Discussion paper: IR on data interoperability – Change proposal(s) on RS and GG #2: Adding Web Mercator as a possible CRS

Summary of the issue(s)
One very popular CRS on the web for viewing spatial data is EPSG: 3857 Pseudo-Mercator (This projection is also called Spherical Mercator or Web Mercator). It is used in e.g. Google maps and Open Street maps.

The principle question related to this request is partly similar to previous one e.g. should other CRS and grids be allowed in addition to the currently mandated ones or not?¹

The proposed CRS (EPSG: 3857) is great for visualizing on computers but not reliable for data storage or analysis, since the transformation between the ellipsoid and the sphere used in Web Mercator is not unique². The proposed geographic grid is not equal area and is not fully conformal.

Discussion about Grids and especially of "Nested grid" could be broadened to include OGC Discrete Global Grid Systems (DGGS) in the TG or as a good practice

Proposed change(s)
- Include Spherical Mercator as one of the possible Coordinate Reference Systems and Spherical Mercator Grid as one of the possible Grid systems. The changes is proposed in Data Specification on Coordinate Reference Systems (D2.8.I.1_v3.2), Data Specification on Grid Systems (D2.8.I.2_v3.1), Data Specification on Orthoimagery (D2.8.II.3_v3.0) and Data Specification on Elevation (D2.8.II.1_v3.0)

Possible options
Preferred option (for discussion at MIG-T meeting #48): Option 1

Option 1: No IR amendment
- Description: No change in the IRs. A good practice document could be proposed to explain how Web Mercator CRS and grid (and/or potentially also the OGC standard on Discrete Global Grid Systems, DGGS) can be used in addition to the INSPIRE-mandated CRS or grids.
- Impact: No impact on existing implementations. Additional implementation options following the good practice document can be used to meet additional user needs.

Option 2: Change IR and TG
- Description: Add the Web Mercator CRS and grid as an additional option in the IRs and all TGs.
- Impact: This would most likely have the consequence that some data providers will start to provide data only in WebMercator that will reflect on data interoperability.

¹ Note that the IR already allows other CRS and GRIDS to be used if these are specified for specific spatial data themes (but this option is not being used for any theme at present) or for regions outside of continental Europe. In such cases, the geodetic codes and parameters needed to describe these coordinate reference systems and to allow conversion and transformation operations shall be documented and an identifier shall be created, according to EN ISO 19111:2007 and ISO/TS 19127:2005. Data exchanged using a theme-specific grid shall use standards in which the grid definition is either included with the data, or linked by reference.
² See e.g. http://lyzidiamond.com/posts/4326-vs-3857