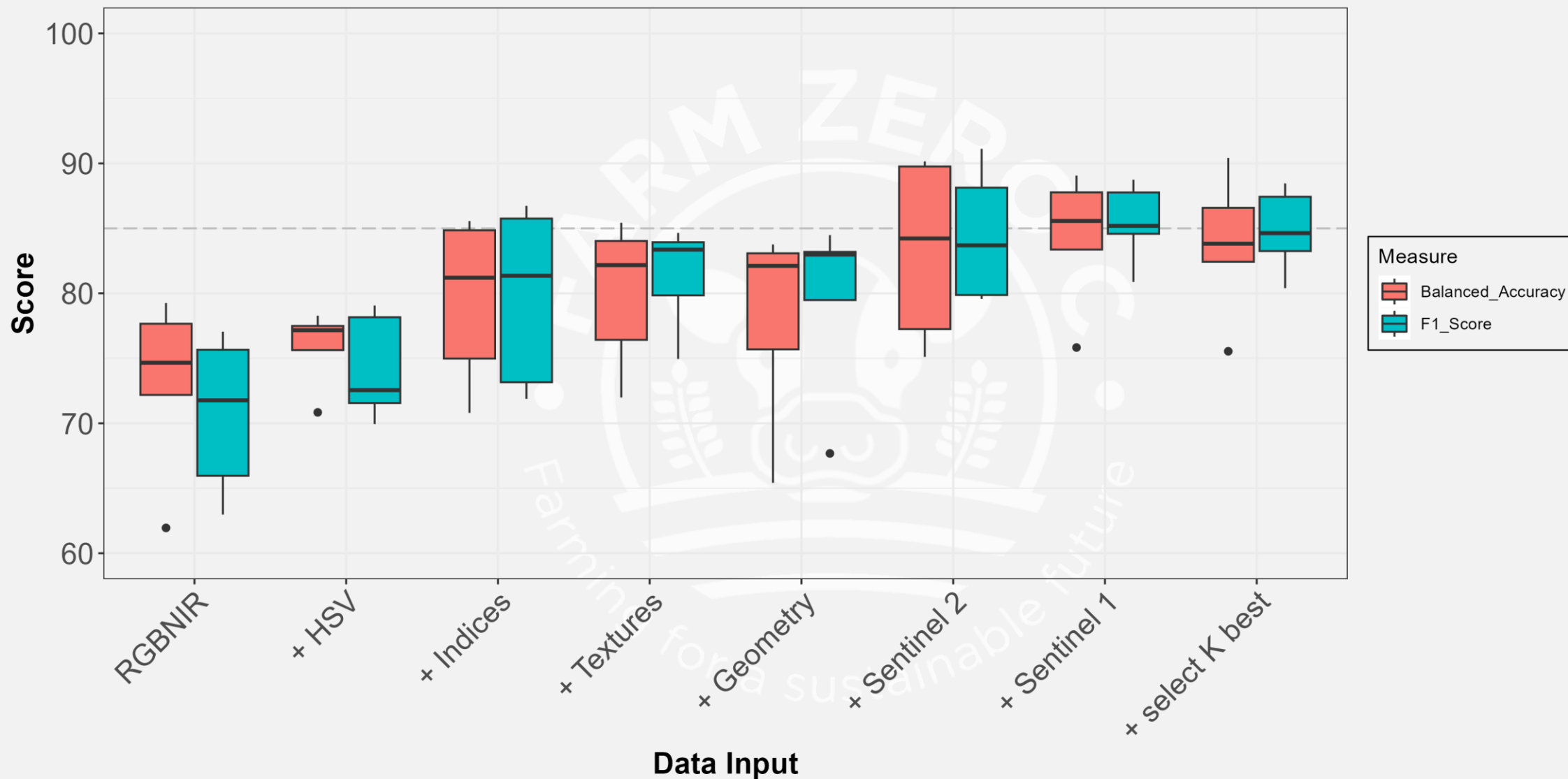
Habitat Map



Condition Map



# Results: Accuracy Assessment



# Next Steps

- Proof of concept successful
- Commercial interest in scaling to whole supply chain for reporting under Corporate Sustainability Reporting Directive
- Developing project to test out technical and economic feasibility of using Pleiades and Sentinel Imagery to monitor biodiversity in agricultural supply chains.