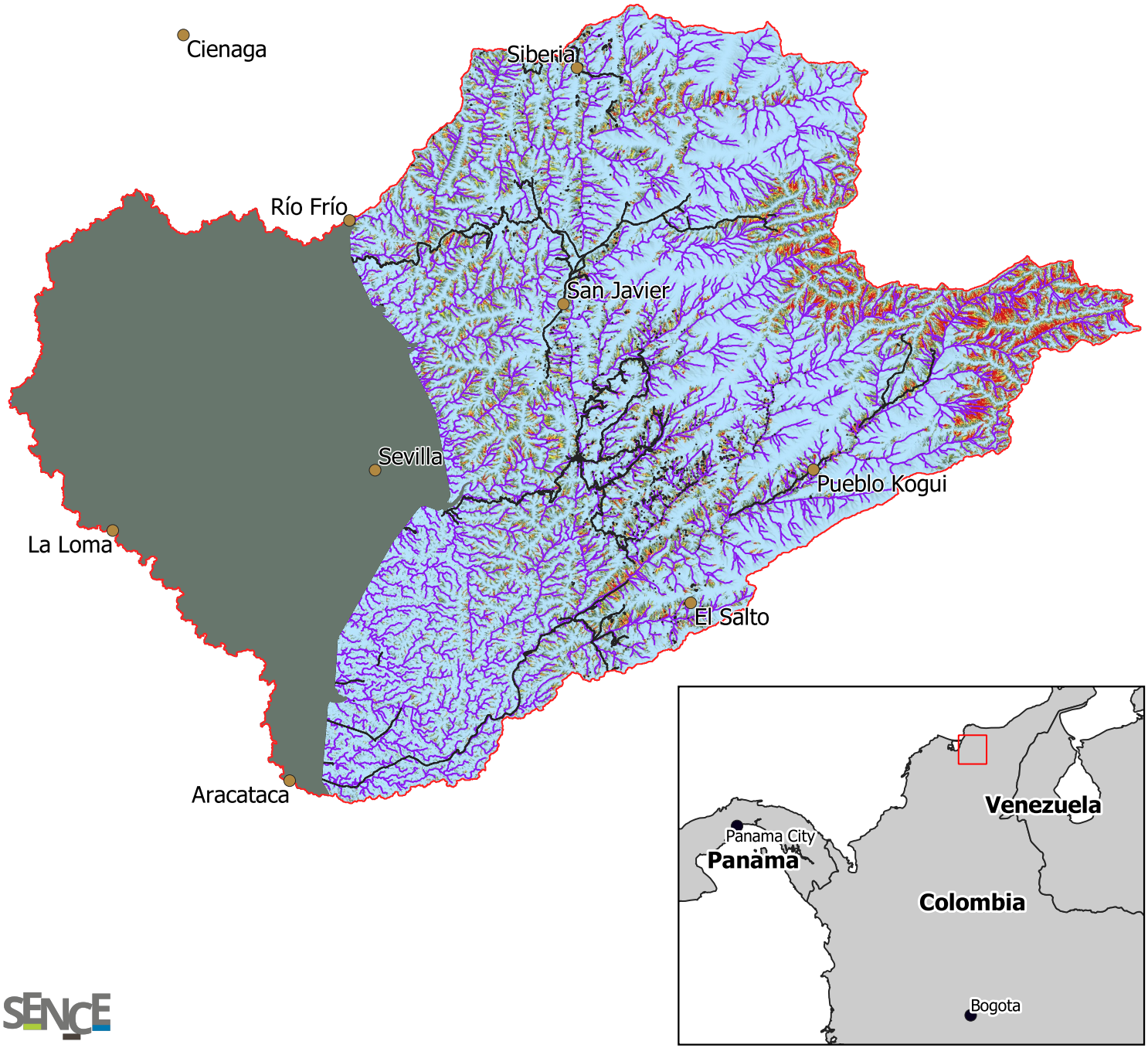
# 4. Risk of soil erosion in the Sierra Nevada caused by precipitation

*Ecosystem services: Conservation of soil and water quality.*
*Limiting sediment entering rivers.*




**How to interpret the map:**
Places of highest risk are coloured red. Places of lower risk are coloured blue.

**What the service is:**
Land erosion risk is a significant factor leading to loss of soil, soil quality degradation, siltation of rivers, damage to habitats and wildlife, and damage to buildings, roads, and other infrastructure.

**Why it is important:**
Soil is a non-renewable resource and where it is lost through erosion, it can take hundreds to thousands of years to re-form. Losing soil disrupts the physical structure of the soil and the balance of biological communities which regulate soil functions, degrading soil quality. Nutrients and chemicals in the soil can be detrimental to the freshwater, wetland and marine habitats they reach, as well as the associated wildlife.

**How the map was created:**
This map was created using SCIMAP which is a framework for modelling and mapping diffuse pollution risk across landscapes. It considers slope, habitats and average precipitation. The map has been created using SRTM, WorldClim, Sentinel 1 and Sentinel 2 data. The current map has been created at the strategic scale and is indicative at a field level. Field visits should be undertaken before any site-specific management decisions are taken. Additional data could be sourced to refine the maps at the local scale; methods for doing this are discussed in the project report.

**Legend**

- Low risk of erosion
- Erosion channel
- Urban and roads
- Not assessed
- High risk of erosion

0 5 10 15 20 km

N

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