FAQs: Global Field ID

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1. What is the difference between a field and a boundary?

Field:

- It's a conceptual object. Fields have a defined location, but they aren't tightly tied to a specific geometry. The shape of the field can change over time and still be the same field with the same ID.

- It has a degree of permanence beyond seasons and retains history over time. Therefore, it's more stable than a bBoundary and can be used for use cases that do not require complex spatial processing and just need to match related data (e.g., group data for traceability).

Boundary:

- It's a spatial concept. It is based on geometry and spatial delineation of a land parcel.

- Boundaries are used most in precision agriculture. They refer to an area of land specific to an operation, even if it only covers part of a field.

- In the Global Field ID product, new boundaries are created within a Field based on types, seasons, users, and sources.

2. What is the relationship between fields and boundaries?

We have a 1-to-many relationship between fields and boundaries. However, each field always has one active boundary, defining its spatial footprint at a time, which must not overlap with any other field's active boundary.

The Global Field ID product allows any number of boundaries to be registered, and thus any point on the map might have multiple boundaries representing specific operations.

The boundary of a field can change over time, but the history is retained using a link between the field and boundary, each of which has a timestamp. Any 'old' boundary is retained. This helps application developers to maintain an up-to-date view as boundaries change.

Field ID can connect many Boundary IDs

Boundary IDs are based on geometry and spatial delineation of a land parcel. New boundary IDs are created within a field ID based on practice, season, user and origin.

Practeces	**Seasons**	**Users**	**Origins**
delineated, fertilizer, harvest, boundary…	harvest 2021, harvest 2022…	user 1 of field 1, user 2 of field 1…	government LPIS or growers FMIS, earth observations

/\ **Global Field ID**

Field ID is not tied tightly to geometry like a Boundary ID. It has a degree of permanence beyond seasons and retains history over time.

Canonical Boundary A
Boundary B
Boundary C
Boundary D
Field ID 1
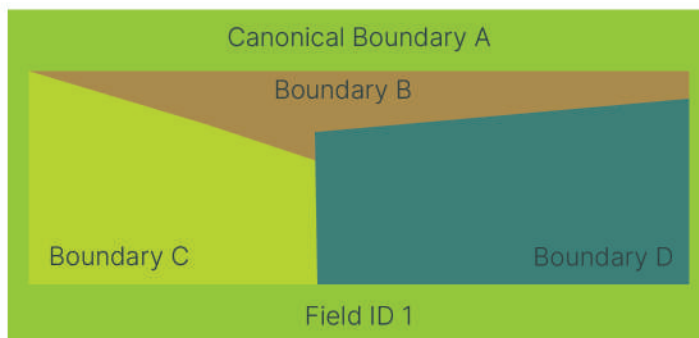
3. How does Global Field ID keep track of changes to fields over time?

The Global Field ID product tackles changes over time by decoupling the concept of the field and its boundaries and storing history.

There are two types of changes:

Changes to the boundary that don't turn it into a different field.

- The old boundary ID is 'deactivated' (not deleted) and a new boundary is linked in its place (the date of the change is recorded). The field ID doesn't change.

- Since the old boundary still exists with its own ID, use cases that depend on identifying a specific boundary are not impacted but are able to understand that the field itself has since changed.

Changes to the boundary that turn it into a different field (e.g., splits, merges, and farmland development)

- It is possible to 'deactivate' one or more field IDs and replace them with new fields, each of which has its own boundary (e.g., when a tree line is removed to create a larger single crop area, one new field ID can be created to replace the previous two).

- All applications integrating the Global Field ID product will be able to trace these events and access the history.

4. What is the relationship between fields and crop zone polygons?

A crop zone is identified as a boundary within the Global Field ID product (GFID). A boundary ID can be used to identify a specific area of land within the field because GFID also allows the registration of multiple boundaries.

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5. Does Global Field ID support all kinds of different field

Yes, it does. Even if there is a region within the field that is not part of the field, it can be identified with a boundary ID.
We will soon introduce the ability for API client applications to register such boundaries on behalf of their users.

6. Does Global Field ID plan to serve smallholder farmers

The GFID product aims to have a complete set of boundaries for each country it covers. We currently have coverage of the UK, France, and the Netherlands, and we are planning a rollout in the Americas during 2023 (starting with Brazil and the US). We expect smallholder geographies in Asia and Africa to be added in 2024.

However, we will soon introduce the capability for users of the GFID product to create field IDs by submitting boundaries from anywhere in the world, even without having done the roll-out for that country.

7. Does GFID store information about the field (e.g., carbon footprint)?

The GFID API limits itself to metadata about the field itself and does not hold any type of data (e.g., data about farmers' practices).

We believe that GFID should be an enabler for all, and not compete with existing data providers or farm management applications. It aims to be a "universal language" that ensures data exchange between applications and data discovery throughout the supply chain.

8. Is Global Field ID free to use?

To ensure that the service is sustainable, we plan to introduce a fee structure for commercial use. However, the product will be accessible at no cost for some categories of users (e.g., farmers and non-profits).

9. How do I access GFID?

GFID is primarily an API integration product. Access to the GFID API requires credentials, which are currently granted upon request. For further details please visit the developer portal: https://developer.varda.ag/
A free-to-use user interface will soon be released that enables users to locate, identify and manage their fields.

10. Is there an API to bring Global Field ID meta/data to inform public records and registries - especially for small farmers and cooperatives?

Yes, the Global Field ID product is an API-based product, and public records and registries can annotate their boundaries integrating with it. The API is available today, and we are open to discuss with public sector organizations.

However, the vision for the Global Field ID product is to be the single source of truth for fields and their boundaries. Both public and private entities can use the GFID API to decrease the burden on farmers, agronomists, and governments in maintaining multiple separate records, whilst increasing the data quality. Users should be able to use GFID, or any application supporting GFID, to automatically update the systems they use to manage farm operations and the systems operated by government bodies.

11. What are the key differences between Varda's Global Field ID and other solutions aiming to solve the same issue?

Like other boundary ID solutions, the Global Field ID product (GFID) enables the registration and deduplication of boundaries of any type.

Unlike other boundary ID solutions, it goes beyond by maintaining a unique identifier for a field itself, that does not overlap with other fields. This field always has a geometry available to define its location but can also be linked to other boundary geometries connected to different purposes or sources.

In addition to that, GFID stands out by providing out-of-the-box boundary geometries for the whole country where there is coverage (instead of providing an infrastructure-only solution where boundary geometry data must be entered by its users). Being able to consistently identify all fields at scale, lowers barriers to the use of field-level data for different use cases (e.g., traceability, or monitoring regenerative agriculture practices).

12. I am an agronomist/advisor. How can GFID help me?

As an agronomist/advisor, increasing the number of acres/growers that you can provide valuable advice to is important. GFID can help you spend less time on 'data management' and more time on giving valuable advice. Some examples are:

- Less time editing growers' boundaries because they will already be available the first time you use an application, and any changes need to be made only once.

- Ease the sharing of plans and data back and forth with the grower, as you will both be working from the same definition of the field even if you use different applications.

13. I am a farmer. How can GFID help me?

As a farmer, increasing farm productivity is crucial. We know that the implementation of RegAg practices is cost-intensive (e.g., expensive verification of carbon offsets, premium for sustainable inputs, etc.) and that the usage of multiple farming applications (e.g. FMIS) is time-consuming (e.g. cumbersome integration/onboarding process). GFID can help to:
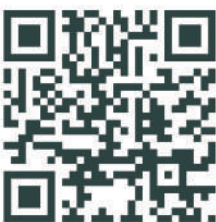
- Generate a new revenue stream in the carbon markets by making RegAg. practices more accessible and transparent throughout the supply chain.

- Reduce the time spent on entering field details and keeping them updated (drawing or fixing boundaries) by doing it once.

Contact Us to Learn More

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