**Title:** Embankment mapping at global scale for flood risk assessment

1. **Name:** Menno Straatsma

2. **Organisation/discipline/domain:** Utrecht University, Department of Physical Geography

3. **Contact (email/telephone):** m.w.straatsma@uul.nl

4. **Addresses scientific challenge:**
   b. Managing Big Data: Extraction of relevant parameters with respect to flood extent monitoring requires long time series of different earth observation data to capture extreme high-magnitude events.
   c. Data quality assessment: Classification and classification errors are key components in the accurate geolocation of dikes.
   d. Volunteered geographic information: carry out an inventory of existing dike locations.

5. **Target application domain:**
   B. Water management
   D. Crisis management

6. **Describe briefly own approach (ca. 5 lines):**
   Global flood risk models are increasingly used for quick assessment of flood extent and potential hazard, but are lacking information on the location of embankments. Using a three stage approach ((1) inventory, (2) remote sensing combined with measured discharge time series, and (3) inverse modeling) the location of embankments is determined. Dikes are attributed with height above the terrain, and failing probability.

7. **Envisioned/potential University partners/disciplines:** Free University (IVM),

8. **Envisioned/potential Industry partners:** Deltares, HKV, MunichRe, Worldbank

9. **Fit’s within topsector:** Water