EUROPEAN
SPACE
IMAGING®

INFORMATION PACKET

EarthWatch
& SecureWatch

ABOUT

EUROPEAN SPACE IMAGING

Based in Munich, Germany and established in 2002, European Space Imaging is the leading premium supplier of global very high resolution (VHR) satellite imagery and derived services to customers in Europe, North Africa and CIS countries.

With over 16 years' experience, European Space Imaging has developed a reputation for expert and personalised customer service and an unbeatable track record for supplying tailored very high resolution imagery solutions to meet the diverse projects and requirements of their customers.

Furthermore, European Space Imaging is the only European satellite data provider to supply imagery at true **30 cm** resolution and who own and operate its own multi-mission ground station for direct satellite tasking and local data downlink.
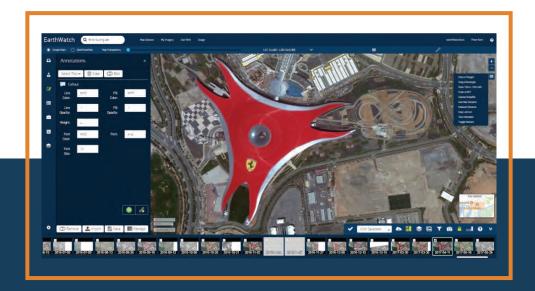
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EarthWatch
A new era in accessing geospatial information

Easily find and consume the imagery you need for your specific use case. EarthWatch is the industry's premier usage-based subscription service for up-to-date high-resolution satellite imagery. With one subscription, you get global access to the most current content and 6 billion square kilometers of historical images. EarthWatch's flexibility is ideal for a wide range of GIS projects such as countrywide land administration and mapping projects, energy projects, asset and facility monitoring, humanitarian and disaster response, and more.

GLOBAL COVERAGE
There are no geographical restrictions. You define your areas of interest from our available global coverage including more than 6,000 world capitals and metropolitan areas in 30 cm resolution.

PREMIUM IMAGERY
Access the highest quality imagery; in resolution, accuracy, and currency. View a highly aesthetic mosaic or see change over time with access to our 20+ year archive.

SUBSCRIPTION PRICING
Pay only for what you use, view or download.

CLOUD ACCESS
Search and download/stream the data you need, when you need it; easily share with others in your organisation or integrate into your existing workflow.

Features

- Up to 30 cm resolution imagery, the industry's highest standard

- View and download imagery within hours of acquisition

- Key metadata provided with imagery

- Time-lapse archive enables change detection

- Downloadable true colour, orthorectified image strips and mosaics for offline use

- Subscribe to your area(s) of interest

- Connect with ESRI ArcMap and other GIS tools

- Usage-based subscription – subscribe to what you need

Benefits

- Make decisions quickly with the most accurate and recent info

- Leverage all publicly available collections from the WordlView constellation at varying resolutions

- Increase efficiency by monitoring new acquisitions over your areas of interest

- Reduce tasking costs and traditional order processing time with off-theshelf availability

- Eliminate the time needed to search for, procure and manipulate data

- On-demand access via the GIS tool of your choice to extract the information you need

- Pay only for what you use

Access and Functionality

EarthWatch Browser App: is an easy-to-use browser interface that allows you to quickly search and view all premium content. This intuitive user interface enables you to easily manage and download high-value multi-temporal content.

API: Imagery and metadata are accessible through a full suite of OGC-standard web services (WMS, WMTS, WFS, WCS), simplifying the discovery, download,integration and analysis of high-resolution satellite imagery.

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SecureWatch
Fresh VHR imagery over mission-critical areas

SecureWatch is the premier cloud-based subscription service for rapid access geospatial intelligence (GEOINT). Optimized to deliver mission-critical data, subscribers can quickly access over 3 million square kilometers of daily image collections, plus more than 6 billion square kilometers of archived imagery at up to 30 cm resolution.

Satellite imagery from the WorldView Constellation is available to view or download in SecureWatch within 48 hours of collection, so you can monitor and communicate relevant activity in any location around the globe. Our SecureWatch web browser interface enables imagery access and exploitation via desktop or mobile device - change analysis, annotation, measurements, etc. And you gain additional insights through integrated resources such as the tactical news feed, Human Landscape layers, and elevation data.

MISSION PLANNING
Visual support for strategic and tactical planning anywhere on Earth with satellite imagery plus the GeoNews tactical feed and rich Human Landscape geographic layers.

ORDER-OF-BATTLE ASSESSMENT
Understand the strength, disposition and formation of forces in the field.

MARITIME DOMAIN AWARENESS
Quickly assess maritime activities, including vessels, infrastructure and more.

BORDER AND FACILITY MONITORING
Time-lapse observations and analysis of current and potential points of vulnerability and conflict areas.

CHANGE ANALYSIS
More than 16 years of historical multispectral imagery to help understand change in depth.

HUMANITARIAN & DISASTER RESPONSE
Update and maintain your organisation's maps and be confident your view of the Earth best represents the situation on the ground

Specifications

COVERAGE OPTIONS	Global
ELECTRO-OPTICAL	WorldView-4, 3, 2, 1, GeoEye-1, QuickBird, and enriched third-party sensor data
CLOUD COVER	- Full-resolution viewing & rapid download imagery (Daily Take) at 35% or less cloud cover - Additional imagery available through on-demand archive retrieval
RESOLUTION	30-100 cm GSD pan sharpened at nadir, 2 m over Israel
IMAGE BANDS	- Full-resolution viewing and rapid download imagery is panchromatic (WorldView-1) and 3-band pan sharpened natural color (all other sensors) - 8-band VNIR and SWIR multispectral products
STEREO IMAGERY	Full access to DigitalGlobe stereo archive. Image pairs are delivered as System-ready (level 1B) with full metadata)
ELECTRO-OPTICAL	- Full-resolution viewing and rapid download of mapready (level 3 orthorectified) imagery - System-ready (1B) and Ortho-ready (OR2A) available via on-demand archive request
GEOSPATIAL ACCURACY	<10m CE90 (Ortho-rectified products)
DIGITAL ELEVATION MODEL	SRTM 2 (30 m) where available
PROJECTION/DATUM	UTM/WGS84
OFF-NADIR ANGLE	- Full-resolution viewing and rapid download imagery (Daily Take) at 0-30 degrees off nadir - Imagery with higher off-nadir angles available through on-demand archive retrieval
AVAILABILITY	Imagery is available within 48 hours of collection
SYNTHETIC APERTURE RADAR (SAR)	MDA RADARSAT-2 Wide Ultra-Fine (3m resolution) over select geographies

Access

- Web browser interface
- OGC streaming services
- Google Earth plug-in
- Esri ArcGIS

Subscriptions

Base subscription includes:

- Access to the complete DigitalGlobe image library
- Five global base layers of Human Landscape
- Available at multiple pricing levels based on data consumption

Premium subscription options:

- SecureWatch Sites - Delivers persistent imagery refresh over key defense sites
- Human Landscape - Delivers 60+ layers of human geography data on a country by country basis

Security

- Active prevention of SQL-Injection, cross-site scripting, DoS and DDoS attacks
- Web Application Firewall that performs deep inspection of all web traffic
- HTTPS encryption of all communication between client and server
- Multi-tiered firewall approach to ensure customer data protection
- Eliminate the time needed to search for, procure and manipulate data
- SFTP, Aspera, and AWS S3 secure downloads are supported

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EarthWatch
Frequently Asked Questions

What are the EarthWatch Product Levels?

There are two EarthWatch product levels:

Premium provides access to:
· Daily (Holdback on updates: 2 days), Extended Coverage Option (ECO), FirstLook, Metro and Vivid
· Full access to the DigitalGlobe catalog
· Perpetual license on download

Standard provides access to:
· Standard (holdback on updates: 90 days with curated imagery only), ECO and Vivid
· Temporary license on download, valid during the course of the contract

What are the EarthWatch Subscription Tiers?

EarthWatch Premium										
Tier	1	2	3	4	5	6	7	8	9	10
GB	2	4	15	30	75	230	500	1,200	2,200	3,600

EarthWatch Standard										
Tier	1	2	3	4	5	6	7	8	9	10
GB	4	8	30	60	150	460	1,000	2,400	4,400	7,200

* A calculator to estimate the tier you need can be accessed at www.euspaceimaging.com/earthwatch

What content can I access?

	Standard	Premium
Time Series		Daily (2 day holdback)
	Standard	Standard
	Extended Coverage	Extended Coverage
		FirstLook
Mosaics		Metro
	Vivid	Vivid
	Terracolor (Landsat)	Terracolor (Landsat)
Map Layers	Open Street Map (OSM)	Open Street Map (OSM)
	Google Maps	Google Maps
DGCS Platform	API (OGC)	API (OGC)
	ImageConnect	ImageConnect
	EarthWatch Browser App	EarthWatch Browser App
Group License	Download Perpetual	Download Perpetual
Renewal	Auto	Auto

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What is Daily?

Daily is near real-time access to imagery over areas of strategic and economic interest.

The Daily content includes the most relevant current collections from the WorldView constellation and is updated continuously around the globe. With industry-leading delivery timelines, users can view and download imagery within 48 hours of acquisition to support a broad range of applications for government agencies and commercial. The WorldView constellation is collecting about 3 million square kilometers of new imagery every day.

There is additional content in the archive; image strips that don't meet the Daily CC/ONA/SUNEL threshold (typically more than 2 million square kilometers of new imagery every day). EarthWatch Premium customers with archive ordering enabled can access and order such image strips into their private layer or into their library.

What is Standard content?

Standard (curated, 90 day holdback): Image strips are currated and the resulting best content is offered as a time series to users to better understand and analyze specific geographies of interest, whether they be state-wide, country-wide, regional, or global.

The following figure provides an overview:

WorldView-1	GeoEye-1	WorldView-2	WorldView-3

Daily 2 Day Holdback < 35 - 50% CC < 30 ONA > 15 Sunel	**Standard** 90 Day Holdback The best of the Image Library < 20% CC < 30 ONA > 15 Sunel **Curated**	**Extended Coverage** 90 Day Holdback Relaxed cloud cover & **ommitting curation** < 35 - 50% CC < 30 ONA > 15 Sunel

What is Extended Coverage?

Extended Coverage are images 90 days or older and are of lower value than standard (i.e. higher cloud coverage and/or omitted curation). See figure above.

• Beneficial in particular to customers in cloudy regions, e.g. near the equator

• ECO (Extended Coverage Option) can be turned on/off in the filters

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What is FirstLook?

FirstLook is everything users need for emergency management. FirstLook provides access to pre-and post-event imagery. High-resolution satellite imagery provides the essential information required for planning, risk assessment, monitoring of staging areas and emergency response, damage assessment, and recovery.

What is Metro?

Metro provides easy access to up-to-date high-resolution imagery of more than 6,000 world capitals and major metropolitan areas. Imagery is mosaicked together to provide a consistent view of the urban landscape, including high-value areas of interest, extending beyond the city center to encompass suburbs, airports, and other developed zones of population hubs around the globe.

Metro is held to a high quality standard to provide the best blend of coverage, currency, and consistency. Over half of the Metro mosaics will be 30cm GSD by the end of 2018.

What is Vivid?

Vivid provides the most beautiful, high-resolution, color-balanced mosaic (50cm GSD) imagery available anywhere. Powered by proprietary image processing techniques and unrivaled high-resolution imagery archive, Vivid will delight customers who require the highest quality imagery over large areas of interest.

What is the Archive?

All our satellite imagery, dating as far back as 2002.

· Archive images can be ordered into the EarthWatch library or into a private layer for streaming. For download into the library, different processing levels, such as Basic (1B), OR2A, and ortho, are available – including for SWIR.

· Stereo images can also be downloaded from the DigitalGlobe archive via EarthWatch Premium.

What is the Landsat layer?

Landsat is a coarse color-balanced base layer mosaic (GSD > 10m) that is typically used as background while browsing at zoom levels 9-10.

What is Open Street Map (OSM) in EarthWatch?

OSM is a layer showing street names and key landmarks that can be enabled in the browser with transparency 0-100% .

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What is Google Maps in EarthWatch?

Google Maps can be selected as a layer that can be enabled in the browser with transparency 0-100%.

What about custom layers?

EarthWatch allows streaming content inside the browser—on top of DG satellite imagery:

· WMTS (OGC)

· WMS (OGC)

· WFS (OGC)

· ESRI (native) REST

How can I determine the Product Level and Tier for my customer?

A calculator to estimate the tier you need can be accessed at www.euspaceimaging.com/earthwatch

What license types are we offering with EarthWatch?

Group Licenses: Typical for EarthWatch; these licenses are implemented with order request

Integrator Licenses: Custom, typically with a 50% uplift and/or revenue share. Please contact European Space Imaging for more information.

Media License: Custom, typically a 20% uplift. Please contact European Space Imaging for more information.

Where can I see a complete list of functionality that can be accessed via my EarthWatch subscription?

Please contact European Space Imaging in order to the receive the User Guide.

What is Archive Ordering?

EarthWatch Premium customers have access to all commercially available satellite imagery within the Image Library, dating as far back as 2002.

Archive images can be ordered into the EarthWatch library or into a private layer for streaming. For downloading into the library, different processing levels, such as Basic (1B), OR2A, and ortho, are available—including SWIR.

Stereo images can also be downloaded from the archive via EarthWatch Premium.

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EarthWatch Platform

+ 3 PB curated/current imagery

Image Archive

+ 100 PB of Very High Resolution imagery (dating back to 2002)

Ordering imagery from the archive into the EarthWatch platform is not metered against the customer's GB allocation.

· Archive imagery will typically be delivered into the DGCS platform within 1 business day.

· Once the imagery is loaded into the EarthWatch platform, streaming of archive imagery from the private layer and download of archive imagery is metered and will count against the GB allocation.

· Archive imagery will automatically be rolled off from the private layer and/or the library after 14 days – and can be reordered if necessary.

Is (multi-spectral) archive ordering included?

Archive ordering – including the ordering of multispectral and SWIR imagery – is available for EarthWatch Premium customers.

How can I access EarthWatch via Browser?

EarthWatch has an easy-to-use browser interface that allows you to quickly search and view all premium content. This intuitive user interface enables you to easily manage and download high-value multi-temporal content.

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Is API OGC access included?

Yes, the standard EarthWatch group license includes API OGC access as well as a Developer Guide.

However, if a user plans to make content accessed through EarthWatch OGC API available to external parties, an integrator license is required.

Do we have geo-constraints?

Contractual geo-constraints are not necessary given the usage-based pricing model. Reducing access to an AOI will not reduce the costs. All users get worldwide access by license.

We can geo-constrain accounts/users upon request. Please contact your sales representative for assistance.

Can we disable download?

By default, download is enabled.

We can configure/disable download for accounts/users upon request. Please contact your sales representative for assistance.

Customer administrators can manage download (enable/disable) for each of their users.

How much content can be downloaded per GB?

The average file size of one square kilometer download is 5.6 MB across the EarthWatch platform

• 1 GB allows an average of about 178 square kilometers download

• Please note that these are averages and actuals may vary depending on the content (compression ratios vary).

• A calculator to estimate the tier you need can be accessed at www.euspaceimaging.com/earthwatch

How much content can be streamed per GB?

The average zoom level for streaming across the EarthWatch platform is zoom level 14

• 1GB is typically enough to stream 70,000 square kilometers at zoom level 14

What is the difference between streaming and downloading?

Streaming: WMS and WMTS consumed via the API, whether it is consumed via the browser application, Image Connect (ArcMap) or custom integration

• Download: imagery downloaded into the customer's library (typically at native resolution)

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If a customer is interested in calculating/estimating streaming consumption at different zoom levels, e.g. zoom level 18, the following can be used:

· ZL14GSD = 9m

· ZL18GSD = 0.6m

· Resulting Factor = $(ZL14GSD/ZL18GSD)^2 = (9/0.6)^2 = 225$

· Interpretation: on zoom level 14 you can stream 225 more square kilometers than on zoom level 18

If you wanted to calculate for any other zoom level (i.e. ZLxGSD) then please replace ZL18GSD with ZLxGSD in the formula above.

Following is an example for 2GB:

GSD(m)	Factor	sqkm / GB	Zoom Level	Total sqkm (2GB)
70	0.0	4,234,568	11	8,469,136
30	0.1	777,778	12	1,555,556
19	0.2	311,975	13	623,951
9	1	70,000	14	140,000
4	5	13,827	15	27,654
2	20	3,457	16	6,914
1	81	864	17	1,728
0.6	225	311	18	622
0.3	900	78	19	156

What happens if a user exceeds their GB limit?

Per the EarthWatch license agreement, downloads will be disabled, and streaming resolution will be limited as follows:

· 95% of tier GB allocation: downloads disabled

· 100% of GB allocation: streaming limited to 4.8 m GSD

EarthWatch customers that exceed 100% of the allocation during the period of performance have the following options:

· Continue using their account with streaming only, with resolution limited to 4.8m GSD, until the end of period of performance.

· Buy more GBs at the rate locked in with the agreement for the remainder of the period of performance.

   · Reload (one-time purchase)

   · Monthly invoice for actual overages

   · Renew, enter into a new agreement

For all other questions, please contact a sales representative at European Space Imaging.

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