Euclid Archive at IRSA
User Guide

Quick Release 1

Last updated 17 March 2025

1 Introduction

1.1 Document Purpose and Scope

The purpose of this document is to facilitate science with Euclid data by providing users with an overview of the Euclid Quick Release 1 (Q1) data that are available at the NASA/IPAC Infrared Science Archive (IRSA) at Caltech, as well as instructions for accessing and downloading it. We also provide tips for exploring the data and getting help with any questions you may have. This User Guide is expected to evolve as IRSA adds functionality to its Euclid exploration tools.

1.2 Euclid Overview

Euclid launched in July 2023 as a European Space Agency (ESA) mission with involvement by the National Aeronautics and Space Administration (NASA). The primary science goals of Euclid are to better understand the composition and evolution of the dark Universe. The Euclid mission will provide space-based imaging and spectroscopy as well as supporting ground-based imaging to achieve these primary goals. These data will be archived in multiple global repositories, including IRSA, where they will support transformational work in many areas of astrophysics.

During its nominal mission duration of 6 years, The Euclid space telescope will conduct (1) a Wide Survey resulting in imaging and spectroscopy over about 14,000 square degrees; and 2) a Deep Survey covering about 50 square degrees. Euclid public data releases will occur approximately annually from 2025 through 2031.

The Euclid Space Telescope carries two instruments: the VISible instrument (VIS) and the Near-Infrared Spectrometer and Photometer (NISP). The Euclid data set will include data collected with these space-based instruments as well as "external" (EXT) images collected by ground-based telescopes and served alongside the Euclid images.

1.3 Important Webpages

- Euclid Archive at the NASA/IPAC Infrared Science Archive (IRSA)[1]
- IRSA Helpdesk[2].
- Euclid NASA Science Center (ENSCI)[3]
- ESA's Euclid webpage[4]
- Euclid Archive at the European Space Agency (ESA)[5]

[1] https://irsa.ipac.caltech.edu/Missions/euclid.html
[2] https://irsa.ipac.caltech.edu/docs/help_desk.html
[3] https://euclid.caltech.edu
[4] https://www.cosmos.esa.int/web/euclid/home
[5] https://eas.esac.esa.int/sas/

2 Data Products in Euclid Quick Release 1

The first release of Euclid data occurred in March 2025 and is known as Euclid Quick Release 1 (Q1). It consists of data in four fields together covering about 60 square degrees. Although three Euclid Deep Fields are included, the data released in Q1 is at the depth planned for the Wide Field Survey.
Table 1 provides a summary of these fields.

The data products released as part of Euclid Q1 include images, catalogs, and spectroscopy, as listed in Euclid Science Team Memo EUCL-EST-ME-8-018[6], dated 23 Sep 2024. Euclid data products are processed and produced by different pipeline Processing Functions (PF). Table 2 summarizes these PFs, as they can be useful for understanding the organization and names of the data products, which are listed in Table 3.

Additional information about the data products are provided in Section 3.1 (Browsable Directories).

Table 1. Euclid Q1 Release: Fields Overview

Field	Acronym	Field Center (RA Dec)	Q1 coverage (sq deg)	Q1 Data Products
Euclid Deep Field North	EDF-N	17:58:55.9 +66:01:03.7	22.9	Space-based imaging, spectra, catalogs at single-visit depth External images matching space-based single-visit depth
Euclid Deep Field Fornax	EDF-F	04:04:57.84 -48:25:22.8	12.1	
Euclid Deep Field South	EDF-S	03:31:43.6 -28:05:18.6	28.1	
Lynd's Dark Nebula	LDN1641	85.74 -8.39		Space-based: 6 Reference Observation Sequences; No external data

[6] https://www.cosmos.esa.int/documents/10647/12245842/EUCL-EST-ME-8-018_v1_Q1_fields_definition_2024-09-30.pdf

Table 2. Euclid Pipeline Processing Functions

Euclid Processing Function (PF)	Brief Description
LE1	Produces Level 1 (raw) images from the VIS and NISP instruments
VIS	Produces calibrated Level 2 images from raw Level 1 VIS images
NIR	Produces calibrated Level 2 images from raw Level 1 NISP images
SIR	Produces calibrated Level 2 spectral images from the raw Level 1 NISP spectral data and extracts 1D spectra from the Level 2 spectral images
MER	Merges all Level 2 information to provide mosaics, catalogs, and photometric redshifts based on photometric and spectroscopic data
EXT	Provides external imaging and spectroscopic data
SPE	Measures spectroscopic redshifts from the Level 2 spectra
PHZ	Computes photometric redshifts from the multiwavelength imaging data
SHE	Measures shapes on the VIS imaging data (not included in Q1)
LE3	Produces Level 3 data products
SIM	Produces simulated data (not included in Q1)

Table 3. Euclid Q1 Release: Data Products Overview

Level	Processing Facility	Data Product Name linked to Euclid Data Product Description Document (DPDD)	Data Product Description
LE1	VIS	DpdVisRawFrame	Raw VIS images
	NIR	DpdNispRawFrame	Raw NISP images
LE2	VIS	DpdVisCalibratedFrame	Calibrated VIS exposures, background maps, weight maps, and PSF filess
		DpdVisCalibratedFrameCatalog	Catalog measured on calibrated VIS images
	NIR	DpdNirCalibratedFrame	Calibrated NISP scientific images, background models, PSF models, PSF images
		DpdNirCalibratedFrameCatalog	Catalogs measured on calibrated NISP images
	SIR	DpdSirScienceFrame	2D SIR spectra
		DpdSirCombinedSpectra	For each object in the MER final catalog single, this product includes spectra extracted from individual dithers as well as the combined spectra.
	MER	DpdMerBksMosaic	MER mosaics, including EXT ground-based UGRIZ images
		DpdMerSegmentationMap	Maps of MER image pixels assigned to detected objects
		DpdMerFinalCatalog	Main MER catalog containing photometric and morphological information for detected sources
	PHZ	DpdPhzPfOutputForL3 DpdPhzPfOutputCatalog	Photometric redshift catalogs
	SPE	DpdSpePfOutputCatalog	Spectroscopy catalogs
LE3	Visibility Masks	DpdHealpixBitMaskVMPZ	Bitmask maps
		DpdHealpixFootprintMaskVMPZ	Survey footprint masks for each band
		DpdHealpixCoverageVMPZ	Coverage masks for each band
		DpdHealpixDepthMapVMPZ	MER depth maps
		DpdHealpixInfoMapVMPZ	Environment and instrument information for each band

3 Access to Euclid Quick Release 1 data served by IRSA

IRSA serves the Q1 products both on premises at IPAC and in the cloud via Amazon Web Services (AWS). IRSA provides layered access to these data to support a variety of use cases and users. Each data access layer is described in greater detail in the subsections below.

Data Access Mechanism	Images	Catalogs	Spectra
Euclid Data Explorer	MER mosaics via direct search, associated NIR and VIS calibrated frames upon download.	All Q1 catalogs except: • MER cutouts catalog • VIS & NIR calibrated frames catalogs • PHZ galaxy & star SED catalogs • SPE models catalogs These are coming soon!	Coming soon!
Catalog Search Tool	N/A	Same as Euclid Data Explorer	N/A
IRSA Astroquery Module	MER mosaics	Same as Euclid Data Explorer	Coming soon!
Virtual Observatory Protocols	MER mosaics via SIA	Same as Euclid Data Explorer, via TAP and SCS	Coming soon via SSA!
Browsable Directories	All Q1 data products, on premises and in the cloud		

3.1 Browsable directories

Euclid data products curated by IRSA are laid out in directories that can be navigated with standard web browsers. This is convenient for users to get a quick sense of the types of data products that are available, to quickly download some examples by clicking through the directory tree, and to script bulk downloads using wget or curl.

The root of the Euclid data directories for Q1 is:

https://irsa.ipac.caltech.edu/ibe/data/euclid/q1/

The data are organized into 8 subdirectories:

- MER - 19.4 TB
- MER_SEG - 970 GB
- NIR - 2.35 TB
- RAW - 1.47 TB
- SIR - 848 GB
- VIZ - 9.27 TB
- VMPZ - 5 GB
- catalogs – 573 GB

The content of each subdirectory is described in greater detail in the subsections below.

3.1.1 MER

This directory contains the DpdMerBksMosaic data products. They are organized by TILE ID, a 9 digit integer uniquely identifying a Euclid Tile, which represents a well-defined area of the sky. MER data from the wide-field survey (including all Q1 data) are organized into tiles with core area sizes ~ 30 arcmin x 30 arcmin and extended area sizes ~ 32 arcmin x 32 arcmin.

Within each TILE ID subdirectory are instrument subdirectories. All tiles have VIS and NISP subdirectories, corresponding to the two instruments on board the Euclid spacecraft. Some tiles have additional subdirectories representing external (EXT) ground-based observations. All mosaics share the same pixel scale (0.1 arcsec) for all bands. The full list of possible Q1 instrument subdirectories is:

- VIS – mosaics produced from data taken with the VIS instrument on board the Euclid spacecraft.
- NISP – mosaics produced from data taken with the NISP instrument on board the Euclid spacecraft.
- DECAM – mosaics produced from data taken with the Dark Energy Camera (DECam) on the Blanco 4-meter telescope at the Cerro Tololo Inter-American Observatory in Chile.
- MEGACAM – mosaics produced from data taken with the MegaCam instrument on the 3.6 meter Canada France Hawaii Telescope (CFHT) in Hawaii.
- HSC – mosaics produced from data taken with the Hyper Suprime-Cam instrument on the 8.2 meter Subaru Telescope in Hawaii.
- GPC – mosaics produced from data taken with the GigaPixel Camera (GPC) on the 1.8 meter PanSTARRS telescope in Hawaii.

Within each instrument subdirectory are the individual MER data products. These include:

- EUC_MER_BGSUB-MOSAIC-[instrument]-[band]_TILE[tile]-*_[timestamp]_*.fits – Background-subtracted mosaic image
- EUC_MER_MOSAIC-[instrument]-[band]-RMS_TILE[tile]-*_[timestamp]_*.fits – Root Mean Square associated with the background-subtracted mosaic
- EUC_MER_MOSAIC-[instrument]-[band]-FLAG_TILE[tile]-*_[timestamp]_*.fits – Bit flags associated with the background-subtracted mosaic. The meaning of the flags depends on the instrument:
    - VIS flag map values
    - NISP flag map values
- EUC_MER_BGMOD-[instrument]-[band]_TILE[tile]-*_[timestamp]_*.fits – Backgrounds are subtracted from the input images prior to coaddition. Once the mosaics are produced, any remaining background is subtracted. The model used for this secondary background subtraction is provided here.

- EUC_MER_CATALOG-PSF-[instrument]-[band]_TILE[tile]-*_[timestamp]_*.fits – Catalog point spread function
- EUC_MER_GRID-PSF-VIS_TILE[tile]-*_[timestamp]_*.fits (VIS only) – Grid of point spread functions (PSFs) for sources in the MER Final Catalog.

3.1.2 MER_SEG

The MER_SEG directory contains the DpdMerSegmentationMap data products, organized by TILE ID.

Each MER segmentation map shows the connected pixels of the detected objects in a tile, and is a combination of the associated VIS and NIR segmentation maps. The Object IDs in the MER segmentation maps correspond to the SEGMENTATION_MAP_ID column values in the MER Final Catalog.

The individual segmentation maps are about 2.7 GB and adhere to the following filename convention:

EUC_MER_FINAL-SEGMAP_TILE[tile]-*_[timestamp]_*.fits

3.1.3 NIR

The NIR directory contains the near-infrared imaging data taken by the Euclid NISP instrument, specifically the DpdNirCalibratedFrame and DpdNirCalibratedFrameCatalog data products. These are organized by observation ID. The NIR data products are:

- EUC_NIR_W-CAL-IMAGE_[band]-[obs]-*_[timestamp].fits -- a multi-extension FITS (MEF) file with three extensions for each of 16 detectors: calibrated science image (SCI), RMS, and Data Quality flags (DQ).
- EUC_NIR_W-CAL-IMAGE-BKG_[band]-[obs]-*_[timestamp].fits -- a MEF file with the same structure as EUC_NIR_W-CAL-IMAGE*.fits, containing the estimated background.
- EUC_NIR_W-CAL-PSF-I_[band]-[obs]-*_[timestamp].fits -- PSF image associated with the science image.
- EUC_NIR_W-CAL-PSF-M_[band]-[obs]-*_[timestamp].psf -- PSF model created by combining all the pipeline input images, as provided by PSFEx software (.psf).

3.1.4 RAW

The RAW directory contains the raw VIS and NISP data products (DpdVisRawFrame and DpdNispRawFrame):

- EUC_LE1_NISP-[obs]-1-D_[timestamp]*.fits,

- EUC_LE1_VIS-[obs]-1-D_[timestamp]*.fits

where [obs] is the observation ID and [timestamp] provides the year, month, day, and time of the observation in UTC.

3.1.5 SIR

The SIR directory contains the spectroscopy data (DpdSirScienceFrame and DpdSirCombinedSpectra) taken with the NISP instrument. The science frames are organized by observation ID while the combined spectra are organized by tile ID.

- EUC_SIR_W-SCIFRM_BKGSUB_[obs]_[sca_id]_[dithobs]_[gwa_pos]_*_[timestamp].fits – SIR science frames
- EUC_SIR_W-COMBSPEC_[tile]_[timestamp].fits

[gwa_pos] = Grism Wheel Assembly position
[sca_id] = Sensor Chip Assembly ID

3.1.6 VIS

The VIS directory contains imaging data (DpdVisCalibratedFrame) taken with the VIS instrument, organized by observation ID. The VIS data products are:

- EUC_VIS_SWL-DET-[obs]-[dither]_[timestamp]*.fits – calibrated VIS individual exposure
- EUC_VIS_SWL-BKG-[obs]-[dither]_[timestamp]*.fits – background map for calibrated VIS individual exposure
- EUC_VIS_SWL_WGT-[obs]-[dither]_[timestamp]*.fits – weight map for calibrated VIS individual exposure
- EUC_VIS_GRD-PSF*[timestamp].fits – point spread function

3.1.7 VMPZ

This directory contains a number of "Visibility Mask Photo-Z" products (DpdHealpixBitMaskVMPZ, DpdHealpixFootprintMaskVMPZ, DpdHealpixCoverageVMPZ, DpdHealpixDepthMapVMPZ, DpdHealpixInfoMapVMPZ), each organized in its own subdirectory by tile ID.

3.1.8 catalogs

The catalogs directory contains Euclid Q1 catalogs from the MER, PHZ, SPE, NIR, and VIS PFs. Subdirectories are:

- MER_FINAL_CATALOG – This directory contains multiple catalogs, organized by TILE_ID and packaged as FITS tables:
  - EUC_MER_FINAL-CAT_TILE[tile]-*_[timestamp]_*.fits – This is the main MER catalog. It contains 469 columns, including position, flux, and morphology measurements of detected sources.
  - EUC_MER_FINAL-MORPH_CAT_TILE[tile]-*_[timestamp]_*.fits – This table has 104 columns, including morphology measurements such as concentration, asymmetry, smoothness, Gini, moment, Sersic indices, bulge sizes, clump counts, orientation, Hubble type, and more.
  - EUC_MER_FINAL-CUTOUTS-CAT_TILE[tile]-*_[timestamp]_*.fits – This table has 25 columns, including the coordinates of the corners of the source cutouts for each object detected in the MER Final Catalog.
- NIR_CAL_CATALOG – organized by OBS_ID and packaged as FITS tables:
  - EUC_NIR_W-CALIB-CAT_[obs]-[band]-[dithobs]*_[timestamp].fits – This catalog is extracted from the NIR Calibrated Frames. The main header contains metadata that applies to all 16 NIR detectors. An additional 16 extensions represent catalogs extracted from each detector. The catalogs have 43 columns including position, photometry, and morphology measurements.
- PHZ_PF_OUTPUT_CATALOG -- organized by TILE_ID and packaged as FITS tables:
  - EUC_PHZ_PHZCAT_[timestamp]*.fits – This file contains two tables. The first is the PHOTOZ CATALOG, which contains 61 columns describing the photometric redshift probability distribution, fluxes, and classification. The second is the ZERO_POINT table, which contains the correction for each filter.
  - EUC_PHZ_GALAXYSED_[timestamp]*.fits – This catalog contains 120 columns describing the spectral energy distributions for MER objects classified as galaxies.
  - EUC_PHZ_STARSED_[timestamp]*.fits – This catalog contains 120 columns describing the spectral energy distributions for MER objects classified as stars.
- PHZ_PF_OUTPUT_FOR_L3 -- organized by TILE_ID and organized as FITS tables:
  - EUC_PHZ_CLASSCAT_[timestamp]_*.fits – The Classification Catalog contains 13 columns describing the object classification (star, galaxy, QSO, globular cluster).
  - EUC_PHZ_PHYSPARAM_[timestamp]_*fits – The Physical Parameters Catalog contains 93 columns describing physical parameters such as redshift, luminosity, extinction, dust law parameters, absolute magnitudes, stellar mass, metallicity.
  - EUC_PHZ_PHYSPARAMQSO_[timestamp]_*.fits – The QSO Physical Parameters Catalog contains 56 columns describing physical parameters for objects classified as QSOs. Parameters include the best-fit SED, reddening, redshift, and corrected fluxes.
  - EUC_PHZ_PHYSPARAMNIR_[timestamp]_*.fits – The NIR Physical Parameters Catalog contains 57 columns.

    - EUC_PHZ_STARCLASS_[timestamp]_*.fits – The Star Template contains 55 columns describing physical parameters for objects classified as stars. Parameters include the best-fit SED, reddening, redshift, and corrected fluxes.
- SPE_PF_OUTPUT_CATALOG – organized by TILE_ID and organized as FITS tables:
    - EUC_SPE_WIDE-CAT-Z_[tile]_N_[timestamp]_*.fits – This file has 5 table extensions: SP_QUALITY (25 columns, including data quality flags), SPE_CLASSIFICATION (5 columns, including the probabilities of an object being classified as a star, galaxy, or QSO), SPE_GALAXY_CANDIDATES (12 columns, including the spectroscopic redshift estimate, uncertainty, and reliability), SPE_STAR_CANDIDATES (8 columns, including the radial velocity estimate, uncertainty, and reliability), SPE_QSO_CANDIDATES (12 columns, including the spectroscopic redshift estimate, uncertainty, and reliability).
    - EUC_SPE_WIDE-CAT-LIN_[tile]_N_[timestamp]_*.fits – This file has 4 extensions:
    - EUC_SPE_WIDE-CAT-MOD_[tile]_N_[timestamp]_*.fits
- VIS_CAL_CATALOG – organized by OBS_ID and packaged as FITS tables:
    - EUC_VIS_SWL-CAT-[obs]-*_[timestamp]*.fits

3.2 Application Program Interfaces (APIs)

In addition to data laid out in browsable directories, users can take advantage of APIs to search among Euclid data products. IRSA is providing Virtual Observatory (VO) compliant APIs to access Euclid Q1 images and catalogs.

3.2.1 Images

IRSA provides API access to Euclid Q1 images through version 2 of the VO Simple Image Access (SIA2) protocol. This allows users to query for a list of images that satisfy constraints such as position(s) on the sky, band, time, ID, and instrument. The list returned by the service includes data access URLs, which can be used to retrieve some or all of the images in the list using wget or curl. A brief summary of SIA2 for accessing Euclid data for IRSA is given below. Additional documentation on IRSA's SIA2 service can be found on the IRSA website[7].

IRSA's SIA2 endpoint is:

https://irsa.ipac.caltech.edu/SIA?

The Euclid Q1 data collections available from this endpoint are:

- euclid_DpdMerBksMosaic
- euclid_DpdVisCalibratedQuadFrame
- euclid_DpdNirCalibratedFrame

See Section 3.3 to learn how to use Python wrappers around IRSA's SIA2 service.

[7] https://irsa.ipac.caltech.edu/ibe/sia.html

3.2.2 Catalogs

IRSA provides API access to Euclid Q1catalogs through the VO Table Access Protocol (TAP). This allows users to query for the subset of catalog rows that satisfies user constraints specified in Astronomical Data Query Language (ADQL).

The available catalogs are:

- euclid_q1_mer_catalogue
- euclid_q1_mer_morphology
- euclid_q1_phz_photo_z
- euclid_q1_spectro_zcatalog_spe_quality
- euclid_q1_specrto_zcatalog_spe_classification
- euclid_q1_spectro_zcatalog_spe_galaxy_candidates
- euclid_q1_spectro_zcatalog_spe_star_candidates
- euclid_q1_spectro_zcatalog_spe_qso_candidates
- euclid_q1_spe_lines_line_feautures
- euclid_q1_spe_lines_continuum_features
- euclid_q1_spe_lines_atomic_indices
- euclid_q1_spe_lines_molecular_indices

IRSA provides two additional tables that are not part of the official Euclid Q1 release, but provide metadata associations that may be helpful to users:

- Euclid Q1 TILEID to Observation ID Association Table
- Euclid Q1 Object ID to Spectral File Association Table

See Section 3.3 to learn how to use Python wrappers around IRSA's TAP service.

3.2.3 Spectra

The spectral products included in Euclid Q1 include:

DpdSirScienceFrame
DpdSirCombinedSpectra

The SIR science frames will eventually be available through SIA2, as they are 2D images. The SIR Combined Spectra are multi-object packages of 1D spectra, which will eventually be queryable via the VO Simple Spectral Access (SSA) protocol.

3.3 Python packages: PyVO & Astroquery

If you would like to take advantage of IRSA's SIA2 service for querying Euclid Q1 images or IRSA's TAP service for querying Euclid Q1 catalogs, but prefer to use Python rather than the command line, you may be interested in using one of two Python libraries:

- **PyVO**[8] -- PyVO lets you find and retrieve astronomical data available from archives that support standard IVOA virtual observatory service protocols.
- **Astroquery**[9] -- This module provides access to the public astrophysics catalogs, images, and spectra curated by the NASA/IPAC Infrared Science Archive (IRSA) at Caltech. IRSA hosts data from many missions, including Euclid, Spitzer, WISE/NEOWISE, SOFIA, IRTF, 2MASS, Herschel, IRAS, and ZTF.

Examples of data queries using both of these libraries can be found in IRSA's Python Notebook Tutorial Repository[10].

3.4 Euclid Data Explorer

Users who prefer an interactive graphical user interface (GUI) for specifying search constraints, submitting queries, and visualizing the results should consider the Euclid Data Explorer[11]. The tool includes its own context-sensitive help, but we summarize the main functionality below.

The "Images" search provides access to the multiwavelength MER mosaics. Users can visualize the planned[12] spatial coverage of the Euclid wide-field survey and the data available as part of Q1; submit spatial queries (including table uploads) for the MER mosaics; and interactively visualize cutouts of the mosaics and coverage of the mosaics on the sky.

The "Inspect Objects" search provides access to the MER final catalog. Users can visualize the planned spatial coverage of the Euclid wide-field survey and the data available as part of Q1; submit spatial queries (including table uploads) of the MER final catalog; and interactively visualize data about the returned objects. This visualization includes an interactive table of the MER final catalog columns, customizable charts of the data in this table, a coverage map showing the spatial distribution of these objects on the sky, and cutouts of the multiwavelength MER mosaics for each object.

The "Search by ID" search allows users to search for MER multiwavelength mosaics by Tile ID and to search for rows in the MER final catalog by Object ID.

The "Euclid Catalogs" search allows users to search select Q1 catalogs via an interface which allows users to enter spatial, temporal, column, ID, or general ADQL constraints.

[8] https://pyvo.readthedocs.io/en/latest/
[9] https://astroquery.readthedocs.io/en/latest/ipac/irsa/irsa.html
[10] https://caltech-ipac.github.io/irsa-tutorials/
[11] https://irsa.ipac.caltech.edu/applications/Euclid
[12] As of early 2025 and subject to change

3.5 Cloud Access

Euclid Q1 data are available in Amazon Web Services (AWS) Open Data Repository (ODR). Downloads from AWS can be made without logging in and without incurring any egress costs. Information on how to access these data are available at IRSA's Cloud Data Access webpage[13].

3.6 Data Volumes & Bandwidth

Users interested in bulk downloads should plan download times and local storage accordingly. The entire Q1 data set is approximately 35 TB. Download times for Euclid Q1 will depend on available download speeds, which can vary substantially. For an example home internet speed of 250 Mbps, it would take about 14 days to download the entirely of the Euclid Q1 data release. The Q1 download time would be reduced to about 3 days at an institution that can achieve 1 Gbps downloads.

Data Product	Volume	Time to download at 250 Mbps	Time to download at 1 Gbps
MER	19.4 TB	8 days	2 days
MER_SEG	970 GB	9 hours	2 hours
NIR	2.35 TB	23 hours	6 hours
RAW	1.47 TB	14 hours	4 hours
SIR	848 GB	8 hours	2 hours
VIZ	9.27 TB	4 days	23 hours
VMPZ	5 GB	3 minutes	1 minute
catalogs	573 GB	6 hours	1 hour
Total Q1	34.9 TB	14 days	3 days

4 Acronym List

ADQL – Astronomical Data Query Language
API – Application Program Interface
AWS – Amazon Web Services
DECAM – Dark Energy Camera
EDF – Euclid Deep Field
ENSCI – Euclid NASA Science Center
ESA – European Space Agency
EXT – External images collected by ground-based telescopes and served alongside the Euclid images
FITS – Flexible Image Transport System
GPC - GigaPixel Camera
GUI – Graphical User Interface
HSC – Hyper Suprime Cam
IRSA – NASA/IPAC Infrared Science Archive
IVOA – International Virtual Observatory Alliance
LDN – Lynd's Dark Nebula

[13] https://irsa.ipac.caltech.edu/cloud_access/

LE1 – Level 1
LE2 – Level 2
LE3 – Level 3
MEF – Multi-Extension FITS
NASA -- National Aeronautics and Space Administration
NISP – Near-Infrared Spectrometer and Photometer
ODR – Open Data Repository
PF – Processing Function
PSF – Point Spread Function
Q1 – Quick Release 1
SED – Spectral Energy Distribution
SIA2 – Simple Image Access version 2
TAP – Table Access Protocol
VIS – VISible instrument
VO – Virtual Observatory