

Obsidian for Geologists: A Workflow to Better Capture and Utilize Geological Data Using Open-format Digital Field Journal

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The field journal remains instrumental in geological fieldwork. While the interest and need to adopt digital field journals grow, it often constrained by software vendor lock-in, subscription models, limited customization, and uncertain platform futures. Additionally, many digital alternatives lack geologist-specific features. Here, I demonstrate a workflow using Obsidian, a highly customizable note-taking app centered on local Markdown files, graph connections, and open plugin ecosystem, that other geologist can replicate and adapt for professional and personal use.

Obsidian was simulated as a digital notebook for a four-week mapping campaign in Kalimantan, Indonesia, capturing field descriptions, structural geology, petrology and field photographs. Post-fieldwork petrography, maps, and lab data are also incorporated into a standalone notebook. In its basic function, the app seamlessly translates physical notes into digital format using simple Markdown. Crucially, Obsidian automatically tabulates internal links between notes, ensuring no information links go unnoticed. Add-ons allow non-destructive image annotation. Obsidian app is available across all major desktop and mobile OS at no cost for companies and individuals. Data is stored locally using open format, thus preventing system lock-in.

Beyond the basic field note-taking, this proposed workflow maximize its digital potential. Native graph capabilities allow visualizing complex connections between each chunk of information connection between graph, demonstrated here to depict potential connections between rock outcrops. The infinite canvas allows for spatial brainstorming using text, images and other kinds of media, here demonstrated as graphic design tools that are still interconnected with the individual field notes. Geologists can even perform basic map plotting and digitizing directly within the notebook. Most importantly, it's community-driven ecosystem allows uses to create custom tools for their specific use cases, such as developing scripts to generate sedimentary log and stereonet visualizations within the notebook. In conclusion, Obsidian demonstrates as a great candidate for digital field journal for geologists.