

SAGRIS ODC • Expert Application

Direct analysis of the whole data cube — any object, any period, every parameter

The multi-index workstation of SAGRIS ODC: charts, statistics and the actual Sentinel-1 image chips of your object, for every date — in one run.

Example: Field A, Lithuania, 1 April – 30 September 2025

108
Sentinel-1 acquisitions · Apr–Sep 2025

10
SAR parameters per date

1,080
image chips of one field

1 click
Run Full Analysis

Expert gives direct access to everything the data cube holds for a chosen object. Draw a field, forest block or site — or import it from KML — pick a period, and one run extracts **every Sentinel-1 acquisition** inside it, derives **ten polarimetric parameters** per date, and presents them as time-series charts, monthly statistics, a full data table and **the actual image chips** of the object for every date. It is the reference instrument for **testing the baseline capabilities** and time-series content of the cube, and a direct visual platform for **designing custom filters and analytical algorithms**.

From one polygon to the complete record

1
Delineate
draw or import KML



2
Extract
from the data cube

every Sentinel-1 pass in
the chosen period
ascending + descending
 γ^0 VV and VH, 10 m

3
Compute
in real time

10 parameters per date
derived on demand
from the VV / VH pair —
nothing pre-computed

4
Explore
four linked views

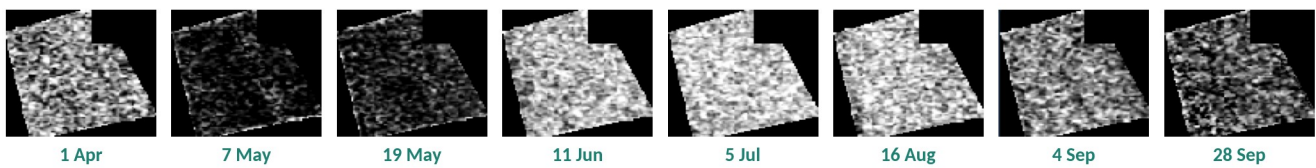
- Time-series charts all parameters
- Monthly statistics $\mu \cdot \sigma$ per parameter
- Image chips every date, every parameter
- Full data table all values · export

Ten parameters, derived on demand from the VV / VH pair

VV	γ^0 co-polarised	surface roughness, soil moisture	NDPI	$(VV - VH) / (VV + VH)$	polarimetric contrast; crop type
VH	γ^0 cross-polarised	volume scattering, biomass	θ_c	scattering-type angle	surface · volume · double-bounce
RVI	$4 \cdot VH / (VV + VH)$	canopy development; peaks at closure	Hc	scattering entropy	complexity; tracks phenology
VH/VV	cross-pol ratio	biomass and crop density	SSM	$(VV - VV_{min}) / (VV_{max} - VV_{min})$	relative surface soil moisture
VV/VH	dual-pol SAR index	emphasises surface scattering	DPA	SSM with vegetation correction	soil moisture under a canopy

The season in radar-vegetation-index chips

Field A · ascending orbit · brighter = more vegetation volume



An analyst's toolbox — test, tune, design

Orbit filter
ASC · DSC · All, with index rescaling

Speckle filters on chips
Median · Lee · Frost, or off

Time-series smoothing
moving average · Savitzky–Golay

RGB composites
Simple · Agriculture · Temporal

Scattering plot
Hc / θ_c with Bhogapurapu zones

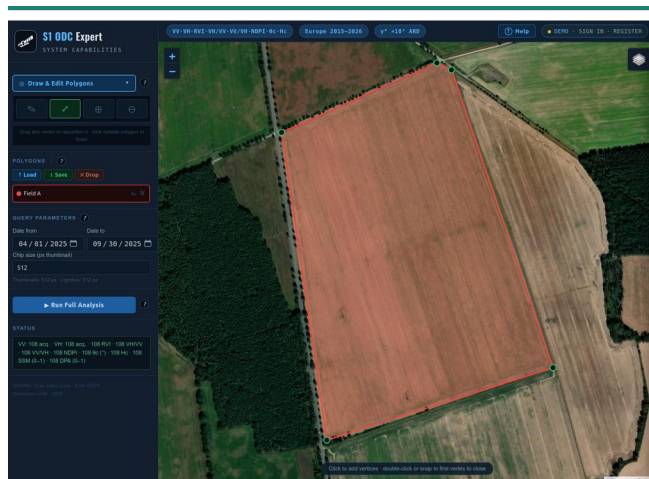
Lightbox & export
full-size chip, histogram, data table

Why Expert. It is the fastest way to see what the data cube really contains for any object and period — and a visual laboratory for tuning filters and designing new analytical algorithms before they go into production. The Data API delivers the same analyses programmatically.

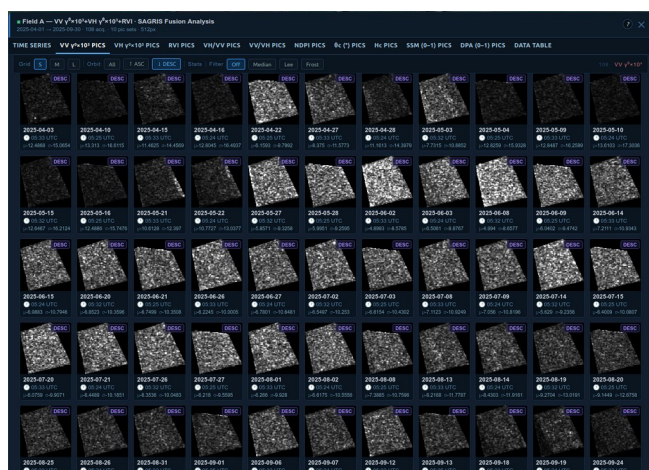
SAGRIS ODC • Expert in use

One field, one season, every parameter — 108 acquisitions

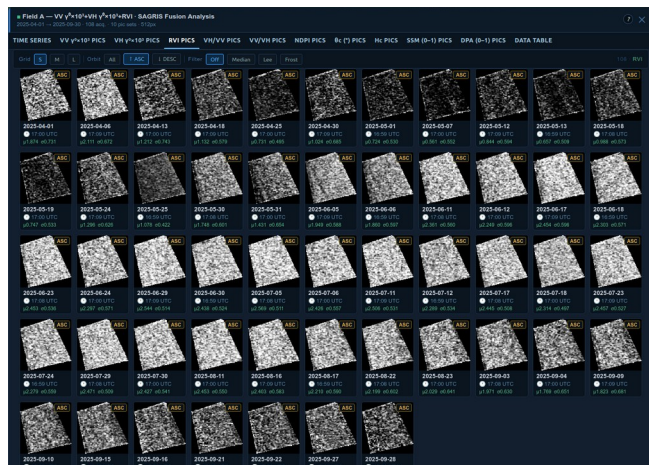
Screenshots from odcube.landimage.info/expert — Field A, Lithuania, April–September 2025.



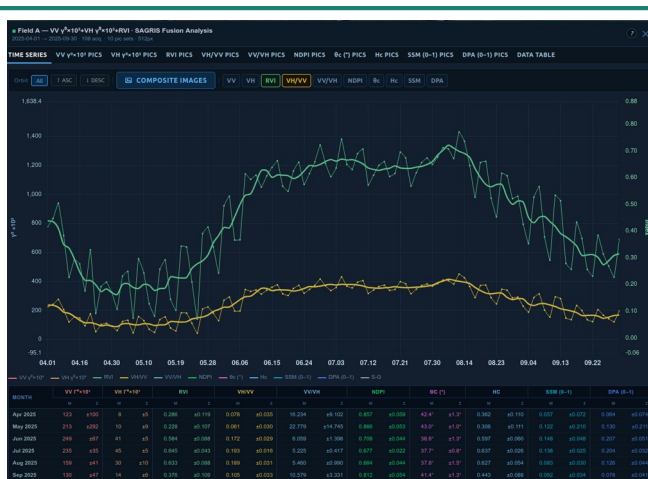
Delineate — draw a polygon or import KML, set the period, run the full analysis.



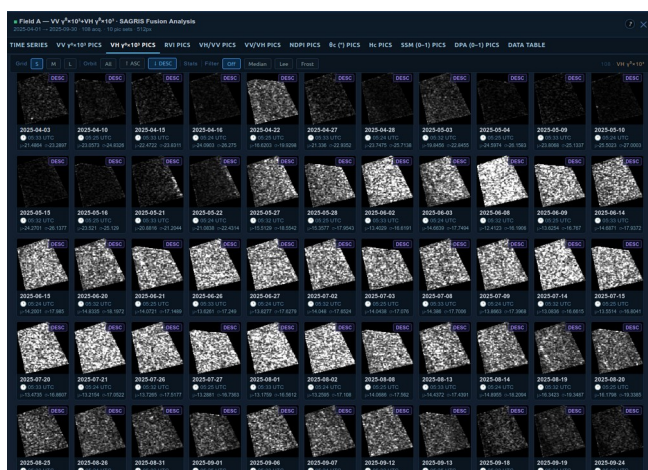
VV chips • descending — co-polarised backscatter, one chip per date for the whole season, with per-chip statistics.



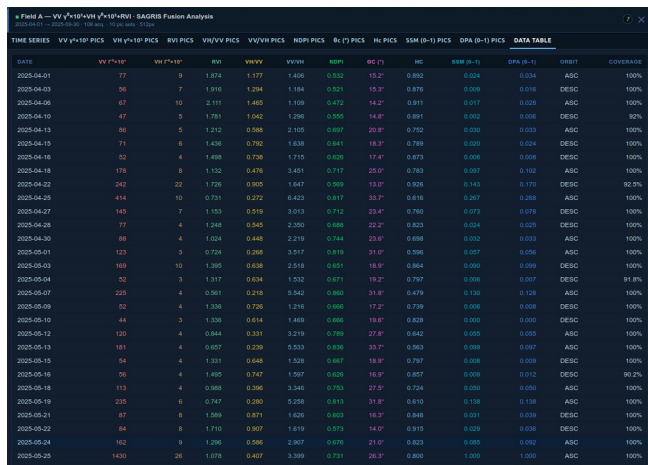
RVI chips • ascending — the radar vegetation index rises from bare soil to closed canopy and falls again after harvest.



Time series — source data and derivatives on one chart — toggles, orbit filter, smoothing, zoom; monthly μ and σ below.



VH chips • descending — cross-polarised backscatter: volume scattering from the growing crop, date by date.



Full data table — every parameter for every date, with orbit and field coverage.