The Sombrun Forest Garden Project, 14 route de Moncaup, 65700 Sombrun, France

SITE EVALUATION (October 2020)

Location The Sombrun Forest Garden Project is in the village of Sombrun, in the Hautes-Pyrénées *département* in the south-west of France. It is just a few metres from the Greenwich meridian, 30km north of Tarbes, about 90km north of the Pyrenees, 140km west of Toulouse, 165km east of Biarritz, and 200km south of Bordeaux. It borders the Adour valley, the river which runs through the neighbouring small town of Maubourguet.

Climate Köppen Climate Classification: Temperate Oceanic Cfb with local influence from Pyrenees to the south, Subarctic Dfc

Topography GPS coordinates: 43°28'54"N, 0°00'04"W
Altitude: 212m
Area: 2975m^2
Aspect: Full south-facing slopes
Neighbouring landscape mosaic: Adour flood-plain to the east, with industrial-scale agricultural fields, wooded hills to the west (altitude 280m), smaller wooded and pasture land, polycultures and livestock all around
Current state of the land: Mainly meadow/garden in the forest regeneration stage (pioneer and nitrogen-fixing species, spontaneous and planted). Forest garden plantation under way

Geology Unité Cartographique des Sols (UCS) No. 2101: "Miocene hillsides, generally wooded, with accentuated slopes from the erosion of the Lannemezan and Ger plateaux, mainly clay, occasionally chalk, soils. Brunisols are the dominant soil type (93%); these soils are characterised by an intermediate, homogeneous horizon containing gravel/stones, and are very porous. Brunisols are non-calcareous and arise from the breakdown *in situ* of very diverse parent material"
Current state of the soil: Low level of organic matter, but many bio-indicator plants showing lack/excess of nutrients/minerals (for example, *Achillea millefolium*, indicating soil trauma, dry soils and lack of organic matter and potassium; and *Centaurea jacea* indicating soils with strong hydraulic contrast, salts-forming, with carbonaceous organic matter and lacking nitrogen and potassium, but which may however indicate a rich biodiversity under the right conditions (*Plantes bio-indicatrices*, Gérard Ducerf, Editions Promonature, 2007))

Hydrology Water-divination did not reveal a spring or well, but showed a network of seasonal underground rivulets, which would dry up in drought periods, confirming hydraulic contrast. Contour-level ditches (swales) recently created on slopes to retain surface water (agroforestry system)