# Preferred File Formats

The choice of file format is of essential importance in order to ensure that the research data will remain usable in the future. 4TU.ResearchData therefore strongly encourages the use of standard, exchangeable or open file formats. Research data in preferred formats offer the best guarantees for long-term sustainability and accessibility.

| Preferred file formats *(not exhaustive)* | |
|---|---|
| **Text-based** | Plain text (.txt)<br>XML (.xml)<br>HTML (.html)<br>PDF/A (.pdf)<br>JavaScript Object Notation (.json)<br>Protein Data Bank (.pdb)<br>XYZ (.xyz)<br>*(all formats should be encoded in UTF-8)* |
| **Spreadsheets** | Comma-separated values file (.csv)<br>OpenDocument Spreadsheet (.ods) |
| **Image files** | JPEG Image Encoding family (.jpeg, .jpg)<br>TIFF (.tiff, .tif)<br>Portable Network Graphics (.png)<br>Scalable Vectors Graphics (.svg) |
| **Geospatial** | Geography Markup Language (.gml)<br>Keyhole Markup Language (.kml)<br>ESRI Shapefile (.shp, .shx, .dbf)<br>Geo-referenced TIFF (.tif, .tiff, .gtiff) |
| **Numerical** | NetCDF (.nc)<br>HDF5 (.hdf5)<br>CSV (.csv)<br>JSON (.json) |
| **Video** | Material Exchange Format (.mxf) |
| **Audio** | Material Exchange Format (.mxf)<br>FLAC (.flac) |
| **Databases** | CSV (.csv) |
| **Archives** | ZIP (.zip) |