GIS in the MOAG

Agricultural mapping in ISRAEL

Background

- Total area – 22,000 km² (5,500 acres).
- Area for agricultural crops – 4,000 km².
- Most of the land is owned by the state. Only a small part of the land is owned by private elements.
- Agricultural settlements: planned (land is leased from the state), private (land is owned by the farmers).
- Planned settlements: moshavim & kibbutzim.

Background

Kibbutz – the residence is in one place.
The agricultural lands are located separately.

Moshav – each farmer lives in his parcel with the agricultural lands behind the residence.

Non planned settlements – no connection between residence and agricultural lands.

Background

Information Systems Service

GIS

Cadaster parcels

Agricultural parcels

Agricultural parcels

- Collecting data from various sources
- Data collected from various surveys of the MOAG, Plants Council, KANAT (Insurance Fund for Natural Risks in Agriculture)
- Survey data collected by external companies
- Data collected from aerial photographs.

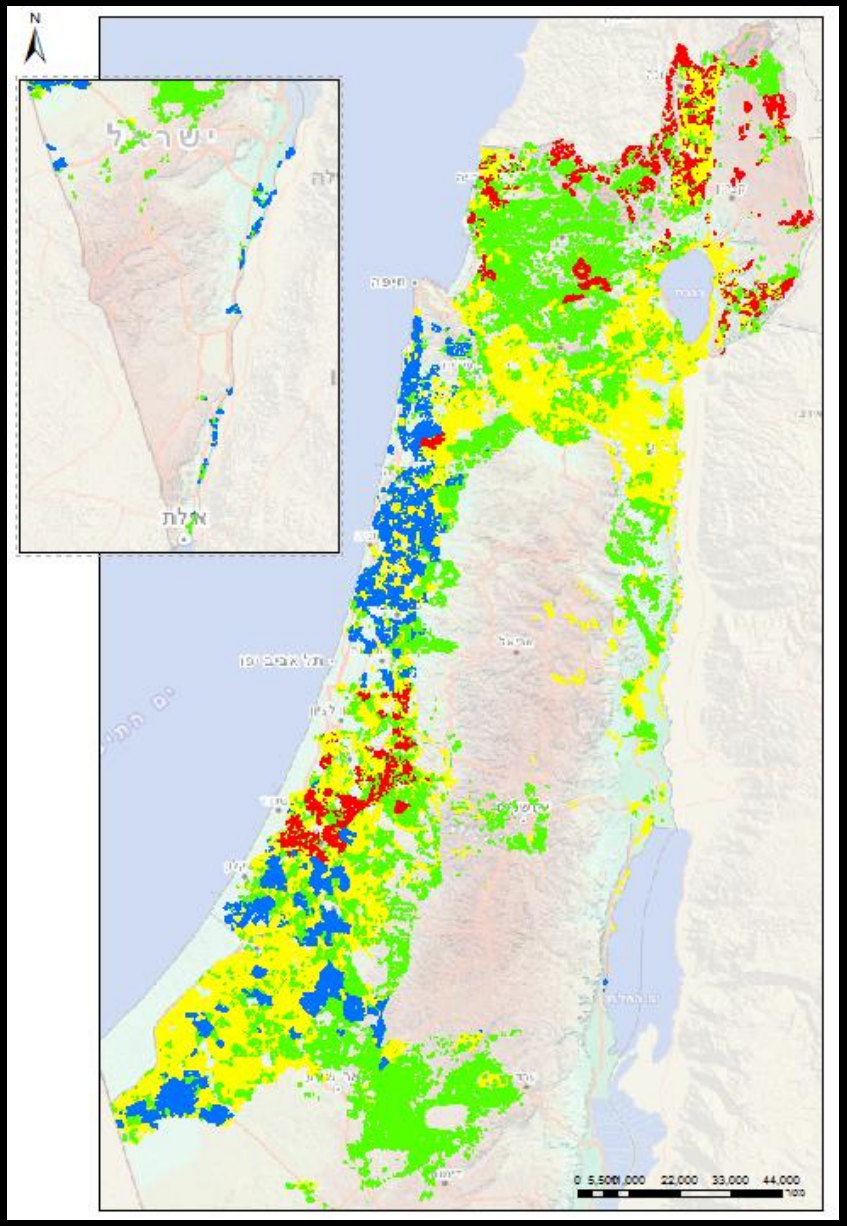
Agricultural parcels

Information Systems Service

The Current Situation

hectare	parcels	source
138,516	63,369	AP
185,948	37,944	MOAG
35,784	26,387	Ofek
54,143	30,529	System
414,392	158,229	סה"כ

AP
MOAG
Ofek
System



Agricultural parcels

The purpose of the survey

- Mapping all the agricultural areas in Israel.
- Creating a database used to:

1. Agricultural statistics.
2. Efficient allocation of means of production.
3. MOAG's ongoing work with the farmers.
4. Aid to farmers (spray, land management).

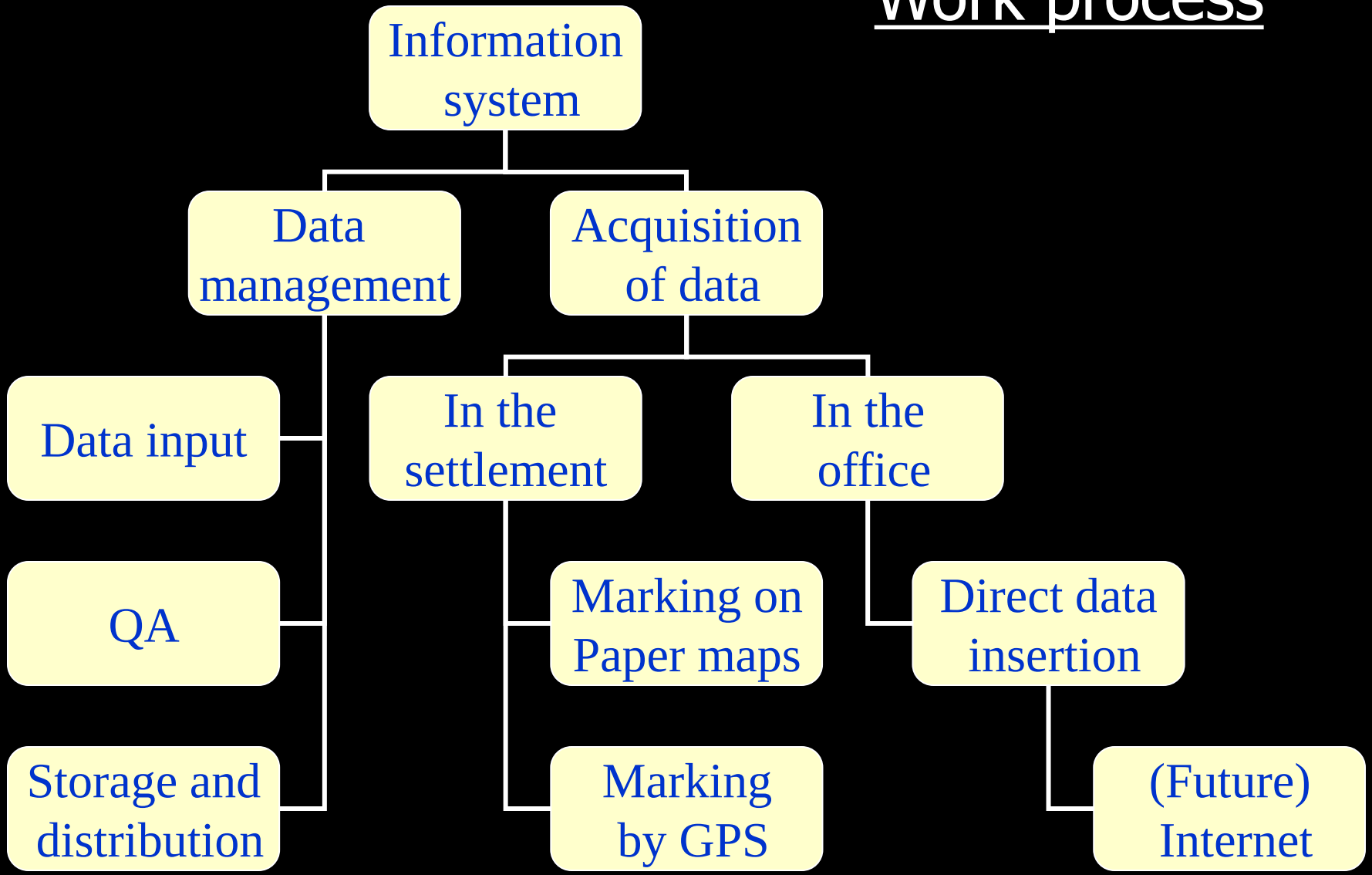
Agricultural parcels

The information collected

- Parcel identification (ID, name /number of the parcel, the farmer, City, District, cadaster parcel, update date).
- Crop (type, species, seasonality, cover organic, year of planting).
- Water (type, source, irrigation, consumer No.).

Agricultural parcels

Work process



Agricultural parcels

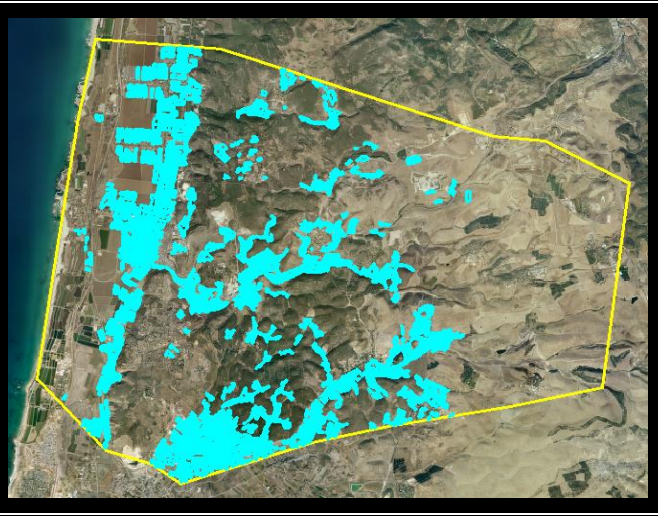
Applications

200 m shield radius (well – plantation)

Locating damaging pests for a crop – positioning suitable traps

Agricultural parcels

Applications

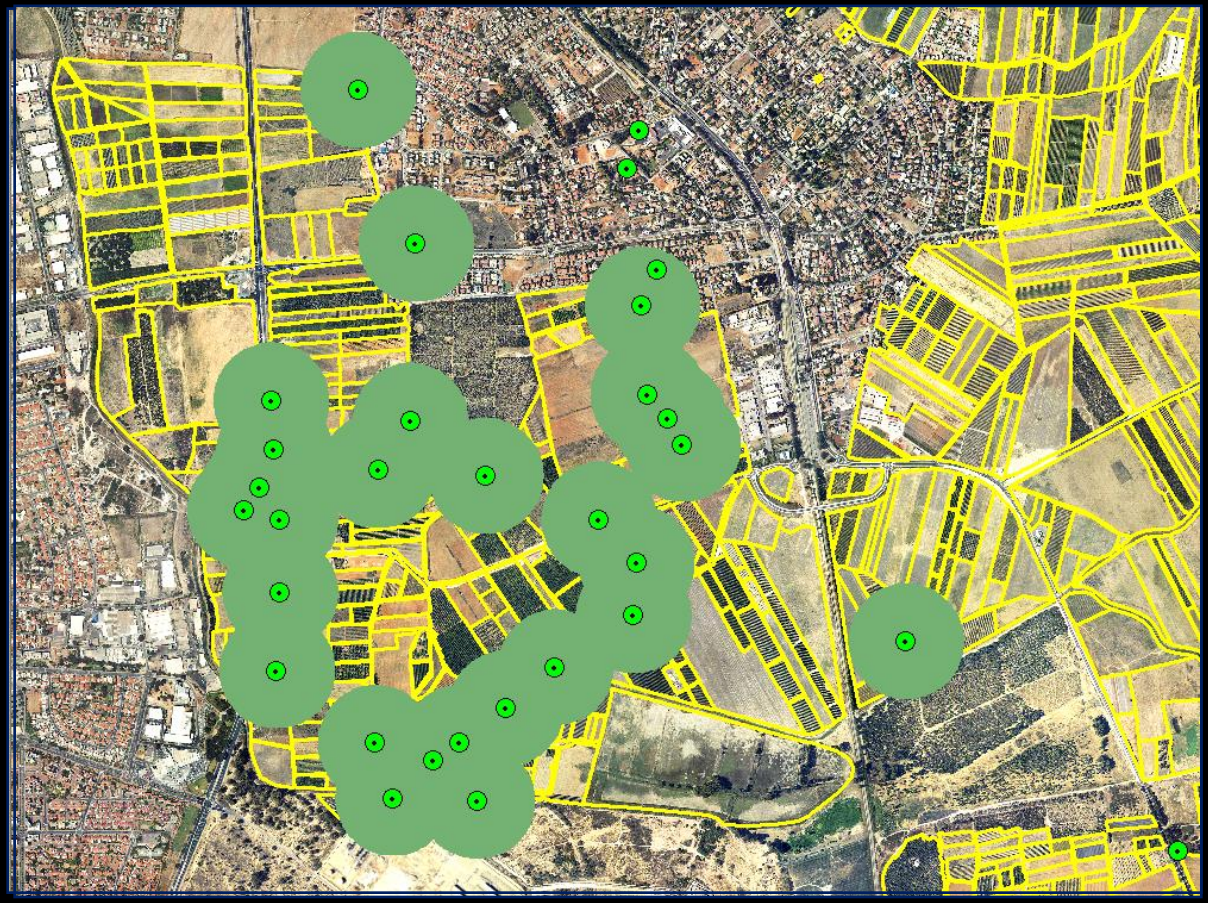


nature disaster area

Identifying parcels with high potential for cold damages

Agricultural parcels

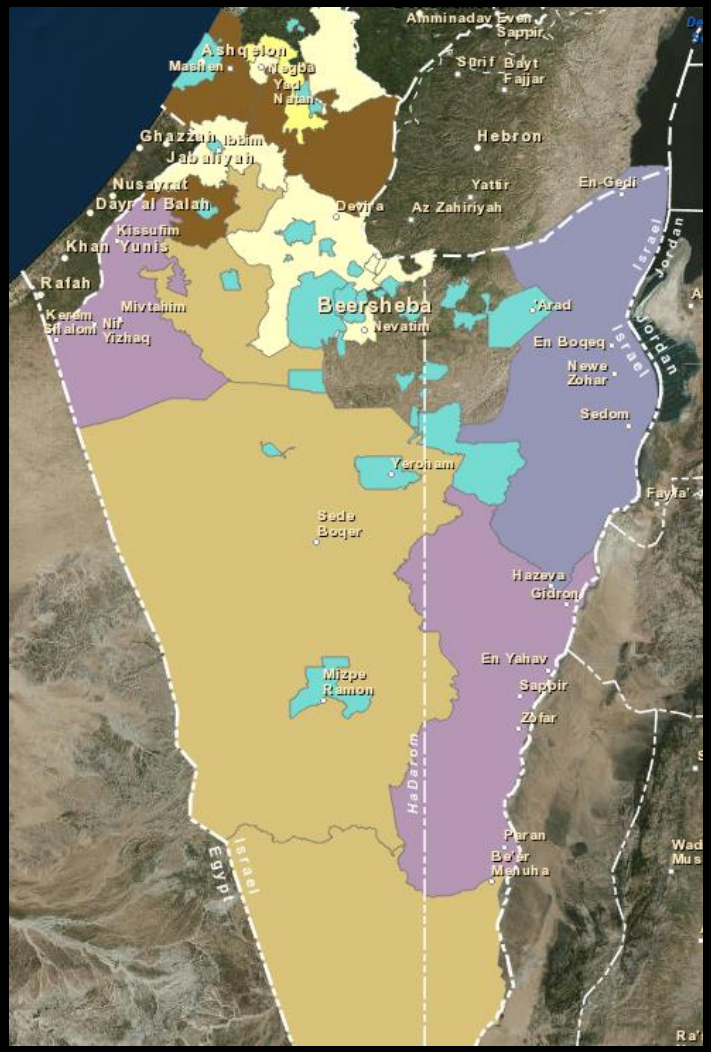
Applications



Agricultural parcels

Applications

- Calculation of Agricultural Waste
- Finding the optimal construction of waste disposal facilities



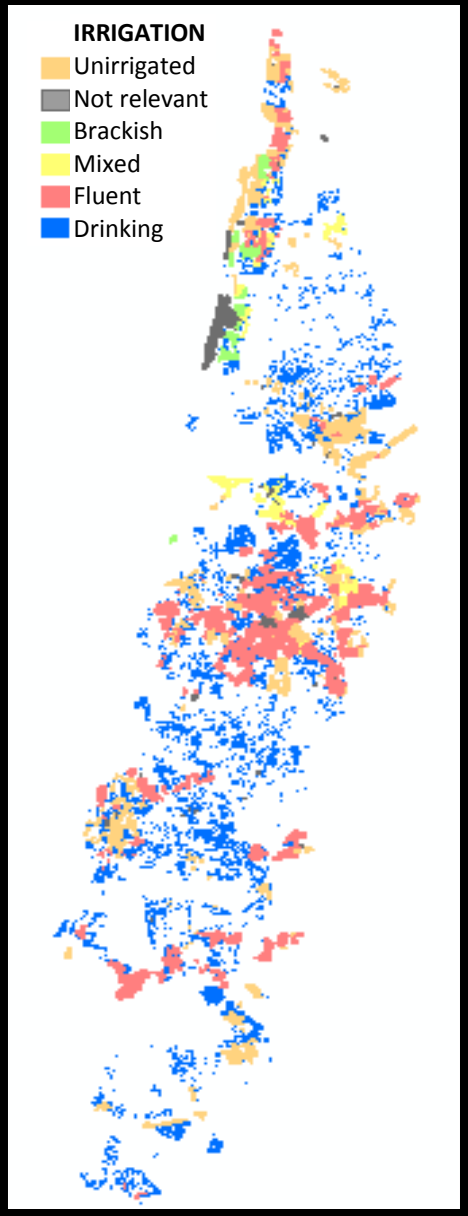
Agricultural parcels

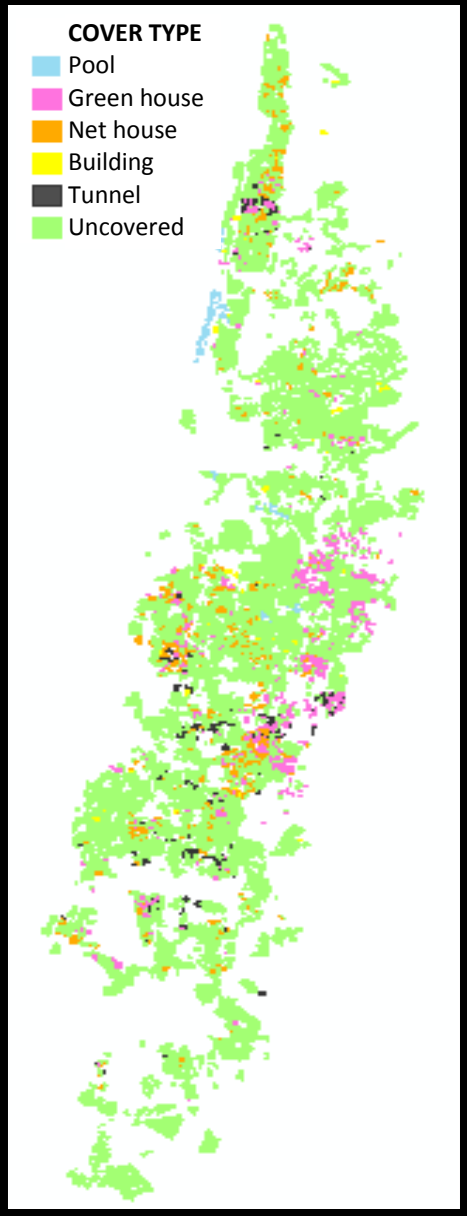
Information Systems Service

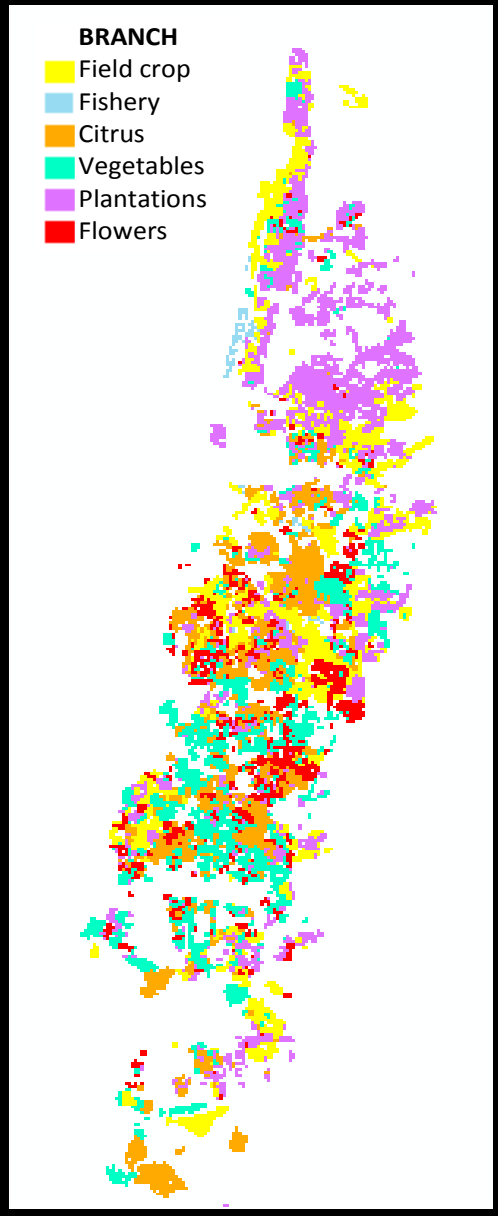
GIS

statistics

- Branches
- Cover
- Irrigation







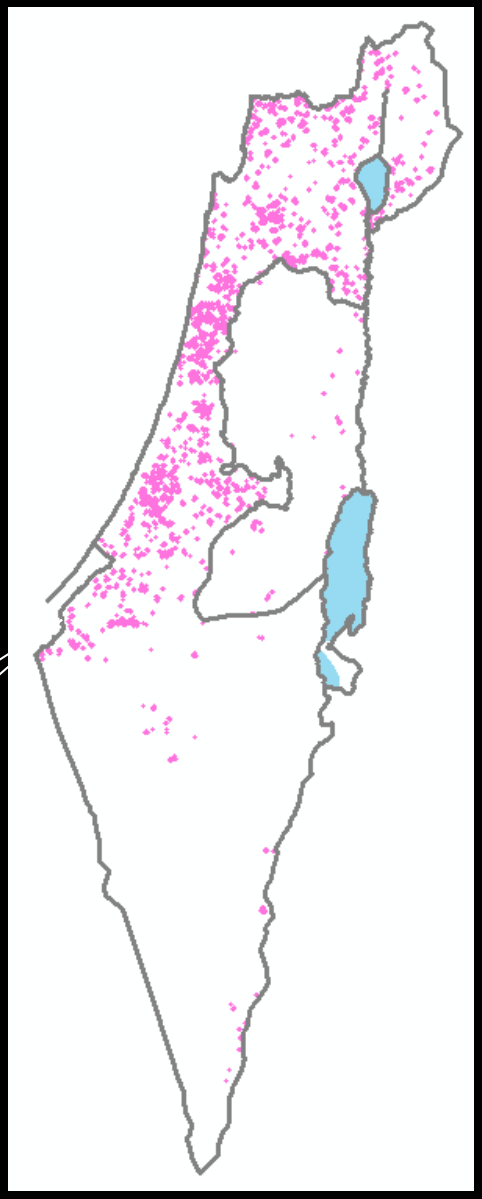
Agricultural parcels

Issues, problems

- Farmers' cooperation
- Orthophoto update
- Duplication of parcels
- Many crops in one parcel
- Accuracy in marking the parcels

livestock buildings mapping

- More than 14,000 buildings were surveyed.
- The information was collected by inspectors.
- Main branches: cattle, sheep, poultry.



livestock buildings spreading in Israel

livestock buildings mapping

- Chicken houses

- Updated (cooperation with Poultry Council)
- Designed as infrastructure for dealing with avian influenza
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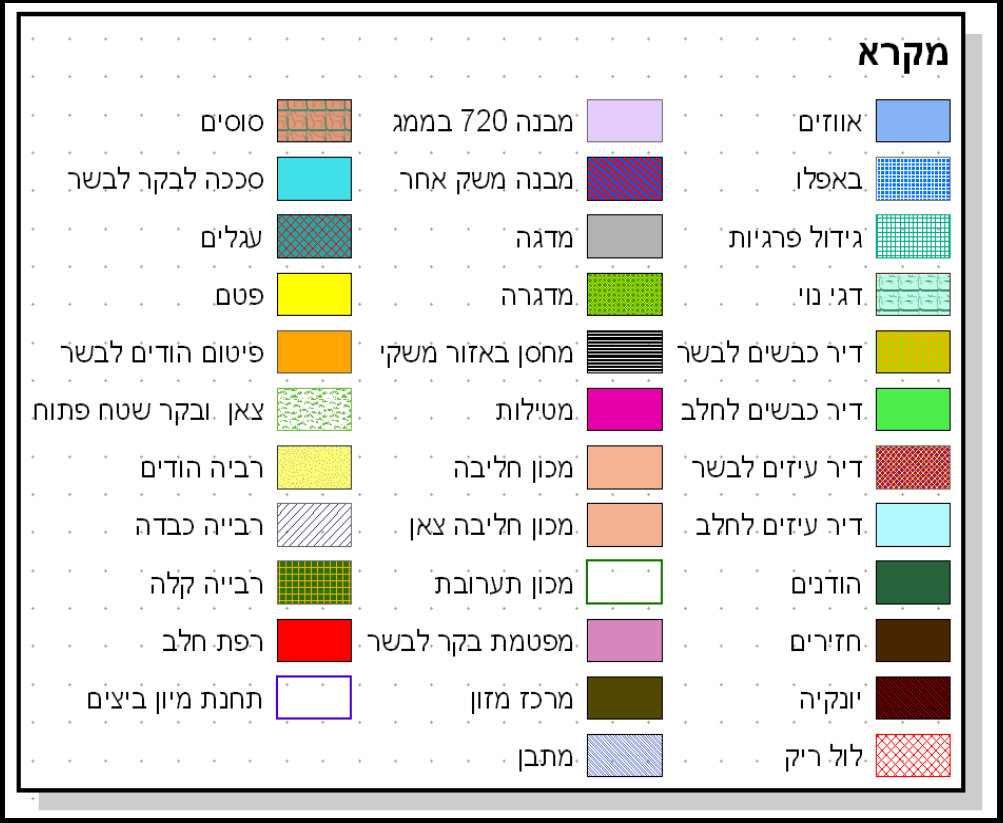
- Cowsheds, sheep pens, stables

- Not completely updated

livestock buildings mapping

Types of buildings

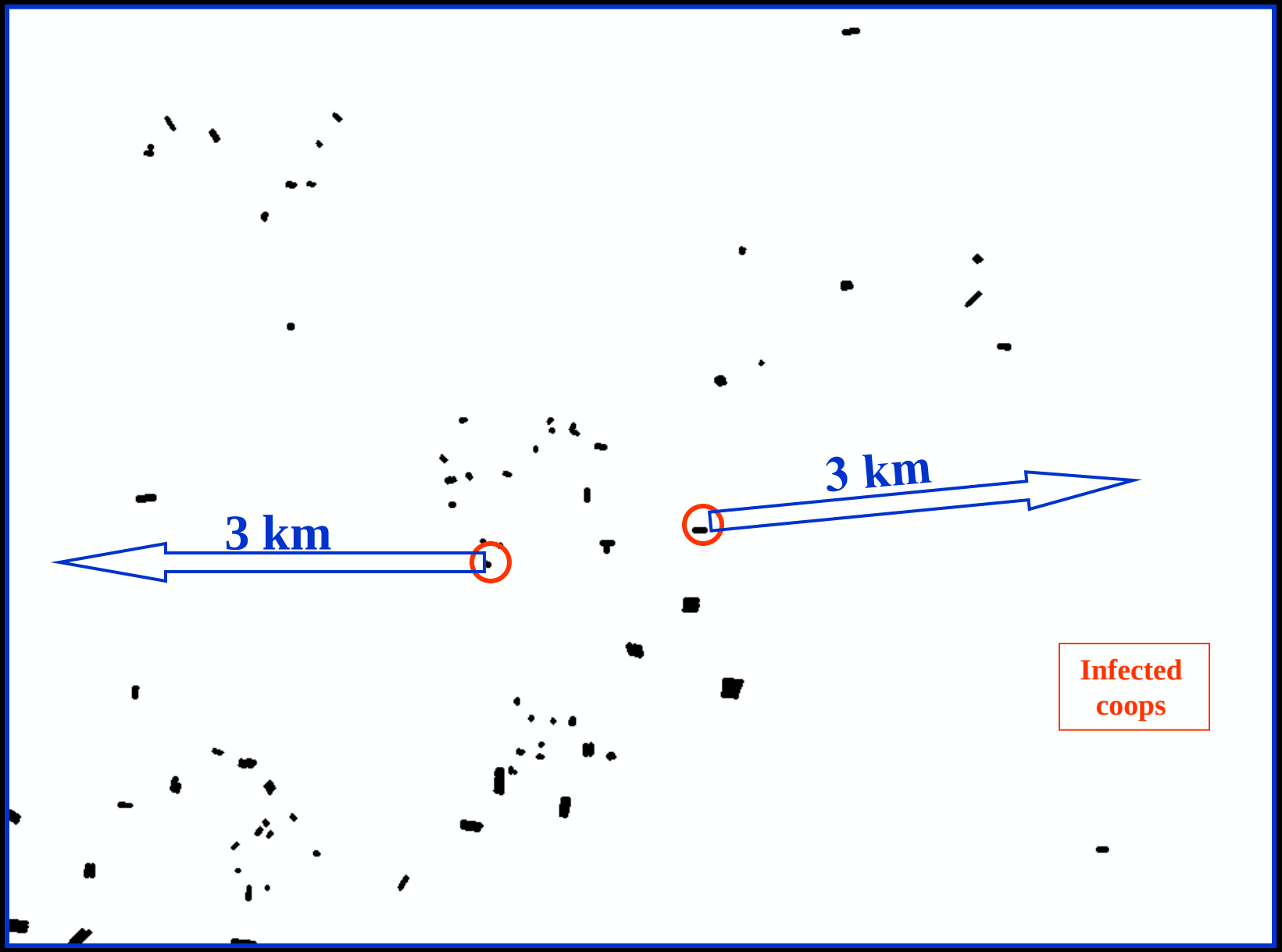


livestock buildings mapping

Information Systems Service

GIS

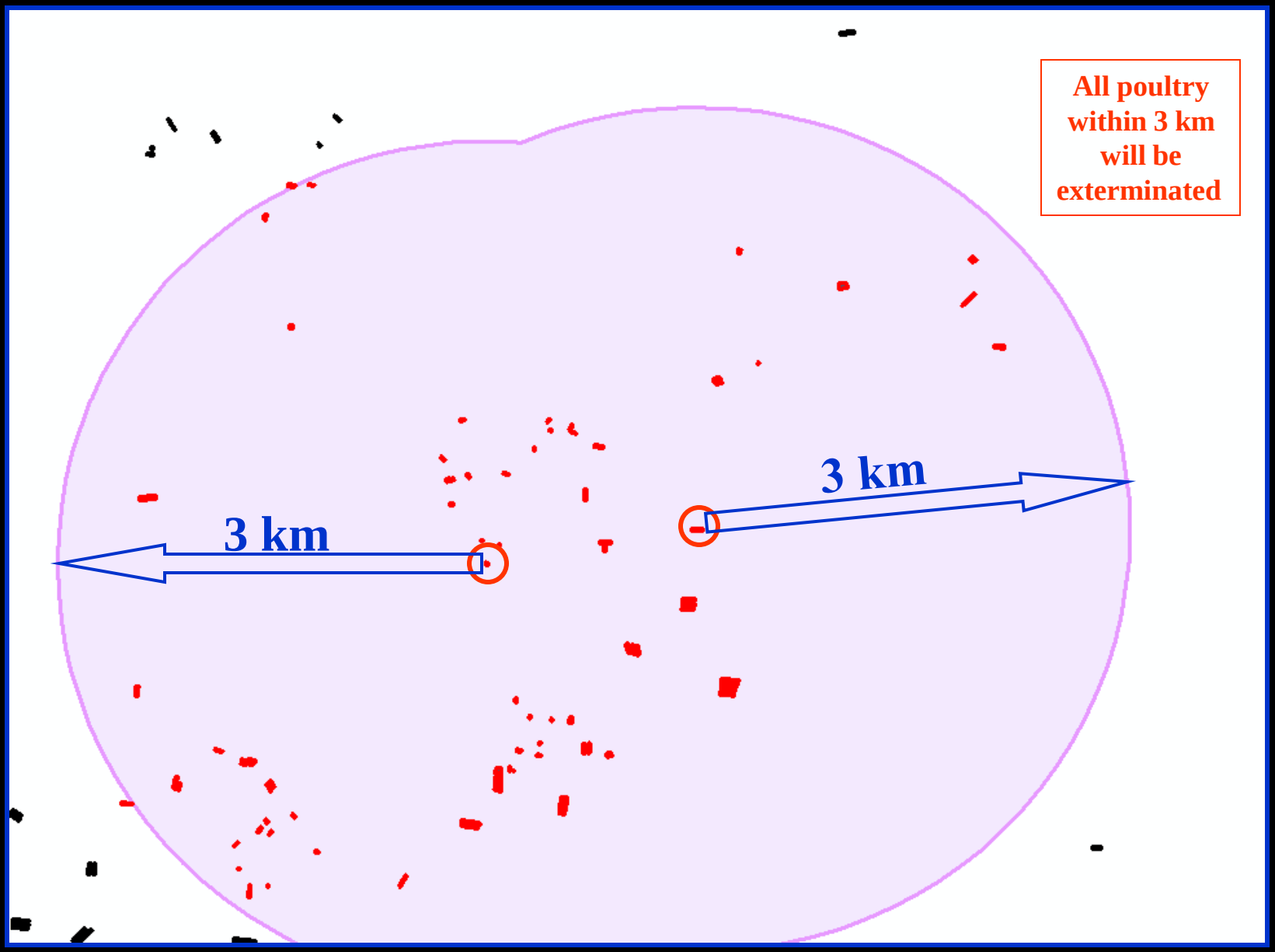
Avian influenza scenario



livestock buildings mapping

Information Systems Service GIS

Avian influenza scenario

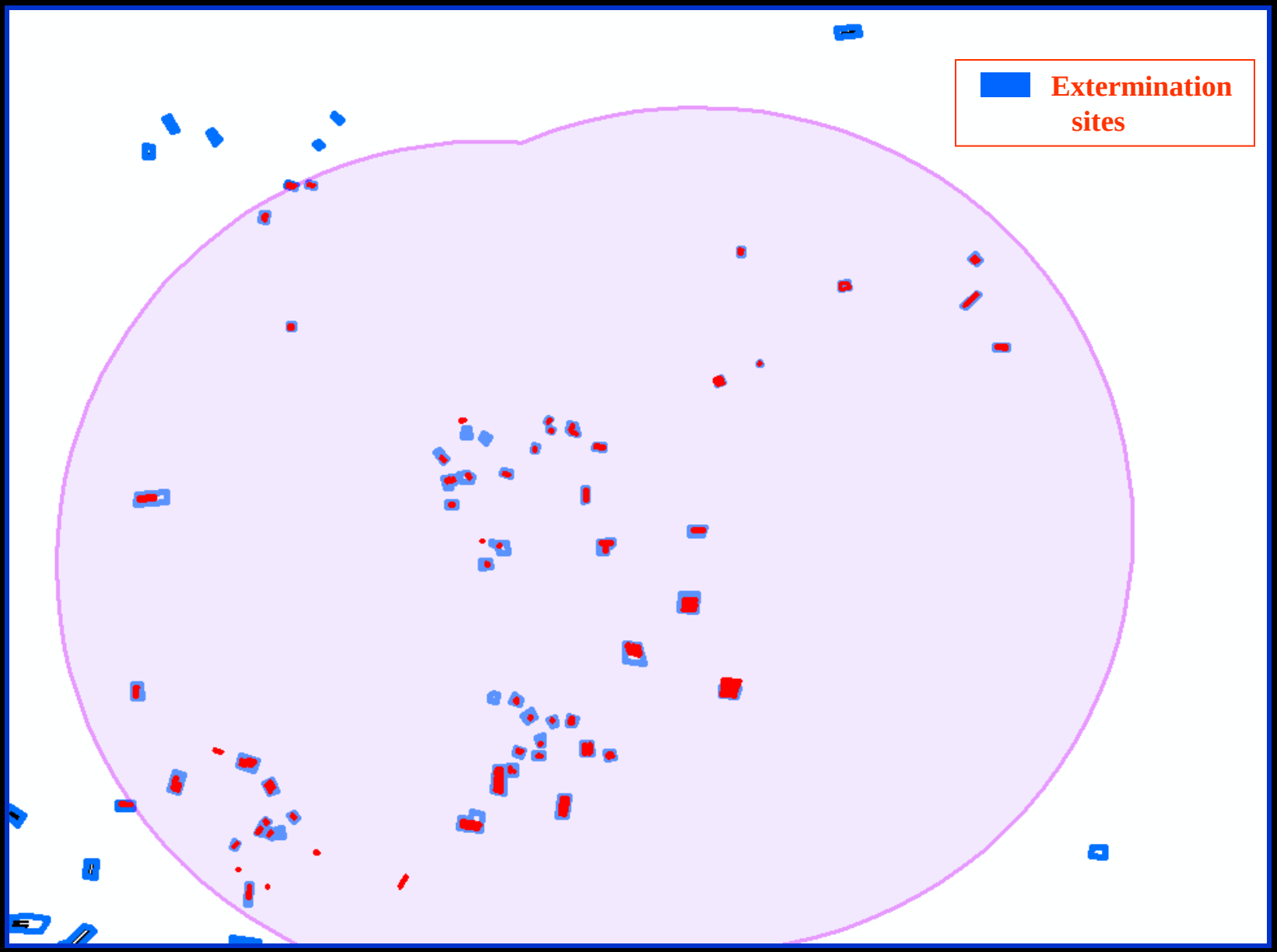


livestock buildings mapping

Information Systems Service

GIS

Avian influenza scenario

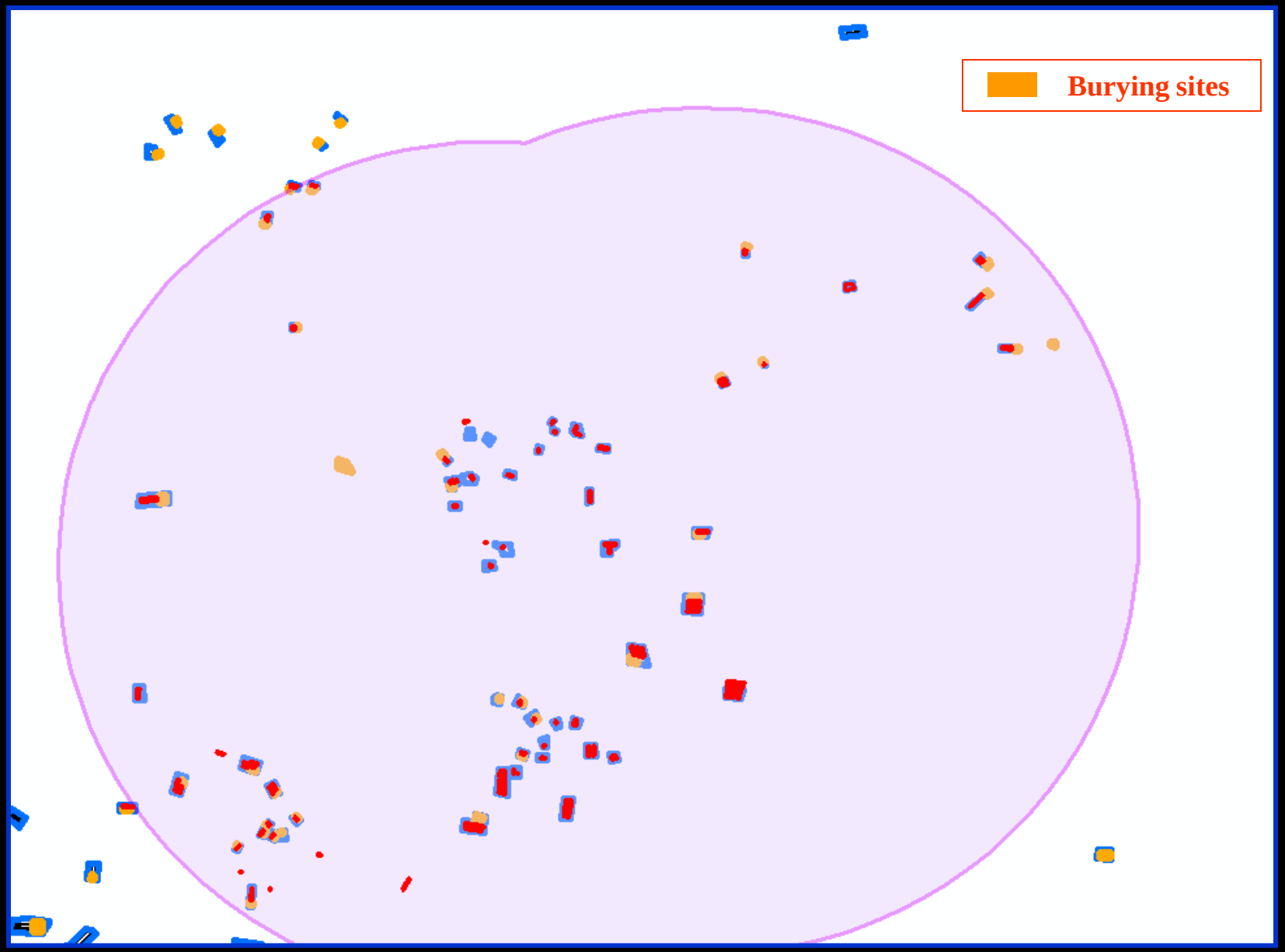


livestock buildings mapping

Information Systems Service

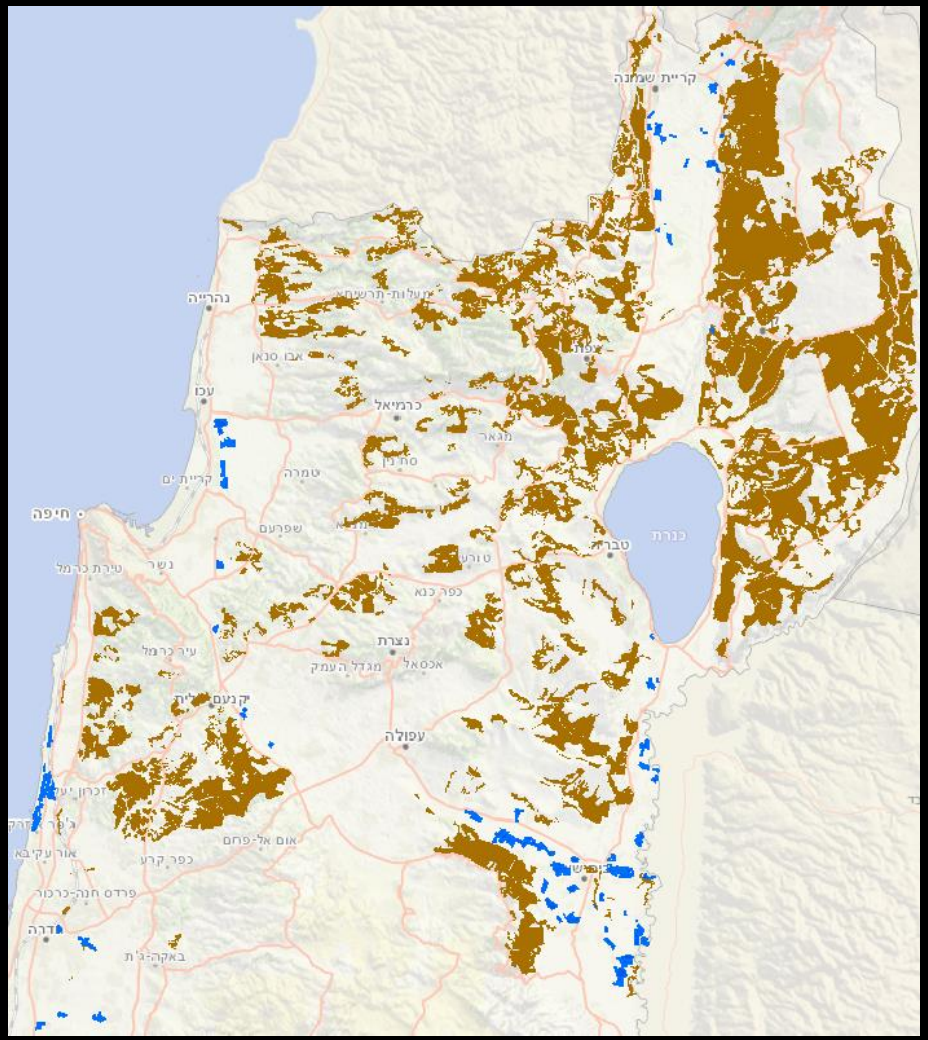
GIS

Avian influenza scenario



livestock mapping

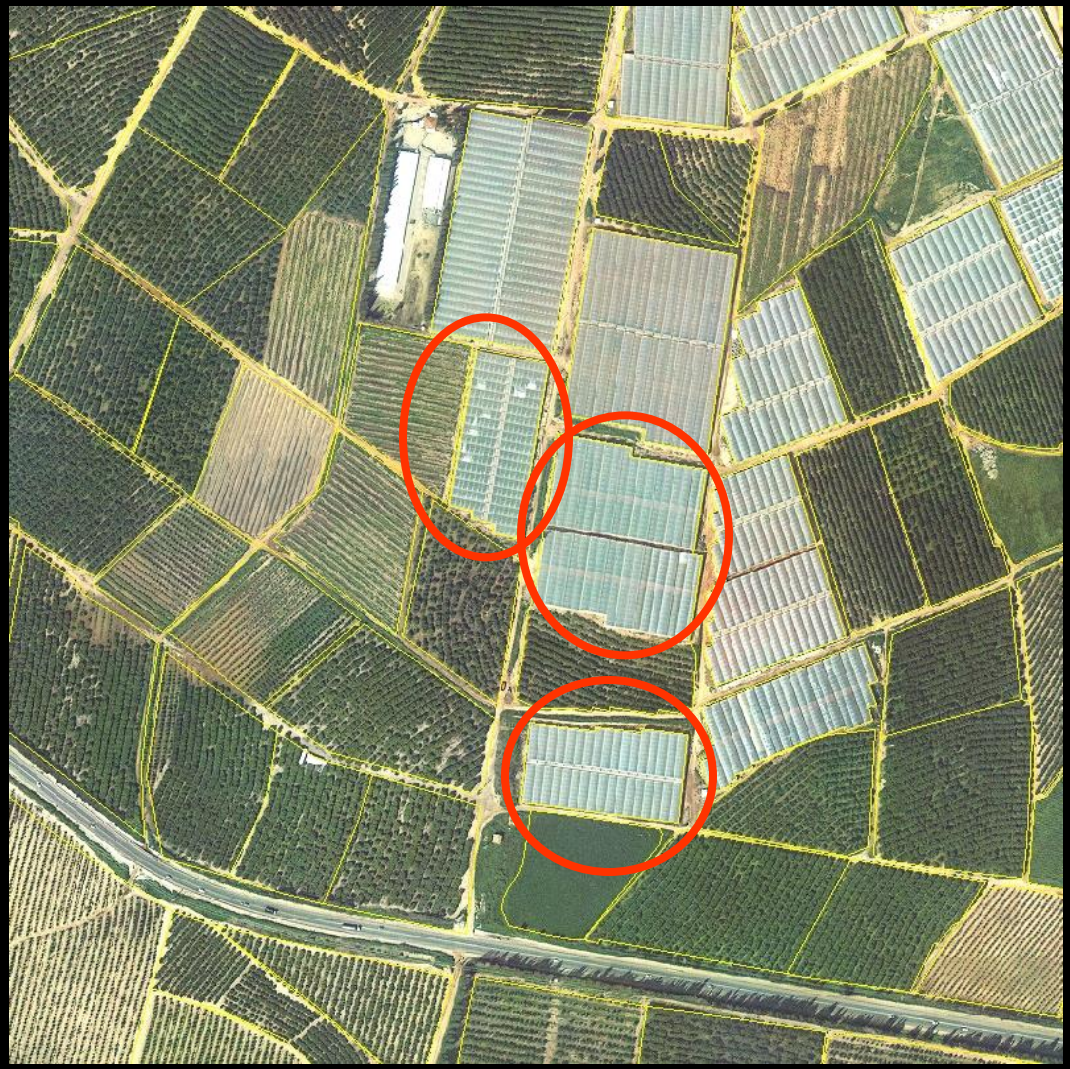
- Fish ponds
- Settelments' survey
- Cattle & sheep
- Pasture layer (Israel Lands Authority)

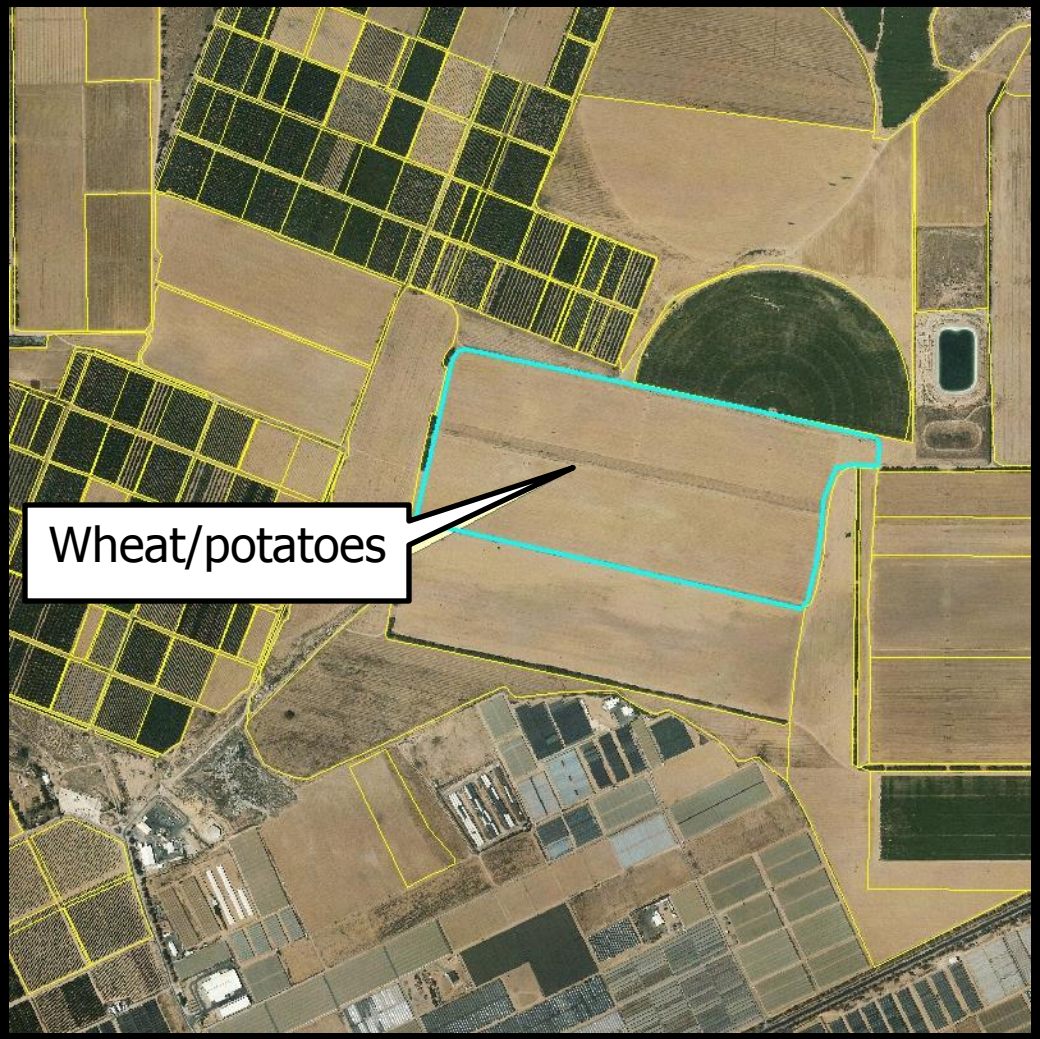
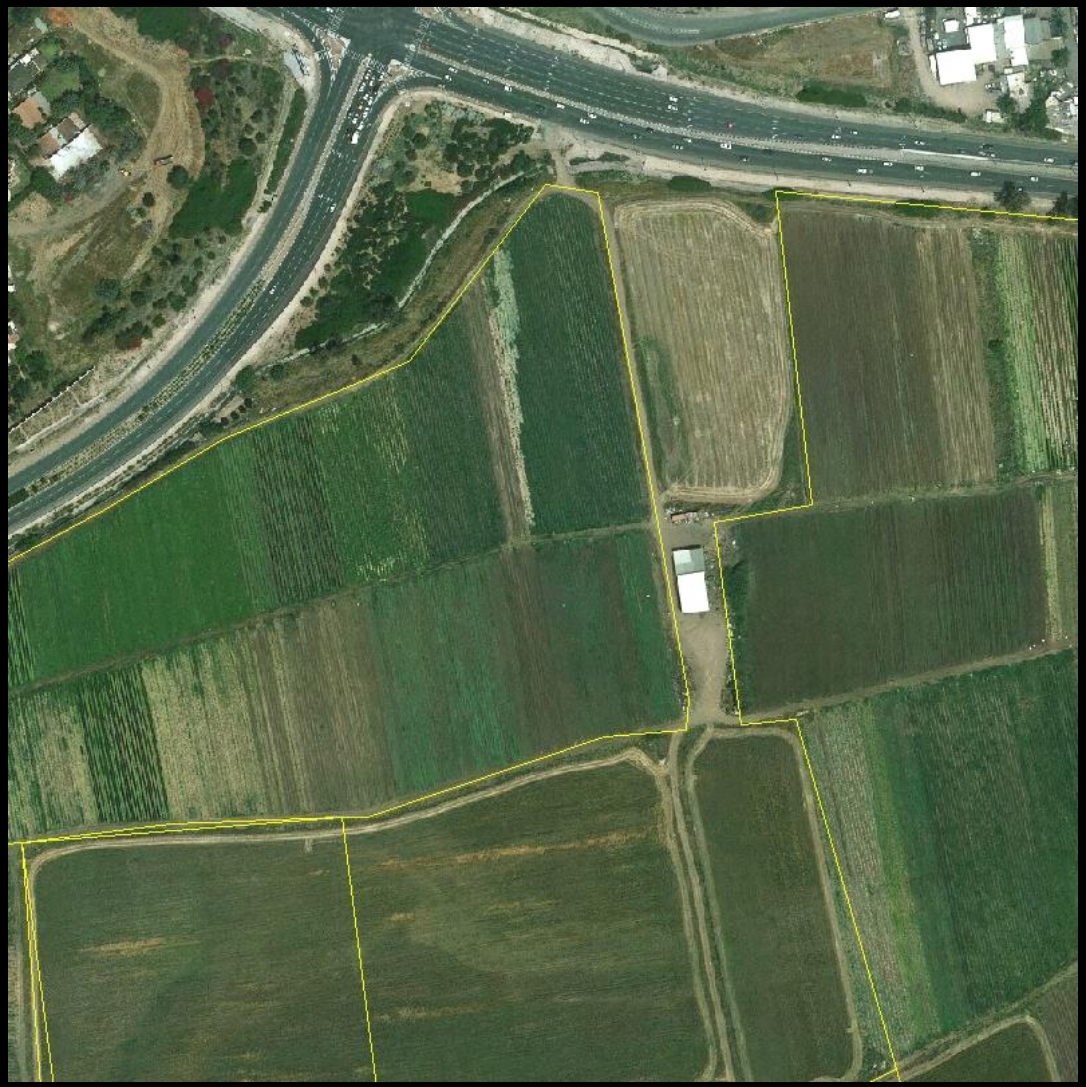
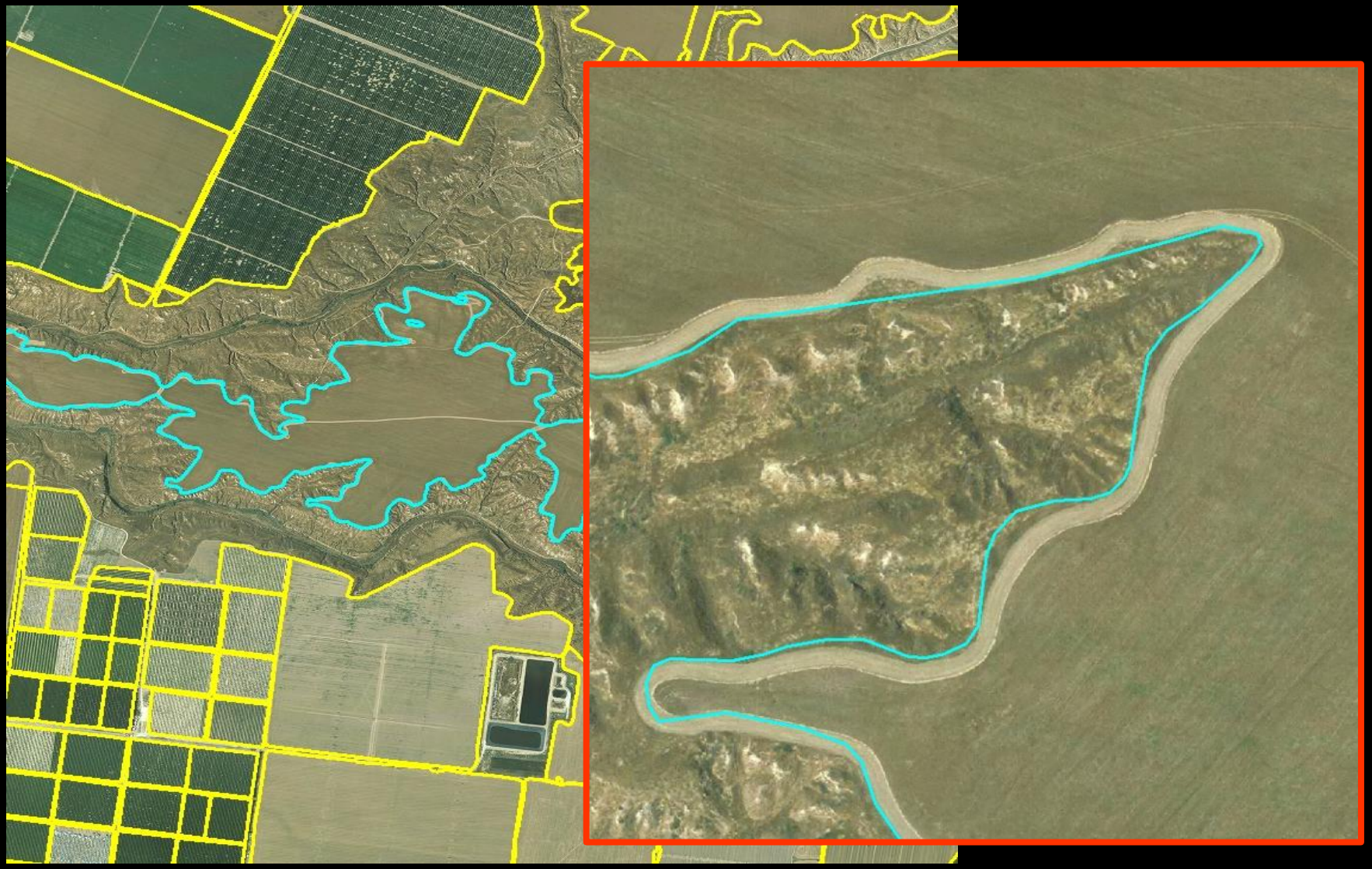


Data sharing &distribution

Gov Map

- Government maps site operated by the "Survey of Israel"
- Includes hundreds Layers (to view only) by government ministries, local authorities and public organizations.
- Basic capabilities to the general public .
- Public organizations which share their data will soon have additional capabilities (personal area).




Wheat/potatoes