

Group C: Data Needs

(End-User Perspectives)

Well-blended group of stakeholders (thanks organizers!)

We approached several aspects of reconnaissance with the focus of **data needs** for **different users** through free-form discussions. We identified *contributions to and needed interactions with other groups' focus (A, B, D).*

We define

Key Participants (**KPs**) - perform data collection and aggregation

Data Users (**DUs**) - consume data

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Breakout Group C: Data Needs

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red text are discussion moderators

Data Needs: What Works Well

Social media useful especially early on - quick info diffusion

Release of prelim maps of rupture extent (e.g., USGS) as they are updated

Recon community openness and willingness to share data and insights; Ad-hoc field coordination and cordiality

Earthquake Clearinghouse (EERI) for **KPs** (and fringe!)

Awareness of land ownership/permitting

Being open, friendly, courteous to the community encountered during recon. Personal interactions can have a big impact on individuals and their communities during a crisis (*and* can facilitate the recon activities).



Data Needs: Proposed tasks (1 year)

NOW (MEOW)

Task 1: Develop data user needs+ reports (Champions: Goulet, Madugo, Sarmiento):

Develop summary documents following this workshop

Goal: help strategize on which groups would benefit the most from coordinating for

- i) field activities (divide survey areas for same data type for example)
- ii) data aggregation activities

Basis: list of Data Users (**DUs**) and Key Participants (**KPs**)

Approach:

1. Develop and send poll to workshop participants on who to include as **KPs** and **DUs**, what key data they need. Summarize initial findings into workshop report (within 2-3 months of workshop)
2. Use input from the workshop report to develop document structure for more detailed study, to be filled by identified **KPs** and **DUs**.
3. Develop organized representation (e.g. tables, Venn diagrams) of **data** characteristics capturing the
 - a. Type of Data (e.g., displacement as point, linear, areal)
 - b. Collection Method (e.g., field (boots, drones, instruments), remote sensing)
 - c. Timeframe Sensitivity (based on perishability or decision-making needs)
4. Map **KPs** onto the data representations from above
5. Develop org chart of **KPs** and **DUs** for field coordination and post-event data aggregation; populate with individuals
6. Summarize findings in report (by end of 2022)

Data Needs: Proposed tasks (1 year) Need CHAMPIONS

Year 1 (= MEOWish)

Task 2a. Formalize/reinstate yearly SCEC post-earthquake science response drill as an opportunity to

- Test operations plans (and projects implementations)
- Update **KPs** point of contacts and flowchart for coordination (Task 1)
- Host a short course each year (see candidate list below)

Task 2b: Develop short courses

(virtual and/or in person and field-based, capitalize on existing material whenever possible)

- How to use the new CGS/ESRI app
- How to interpret insar & OIC products
- How to post-process your location data for better accuracy (tips/techniques from the GNSS folks?)
- Intro to recon field work logistics (basics for beginners: key gear to bring, supplies, safety, what to think about in different settings (desert vs. urban), field etiquette, etc.)
- ...

Task 3. Develop white papers

- Nomenclature, definition and considerations of fault zone width (FZW), damage zones, aperture windows
- Reconciling geolocation data from field data from several devices
- Define metadata required for uncertainty quantification (for both field measurements and subsequent interpretation)
- ...

Data Needs: Proposed tasks (1 year or less) Need CHAMPIONS

Year 2

Task 4. Test existing apps (e.g. ESRI/CGS) and investigate need for schema refinements based on Tasks 1 & 3 outcomes

- Identify results from tasks 1-3 that need to be incorporated in schema; implement changes
- Develop improved data and metadata management for data aggregation into products

Anytime

Task 5. Develop a plan for better use of social media

- Identify and document useful social media data sources
- Develop a plan to aggregate/curate useful social media posts for people in the field on-demand

Task 6. Develop a plan for easier access (all boots and instruments)

- Develop plan for quickly acquiring knowledge of jurisdictions/property owners, permitting agencies, etc. Download parcel maps from counties, etc. Have someone from **KPs** dedicated to this (CGS, PG&E, others can do that)?

Formalizing projects in the future

Solicit 1-yr SCEC proposals on specific topics identified by this group and other groups (Q2 &3)

Data Needs: Proposed tasks (longer term)

Task 7. Develop structured and permanent data repositories

- Akin to what is available in OpenTopography or through IRIS/UNAVCO/NHERI-CI, for all types of data (including ruptures and measurements)

All of the tasks above, better and updated as needed

Data Needs: Other needed improvements

FIELD

Clearly define data collection threshold (i.e. size of features) and aperture considered by collector

Develop simple ways to document/alert others of presence of features beyond those in the collector's scope (add capability to app?)

Find a balance between perishability and collectibility of data

POST-EVENT DATA AGGREGATION

Need to integrate all high-quality data into curated datasets: use formal **KPs** coordination flowchart to ensure work is not wasted (unused)

When developing curated datasets, clearly document original source of reported observations, range and uncertainty from the field (differentiate that from range and uncertainty from multiple datasets)

Provide interpreted principal/distributed ruptures

Develop solutions for geolocation issues

Make data products accessible to **DUs**