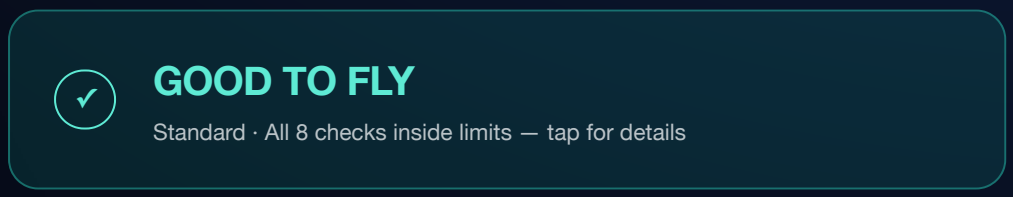
Drone Ops

Weather · Airspace · Community — built for Indian pilots

FLIGHT-WEATHER INTELLIGENCE

Know before you launch.

Fifteen live readings, a flyability verdict that always names the profile behind it, and every number traceable to the source that published it. One screen. No scrolling. No guessing.



15	4	4	7 days	ap-south-1
LIVE READINGS	THRESHOLD PROFILES	WIND ALTITUDES	FORECAST HORIZON	DATA STAYS IN INDIA

01 — THE VERDICT ENGINE

A verdict you can take apart

Most weather apps hand a pilot a number and leave the judgement to them. Drone Ops makes the call — and then shows every step of the arithmetic that produced it, against limits the pilot chose and can change.

Attribution

Every verdict prints the active profile's name. "NOT GOOD TO FLY" never appears alone — it appears over *Cinematic · 2 readings outside limits*.

Auditability

Tap the banner and you get **every** check — passing and failing — with the reading beside the limit. Nothing is hidden because it passed.

Your numbers win

A custom profile reads your figures from Settings and overrides every preset. Presets are starting points, and the app says so.

Four profiles, switchable in a tap

Cinematic LIVE	Tightest envelope — 20 km/h wind, 28 km/h gusts, 5 km visibility, 300 m cloud base. A gimbal fighting gusts shows in the footage long before the airframe is in trouble.
Standard LIVE	General inspection and photography — 32 km/h wind, 40 km/h gusts, 3 km visibility, –5 °C to 43 °C.
Mapping LIVE	Survey lines — 28 km/h wind and a 500 m cloud base, because overlapping passes need vertical clearance and steady light.
My limits LIVE	Your airframe, payload and comfort. Unset fields fall back to Standard rather than to "no limit" — a half-filled form must never read as a clean bill of health.

Eight checks, three states

- Ground wind, gusts and **wind at your working altitude**
- Visibility, rain probability, cloud base
- Kp geomagnetic index and a two-sided temperature band
- **Marginal** at 10 % inside a limit — so a 1 km/h model revision can't flip the whole screen red

Tint means exception

A tile colours only when the active profile has a limit for that reading *and* the reading is outside it. An untinted tile means "not checked", never "checked and fine". Fifteen coloured tiles is a traffic light — the eye should land on the exceptions.

Status is a glyph — tick, bang, cross — never a coloured dot. Nothing on the screen should depend on reading hue at 6 px.

02 — THE NOW SCREEN

Fifteen readings. One screen. Never scrolls.

A fixed 3 × 5 grid that fits an iPhone SE and a Pro Max alike. Tiles measure themselves and shed their sparkline before they trim a numeral, so the layout holds without a height budget that goes stale.

CLEAR ☀ WMO condition	TEMP 31 °C 24 h trend	FEELS 36 °C apparent
WIND 29 km/h at 10 m · NW	GUSTS 44 km/h ≤ 40 km/h	ALOFT 34 km/h 120 m · tap to cycle
PRECIP 15 % next hour	CLOUD 40 % low / mid / high	BASE 1.4 km derived
VIS 8 km horizontal	AIR 86 PM2.5 CPCB band	HUMIDITY 62 % now only
UV 9 crew exposure	KP 3.7 NOAA SWPC	SATS Unavailable never a guessed number

Tap any tile

A detail sheet opens with the full-size chart, what the reading means for a drone, and the limit it was checked against. Tile, sparkline and chart are fed by one object — they cannot drift apart.

No invented trends

Readings the model publishes only for "now" — humidity, air quality, Kp, satellites — get no sparkline and no chart. A drawn trend the model never published is fiction, and it looks identical to the real ones.

Live sky

A Skia-rendered sky behind the glass that tracks the real sun angle and conditions at your location — dawn, noon, dusk, overcast, night.

Daylight ribbon

Sunrise, sunset, golden hour and civil twilight on one bar, with now marked. The shot window at a glance.

Week ribbon

Seven days of high, low, rainfall and peak gust, compressed into a strip under the grid.

03 — PLANNING SURFACES

Forecast, airspace and the places you fly

Forecast LIVE

Next 48 hours	Wind, gusts, rain probability, cloud and visibility on one scrubbable chart.
Winds-aloft grid	An altitude × hour table across 10 m, 80 m, 120 m and 180 m — the single most useful planning view a drone pilot has, and one no consumer weather app ships. A calm surface reading can sit under a 40 km/h gradient at the legal ceiling.
The week	Seven days of range, rainfall and gust peak, with every figure labelled *modelled*.
Wind compass	Direction and gust spread as an instrument dial, not a decorative arrow.

Map PARTIAL

- MapLibre vector basemap, light and dark
- **Animated rain radar** — RainViewer frames, looped, off by default because Indian coverage is partial
- Wind-field overlay
- Flies to your position on first fix, then leaves the map under your thumb
- Airspace zone layer wired to a swappable **ZoneSource**

Places & locations LIVE

- Search any place by name — **no location permission required**
- Pin one place, save many, recents kept automatically
- Saved cards each carry their own verdict, using the same profile and margins as the banner
- The place bar always prints which source is active: device fix or pinned place
- Bookmarks share the weather cache key exactly — *n* saved places cost *n* cells, not *n* vendor calls

The airspace promise we refuse to fake

The zone layer ships **empty**, and the map says so on screen. Approximate airspace is worse than none: a green gap that is really controlled airspace is a map that actively misleads. Real DigitalSky geometry lands as a one-line vendor swap the moment a usable source exists — the plumbing is already built and tested around it.

04 — UNDER THE HOOD

Built so the numbers can be trusted

The parts a pilot never sees are the reason the parts they do see are worth believing.

Your location never reaches a weather vendor

Every forecast call goes through our own edge proxy and is cached by ~5 km grid cell, never by user. Place search runs on the **device's own geocoder** — a lookup must not tell a vendor where a pilot is thinking of flying.

All data on Indian infrastructure

Hosted in ap-south-1 (Mumbai). Region is fixed at creation, so this is a structural guarantee rather than a setting. Exact pilot location is never exposed on any public surface — approximate area and service radius only.

Stale is labelled, not hidden

On one bar of signal in a field, clearly-marked 90-minute-old numbers beat an error screen. The app serves them and says so. Silently showing stale weather as current is exactly the failure the verdict rules exist to prevent.

Every field validated on arrival

The wire contract is schema-checked at runtime. A vendor quietly renaming a field surfaces as one readable parse failure — not as NaN km/h rendered confidently on a pilot's dashboard.

Sources, always attributed

- **Open-Meteo** — wind, temperature, cloud, visibility, precipitation, multi-model
- **Open-Meteo Air Quality** — PM2.5, PM10, AQI
- **NOAA SWPC** — Kp geomagnetic index, which degrades GNSS and disturbs the magnetometer a drone steers by
- **RainViewer** — radar frames
- Each source carries what it covers and when it was last read

Honest about instrumentation

Satellite count is platform-asymmetric: Android measures tracked satellites; iOS can only predict from the almanac. Every count carries its kind, so no screen can print a predicted figure as a measured one. Where neither is available it reads *Unavailable* — never a plausible number.

Cloud base and density altitude are computed from published inputs by one tested formula, used everywhere.

Design system

Dark glass on every sky

Cards stay dark at noon over bright blue as well as at midnight. The sky is the colour; the cards are the constant — and legibility never depends on the time of day.

Real material

On iOS 26 the panes are genuine liquid glass refracting the live sky, with a scrim floor that guarantees contrast. Elsewhere, a matched translucent fill.

One typeface, one accent

Inter is bundled so Android and iOS are the same app. A single sky-cyan accent — nothing picks a hue from a value, because that would be a verdict arrived at through decoration.

05 — ROADMAP

What ships next

The weather core is built. Everything below extends it into the working day of a professional pilot and the operations desk behind them.

Phase 1 — Flight weather SHIPPED

Fifteen-reading Now grid, the profile-attributed verdict engine, 48-hour and 7-day forecast, winds-aloft table, saved places and search, map with radar, custom aircraft limits.

Phase 2 — Accounts & airspace IN BUILD

- **Two logins, one backend** — individual pilot and company operator, role-based throughout
- **Live DGCA / DigitalSky zones** on the map with red, yellow and green geometry
- **Pre-flight checklist** generated from the active profile and the current assessment
- **Alerts** — tell the app when and where you plan to fly and get a push when the window opens or closes
- **Home-screen widget and Apple Watch glance** — the verdict without opening the app
- **Offline mode** — last snapshot per saved place, cached and clearly dated

Phase 3 — The pilot's working record PLANNED

- **Digital logbook** — flights, airframe, payload, duration, with the weather at launch attached automatically
- **Verified flights** — upload the flight record to confirm a log, and only verified hours count anywhere public
- **Airframe profiles** — save limits per drone and switch with the aircraft
- **Maintenance and battery cycles** — prompts driven by logged hours
- **Exportable job reports** — conditions, verdict and log as a PDF a client will accept

Phase 4 — Community & work PLANNED

- **Local drone news** — DGCA rule changes, regional restrictions, industry updates
- **Pilot community** — regional feeds, spot reports, "is anyone flying near…"
- **Leaderboard** built only on verified flights, with segmentation still open for pilot input
- **Job board and operator hiring** — operators post, pilots apply, with approximate service radius only
- **Wallet and payouts** for job settlement
- **Team operations** — an operator dashboard over a fleet of pilots, their limits and their logs

Open questions we'd rather ask than assume

How the leaderboard should count — hours or flights, rolling or lifetime, and segmented by what. How automated log verification should be at launch. And which weather features, if any, sit behind a subscription — with one rule already fixed: **the base lookup that makes the app worth installing is never paywalled.**

06 — WHO IT'S FOR

Every pilot who has driven two hours to a site and found the wind waiting.

Cinematographers

Where the gimbal gives out long before the airframe does — and where the golden-hour window is the whole job.

Survey & mapping crews

Overlapping passes need vertical clearance and steady light. Cloud base and wind aloft are the two numbers that decide the day.

Inspection & infrastructure

Tight tolerances near structures, where a gust figure matters more than an average and the record afterwards matters as much as the flight.

Operators running fleets

One profile per airframe, one verdict standard across every pilot, and a log that stands up to a client asking what the conditions were.

What makes it different

- **Wind at 120 m**, not just at 10 m — the altitude you actually fly
- **A verdict that names its profile**, every single time
- **Cloud base, density altitude and Kp** — aviation numbers, not consumer ones
- **Air quality as an operational reading**, because haze is what limits line of sight on an Indian winter morning
- **Built for India** — DGCA ceilings, Indian hosting, Indian conditions
- **No invented data** — unavailable is printed as unavailable
- **Plan anywhere** — search a site without granting location at all
- **Free tier stays useful** — the core lookup is not behind a paywall

Currently in build · early access opening

Weather core complete on iOS and Android. Accounts, airspace and logbook next.