

Geo Sheet Sync

A Google Sheet That Feeds Itself Into ArcGIS Online — No Hands Required

What This Is

A scheduled ArcGIS Online Notebook that reads Florida's 67-county reference sheet (County, State, Chapter, Region, Lat, Long) straight out of Google Sheets and refreshes a hosted point Feature Layer from it. Edit a row in the sheet, the next scheduled run rewrites the whole layer to match — no manual export, no manual upload, no manual truncate.

The Pattern, One Line

Google Sheet (source of truth) → AGOL Notebook (scheduled, daily) → truncate-and-append → hosted Feature Layer (always mirrors the sheet).

Why Truncate-and-Append

The sheet is the single source of truth. Rather than trying to reconcile row-by-row edits, deletes, and adds against the layer, the notebook wipes the layer and reloads it fresh every run. Simpler, harder to get subtly wrong, and cheap enough for a 67-row dataset run once a day.

The Guardrails

GUARDRAIL	WHAT IT STOPS
Minimum row count (60, expect 67)	A broken sheet export from silently wiping the layer down to near-zero
Timestamped CSV backup before wipe	No way back if a run goes wrong

Batched adds with per-feature success check	A partial load going unnoticed
Raises on any add failure	A scheduled run failing silently instead of surfacing the error
Verification cell re-queries after load	Trusting the write without checking it landed

Key IDs

WHAT	VALUE
AGOL org	<code>arc-nhq-gis.maps.arcgis.com</code>
Notebook item	<code>ARC_Jeff.Franzen_Data_Refresh_from_Sheet</code>
Target Feature Layer	<code>514edb100d5a4cd1a2a48f6256bd6d08</code>
Google Sheet	<code>13gSgzFQMjQTPq_kId9d7_hqXNNQFJrXdADFrDkQzbqI</code>
Repo	<code>github.com/franzenjb/geo-sheet-sync</code>

The Recipe (Reusable for Any Sheet-to-Layer Sync)

- 1 Build the point layer first.** Create the hosted Feature Layer in AGOL with the field schema you want — the notebook fills it, it doesn't design it.
- 2 Share the sheet "anyone with the link."** Public sharing means the notebook reads the CSV export URL directly — no service-account key to manage. (Private sheet? Fall back to a Google service-account JSON uploaded to the notebook's `/arcgis/home` folder.)
- 3 Write the notebook** with one CONFIG block at the top (layer ID, sheet ID, field names, guardrail thresholds) so re-pointing it at a different sheet/layer later is a one-cell edit.
- 4 Upload via Content → New item → Your device** (not the Notebooks page — there's no import button there). Title it something mild on purpose — avoid words like

"overwrite" or "wipe" in the item title, which can spook org admins scanning content.

5 **Cell → Run All, once, manually.** Success looks like `Done. Added 67 / 67.`
`Failed 0.` then `Verification passed.`

6 **Schedule it.** In the open notebook: Tasks → Create Task → daily. From here on, editing the sheet is the only action a human ever takes.

The One Gotcha That Bites

AGOL sometimes sanitizes field names on publish — a space in a column header becomes an underscore. `edit_features` silently drops any field it can't match, so a failed add is almost always a field-name mismatch between the sheet and the layer, not a code bug. Query the layer's actual field list and match `LON_FIELD` / `LAT_FIELD` in `CONFIG` to it exactly.

Status

Live and running as of July 2026. Confirmed working end to end: a sheet edit propagates to the AGOL layer on the next scheduled run, with zero manual steps in between.