



European Ground Motion Service: Ortho – Vertical Component 2015-2021 (vector), Europe, yearly, Feb. 2023

The European Ground Motion Service (EGMS) is a component of the Copernicus Land Monitoring Service. EGMS provides consistent, regular, standardised, harmonised and reliable information regarding natural and anthropogenic ground motion phenomena over the Copernicus Participating States and across national borders, with millimetre accuracy. This set of metadata describes the third product level of EGMS: Ortho.

The EGMS Ortho product exploits the information provided by ascending and descending orbits of the Calibrated product (https://sdi.eea.europa.eu/catalogue/srv/eng/catalog_search#/metadata/bef2507a-13cf-44c0-a809-0a1566f27631) to derive two further layers; one of purely vertical displacements (the one described by this metadata), the other of purely east-west displacements. Both layers are resampled to a 100 m grid. The Ortho product eases the interpretation process of non-experts since the viewing geometry has not to be considered anymore.

EGMS Ortho is visualised as a vector map of measurement points colour-coded by average velocity (vertical or east-west components) and distributed to users in comma-separated values format. Each point is associated with a time series of displacement, i.e. a plot with values of displacement per acquisition of the satellite.

Simple

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|---|--|------------------------|--------------------------------|---|------------------|
| Date (Creation) | 2022-08-01 | | | | |
| Date (Publication) | 2023-02-15 | | | | |
| Edition | 01.00 | | | | |
| Citation identifier | copernicus_v_3035_100_m_egms-ortho-vert_p_2015-2021_v01_r00 | | | | |
| Code | 10.2909/0a94b5d4-b414-4f2b-a6be-eea73094a0f5 | | | | |
| Status | Superseded | | | | |
| Point of contact | Organisation name | Individual name | Electronic mail address | Website | Role |
| | European Commission | | | https://commission.europa.eu | Owner |
| | Copernicus Land Monitoring Service | | copernicus@eea.europa.eu | https://land.copernicus.eu | Custodian |
| | European Environment Agency | | sdi@eea.europa.eu | http://www.eea.europa.eu | Publisher |
| | Copernicus Land Monitoring Service helpdesk | | copernicus@eea.europa.eu | https://land.copernicus.eu/en/contact-service-helpdesk | Point of contact |
| Maintenance and update frequency | Annually | | | | |
| GEMET - INSPIRE themes, version 1.0 | <ul style="list-style-type: none">Natural risk zones | | | | |
| Keywords | | | | | |
| Continents, countries, sea regions of the world. | <ul style="list-style-type: none">IcelandNorwayEU27 (from 2020)United Kingdom | | | | |
| Keywords | | | | | |
| GEMET | <ul style="list-style-type: none">infrastructure | | | | |

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|------------------------------------|---|
| | <ul style="list-style-type: none"> • geological process • built environment • urban area • earth observation • geo-referenced data • risk reduction • subsidence • landslide |
| Spatial scope | <ul style="list-style-type: none"> • European |
| Temporal resolution | <ul style="list-style-type: none"> • Weekly |
| Access constraints | Other restrictions |
| Other constraints | no limitations to public access |
| Use constraints | Other restrictions |
| Other constraints | <p>The Copernicus component is governed by Regulation (EU) No 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU. Within the Copernicus component, a portfolio of land monitoring activities has been delegated by the European Union to the European Environment Agency (EEA) and the DG Joint Research Centre of the European Commission.</p> <p>The Copernicus land monitoring products and services are made available on a principle of full, open and free access, as established by the Commission Delegated Regulation (EU) No 1159/2013 of 12 July 2013.</p> <p>Free, full and open access to the products and services of the Copernicus Land Monitoring Service is made on the conditions that:</p> <ol style="list-style-type: none"> 1. When distributing or communicating Copernicus Land Monitoring Service products and services (data, software scripts, web services, user and methodological documentation and similar) to the public, users shall inform the public of the source of these products and services. 2. Where the Copernicus Land Monitoring Service products and services have been adapted or modified by the user, the user shall clearly state this. 3. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the European Union. |
| Spatial representation type | Vector |
| Distance | 100 m |
| Language of dataset | English |
| Character set | UTF8 |
| Topic category | <ul style="list-style-type: none"> • Geoscientific information |

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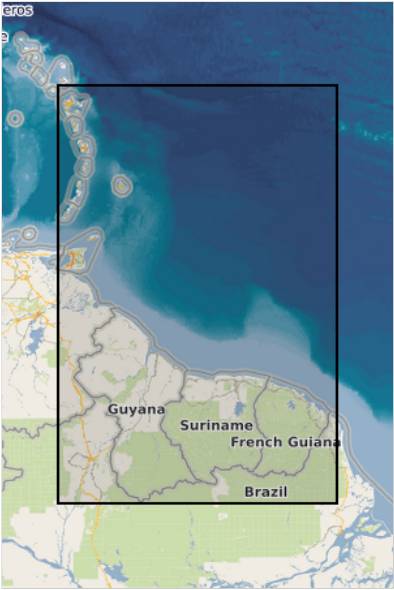
| | |
|------------|------------|
| Begin date | 2015-02-01 |
| End date | 2021-12-31 |

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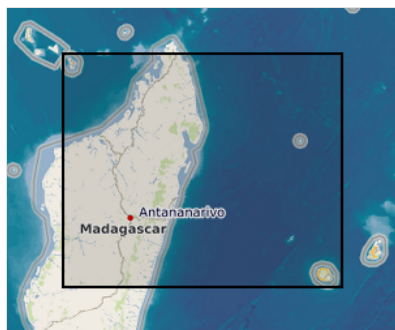
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| Coordinate reference system identifier | EPSG:3035 | | |
| Coordinate reference system identifier | EPSG:32740 | | |
| Coordinate reference system identifier | EPSG:32620 | | |
| Coordinate reference system identifier | EPSG:32622 | | |
| Coordinate reference system identifier | EPSG:32738 | | |
| Distribution format | <ul style="list-style-type: none"> • ascii (.csv, .txt, .sql) () | | |
| OnLine resource | Protocol WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link | Linkage https://egms.land.copernicus.eu/ https://land.copernicus.eu/user-corner/technical-library/egms-algorithm-theoretical-basis-document https://land.copernicus.eu/user-corner/technical-library/egms-product-user-manual https://land.copernicus.eu/user-corner/technical-library/egms-quality-control-report https://land.copernicus.eu/pan-european/european-ground-motion-service | Name EGMS Explorer Quality Assurance & EGMS and the Ortho product Product User Manual Quality Assurance & Control Report Other useful documents |
| OnLine resource | Protocol DOI | Linkage https://doi.org/10.2909/0a94b5d4-b414-4f2b-a6be-eea73094a0f5 | Name |
| Hierarchy level | Dataset | | |

Conformance result

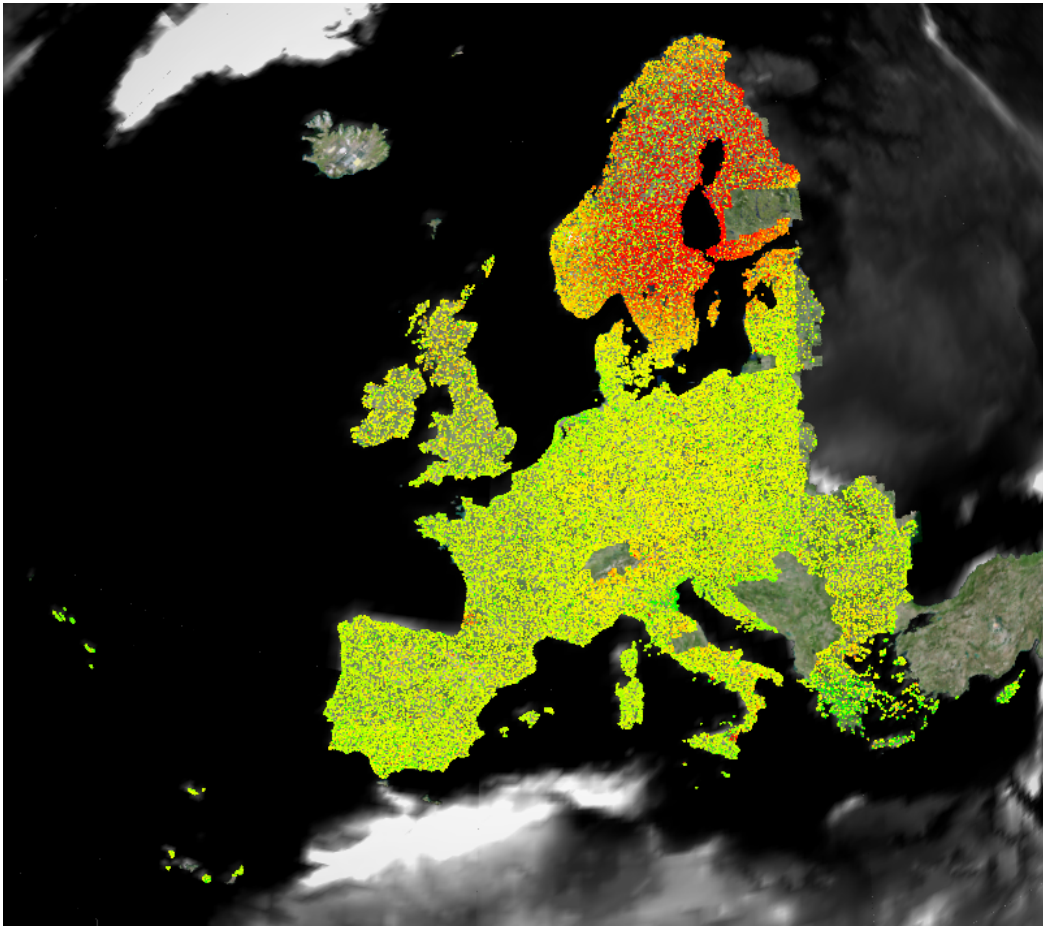
| | |
|--------------------|--|
| Title | Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services |
| Date (Publication) | 2010-12-08 |
| Explanation | See the referenced specification |

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| Statement | <p>The Ortho product is based on the decomposition of the Calibrated product to provide two discrete geospatial layers containing purely vertical (the one described in this metadata) and purely east-west displacements resampled to a 100 m grid. In summary, the process involves the following tasks:</p> <p>i) identify all the cells with at least one measurement point per orbit,</p> <p>ii) average the time series per orbit,</p> <p>iii) interpolate ascending and descending time series to a common six-day sampling and</p> <p>iv) estimate the vertical and east-west components following equations weighted on the estimated accuracy of the input measurements.</p> |
| Source | <ul style="list-style-type: none">• European Ground Motion Service: Calibrated 2015-2021 (vector), Europe, yearly, Feb. 2023 |

Metadata

| | | | |
|---------------------------|---|----------------------------|---|
| File identifier | 0a94b5d4-b414-4f2b-a6be-eea73094a0f5 XML | | |
| Metadata language | English | | |
| Character set | UTF8 | | |
| Hierarchy level | Dataset | | |
| Date stamp | 2024-06-20T15:06:42.617122Z | | |
| Metadata standard name | ISO 19115/19139 | | |
| Metadata standard version | 1.0 | | |
| Metadata author | <div>Organisation name</div> <div>European Environment Agency</div> | <div>Individual name</div> | <div>Electronic mail address</div> <div>sdi@eea.europa.eu</div> <div>Website Role</div> <div>Point of contact</div> |

Overviews



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