

Aperçu des Analyses Techniques réalisées par l'équipe principale Après le 1er Atelier de Zaghouan, Novembre 2016

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System-based Options by Context



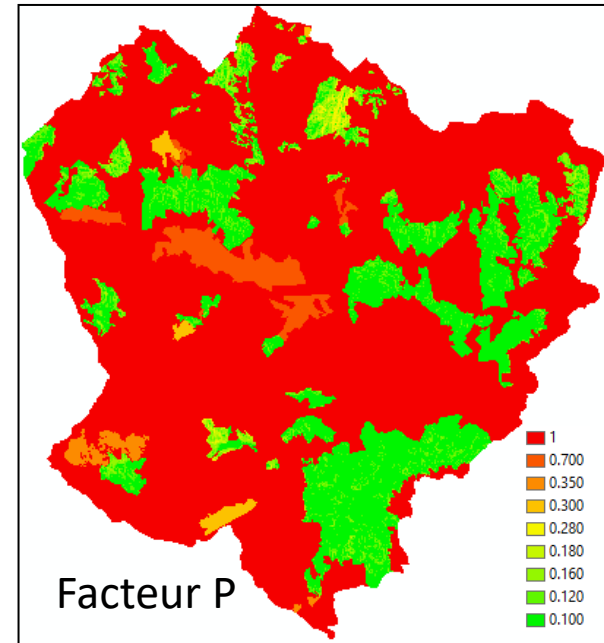
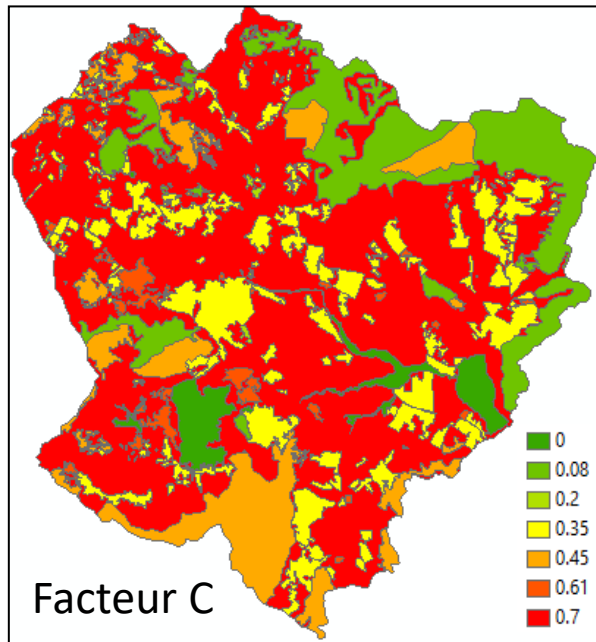
A tool for better investment
decisions in agriculture and
rural development

Projet financé par la GIZ

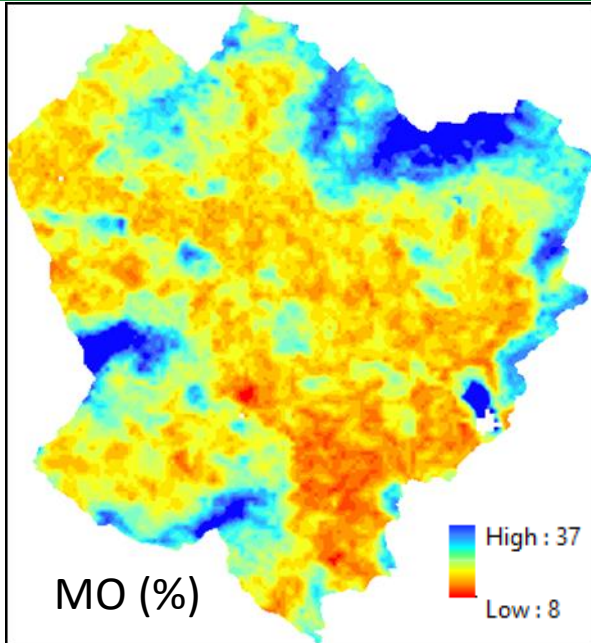
“Evaluation de l'impact des options de GDT pour l'atteinte de la Neutralité
en matière de Dégradation des Terres”

- Occupation/Utilisation des sols: améliorée/rectifiée par l'usage de Google Earth
- Cartographie des pratiques actuelles de Conservation des Eaux et Sols (CES): produite à partir de Google Earth
- Facteurs de Couverture (C) et de Gestion des terres (P):
 - Facteur C: calculé à partir de la carte améliorée de l'occupation du sol
 - Facteur P: calculé à partir de la carte des pratiques de CES
- Facteur K calculé à partir de la matière organique (MO) et la texture du sol (sable: argile: limon) (voir diapositive suivante)

Cartes d'occupation (C) et de gestion (P) actuelles des sols



Calcul de l'érodibilité du sol (Facteur K)



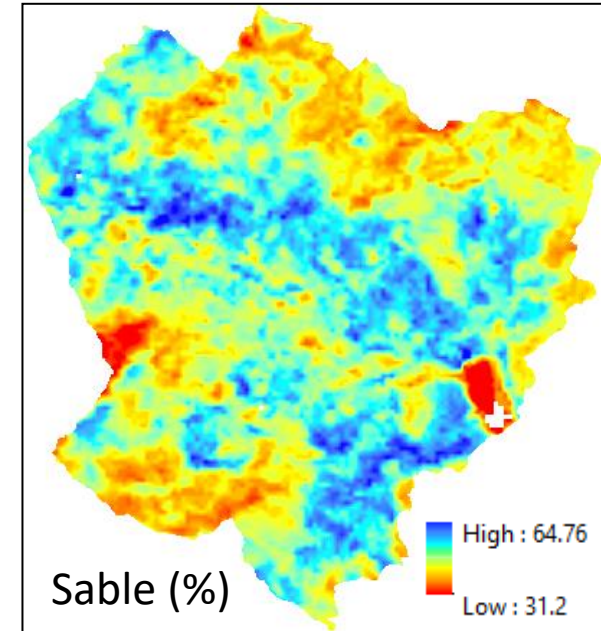
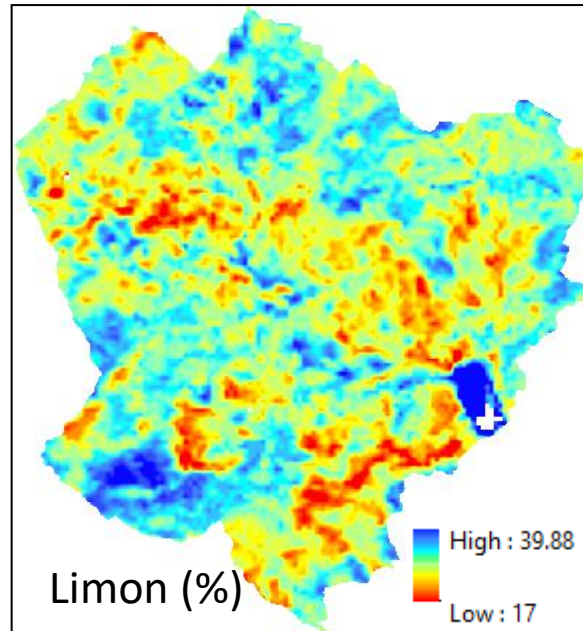
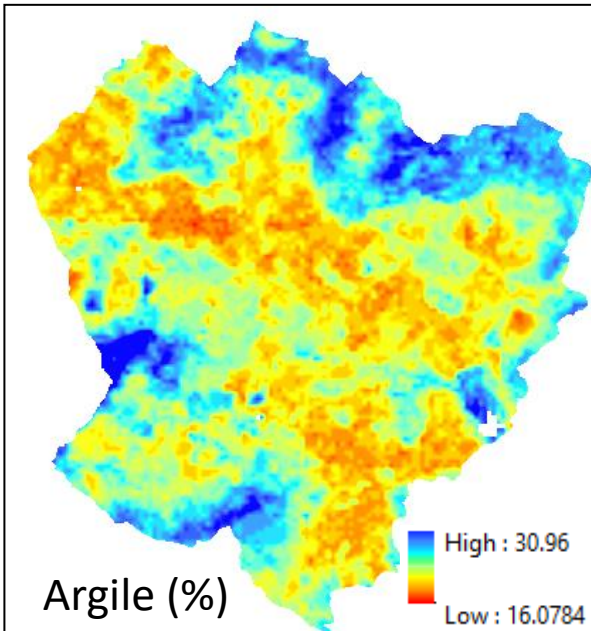
Facteur K calculé à partir de la matière organique (MO) et la texture du sol (sable: argile: limon):

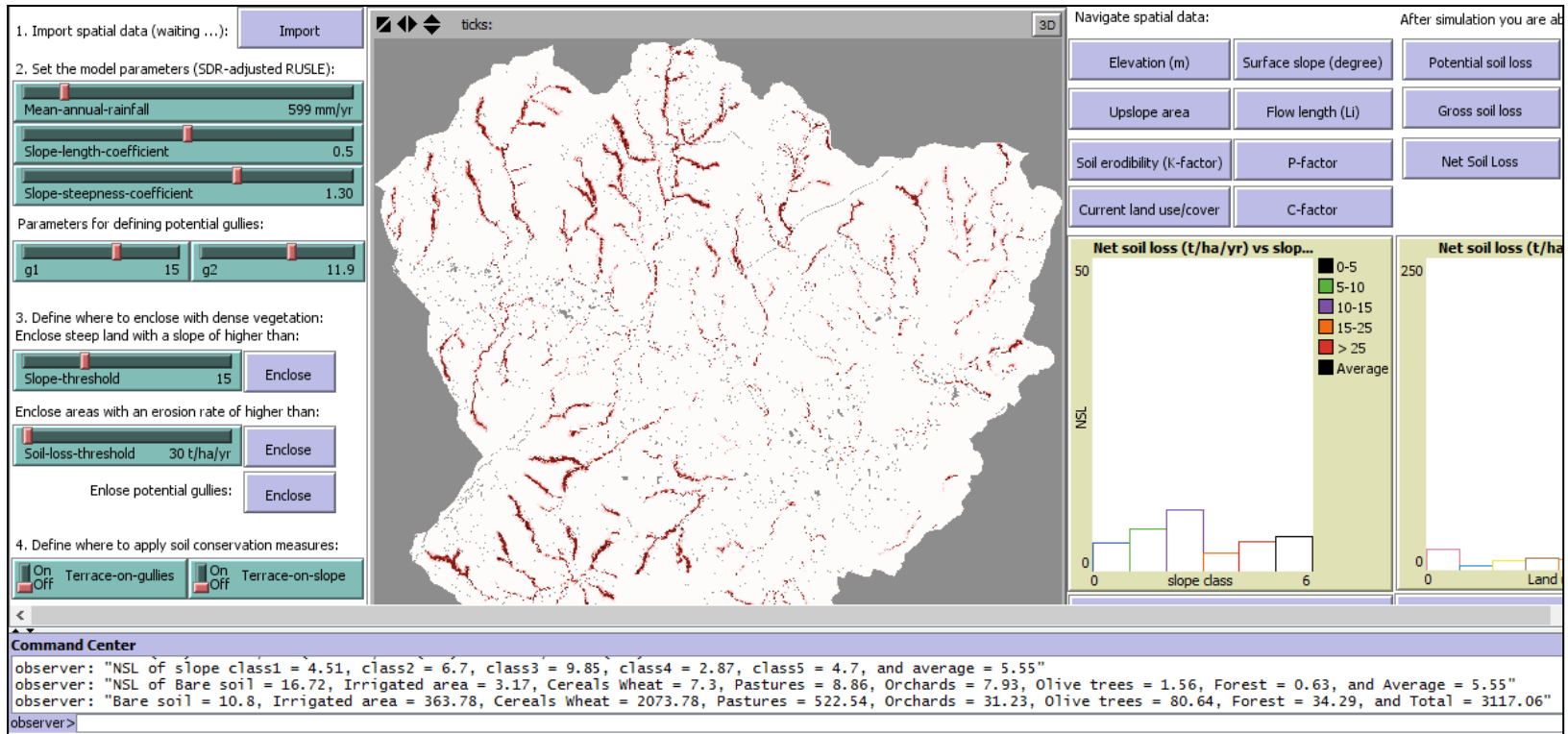
$$K = \frac{[2.1M^{1.14}(10^{-4})(12 - OM)]}{7.59}$$

$$M = ((\% \text{silt} + \% \text{sand}) \times 100 - \% \text{clay})$$

Primary data sources:

<http://www.isric.org/data/afsoilgrids250m>





The screenshot displays the iLAMP software interface with the following components:

- 1. Import spatial data (waiting ...):** Includes an 'Import' button.
- 2. Set the model parameters (SDR-adjusted RUSLE):**
 - Mean-annual-rainfall: 599 mm/yr
 - Slope-length-coefficient: 0.5
 - Slope-steepness-coefficient: 1.30
 - Parameters for defining potential gullies: g1 = 15, g2 = 11.9
 - 3. Define where to enclose with dense vegetation:
 - Enclose steep land with a slope of higher than: Slope-threshold = 15 (Enclose)
 - Enclose areas with an erosion rate of higher than: Soil-loss-threshold = 30 t/ha/yr (Enclose)
 - Enclose potential gullies: (Enclose)
 - 4. Define where to apply soil conservation measures:
 - Terrace-on-gullies: On/Off
 - Terrace-on-slope: On/Off
- 3D View:** A central 3D terrain map showing a watershed with red contour lines.
- Navigate spatial data:** A grid of buttons for various spatial data layers: Elevation (m), Surface slope (degree), Potential soil loss, Upslope area, Flow length (Li), Gross soil loss, Soil erodibility (K-factor), P-factor, Net Soil Loss, Current land use/cover, and C-factor.
- After simulation you are at:** Two bar charts showing Net soil loss (t/ha/yr) vs slope class and Net soil loss (t/ha/yr) vs Land. A legend indicates slope classes: 0-5, 5-10, 10-15, 15-25, > 25, and Average.
- Command Center:**

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observer: "NSL of slope class1 = 4.51, class2 = 6.7, class3 = 9.85, class4 = 2.87, class5 = 4.7, and average = 5.55"
observer: "NSL of Bare soil = 16.72, Irrigated area = 3.17, Cereals Wheat = 7.3, Pastures = 8.86, Orchards = 7.93, Olive trees = 1.56, Forest = 0.63, and Average = 5.55"
observer: "Bare soil = 10.8, Irrigated area = 363.78, Cereals Wheat = 2073.78, Pastures = 522.54, Orchards = 31.23, Olive trees = 80.64, Forest = 34.29, and Total = 3117.06"
observer>
```

- iLAMPT: integrated Landscape Management Planning Tool (acronyme anglais)
- Paramètres améliorés
- Intégration des options de CES identifiées lors du 1^{er} Atelier