Web-based Data Exploitation
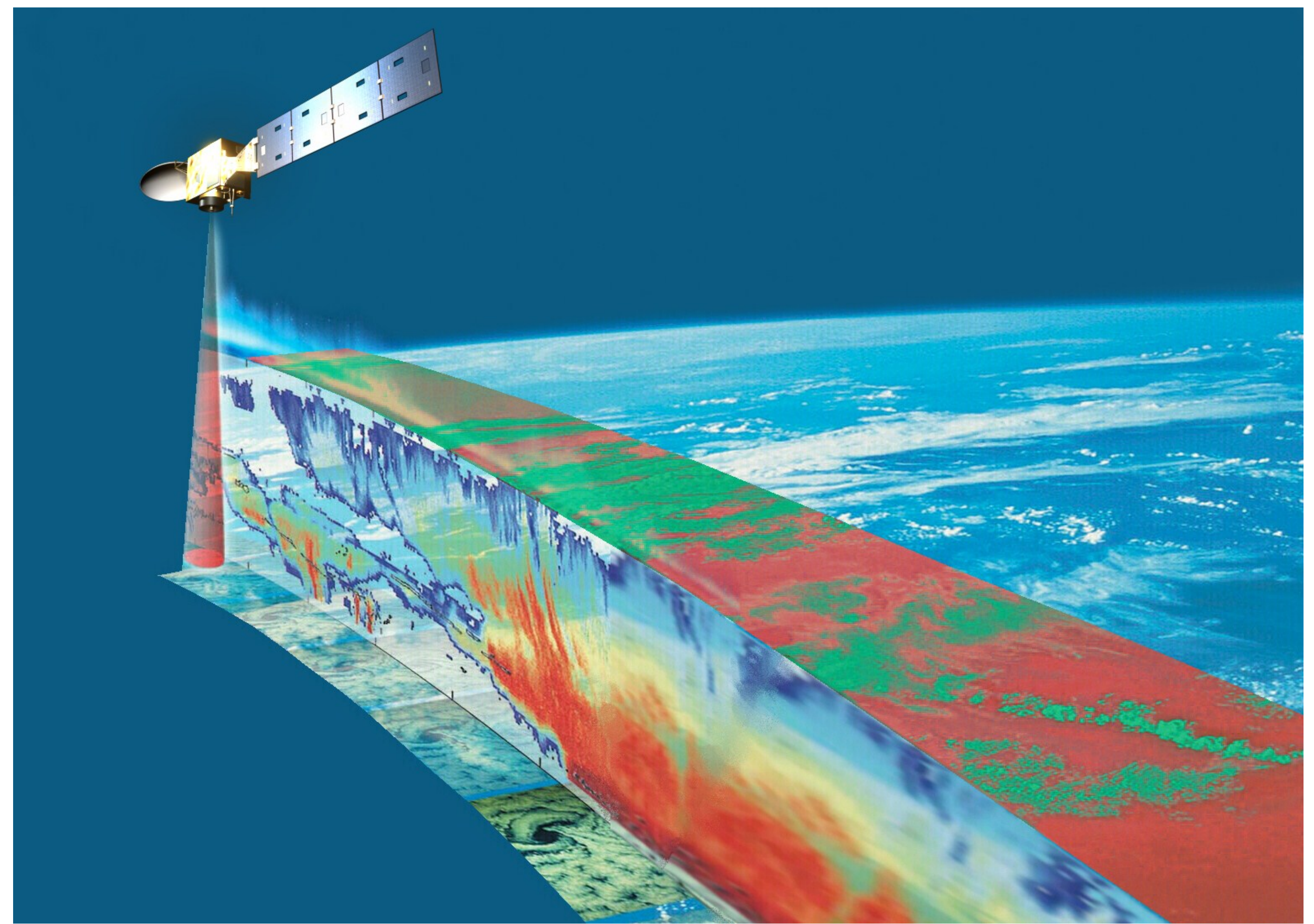
V-MANIP
Multi-dimensional Data Visualization

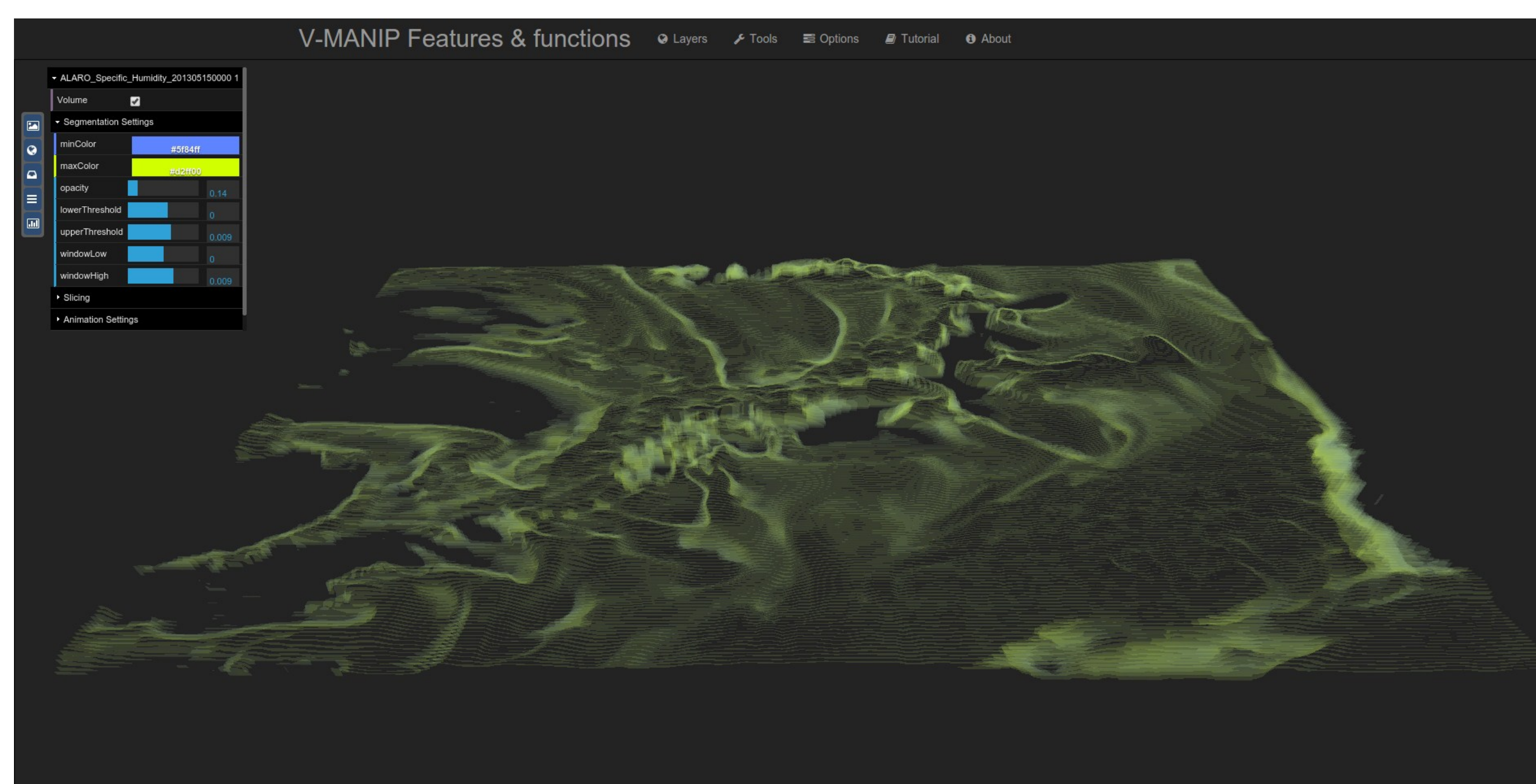**2014 Conference on Big Data from Space (BiDS '14)**

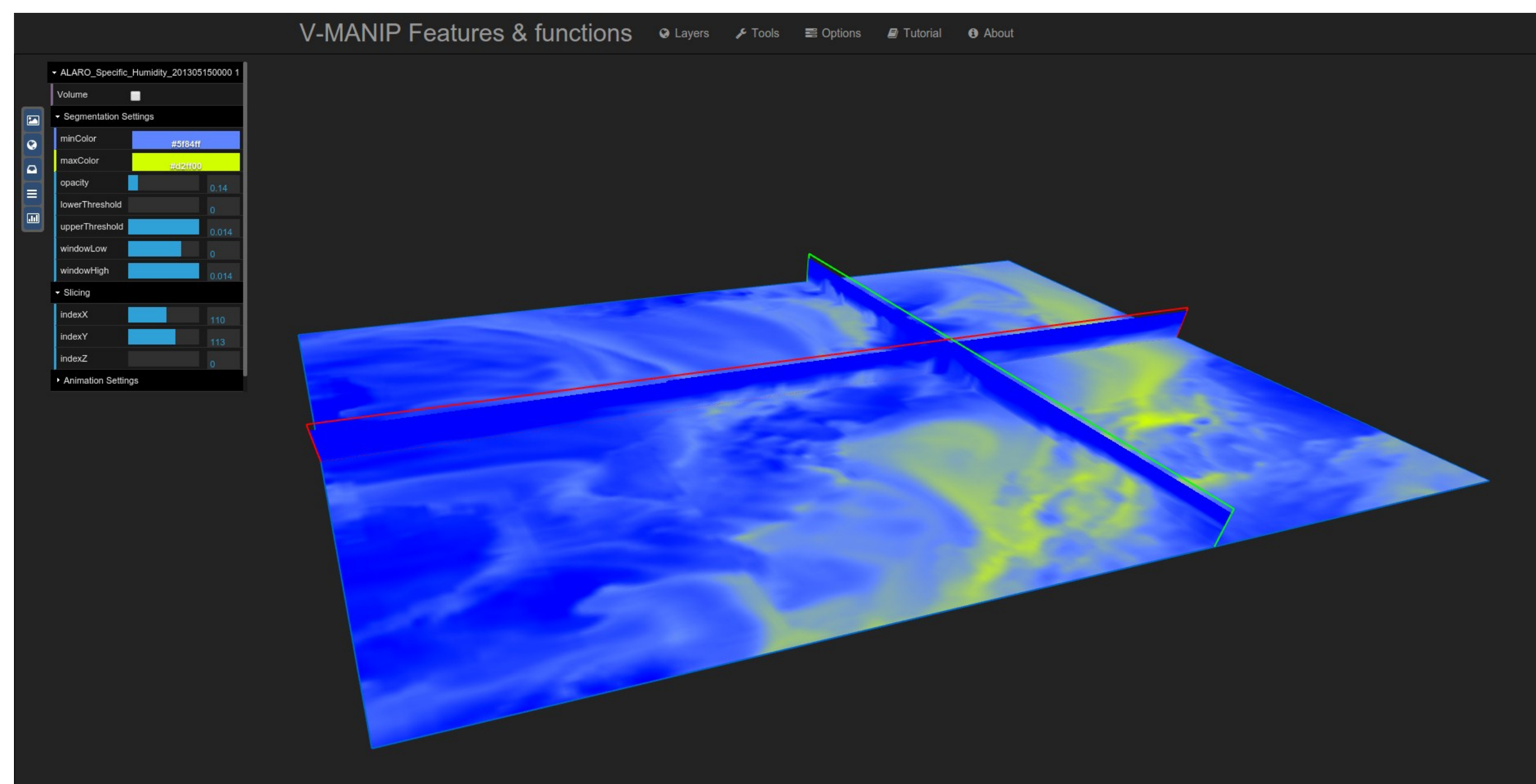GSTP - ESA/ESRIN Contract Nr.4000107441/12/I-AM

3D Client-Server Subsystem

- Interactive visualization of multi-dimensional satellite data:
  - Vertical curtains
  - Volume data sets (humidity, temperature, temporal evolution, ...)

Volume visualization
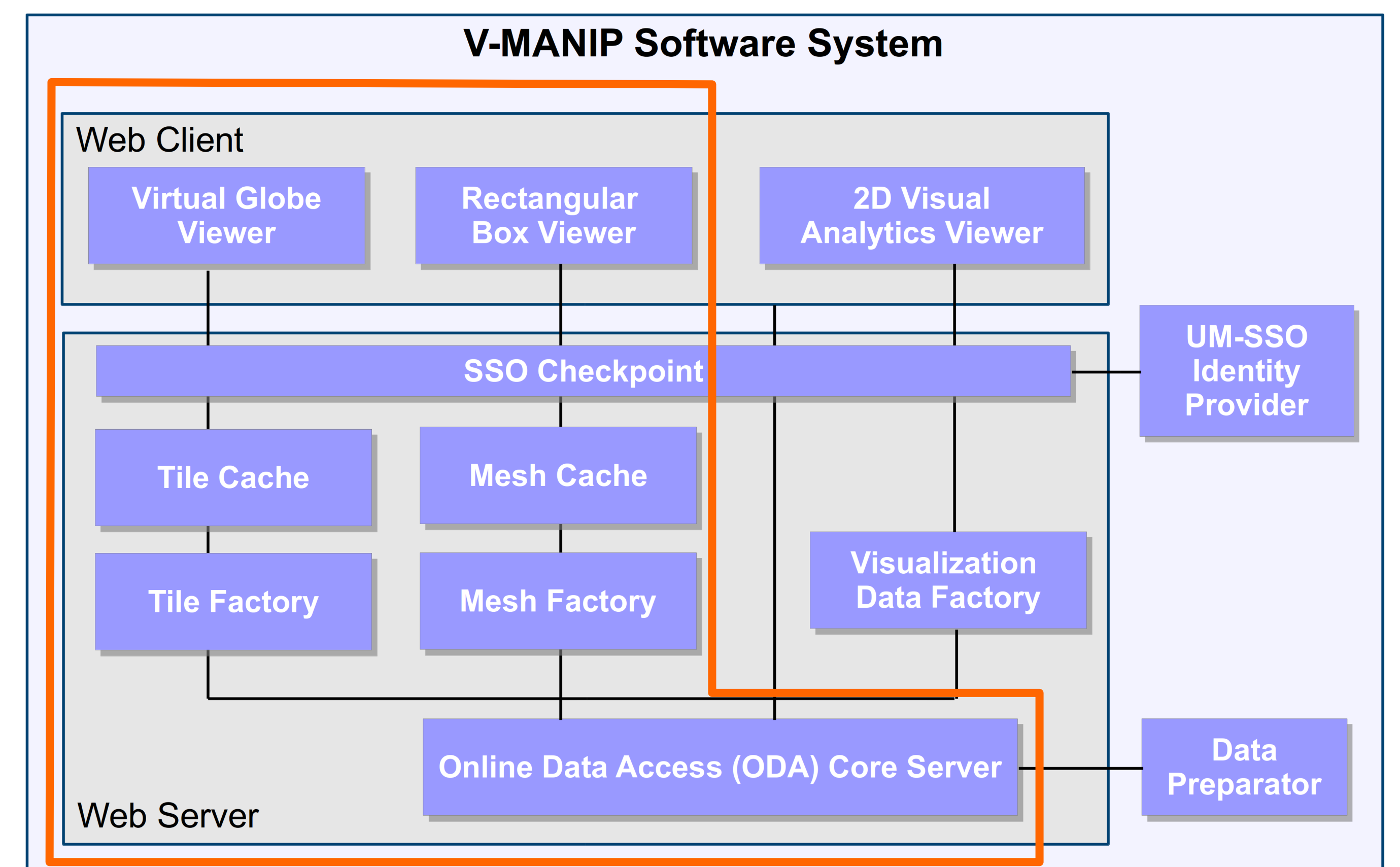

Thresholding visualization method

Slicing visualization method

Technology

- Online Data Access (ODA) Core Server based on ngEO-Browse Server
- Use of OGC W3DS Interface
- Generates pre-cached textured geometry and volume data sets
- Employs standardized formats:
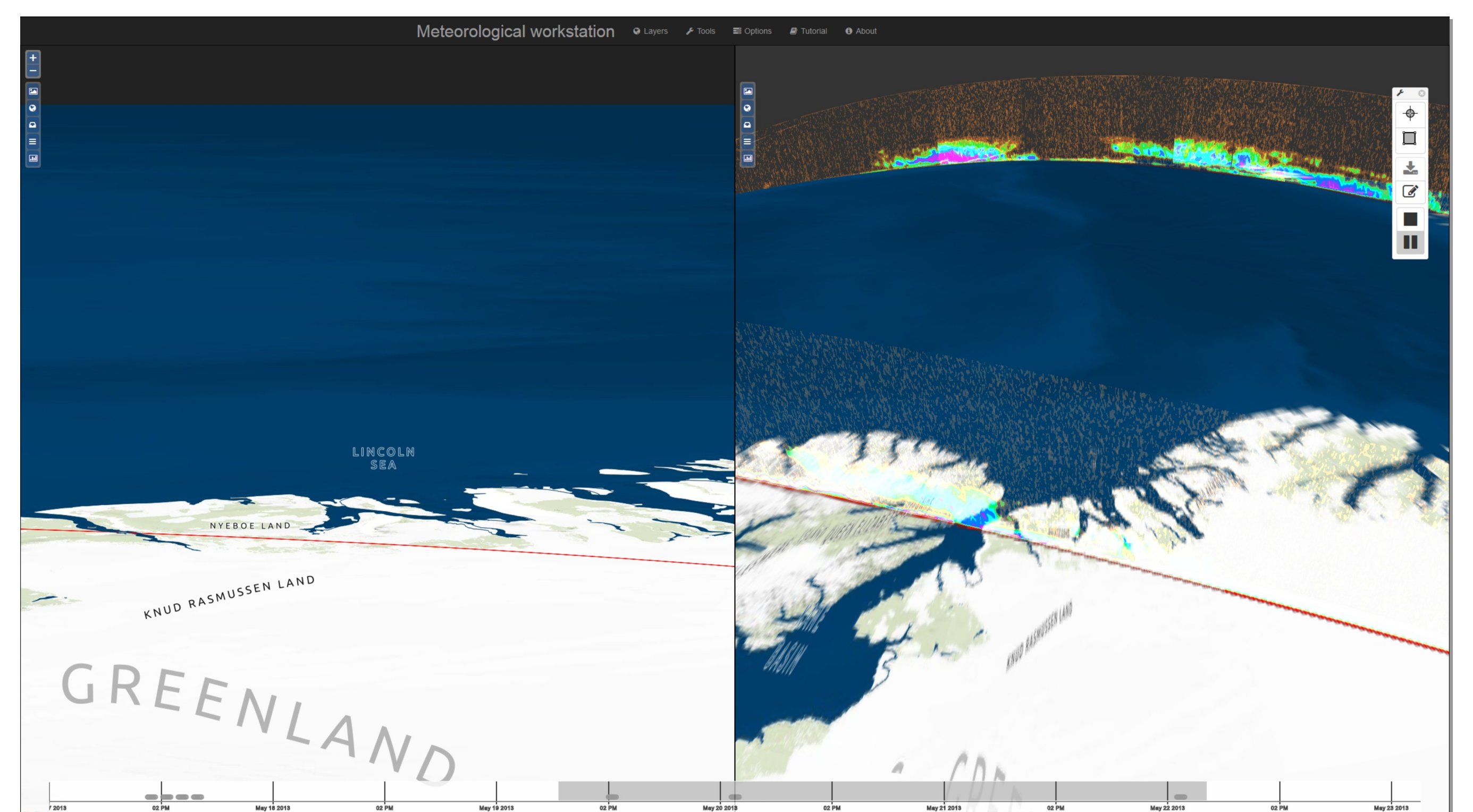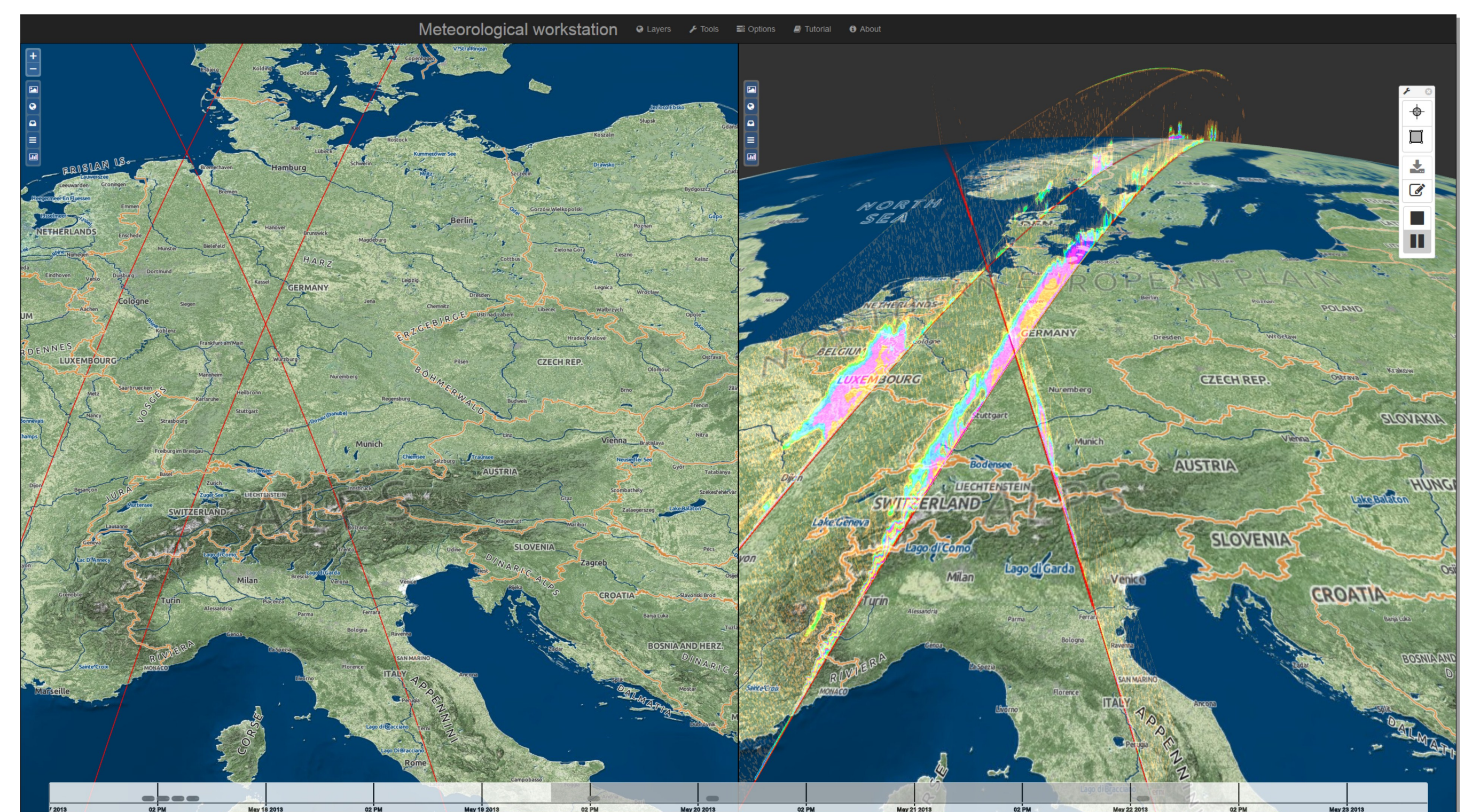 - glTF for 3D geometry and textures
  - NIFTI for volume data

Components

- Server:
  - Tile-Factory; Tile-Cache based on MapServer
  - Mesh-Factory; Mesh-Cache
- Browser Application Client:
  - Virtual Globe Viewer based on GlobWeb
  - Rectangular Box Viewer based on X Toolkit

V-MANIP Software System

3D Client-Server Subsystem

Vertical curtain visualization

2D/3D visualization of vertical curtains