



DELIVERING DATA TO FIGHT WILDFIRES AND PROTECT FORESTS IN SWEDEN

17 NOVEMBER 2022

PRESENTED BY GUNNAR ERSBO, MAGDALENA ANDERSSON,
WITH MATERIAL FROM PETER ADLER AND CAROLINE LINDHE

SWEDISH MAPPING, CADASTRAL AND LAND REGISTRATION AUTHORITY



WILDFIRES IN SWEDEN SUMMER 2018



REQUESTING THE SWEAF GEOCELL

July 19th, early morning Lantmäteriet requested the Swedish Civil Contingencies Agency (MSB) to send a formal request to the Swedish Armed Forces (SweAF) duty officer asking for support to the wildfire fighting by deploying the Geocell.



REQUESTING THE SWEAF GEOCELL

July 20th, afternoon

Lantmäteriet establish the SweAF Geocell at the regional crisis management HQ at Färila School, 350 km north of Stockholm.

24 hours Geosupport managed by 4 geo-analytics.



SUPPORTING THE RESCUE LEADERS AND ACTIVE PERSONNEL

Primary assignment of the Geocell was to support the operation with situational awareness, by producing every day approx.

- 700 maps, scale 50K, size A3
- 50 maps, scale 50K, size A0

Secondly to support analysis and decision-makers with geographic information.



DEPLOYED GEOCELL

Equipment

- 4 laptops
- A3-printer, ~1000 A3-maps/hour
- 42 inch plotter, ~20 A0-maps/hour
- Paper and ink
- NAS for data storage, UPS battery backup
- Ipad for collecting data and information
- Software: ArcGIS, FME, Global Mapper

HW and SW has to work offline without internet access.


Logistic:

Self-supported for 3 days; food and sleeping.

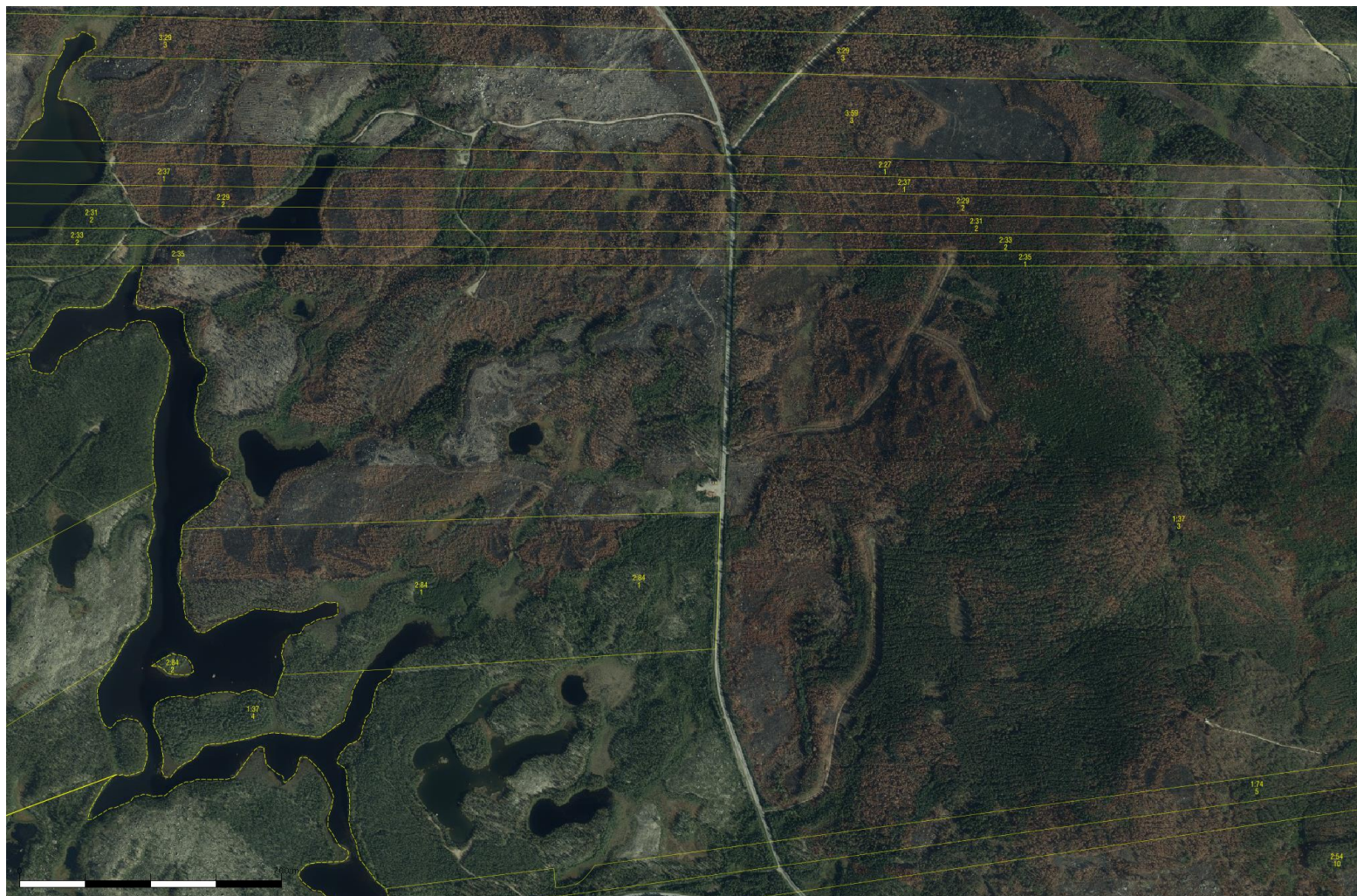
Food, hygiene articles, sleeping material



GEODATA INFORMATION SUPPLY

- FR Geocell is set up to be able to work without Internet access.
 - There are recommendations for a national background map for crisis management
 - These recommended products are packaged and updated four times a year 
- *Seamless topographic map for viewing*
 - *Property boundaries (cadastral parcels)*
 - *Addresses*
 - *Buildings*
 - *Place names*
 - *Orthophoto*
 - *Elevation data*
 - *Topographic maps for printing in the scales of 1:10 000 and 1:50 000*

ORTFOTO KÅRBÖLE



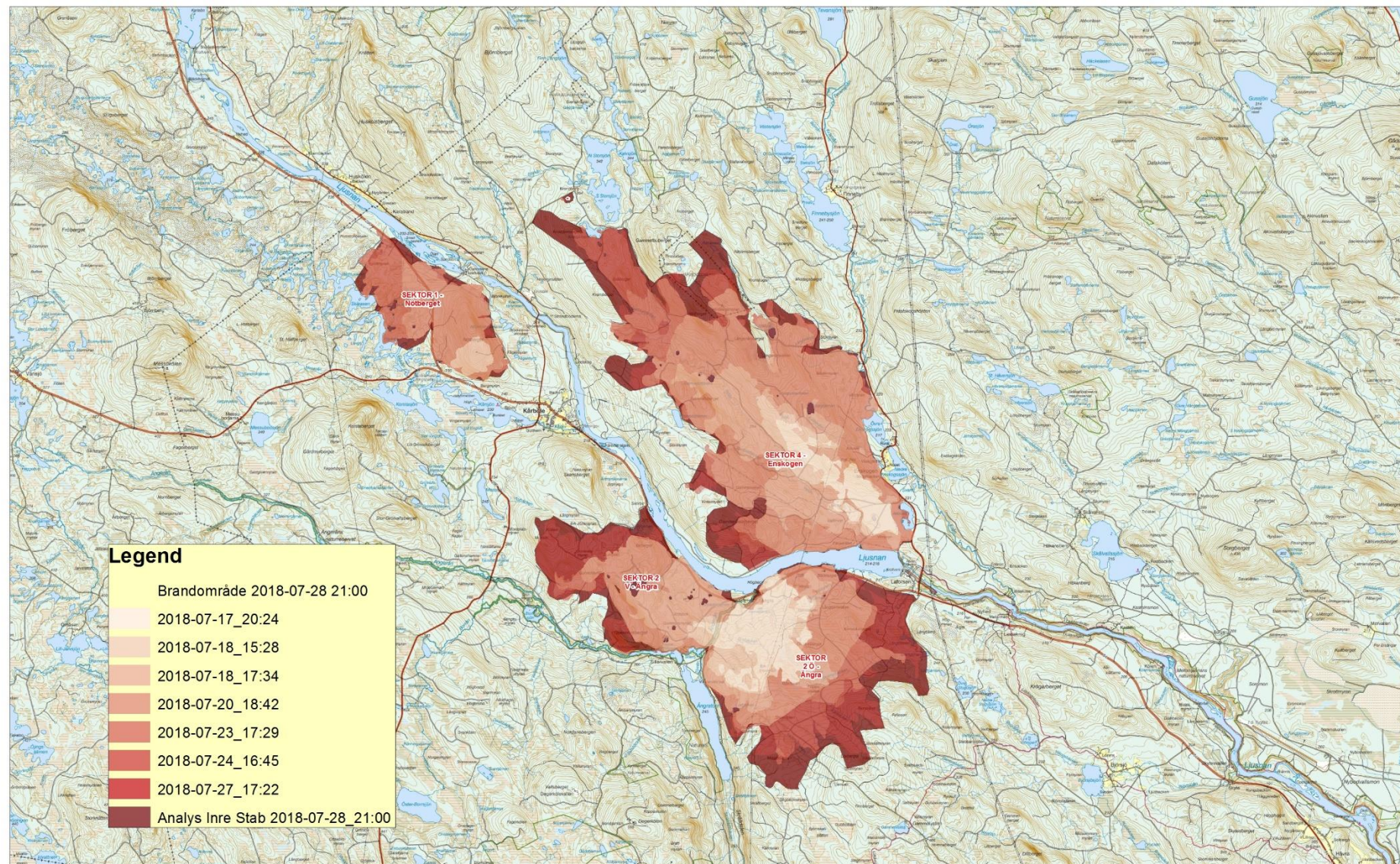
HÄLSINGLAND

1:50 000

SWEREF 99 TM

Brandutveckling satellit Källa: Copernicus/EU, samt analys Inre Stab

SE-EX-182229



LESSONS LEARNED

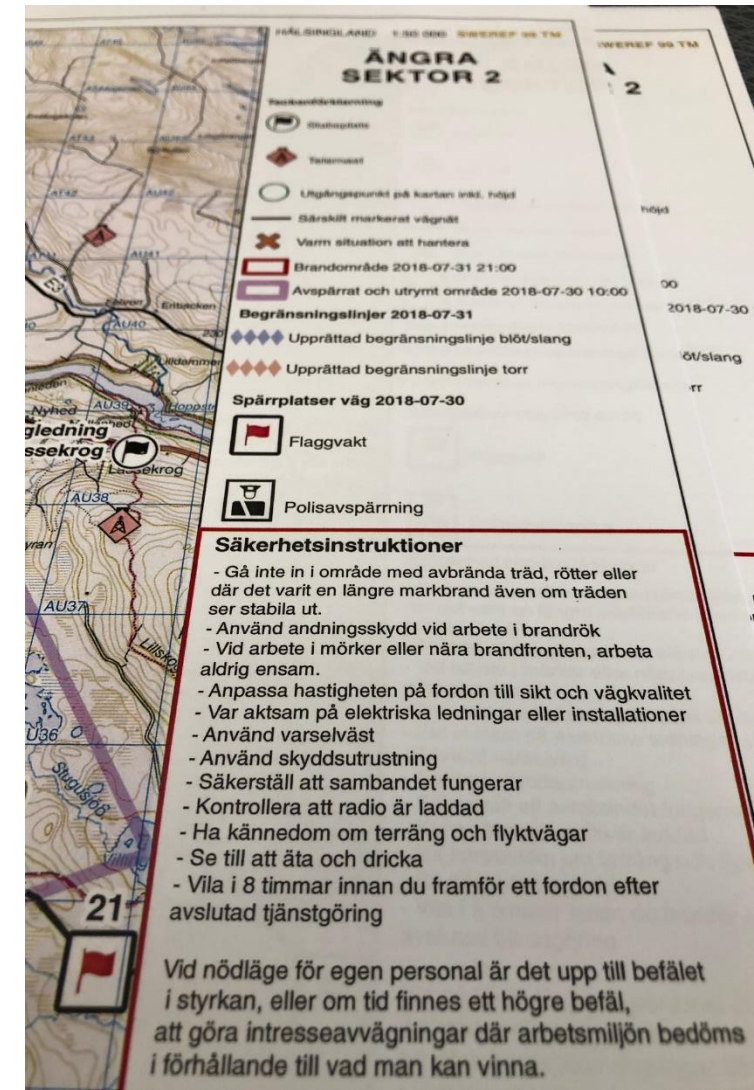
Feedback from staff and field personnel **very positive**.

The Geocell filled a previously missing resource and **added a new dimension** to the operation.

Lack of knowledge in respect to the usefulness of geographic information and GIS, especially thematic data, e.g. biomass, vegetation, proximity to water, soil humidity.

First time a Geocell was incorporated in a civil crisis management staff – need to define requirements, responsibilities and organisation.

Huge amount of collaborating organisations, apart from Swedish authorities and NOGs; Poland, Germany, Italy, France, Portugal, Lithuania, Finland, Norway, Denmark and six firefighters from Greenland.



BRANDGIS (WILDFIRE GIS)

3-year project (2022-24), managed by the County Councils (Länsstyrelserna)

For all counties (21) and communities/rescue services (290) in Sweden

GIS-resources – education personnel and GIS-package for map production during wildfires

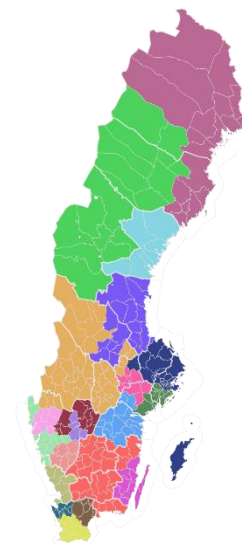
Symbology, layouts, data model, process, staff structure, information gathering

ArcGIS, QGIS, web, drones, field applications

Wildfire growth model – server/web based for Swedish conditions and biotopes

National portal for wildfires

Providing planned National Wildfire Database



LANTMÄTERIET AS AN EMERGENCY RESPONSE AUTHORITY

From October 1st Lantmäteriet holds new responsibilities as an emergency response authority. Lantmäteriet is included in the sector of basic data, a group co-ordinated by the Swedish Tax Agency. Critical data includes e.g. real property information.

The Swedish Government has established 10 preparedness sectors, where authorities are given special responsibility for crisis management and total defense as to supply of basic data.



FACTS ABOUT THE FIRES AROUND KÅRBÖLE

Animated video in Swedish at:

<https://www.ljusdal.se/samhallegator/krisochsakerhet/informationombranderna2018/faktaombranderna.4.12be7f0e165140d0d1895a64.html>



THANK YOU FOR LISTENING!

For questions and information, feel free to contact:

Gunnar Ersbo, gunnar.ersbo@lm.se

Caroline Lindhe, caroline.lindhe@lm.se

Magdalena Andersson, magdalena.andersson@lm.se