

QUICKBIRD

High resolution Earth Observation satellite

THE QUICKBIRD SATELLITE, OPERATIVE SINCE OCTOBER 2001, ACQUIRES IMAGES AT THE HIGHEST GEOMETRIC RESOLUTION AVAILABLE TODAY ON THE MARKET, AT UP TO 0.61M IN PANCHROMATIC MODE AND 2.44M FOR THE MULTISPECTRAL. TELESPAZIO PROCESSES AND DISTRIBUTES THE DIGITALGLOBE PRODUCTS IN EUROPE AND NORTH AFRICA ON EXCLUSIVE AND LATIN AMERICA.



EARTH
OBSERVATION



A Finmeccanica / Alcatel Company

The QuickBird satellite data are used in numerous ranges of applications, such as the fast updating of maps up to scale 1:5000, the detail identification of natural phenomena (fires, landslide, floods), the creation of detail interpretive maps, as well as in applications concerning tourism, the revaluation of protected areas and the agriculture.

Basic imagery products

Basic Imagery products are radiometrically and sensor corrected, but neither geometrically corrected nor mapped to a cartographic projection and ellipsoid. The resolution varies across the field of regard depending on the viewing angle of the acquired image. Pan-sharpening is not available for Basic Imagery products. The radiometric corrections applied to this product include: relative radiometric response between detectors, non-responsive detector fill, and a conversion for absolute radiometry. The sensor corrections account for internal detector geometry, optical and scan distortion. The sensor corrections account for line-rate variations and mis-registration of the multi-spectral bands, but do not account for the mis-registration of the panchromatic and multi-spectral bands. Each scene in a Basic Imagery order is processed individually, therefore multi-scene Basic Imagery products are not spatially nor spectrally mosaiced.

Standard imagery products

Standard imagery products are radiometrically and geometrically corrected, so they are mapped to a cartographic projection and ellipsoid. Pan sharpening is available for this level of product. Standard imagery products can be cut, with the exception of the basic product, according to specified geographical coordinates. Standard imagery products are available as:

- standard 2 A
- standard ortho-ready. This product differs from the previous one only for the different use of the coarse DEM during the geometrical correction phase. Standard ortho-ready products are suggested for the better accuracy reachable whenever the image is submitted to the orthorectification process.

Panchromatic Products

QuickBird panchromatic (black and white) products are based on 61cm resolution (at nadir) and 11-bit collected information depth. The panchromatic sensor collects information at the visible and near-infrared wavelengths and has a bandwidth of 450-900nm. The output resolution of the Panchromatic product varies with product level. Basic Imagery is delivered at the Ground Sample Distance in which the data were collected (ranging from 61cm at nadir to 72cm at 25° off-nadir), while Standard and Ortho Imagery products are resampled to a 60 or 70cm resolution.

Multi-spectral Products

QuickBird multi-spectral products provide four discrete non-overlapping spectral bands and 11-bit collected information depth. The multi-spectral products cover the visible and near-infrared wavelengths in four bands. All four bands are delivered in one file. The output resolution of the Panchromatic product varies with product level. Basic Imagery products are delivered at the resolution in which the data were collected (ranging from 2.44m to 2.88m), while Standard and Ortho Imagery products are resampled to a 2.4 or 2.8m pixel spacing.

Pan-Sharpended Colour Products

60 or 70cm Pan-sharpened products, combine the visual information of the 2.4/2.8m multispectral bands with the spatial information of the panchromatic band. The options are:

4 Bands (B, G, R, NIR)

Natural Colour composite (blue, green, red)

Colour Infrared composite (green, red, infrared)

Pan-sharpened Colour products are delivered as a single file.

They are available only as Standard or Ortho (not Basic) Imagery products. Pan sharpened products are available only from imagery acquired after 9 April 2002.

Orthorectified imagery products

These products are GIS-ready and ideally suited as an image base map for creating and/or revising mapping and GIS databases, or for registering existing feature layers. These products can also be used for change detection and other analytical applications that require a high degree of absolute accuracy. Orthorectified products require a Digital Elevation Model (DEM) and Ground Control Points (GCPs). In some cases these may need to be provided by the customer.

Orthorectified Imagery products are radiometrically and sensor corrected, orthorectified, and mapped to a cartographic projection and datum. Orthorectified Imagery products are available as multi-spectral with 2.4 or 2.8m resolution, or panchromatic or pan-sharpened with a 60 or 70cm resolution.



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