

**UC1b Agro-environmental monitoring**

✓ **Overall timeline and current status**

**UC1b Carbon budget Tier1 at parcel level**

UC1b Carbon budget Tier1 at parcel level	2019						2020						2021						2022																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	design						development			single MS testing			multi MS testing			further development, testing																			

**UC1b Carbon budget Tier1 at pixel level**

UC1b Carbon budget Tier1 at pixel level	2019						2020						2021						2022																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	design						development			single MS testing			further development, testing																						

**UC1b Carbon budget Tier2**

UC1b Carbon budget Tier2	2019						2020						2021						2022																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	design						tbd																												

**UC1b Carbon budget Tier3**

UC1b Carbon budget Tier3	2019						2020						2021						2022																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	design						development			single MS testing			further development, testing																						

**UC1b Nitrate leaching Tier1**

UC1b Nitrate leaching Tier1	2019						2020						2021						2022																
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	design						development			single MS testing			further development, testing																						

**UC1b Nitrate leaching Tier2**

Design ongoing

**UC1b Biodiversity conservation**

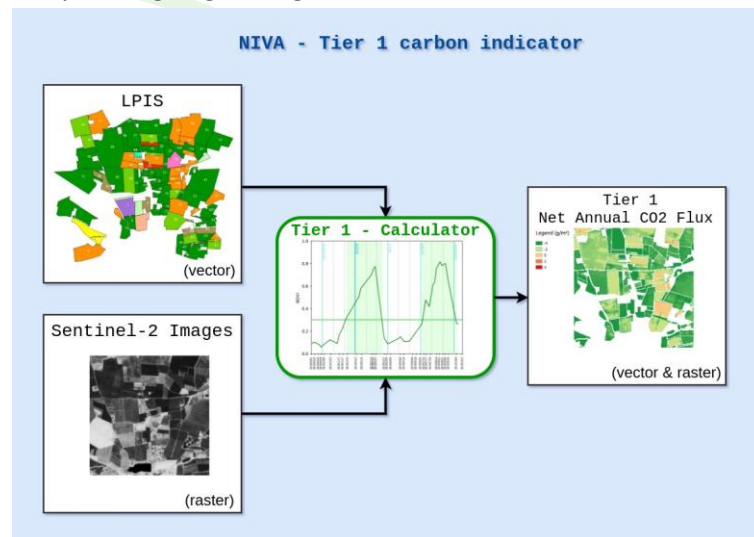
Design ongoing

✓ **Components already available**

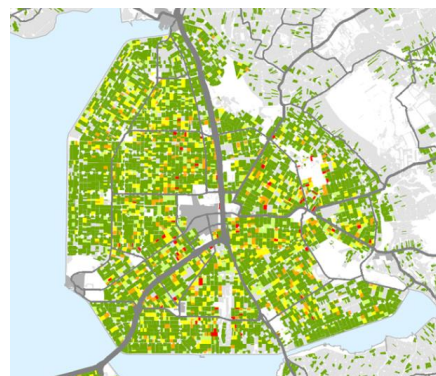
Tools to calculate NIVA UC1b Tier 1 Carbon Indicator at parcel and pixel level:

- UC1b Carbon budget Tier1 at parcel level – version 1.2 - source code is available in NIVA Gitlab repository (currently accessible only to NIVA partners) [https://gitlab.com/nivaeu/uc1b\\_tier1\\_co2](https://gitlab.com/nivaeu/uc1b_tier1_co2)

- UC1b Carbon budget Tier1 at pixel level - version 1.0 - source code is available in NIVA Gitlab repository (currently accessible only to NIVA partners) [https://gitlab.com/nivaeu/uc1b\\_tier1\\_co2\\_pixel](https://gitlab.com/nivaeu/uc1b_tier1_co2_pixel)
- ✓ **Further development and improvement plans**  
 UC1b Nitrate leaching Tier1 is expected to be available at [https://gitlab.com/nivaeu/uc1b\\_tier1\\_nitrate](https://gitlab.com/nivaeu/uc1b_tier1_nitrate)  
 Development of other indicators is ongoing during 2021. Further status updates about UC1b to be published in NIVA website.
- ✓ **Additional materials**
  - UC1b Carbon budget Tier1 at parcel level has been successfully developed and tested in several zones in France and Spain, in the territory of the Netherlands and is currently undergoing testing in Denmark.



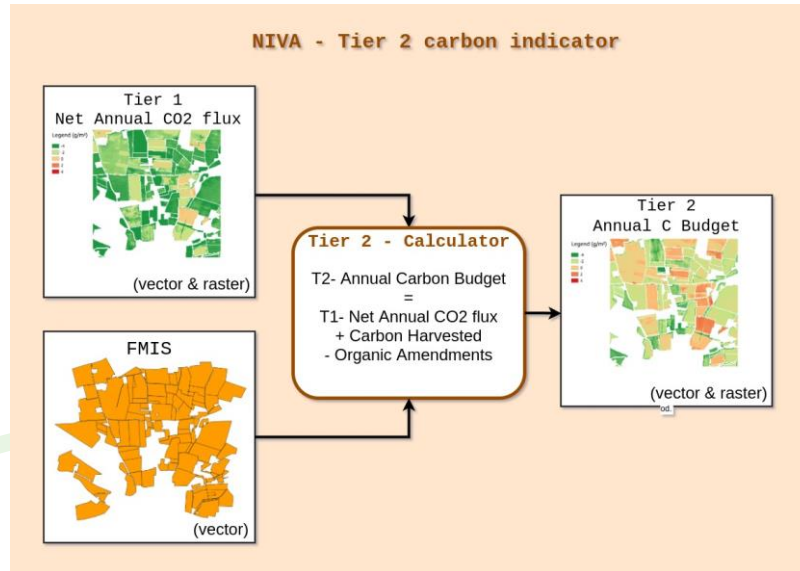
Test results:



Annual CO<sub>2</sub> fixation  
 Annual CO<sub>2</sub> losses

Net annual CO<sub>2</sub> fluxes of croplands in the Netherlands (2018)

- C1b Carbon budget Tier1 at pixel level component is currently in internal testing phase.



- UC1b results have been recently presented at several workshops:
  - [The Good Practice Workshop \(16-17 March 2021\)](#)
  - [Copernicus and the Common Agricultural Policy \(9-10 March 2021\)](#)
  - [Final User Workshop of the Sen4CAP project \(4-5 March 2021\)](#)