

AstroPlan — User Guide

AstroPlan is an iOS app for astrophotographers and visual observers. It combines your **location, weather, moon phase, light pollution (Bortle), equipment, and imaging style** to rank deep-sky objects, planets, and the Sun for any night you plan—then helps you explore them on a live sky map.

The app has five main tabs: **Home, Targets, Calendar, Sky Map, and Settings**.

Free vs Pro: Core planning—tonight’s ranked targets, calendar, disc sky map, and basic conditions—is free. **AstroPlan Pro** (subscription) unlocks equipment rigs, the full catalogue, richer guides, hourly forecasts, and unlimited AR. See AstroPlan Pro ([#astroplan-pro](#)).

Table of contents

1. Getting started ([#getting-started](#))
 2. AstroPlan Pro ([#astroplan-pro](#))
 3. Home ([#home](#))
 4. Targets ([#targets](#))
 5. Target details ([#target-details](#))
 6. Calendar ([#calendar](#))
 7. Sky Map ([#sky-map](#))
 8. Site horizon ([#site-horizon](#))
 9. Settings ([#settings](#))
 10. Location & saved sites ([#location--saved-sites](#))
 11. Equipment & field of view ([#equipment--field-of-view](#))
 12. How targets are ranked ([#how-targets-are-ranked](#))
 13. Reminders & notifications ([#reminders--notifications](#))
 14. In-app learning tour ([#in-app-learning-tour](#))
 15. Permissions ([#permissions](#))
 16. Data sources & privacy ([#data-sources--privacy](#))
 17. Tips & troubleshooting ([#tips--troubleshooting](#))
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Getting started

On first launch, AstroPlan:

1. Asks for **location** permission so it can use GPS for sky calculations and weather.
2. Asks for **notification** permission if you later set imaging reminders or favourite alerts.
3. May offer a short **guided tour** (Home & Targets) highlighting key controls.

All astronomy for rise/set, transit, moon phase, imaging windows, and target scoring runs **on your device** (pure Swift). Weather and Bortle data are fetched from the internet when you refresh or change location. Some Pro guides use on-device text first, with optional cloud AI when available.

Planning date: Almost everything follows the date shown on Home (sky header). Change it to plan a future or past night; the app recomputes targets, moon, and darkness for that date.

Active location: Shown under the date on Home. By default the app follows **GPS**. You can pick a saved site, search for a place, or drop a pin on the map—then all tabs use those coordinates until you switch back to GPS.

AstroPlan Pro

AstroPlan Pro is a subscription managed through your Apple ID. Open **Settings** → **Pro** to upgrade, restore purchases, or manage your subscription.

What stays free

Feature	Free access
Tonight's ranked targets	Full list for your site and date
Home conditions	Moon, Bortle, seeing, transparency, cloud, wind, humidity, dew
Tonight's Outlook	Verdict headline (go / marginal / promising)
Tonight's Guide	Teaser for your #1 target only
Catalogue browse	Popular targets + anything on tonight's list
Sky Map (disc)	Unlimited
Sky Map AR	7-day trial , then 3 sessions per day
Calendar	Day, week, month, year planning
Favourites	Star and open any favourited object
Imaging window	Twilight timeline; astronomy-only for future dates
Forecast strip	3 nights when Home's date is today

What Pro unlocks

Feature	Pro benefit
My Equipment	Save telescope/camera rigs; FOV on targets; rig-aware guides
Full catalogue	Open every Messier, NGC, IC entry and planet from browse/search
Unlimited AR	No daily session cap after the free trial
Tonight's Outlook	Full synopsis (cloud, moon, site, dark window)
Tonight's Guide	Why tonight + framing tips on every ranked target; quick questions
Score breakdown	Altitude, moon, horizon, Bortle, and imaging-style factors
Session checklist	Moon, light pollution, weather, and rig prep per target
Hourly conditions	Tap seeing, transparency, cloud, wind, humidity, or dew for charts
Hourly dark-window forecast	Cloud, wind, humidity inside astronomical darkness (today)
7-night forecast	Full week on Home
Pro About	Expanded articles with tonight's context
Pro Imaging Guide	Filters, subs, integration, drizzle, dither—tuned to your rig

Pro content may show an **AI** or **on-device** attribution footer depending on network and availability. Guides still work offline using built-in fallbacks.

Home

Home is your nightly dashboard.

Sky header card

Three rows:

Row	Action
Date	Opens a graphical date picker. Use Today to jump back to the current night. Done applies the date and refreshes data.
Location	Opens the Location Map sheet to change or save observing sites.
Targets count	Switches to the Targets tab and shows how many objects are visible tonight under your current filters.

Current conditions / Sky plan

- **Today:** Section title is **Current Conditions**. Shows moon phase, **Bortle** light-pollution class (with SQM when available), **seeing**, **transparency**, **cloud cover**, **wind**, **humidity**, and **dew margin**.
- **Other dates:** Section title is **Sky Plan**. Shows moon, Bortle, **days to new moon**, and **darkness** (astronomical night length) instead of live seeing/cloud.

Tappable items:

- **Moon** → **Moon detail** (NASA phase image, rise/set, illumination, age).
- **Bortle** → **Light pollution map** centered on your site, with a Bortle legend.
- **Seeing, Transp., Cloud, Wind, Humidity, Dew** (today only) → **Hourly detail** charts through the conditions window (**Pro**). Free users see current values only; tapping opens the Pro paywall.

Best imaging window

Shows the span of **astronomical darkness** (sun more than 18° below the horizon) for your location and selected date:

- Start and end times, plus total duration.
- **Twilight timeline** — visual band of civil, nautical, and astronomical twilight, moon up/down, and sunrise/sunset.
- **Chart icon** (**Pro**, today only) — expands an hourly breakdown **inside the dark window** (cloud, wind, humidity). For future nights, astronomy-only planning is shown without hourly weather overlap.

If there is no astronomical darkness (e.g. polar summer), the card explains that no dark window exists tonight.

Tonight's Outlook

A go/no-go synopsis for the selected night:

- **Free:** Verdict headline (e.g. promising, marginal, unlikely) with colour cue.
- **Pro:** Full paragraph covering cloud, moon, site Bortle, and dark-window weather when forecast data is available. For dates outside the 7-day forecast, moon and darkness context only.

Works for future planning dates as well as tonight.

Tonight's top targets

The highest-ranked objects for your location, date, and sky. Each row shows catalogue ID, name, max altitude, and a **score bar**. Tap a row for full **target details**. Swipe through neighbours in the pager when opened from a list.

Tonight's rig

Summary of your **active equipment profile** (telescope, camera, FOV, focal length, aperture). Tap to open **My Equipment** in a sheet. **Pro** required to save rigs; free users see an upgrade prompt.

7-day / 3-day forecast

Shown only when the selected date is **today**. Horizontal strip of upcoming nights with:

- Observing quality band (excellent → poor)
- Moon phase and illumination
- Cloud and wind summaries
- Bortle at your site
- **Free**: First **3 nights**.
- **Pro**: Full **7 nights**.

Use this to pick a clearer night before you commit to a long imaging run.

Targets

Tonight's Targets lists every object that passes your filters for the **same planning date** as Home, sorted by visibility score.

Search

Filter the list by object **name**, **catalogue ID** (e.g. M31, NGC 7000), or **constellation**.

Catalogue & Favourites

- **Catalogue** — Browse the full in-app catalogue (Messier, NGC, IC, planets, Sun) grouped by type. **Free**: open **Popular** targets and anything on **tonight's ranked list**; other rows show a lock and open Pro. **Pro**: open any object. Search and type chips work the same as on the main list. **Popular** limits to a curated classic-imaging subset.
- **Favourites** — Objects you have starred. **Always open**, even without Pro. Persists across app launches.

Filter chips

- **All** — Clear type filter.
- **Popular** — Curated well-known imaging targets.
- **Per type** — Galaxy, nebula types, clusters, planets, etc. Tap again to clear.

These chips combine with **Settings** → **Target Filters** (minimum altitude, minimum aperture, premier-only, imaging style).

List rows

Each row shows:

- Rank (in ordered list)
- Thumbnail, catalogue ID, name, constellation, type
- **Favourite** star (toggle without opening detail)
- **Visibility rating** (Excellent / Good / Fair / Poor / Not recommended)
- **Transit altitude** and **magnitude**
- Gold star on catalogue ID = **premier** flagship target
- Lock badge on catalogue rows that need Pro

Tap a row for **target details**. Use the pager to move between objects in the current list order.

Target details

Opened from Home, Targets, Catalogue, Favourites, Calendar, or Sky Map.

Hero image

Reference image with credit. **Tap** for full-screen view (pinch/zoom). Sun and many DSOs use curated or catalogue art. Premier images can be cached for offline use (see **Settings** → **Offline Images**).

Tonight's visibility

- **Rise, Transit, Set** times (local)
- **Max altitude** at transit
- **Moon separation** — angular distance from the moon; colour indicates how favourable (wider is better for faint DSOs)
- **Score** — 0–100% visibility score (see How targets are ranked ([#how-targets-are-ranked](#)))
- **Imaging window** — overlap between object visibility and astronomical darkness
- **Clear of your horizon** — when you have traced a site horizon ([#site-horizon](#)), hours the target stays above obstructions during darkness

Score breakdown (Pro)

Expandable card showing points from altitude, moon separation, moon illumination, dark-window overlap (or horizon-clear time), premier bonus, type/moon synergy, Bortle adjustment, and imaging-style affinity. Free users see total score with an upgrade prompt.

Tonight's Guide

Plain-English **why tonight** and framing tips for ranked targets.

- **Free:** Teaser for your **#1** target; upgrade prompt for others.
- **Pro:** Full guide on every ranked target; **Quick questions** sheet for follow-ups.

Best season / Solar imaging

- Deep-sky objects: **Best season** card (opposition-style guidance for when the object is well placed in the evening sky).
- **Sun:** Separate **solar imaging season** guidance for daytime work.

Altitude curve

Chart of object altitude through the night for the selected date.

Field of view (FOV) — Pro

If you have at least one equipment profile, a card shows how the object fits your **active rig** (or lets you preview other saved rigs). Indicates whether the object is a good fit, tight, or too small/large on your sensor. Free users see a locked preview.

About

- **Free:** Short catalogue **about** text and basic photography tips where available.
- **Pro About:** Expandable article—overview, deep dive, what to look for, tonight's context.

Pro Imaging Guide — Pro

Expandable structured guide: filters, subs, integration, processing, drizzle, dither, tonight's notes—tuned to your rig and Bortle when equipment is configured.

Session checklist — Pro

Checklist of moon, light pollution, weather, and rig prep items for this target tonight. Free users see an upgrade prompt.

Object data

Catalogue ID, type, constellation, magnitude, angular size, RA/Dec, and **minimum recommended aperture** (0 = visible naked eye).

Toolbar

- **Star** — Add/remove **favourite**.
- **Bell** — Set or edit an **imaging reminder** (see Reminders ([#reminders--notifications](#))). Per-target **Notify anyway** overrides the cloud threshold.

When opened from a list with multiple targets, a **pager** at the bottom moves to previous/next object in that list.

Calendar

Plan beyond “tonight” with four modes (segmented control): **Day**, **Week**, **Month**, **Year**. Use **chevrons** to step the period forward or backward.

Day

For the selected day:

- Moon phase and illumination
- Astronomical **dark window** (if any)
- **Top targets** for that date at your location (up to ten), tappable for details

Week

Seven rows (one per day): date, moon phase, **best target** that day, and its visibility rating. Tap a day for **day detail** (full day view as above).

Month

Grid of days with moon icons and quality hints. Tap a day for day detail; tap the month title where offered for **month overview**.

Year

Twelve-month overview for long-range planning (moon and seasonal patterns).

Calendar computations use your **active location** from Home/Settings. They do not change the global “planning date” on Home unless you open a day and then align Home’s date yourself.

Sky Map

Interactive map of the sky for your location and planning context. Opens in **AR mode** by default: hold the phone up and the map aligns with the real sky using the compass and motion sensors. Toggle to **disc map** mode for a traditional zenith-centered chart.

AR access (free trial)

- **First 7 days** after install: unlimited AR.
- **After trial (free): 3 AR sessions per day** (resets at midnight). Status shown on the map; tap when limit reached to upgrade.
- **Pro:** Unlimited AR.

Gestures

Mode	Gesture	Effect
Disc map	Pinch	Zoom in/out
Disc map	Drag	Pan the chart
AR	Pinch	Change field of view (telephoto ↔ wide), shown as a zoom badge
Both	Time scrubber	Move time through the night (from prior evening through next morning)

Reset returns zoom/pan (disc) or default AR FOV.

Use **portrait** orientation for AR; landscape may show a prompt because the projection is tuned for portrait.

Toolbar

- **AR / map toggle** — Switch between augmented reality and disc view.
- **Live camera** — Show the real sky through the camera with the overlay blended on top (requires Camera permission). Adjust blend in **Layers**.
- **Search** — Find Sun, planets, bright stars, or DSOs. Selecting one starts **find-in-sky** guidance: in **AR**, gold edge arrows show which way to turn and tilt your phone until the crosshair sits on the target; in **disc** mode the chart pans and zooms toward the object with the same arrows if it is off screen. Tap **x** on the banner to stop guiding.
- **Layers** — Control what is drawn (see below).
- **Site horizon** — Trace or edit your local obstruction profile (see Site horizon ([#site-horizon](#))).
- **Moon / Sun align** (AR) — Fine-tune overlay alignment against the real moon or sun when visible.

Selection banner

When you select a deep-sky object on the map, a banner appears with name and type. Tap through to **target details** for that object.

Share

Export an annotated snapshot of the current sky view with a caption (useful for planning posts or notes).

Layers sheet

Sky objects

- Stars
- Planets & Sun
- Deep-sky objects
- **Tonight's Top 10 only** — Restrict DSOs to the current top ten ranked targets

Constellations

- Stick figures (constellation lines)
- **Constellation art** — Silhouettes from member stars
- Constellation names

Horizon

- Horizon silhouette (uses custom site horizon when traced)

Reference lines

- Celestial equator
- Ecliptic
- Alt/az grid

Equipment overlays (when a rig is active — Pro)

- Sensor field of view rectangle
- Telrad-style circles

Live camera

- Toggle live video background
- Overlay blend slider (map vs camera)

Deep-sky filter

- All, Galaxies, Nebulae, or Clusters (affects DSO plotting only)

Layer choices are **remembered** between sessions.

Site horizon

Trees, buildings, and hills block part of the sky. AstroPlan lets you trace a **site horizon** so rankings and imaging windows account for real obstructions.

Tracing

1. Open **Sky Map** while **physically at the observing site** (GPS must match the active location within about 1 km).
2. Tap the **mountain** toolbar icon (or **Trace horizon** in Layers).
3. Point the phone at the skyline and tap along the treeline or rooftops. With **live camera** on, tap directly on obstructions in the video feed.
4. **Save** when enough azimuth bins are covered (or save empty to clear a previous profile).

You cannot trace for a saved site you selected from home until you visit it. A horizon traced on a previous visit is still used for planning.

Effect on planning

- Target scores gain **horizon-clear** points when the object stays above your traced skyline during darkness.
- **Peak imaging window** on target detail may shrink to the longest uninterrupted clear run.
- The horizon silhouette on Sky Map reflects your profile.

Horizon data is stored per saved location on device.

Settings

Help

- **Learn AstroPlan** — Interactive spotlight tours (see In-app learning tour ([#in-app-learning-tour](#))).
- **User Guide** — Full documentation on the web (opens in Safari). Same content as this guide.

Location

- **Current location** name and **Bortle class** (auto from LightPollutionMap.info unless overridden).

- **Manual Bortle override** — Slider from **Auto** (0) to **9**. Use this if the map API does not match your experience at a familiar site. Changing it triggers a data refresh.

Map

Location Map — Same map as Home's location sheet, pushed on the navigation stack (no Done button; use back).

Equipment — Pro

My Equipment — Manage telescope/camera **rigs** (see Equipment ([#equipment--field-of-view](#))). Free users see **Pro** and the paywall.

Target filters

- **Imaging style** — Balanced, Broadband (LRGB/OSC), Narrowband (Ha/OIII), or Planets & Sun. Biases rankings toward targets that suit how you image.
- **Filter presets** — Built-in and custom one-tap combinations of type, altitude, aperture, premier, and popular filters.
- **Min. altitude** — Objects must reach at least this altitude at transit (0–60°, step 5°). Default 15°.
- **Min. aperture** — Hide objects that need a larger telescope than your limit (0 = any; steps of 50 mm).
- **Premier targets only** — Preference toggle (premier objects are flagship targets marked with a gold star in lists).

Display

Night vision red tint — Applies a red multiply overlay **while AstroPlan is open** to preserve dark adaptation. For a system-wide red filter, use iPhone **Settings** → **Accessibility** → **Display & Text Size** → **Color Filters**.

Notifications

- **Max. cloud cover** — Alerts only fire when forecast cloud is at or below this threshold (unless overridden).
- **Notify anyway (all alerts)** — Global override; also available per target from the bell on target detail.
- **Favourite target alerts** — Optional notification when a starred object's imaging window approaches.
- **Imaging window Live Activity** — Lock-screen / Dynamic Island card with cloud, wind, dew margin, and time until astronomical dark ends.

Alerts re-check cloud cover about **3 hours** before they fire.

Sky conditions

Read-only snapshot of seeing, transparency, cloud %, wind, humidity, and dew, plus **Refresh conditions** to reload weather and Bortle.

Moon

Phase name, illumination %, and lunar age (days).

Catalog

Counts: total catalogue objects, tonight's visible targets, premier object count.

Offline Images

- **Cache on Wi-Fi** — Automatically cache popular target photos on Wi-Fi.
- **Download premier images** — Pull high-res copies for offline use at the eyepiece.
- **Clear image cache** — Free storage.

Pro

Upgrade, restore purchases, manage subscription (Apple ID). Status shows Active or Free.

About

App version, astronomy engine note, and attributions for **Open-Meteo** (weather) and **LightPollutionMap.info** (Bortle).

Location & saved sites

Open from **Home** → **Location** or **Settings** → **Location Map**.

Map

- **Active site** — Large pin; all calculations use this point.
- **GPS pin** — Shown when GPS is on but differs from the active pin (e.g. you selected a saved site).
- **Saved locations** — Pins you have stored; tap a row to activate. Can store an optional **site horizon** from a visit.
- **Search result** — Temporary pin from place search.
- **Dropped pin** — Long-press (~0.6 s) on the map, then name and **Save** or **Use** without saving.

Search

Type a city or place name; pick a suggestion or submit. **Use** sets it as the active location for tonight. **Save** adds it to your saved list for one-tap reuse.

GPS

Use Current GPS Location returns to live GPS tracking and refreshes coordinates as you move.

Saved locations are stored on device (SwiftData). Deleting a saved row removes it from the list.

Equipment & field of view

Pro feature. Configure one or more **rigs** (telescope + camera). The **active** rig (checkmark) drives Home's "Tonight's rig" card, Sky Map FOV overlays, and default FOV on target pages.

Adding a rig

Tap **+** and enter:

- Profile **name**
- **Telescope** name
- **Focal length** (native mm) and optional **focal reducer** multiplier
- **Aperture** (mm)
- **Camera** name and **sensor size** (width × height mm)

FOV is computed from plate scale and shown as arcminutes or degrees.

Managing rigs

- Tap the **circle** to set active.
- Tap the **row** to edit.
- Swipe to **delete**.

On target detail, the **FOV card** compares the object's angular size to your sensor field and labels fit quality (good fit, tight, too large, too small for useful detail, etc.). You can switch which saved rig to preview without changing the active rig.

How targets are ranked

For each night, AstroPlan scores every catalogue object at your latitude/longitude. Objects below a minimal score are hidden; the rest sort **highest first**.

Score ingredients (0–100):

Factor	Typical weight	Notes
Transit altitude	Up to 40 pts	Higher culmination = better
Moon separation	Up to 30 pts	Farther from the moon = better; within 30° is penalized
Moon illumination	Up to –15 pts	Bright moon reduces score
Dark window overlap	Up to 20 pts	How much visibility overlaps astronomical night
Horizon-clear time	Up to 20 pts	Replaces dark-window points when a site horizon exists
Premier bonus	+5 pts	Flagship objects
Type x moon synergy	±12 pts	Planets like moonlight; faint DSOs suffer
Bortle adjustment	±15 pts	Faint targets penalized in bright skies
Imaging style	±12 pts	Broadband, narrowband, planetary biases

Ratings:

Score	Label
85–100	Excellent
65–84	Good
45–64	Fair
25–44	Poor
< 25	Not recommended

Objects need roughly **>10°** altitude at transit to be scored meaningfully. The list also respects your **minimum altitude**, **minimum aperture**, **premier-only**, and **imaging style** settings.

Catalogue contents: Hundreds of Messier/NGC/IC entries plus **Sun** and major **planets** with positions computed for the selected date.

Reminders & notifications

On any **target detail** page, tap the **bell**:

- **10 minutes, 1 hour, 12 hours, or 24 hours** before the imaging window
- **Notify anyway** — Fire even if cloud exceeds your threshold
- **Remove reminder** if one is already set

Favourite alerts (Settings): optional lead-time notification for starred objects.

Reminders are stored on device. AstroPlan schedules a **local notification** when:

- The object’s visibility score is above a minimal threshold,

- **Cloud cover is at or below** your **max. cloud cover** setting (default 20%) at the recheck ~3 hours before fire—unless **Notify anyway** is on,
- The **astronomical imaging window** is still in the future,

Notification fires at your chosen lead time before the window (or at least 30 seconds from now). The message includes clarity and the object’s imaging window times.

Live Activity (optional): while the imaging window is active, the lock screen can show cloud, wind, dew margin, and remaining dark time.

Allow notifications when iOS prompts you; without permission, reminders are saved but alerts will not appear.

In-app learning tour

Settings → **Help** → **Learn AstroPlan** offers five spotlight tours:

Topic	What it covers
Home & Targets	Date, location, conditions, imaging window, outlook, top targets, rig, forecast, search, catalogue, filters
Calendar	Day/week/month/year modes, navigation, per-day rankings at your site
Sky Map & AR	Disc map, AR alignment, live camera, find-in-sky, layers, horizon, time scrub
Equipment	Settings entry, rigs list, active profile, adding gear, FOV on targets
Settings & Setup	Location, Bortle, imaging style, filter presets, notifications, display

The first time you use the app, the **Home & Targets** tour may start automatically. Tours switch tabs, open Equipment when needed, and switch Calendar modes for each step. You can dismiss any tour and replay topics from Learn AstroPlan.

TipKit hints may also appear on some controls (catalogue button, cloud cell, calendar, sky map, etc.) after you use related features.

For full written documentation, use **Settings** → **Help** → **User Guide** (web).

Permissions

Permission	Why AstroPlan needs it
Location (When In Use)	GPS coordinates, place name, local rise/set, Bortle lookup, weather, on-site horizon tracing
Motion & orientation	Compass and device attitude for AR sky map alignment
Camera	Optional live-camera AR overlay
Notifications	Optional imaging reminders and favourite alerts

Denying location still allows manual map/search sites; AR and accurate times require a known latitude and longitude.

Data sources & privacy

Data	Source
Weather (seeing proxy, clouds, wind, humidity, dew, forecast)	Open-Meteo (https://open-meteo.com/)
Bortle / light pollution	LightPollutionMap.info (https://www.lightpollutionmap.info/)
Moon phase image (detail view)	NASA SVS Dial-a-Moon API
Object reference images	Curated assets and catalogue metadata (in-app)
Pro guides (optional)	On-device builders; cloud AI when configured and available

Network requests identify the app as `AstroPlan/1.0` where required. Favourites and filter prefs use **UserDefaults**; locations, equipment, reminders, and horizons use **on-device SwiftData**. AstroPlan does not require an account. Subscriptions are handled entirely by Apple.

Tips & troubleshooting

Targets list empty

- Check **Settings** → **Min. altitude**, **Min. aperture**, and **Premier only**.
- Confirm **location** is correct (polar regions may have few objects above the horizon).
- Change the **planning date** on Home if you are looking at a future afternoon.

Bortle shows “–” or wrong class

- Wait for refresh after GPS fix.
- Set **manual Bortle** in Settings if the map grid does not match your site.
- Open **Bortle** from conditions to view the pollution map.

Weather / seeing unavailable

- Requires network. Tap **Refresh conditions** in Settings.
- Open-Meteo may be unreachable; astronomy still works offline for rise/set and targets.

AR map misaligned

- Calibrate using **moon** or **sun** align buttons when they are visible.
- Calibrate the compass away from metal and magnets; wave phone in a figure-eight.
- Use portrait; enable location services.
- Toggle off AR and use disc mode if sensors are unreliable indoors.

AR limit reached

- Free users get 3 AR sessions per day after the 7-day trial. Upgrade to Pro or use disc map (unlimited).

Catalogue row locked

- Free users can open Popular targets, tonight’s list, and favourites. Upgrade for the full catalogue.

Reminders never fire

- Enable notifications for AstroPlan in iOS Settings.
- Check **max. cloud cover** and whether **Notify anyway** is off—alerts skip cloudy forecasts unless overridden.

Pro guide says “AI unavailable”

- On-device fallback text is shown. Check network for full AI articles.

Night vision tint

- Only affects AstroPlan while open; lower screen brightness separately.

7-day forecast missing or shortened

- Forecast strip appears only when Home's selected date is **today**. Free shows 3 nights; Pro shows 7.

Horizon trace disabled

- You must be on site (GPS near the active pin). Visit the location or trace on a previous trip.
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Quick reference — main tabs

Tab	Primary use
Home	Tonight's dashboard: date, site, weather, darkness, outlook, top picks, rig, forecast
Targets	Full ranked list, search, catalogue, favourites, type filters
Calendar	Day/week/month/year planning and per-day top targets
Sky Map	AR or disc sky; live camera; time scrub; layers; horizon; find objects
Settings	Location, Bortle, equipment, filters, notifications, Pro, help, about

Document version: 1.1 — matches AstroPlan app build 1.0.0 (Pro tier). PDF copy: `HELP.pdf` in this folder. Web copy: astroplan.p2apps.com (<https://astroplan.p2apps.com>). For developer navigation structure, see `AstroPlan-App-Navigation-Map.pdf`. Regenerate PDF: `python3 scripts/gen_help_pdf.py` (requires `reportlab`). Regenerate website: `python3 scripts/build_help_site.py`.