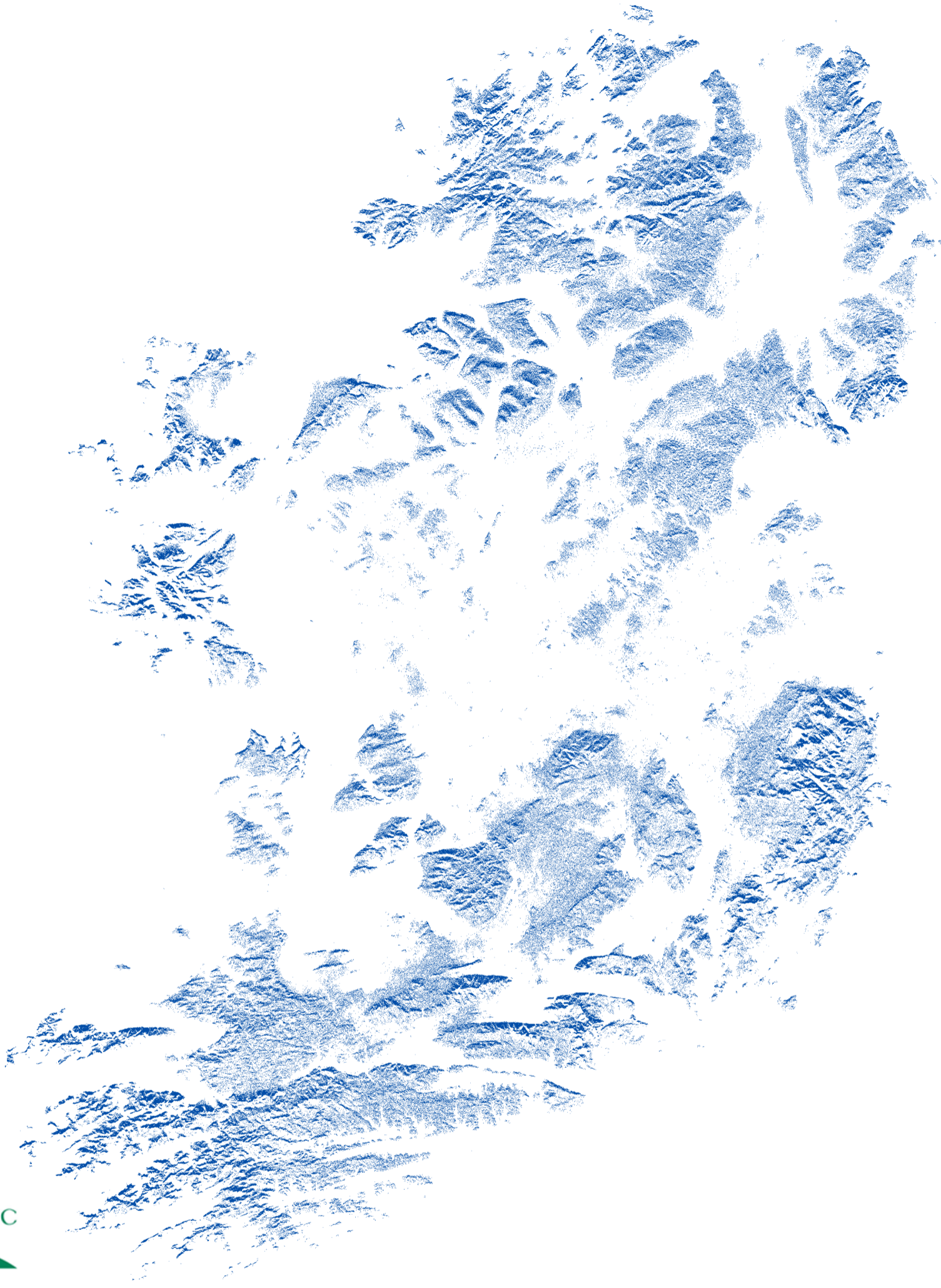


# North-facing slopes

## Topography and the start of spring



Topography describes many aspects of the physical landscape we live in. It includes elevation, slope, and the aspect of each slope (i.e. which direction the slope is exposed to). Elevation in particular has a direct and indirect impact on the climate. The adiabatic gradient describes the change in air temperature due to changes in air pressure. Changes in temperature and pressure also drive the capacity of air to hold water. As air rises up a slope the capacity decreases resulting in precipitation. The slope also has many impacts on the natural landscape. It determines the shape of river catchments, water retention, and nutrient and pollutant flows. It impacts the ability of soils to form at a location, and determines accessibility of landscapes to humans. The aspect of a slope, also has an important influence on local climate. On the northern hemisphere, north-facing slopes receive less direct exposure from the sun, therefore being generally cooler, and more humid, while south-facing slopes are warmer and drier.

This month's map shows areas where topography has a tangible impact. Soil temperature is the key to the start of growth in spring. Besides latitude (studies have shown that in Ireland spring grazing starts a day later for every 16km north), exposure to sunlight is an important factor determining the start of spring. The map shows the North-facing slopes (calculated from the ASTER Global Digital Elevation Model) defined as 293 to 67 degree cardinal direction) with a slope of more than 8.5 % (5 degree) and above 100m elevation. While the effect has not been locally quantified, these slopes are slower to warm up, effectively delaying the start of spring grazing.

Projection: Irish Transverse Mercator

Datasets used:  
ASTER Global Digital Elevation Model (NASA US, METI Japan)

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