



The Full Lands Integration Tool (FLINT)

What are the problems that need to be solved?

The Paris Agreement saw many countries commit to reducing greenhouse gas emissions through activities in the land sector. If this is to be achieved, there is an urgent need to increase the efficiency with which Measurement, Reporting and Verification (MRV) can be developed, implemented and operated by developing countries. Paris has also increased the outputs required from such systems, in particular the need to cover more of the land sector and to develop projections to allow for the setting of Nationally-Determined Contributions (NDCs) and tracking progress towards them.

Many countries have made products from remote sensing and ground data to support emissions estimates from the land sector, in particular for REDD+. While valuable, to produce policy-relevant information these products need to be combined in a purpose-built system. To do this requires a tool that can be modified to fit country circumstances, produce UNFCCC compliant reports, develop projections to support NDCs, and support broader land-use planning and tracking of policy outcomes, including co-benefits. The tool also needs to allow for continuous improvement of estimates as new and better data become available.

How does the FLINT solve these problems?

The FLINT is a new integrating tool that aims to make implementing and operating emissions estimation systems for the land sector achievable by all countries. It provides a framework for countries to develop their systems, data, products, and capacity in a progressive manner without the constraint of specific methods or models. This allows countries to start with initial simple implementations (Tier 1) then move to Tier 2 or 3 as required.

The FLINT is a new tool that integrates products developed from remote sensing and ground data to produce information that is useful and meets the needs of the Paris Agreement (Figure 1). It does not lock countries to any specific remote sensing or emissions estimation method. It allows for full analysis of fine resolution time series data, development of projections, and provides a framework for continuous improvement. It can operate on the whole land sector and support multiple objectives for sustainable land-use planning and policy development.

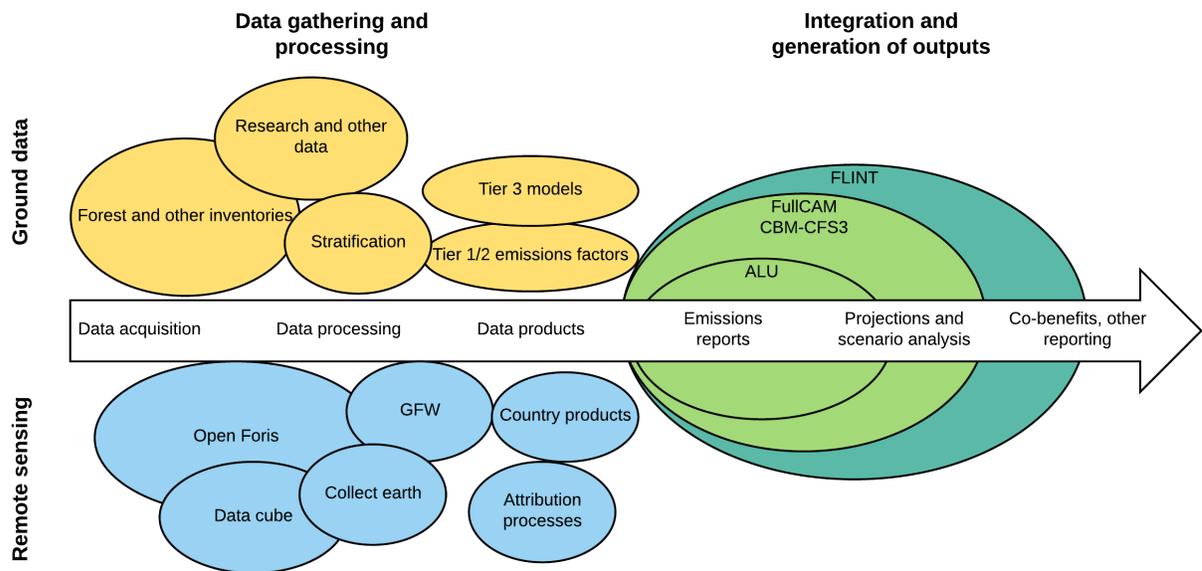


Figure 1: Flow of data and analyses to reach emissions reports and beyond

How is the FLINT different to earlier integrating tools?

The FLINT is using the lessons learned from first generation tools, to build a new framework that meets present and future needs. The key improvements compared to the first generation tools include:

- a flexible, modular approach, allowing for country specific implementations from Tier 1 to 3
- support for both wall-to-wall and sample based approaches
- the ability to cover all land uses and land use changes, and activity-based reporting such as REDD+
- scenario analysis systems to allow the development of projections
- the potential to be used for multiple other purposes, including economics, water and biodiversity
- development managed using a true open source approach under moja global (<http://moja.global>), which will allow countries to help direct the ongoing development of the tool.
- software that allows data processing on local desktops or cloud-based systems

How can the FLINT help countries with their MRV systems?

The FLINT can help countries in three key areas:

Cost: To develop new tools is a costly excise, in terms of both time and money. By providing a high-quality framework, the FLINT can greatly reduce the costs and the time required to implement more advanced systems. Using a recognised framework can also help countries gain greater acceptance of their results and increase confidence that the emissions reductions they produce are real. Focusing development efforts on one central framework rather than multiple simple frameworks can greatly reduce costs for countries and donors.

Providing a framework for development and operation. In combination with guidance such as the GFOI Methods and Guidance Document and REDDcompass the FLINT can help guide countries in determining how to implement their MRV systems. The structure of the FLINT also allows countries to establish their data management systems around the core framework. This can make the task of collecting and analysing data to improve estimates faster and more efficient. It can also guide the process of continually improving the system by identifying key sources of uncertainty.

Capacity development. Having a single core framework will allow multiple users and countries to become experts in the system. It makes capacity building processes much more efficient and will allow a strong user community to develop. This will greatly increase the overall capacity to use these FLINT tools and systems, and also increase the overall sustainability of both the FLINT and country systems. Providing software tools that facilitate the access of countries to global data sets such as land-cover change products will also contribute to capacity development.

How can countries access the FLINT, and contribute to it?

The FLINT is an open source tool under active development by the moja global team. The code is available on GitHub. Potential users and developers should contact the moja global team at info@moja.global. Users can also download specific configuration and modules to run the FLINT (see diagram below).

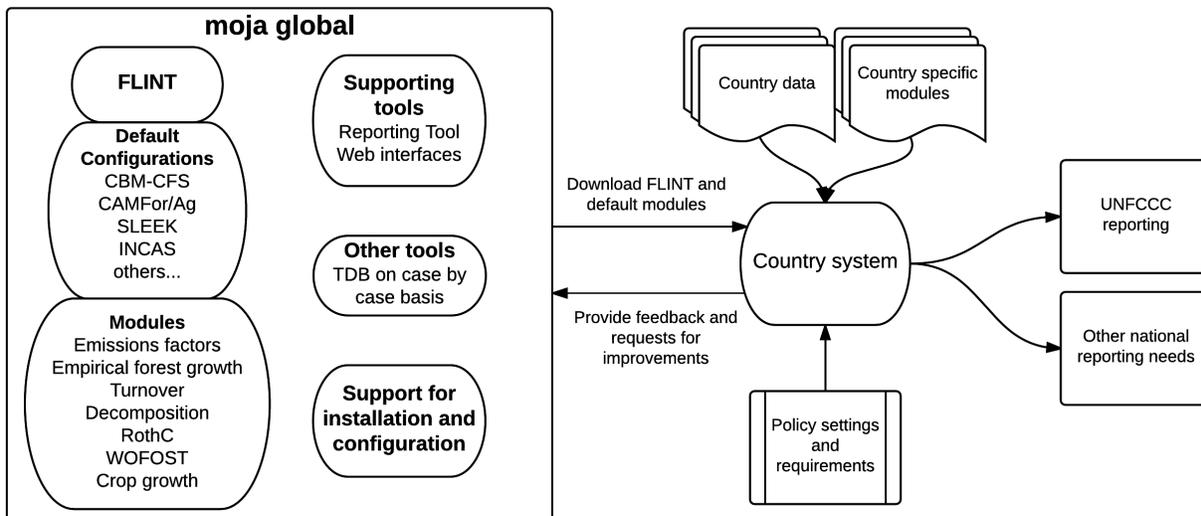


Figure 2: Flow of data and analysis to reach emissions reports and beyond