Data Product Specification

of

Digital Terrain Data Set  
Donlon Airport

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| Version: | 0.1 |
| This version | <http://www.aisdonlon.dl/dtm-dps.pdf> |
| Latest version | <http://www.aisdonlon.dl> |
| Published | 2020-09-30 |
| Language | English |
| Extent of the data product | Donlon Airport EADD TMA |
| Topic category | elevation |
| Keywords | DTM, DEM, Terrain, Elevation |

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| **Overview of the data product** |
| This data set contains the digital terrain data of Area 2 of Donlon Airport (EADD).  The digital terrain data meets the numerical requirements defined in ICAO PANS-AIM (Doc 10066), Appendix 1, Table A1-8 for Area 2.  The digital terrain model defines the bare surface of the earth and does not include any vegetation or man made objects. |

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| About the data product specification | |
| Title | Data Product Specification of Terrain Data Set Donlon Airport |
| This version | <http://www.aisdonlon.dl/dtm-dps.pdf> |
| Latest version | NIL |
| Published | 2020-09-30 |
| Updated | NIL |
| Language | English |
| Contact | Aeronautical Information Service  Address: P.O. Box 744, 1050 State Street, Donlon  Phone / Fax: 0123 697 3464 / 0123 697 3474  Email: [ais@donlon.dl](mailto:ais@donlon.dl)  Web site: <http://www.aisdonlon.dl> |
| Web location | <http://www.aisdonlon.dl/dtm-dps.pdf> |
| Format | PDF |
| Maintenance | The data product specification is reviewed at least once every year and updated as required. |
| Handling restrictions | Unrestricted |
| Terms and definitions | See ICAO Annex 15, 16th Edition and PANS-AIM (Doc 10066), 1st Edition. |
| Abbreviations | See ICAO Annex 15, 16th Edition and PANS-AIM (Doc 10066), 1st Edition. |
| Identification and purpose of the data product | |
| Official title | DONLON Airport Area 2 terrain data set. |
| Alternative title | *Not applicable* |
| ID | EADD \_DTM\_DS\_AREA2\_20200326 |
| Abstract | The digital terrain data set of Donlon Airport (EADD) covers Area 2 (the complete TMA).  The digital terrain model defines the bare surface of the earth and does not include any vegetation or man-made objects.  The digital terrain data meets the numerical requirements defined in ICAO PANS-AIM (Doc 10066), Appendix 1, Table A1-8 for Area 2. |
| Purpose | Digital terrain data in this data set is meant to be used for different air navigation application and systems such as:   * Terrain awareness and warning systems * Minimum safe altitude warning systems * Flight procedure design, * Design of one engine out procedures * Aeronautical charting   It is the responsibility of the users to determine if the data product meets their needs. |
| Topic category | elevation |
| Keywords | DTM, DEM, Terrain, Elevation |
| Spatial representation | grid |
| Spatial resolution | 1 arc second (approx. 30 m) |
| Supplemental information | *NIL* |
| Restrictions | Use limitations: For aviation use only  Access restrictions: Unrestricted  Usage restrictions: Unrestricted  Security restrictions: Unclassified |
| Extent | Donlon Airport EADD Area 2  The geographic description is represented by the bounding box as defined below.  <gmd:EX\_GeographicBoundingBox>  <gmd:westBoundLongitude>  <gco:Decimal>-32.200547777778</gco:Decimal>  </gmd:westBoundLongitude>  <gmd:eastBoundLongitude>  <gco:Decimal>-31.2910399444444</gco:Decimal>  </gmd:eastBoundLongitude>  <gmd:southBoundLatitude>  <gco:Decimal>51.9631093055556</gco:Decimal>  </gmd:southBoundLatitude> <gmd:northBoundLatitude> <gco:Decimal>-52.7764601111111 </gco:Decimal> </gmd:northBoundLatitude>  </gmd:EX\_GeographicBoundingBox> |
| Scopes | |
| **General scope** | |
| Scope id | General scope |
| Level | Dataset |
| Level name | General scope |
| Level description | The general scope level defines the specifications which are applicable to all aeronautical data of Republic of Donlon. |
| Extent | Donlon Airport EADD Area 2 |
| Coverage | *Not applicable* |
| Data content and structure | |
| **General scope** | |
| Narrative description | Digital terrain model of the bare earth surface (does not include vegetation or man-made objects) |
| Application schema | Raster grid with 1 arc second post spacing |
| Feature catalogue | Elevation |
| Reference system | |
| **General scope** | |
| Spatial reference system | Horizontal system: WGS-84, ITRF2008, EPSG: 4326  Vertical system: EGM-96 |
| Temporal reference system | Gregorian Calendar, UTC. |
| Data quality requirements | |
| **General scope** | |

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| Requirement 1 | Data quality element: Assurance (Integrity)  Data quality measure: The horizontal and vertical position integrity are classified as “essential”. The procedures for processing of the data have been setup to meet the integrity requirements. |
| Requirement 2 | Data quality element: Horizontal accuracy  Data quality measure: The horizontal accuracy is 5 m at 90% confidence level. |
| Requirement 3 | Data quality element: Vertical accuracy  Data quality measure: The vertical accuracy is 3 m at 90% confidence level. |
| Requirement 4 | Data quality element: Vertical resolution  Data quality measure: The vertical resolution is 0.1 m |
| Requirement 5 | Data quality element: Traceability  Data quality measure: All actions (data acquisition, verification and validation) applied to the data are traced and saved in metadata. Metadata is available on request. |

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| Data capture and production | |
| **General scope** | |
| Description | Data has been produced with a LIDAR survey. |
| Guide | *Not applicable* |
| Inclusion criteria | The data represents the bare earth surface. Vegetation and man-made objects except dams and bridges have been filtered out.  The data set only covers the TMA of Donlon Airport. Grid points outside |
| Data acquisition and processing | LIDAR survey with a density of 2 points / m2  Data validation with a set of 25 checkpoints that were surveyed by GPS by the national mapping authority.  Postprocessing applied to raw data:   1. Filtering of vegetation and man-made objects (buildings, powerlines, antennas etc.) except bridges and dams 2. Transformation to WGS-84, EGM-96 3. Resampling to a 1 arc second grid applying a "maximum values"-filter. |
| Maintenance of the data | |
| **General scope** | |
| Description | The data set will be updated every 5 years. |
| Frequency | Continually |
| User defined | *Not applicable* |
| Portrayal rules | |
| **General scope** | |
| Portrayal rules | *Not applicable* |
| Data delivery methods | |
| **GeoTIFF** | |
| Format name | GeoTIFF |
| Format version | 1.1 |
| Format specification | According OGC GeoTIFF V1.1 (see <http://docs.opengeospatial.org/is/19-008r4/19-008r4.html> ) |
| File structure | GeoTIFF georeferenced raster |
| Language | English |
| Character set | UTF-8 |
| Units of delivery | Dataset |
| Transfer size | *2 MB* |
| Medium name | *Digital file transfer* |
| Other delivery | *Not applicable* |
| Service property | An information service overview is available at <http://www.aisdonlon.dl> |
| **ASCII Grid** | |
| Format name | Esri ASCII Grid |
| Format version | Not applicable |
| Format specification | See [Esri ASCII Grid specification](https://resources.arcgis.com/en/help/main/10.2/index.html#/Esri_ASCII_raster_format/009t0000000z000000/) for details |
| File structure | A six line header indicating the reference of the grid:   |  |  | | --- | --- | | NCOLS | Number of cell columns | | NROWS | Number of cell rows | | XLLCENTER or XLLCORNER | X-coordinate of the origin (by center or lower left corner of the cell) | | YLLCENTER or YLLCORNER | Y-coordinate of the origin (by center or lower left corner of the cell) | | CELLSIZE | Cell size | | NODATA\_VALUE | The input values to be NoData in the output raster |   followed by the values listed in "English reading order" (left-right and top-down). |
| Language | English |
| Character set | UTF-8 |
| Units of delivery | Dataset |
| Transfer size | *15 MB* |
| Medium name | *Digital file transfer* |
| Other delivery | *ZIP compressed 3 MB* |
| Service property | An information service overview is available at <http://www.aisdonlon.dl> |
| Metadata | |
| **General scope** | |
| Specification | The metadata is provided in a separate metadata file with all metadata elements required according to ICAO Annex 15 Chapter 5.3.2 and required core elements according to ISO 19115:2003, Geographic information – Metadata. The following metadata is provided:  • Title of data set  • Organisation providing the data set  • Abstract  • Creation date  • Effective date  • Validity  • Constraint of use  • Geographic extent |
| Encoding | Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation  Date: 2007 |
| Additional information | |
| **General scope** | |
| Additional information | *Not applicable* |