

# SAR Data Products

24/7, cloud-free imagery with unparalleled visual clarity

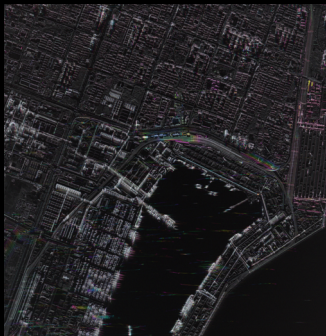


## The Capella Advantage

Capella Space's high-quality, high-resolution SAR data offers a continuous view of the world with the power to explore your areas of interest for actionable information and more informed decision-making. Coupled with a fully automated tasking platform, Capella's unique SAR capabilities deliver frequent, timely, and high-quality imagery where and when customers need it most.

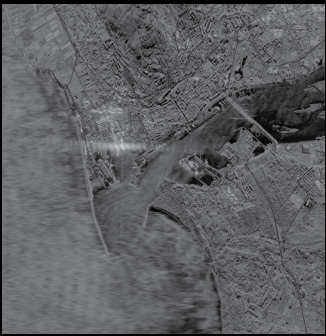
## SAR Collection Types

Capella's collection types are carefully curated to meet a variety of mission needs. Each collection type has a predefined set of imaging acquisition parameters to provide the optimal performance of the Capella constellation.



### Spotlight Ultra

Extract fine details like motion and obscured manmade objects with additional products like colorized sub-aperture imagery (CSI) and dynamic imaging.



### Spotlight

Classify objects, detect change and capture more targets than ever with very high-resolution, high-quality imagery optimized for volume and speed.



### Spotlight Wide

See more than ever with large-area, medium resolution sliding spotlight imagery. Monitor vessel movements, discover illegal mining or track lava flows.



### Stripmap

Get the most coverage over your target area of interest for broader land use monitoring and baseline mapping.

## Collection Modes



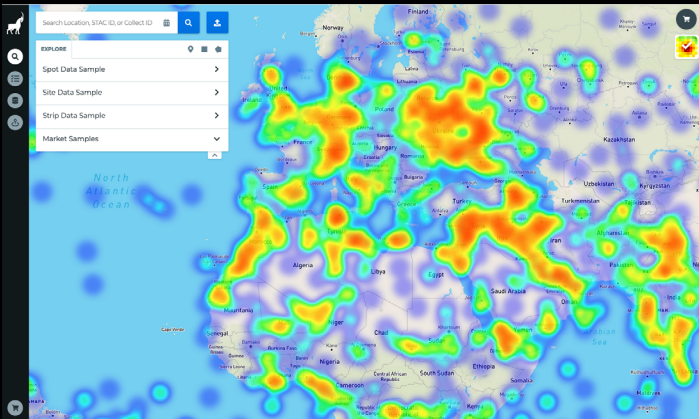
## Collection Types

Collection Type	Spotlight Ultra	Spotlight	Spotlight Wide	Stripmap
Look Angle	15° - 50°			
Grazing Angle	73.5° - 33°			
Scene Size (km)	5 x 5		10 x 20	20, 50, 100
Dwell (sec)	28 to 52	8 to 16	15 to 18	4 to 17
Slant Range Resolution (m)	0.25 / 0.3		0.5	0.75
Ground Range Resolution (m)	0.38 to 1.34		0.76 to 2.23	1.13 to 3.37
Azimuth Resolution (m)	0.25	0.5	1.0	1.2
Looks	5	3	3	1
Squint Angle Range	+/- 30°		+/- 0°	+/- 35°

## Capella Archive

Search the largest collection of high-quality, high-resolution commercial SAR imagery. Leverage Capella's continuously growing archive for historical context alongside current data at mission-critical locations across the world.

- Access thousands of feature-rich imagery for baseline or time-series analysis
- Apply advanced analytics Vessel Classification and train models on historical imagery
- Leverage subscription packages for continuous monitoring of specific AOIs and machine learning model development



SAR Data Products

Each collection type is delivered with Complex and Detected data products, configured for rapid insight generation and easy integration with various software providers including SOCET GXP, G-EGD, ArcGIS Pro and more.

Complex			Detected			
Single Look Complex (SLC)	Sensor Independent Complex Data (SICD)	Compensated Phase History Data (CPHD)	Sensor Independent Derived Data (SIDD)	Geocoded Ellipsoid Corrected (GEC)	Geocoded Terrain Corrected (GEO)	Colorized Sub-aperture Imagery (CSI)
<ul style="list-style-type: none"><li>Contains both amplitude and phase of the radar signal</li><li>Range-compressed and focused SAR image in slant-range geometry</li><li>Georeferenced using orbit data and Range-Doppler projected</li></ul>	<ul style="list-style-type: none"><li>Contains both amplitude and phase of the radar signal</li><li>Range-compressed and focused SAR image in slant-range geometry</li></ul>	<ul style="list-style-type: none"><li>Contains raw phase history data that is compensated for hardware timing &amp; platform motion</li></ul>	<ul style="list-style-type: none"><li>Contains amplitude information only</li><li>Multi-looked, range-compressed and focused image</li><li>Planar Gridded Display (PGD) projection</li></ul>	<ul style="list-style-type: none"><li>Contains amplitude information only</li><li>Multi-looked, range-compressed and focused SAR image</li><li>Geocoded and projected onto the WGS84 ellipsoid</li></ul>	<ul style="list-style-type: none"><li>Contains amplitude information only</li><li>Multi-looked, range-compressed and focused SAR image</li><li>Geocoded and terrain-height corrected using a high-resolution Digital Elevation Model (DEM)</li><li>Universal Transverse Mercator (UTM) and Universal Polar Stereographic (UPS) projections</li></ul>	<ul style="list-style-type: none"><li>3-band image made by coloring backscatter received for different sub-apertures</li><li>Geocoded and terrain-height corrected using a high-resolution Digital Elevation Model (DEM)</li><li>Universal Transverse Mercator (UTM) and Universal Polar Stereographic (UPS) projections</li></ul>

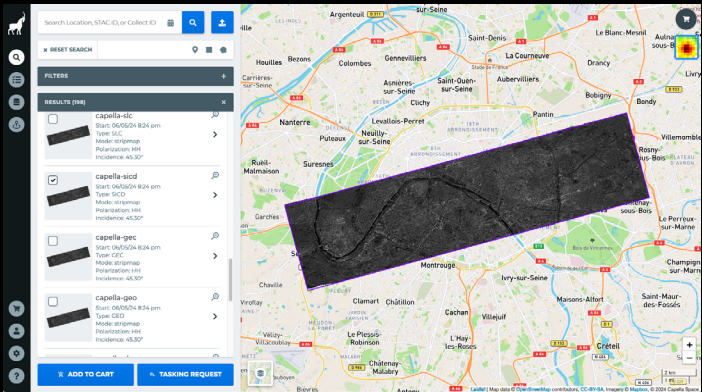
Fully Automated Ordering & Delivery

Capella prioritizes automation across our platform and satellite operations so customers can efficiently access actionable information where and when it's needed most. Easily incorporate Capella's high-resolution SAR imagery into existing workflows for comprehensive intelligence and dynamic tip and cue operations.

Capella Console & API

Search, order and download imagery through Capella's self-service platform for easy access to mission-critical information.

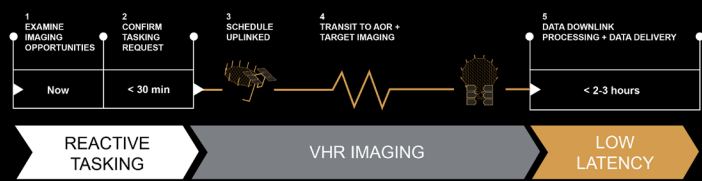
- View available satellite access opportunities for image acquisition
- Submit tasking orders with automated status updates
- Request single, area or repeat tasking
- AOI monitoring allows for easy ingest of fresh data
- Leverage REST API to easily integrate with online platforms, enterprise systems and government architectures
- Push to AWS S3 and options to configure the imagery product types (e.g., data format) lowers latency and streamlines delivery



Capella Tasking System

Directly access Capella's fully automated and secure Tasking system for actionable intelligence.

- Near real-time tasking powered by communication with GEO relay satellites
- New Task scheduling completed every 15 minutes
- End-to-end encryption based on U.S. NIST 800-171 requirements
- No Bumping policy



Optimize Your Orders with Tasking Tiers

Repeat Tasking	
Routine	Get coverage on a regular basis at a daily, weekly, monthly or custom cadence
Flexible	Ideal for leveraging variations in capacity without the risk of interfering with tasks of higher importance.

Single & Area Tasking	
Urgent	Designed for time-sensitive situations where rapid collection speed is mission critical.
Priority	Optimal minimum acquisition window for situations when precise imaging geometries matter.
Standard	Provides assured data collection upon acceptance.
Flexible	Ideal for leveraging variations in capacity without the risk of interfering with tasks of higher importance.

Users are required to submit a task start date/time and task end for each order. Task end can be "until canceled," by number of collects, or after a specific date/time.

Users are required to submit a window open and window close date/time for each tasking request. This window does not include the time from collection to delivery.

Get Started

Access Capella's Open Datasets at  
registry.opendata.aws/capella\_opendata

Learn more at [support.capellaspace.com](https://support.capellaspace.com)