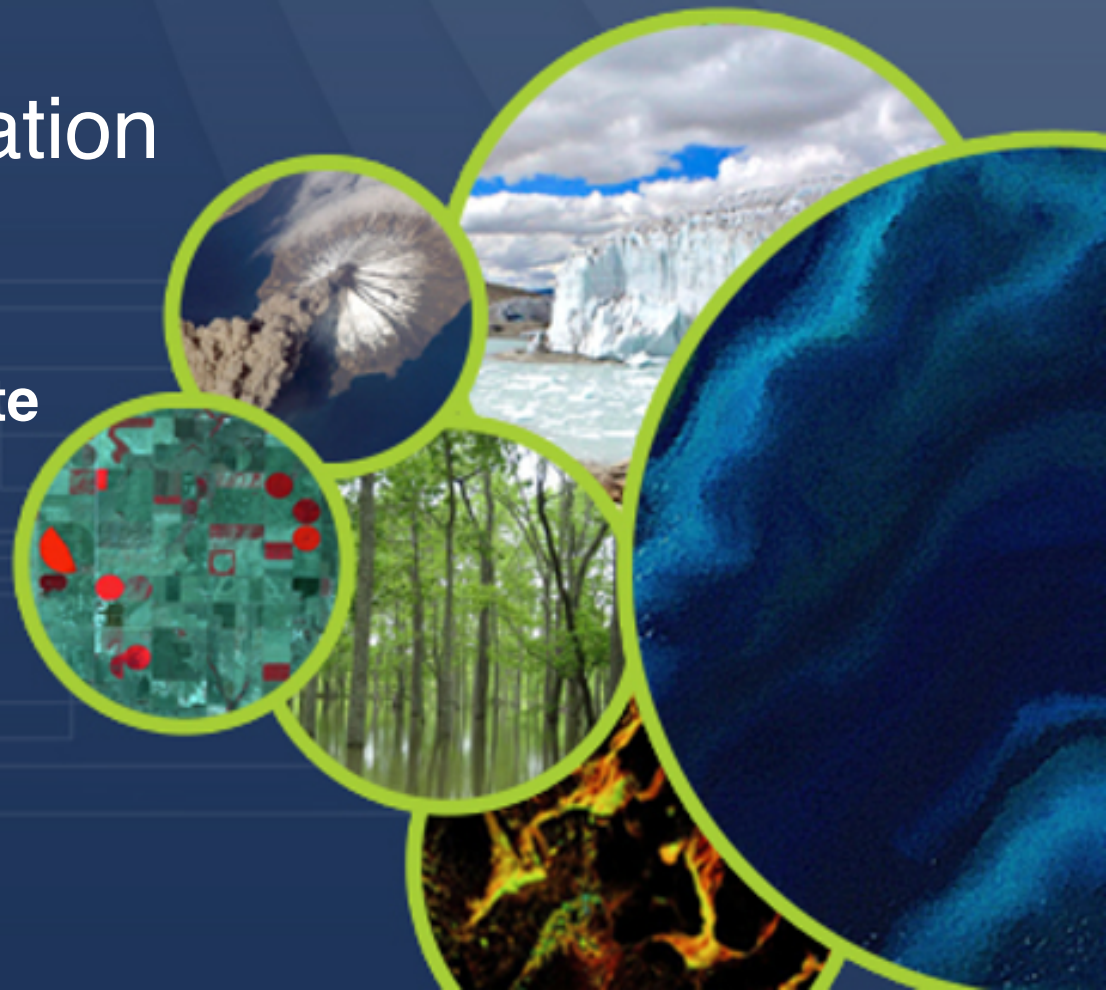
Committee on Earth Observation Satellites

Working Group Calibration & Validation



Terrain Mapping SubGroup and DEMIX Update

Peter Strobl, EC-JRC, WGCV

CEOS WGCV #46, Virtual MeetingSession

Hosted by Webex

11 & 15 May 2020

TMSG status

- Revival of the Terrain Mapping SubGroup (TMSG)
  - Proposed at WGCV45 in July 2019
  - Decided by SIT in September 2019
  - Invitation email sent to last available participant list in January 2020
  - as of May 11th 2020:
    - 38 subscriptions
    - 12 countries
    - ~15 with CEOS background
    - ~10 Geomorphometry.org
    - 28 expressed interest in the intercomparison exercise DEMIX

Subscription page: https://ec.europa.eu/eusurvey/runner/WGCV-TMSG_membership

Digital Elevation Inter-Comparison (DEMIX)

Development:

- Plans started at workshop on Global Digital Elevation Model (DEM) Benchmarking organised by JRC/EC & geomorphometry.org (Jan 2019)
- Substantial contribution to definitions/terminology and methodology expected through geomorphometry.org
- Workshop report still in draft (effort ongoing)
- Follow-up workshop dedicated to DEMIX planned at Geomorphometry.org 2020 conference in June, but cancelled due to pandemic (conference postponed to 2020)

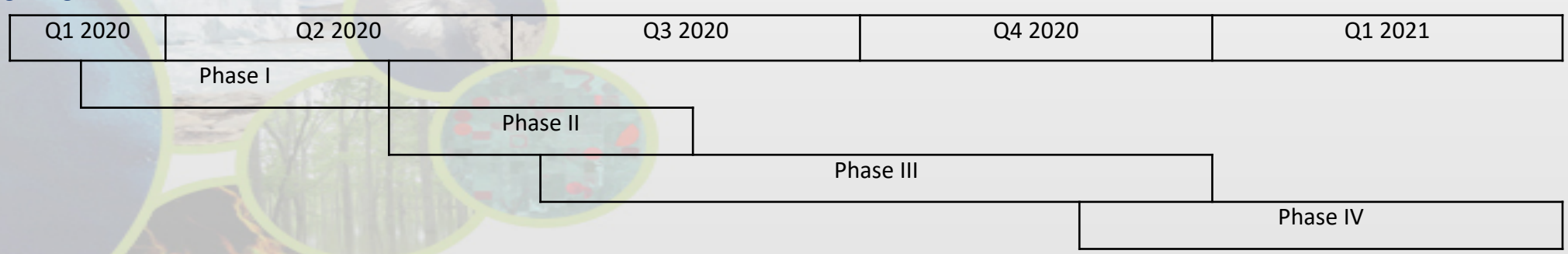
Next steps:

- Reach out to missing key stakeholders, industry?
- Establish collaborative platform (e.g. via github)
- Inquire about and collect precursor studies
- Schedule and prepare a virtual meeting (TMSG & DEMIX) for June 2020
- Discussion on when and how to expand to DGED Level2 (30m GSD)

Digital Elevation Inter-Comparison (DEMIX)

- DEMIX to be performed in 4 phases
  I. General agreement among main contributors (data owners) on approach & scope; Call for expression of interest to further partners (commercial tbd); circulation of JRC Workshop report (in preparation) & selection of base (Δx, Δy, Δz) & extended (slope, aspect, morphology) testing methods and algorithms; Identification of suitable test areas (at least 1 per continent);
  II. Cross-comparison of all participating data sets on test areas and, if feasible, identification of a reference dataset (at DGED L1). If available and where applicable cross-comparison to suitable orthorectified (reference?) imagery (Sentinel-2?); Workshop to exchange experiences from the test areas and agree on details of an eventual global roll-out;
  III. Feasibility testing & potential global roll out of at least base tests & determination of suitable aggregation scale for reporting;
  IV. Calculation of agreed comparison metrics for all candidates and publication of results.

- Timeline



Digital Elevation Inter-Comparison (DEMIX)

- Scope and Products to be included: All datasets which have an at least continental coverage and are available under a free & open data policy, including latest versions of
  - NASADEM (NASA, JPL, most recent decent of the SRTM product line, eventually also NGA'sTFRMv4)
  - AW3D30 (JAXA, f&o version of the Japanese ALOS based global DEM)
  - ASTER-GDEM, (METI, NASA)
  - TanDEM-X90, (DLR, free version for scientific of the TanDEM-X mission)
  - Copernicus DEM90 (EC/ESA, f&o version of WorldDEM^{TM}, the commercial version of TanDEM-X procured by Airbus)

Thank you for your attention!

Any questions?

Peter.Strobl@ec.europa.eu