An Integrated Online HAB System

Ethan Harstad - Stratospheric Ballooning Association

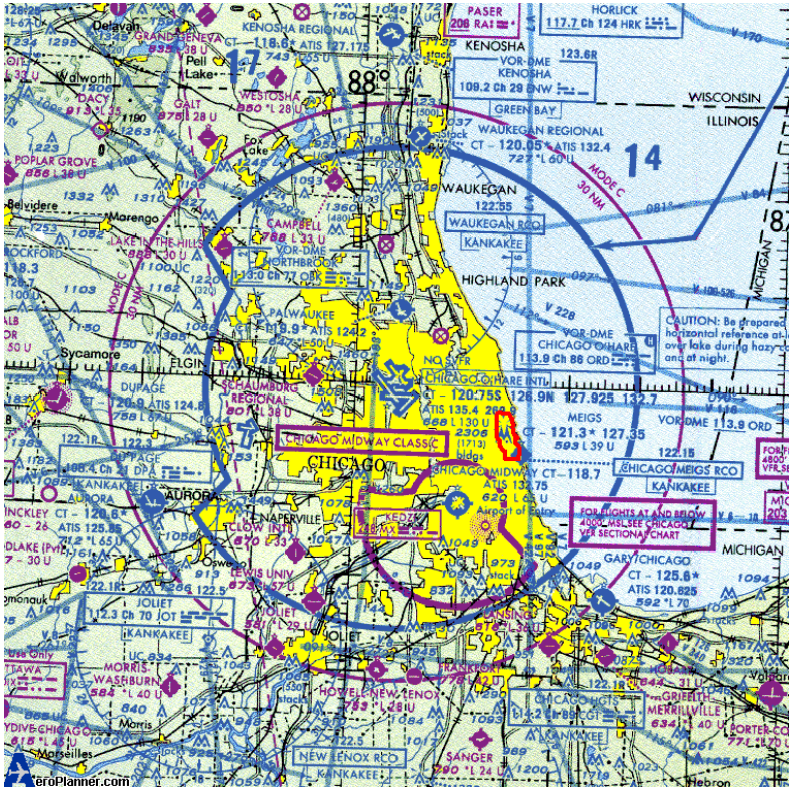
What is it?

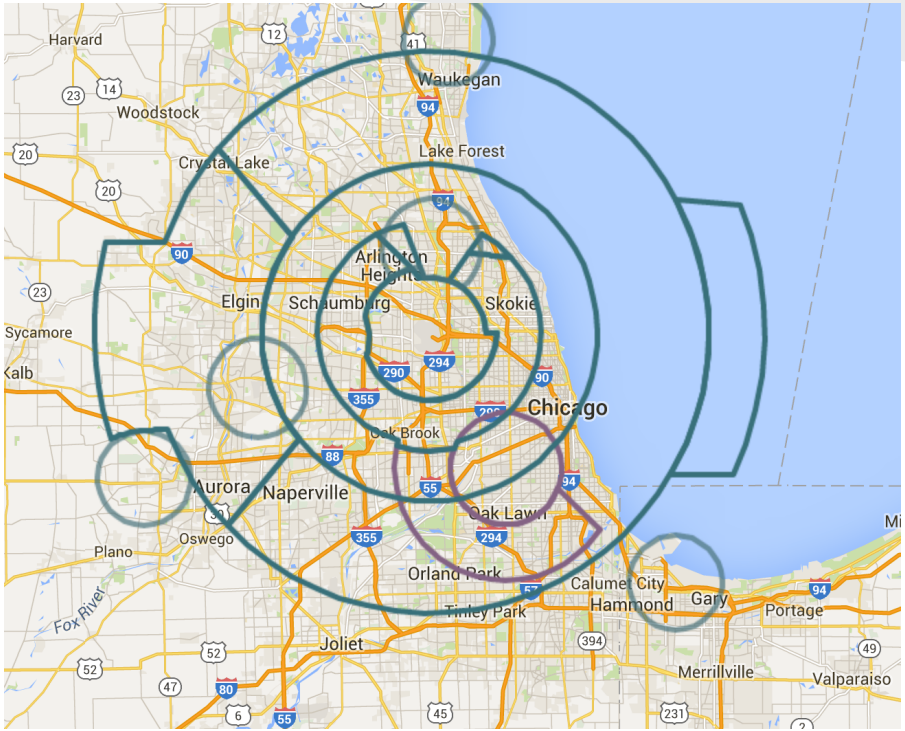
Mission

Improve the quality of balloon missions through simplification and standardization

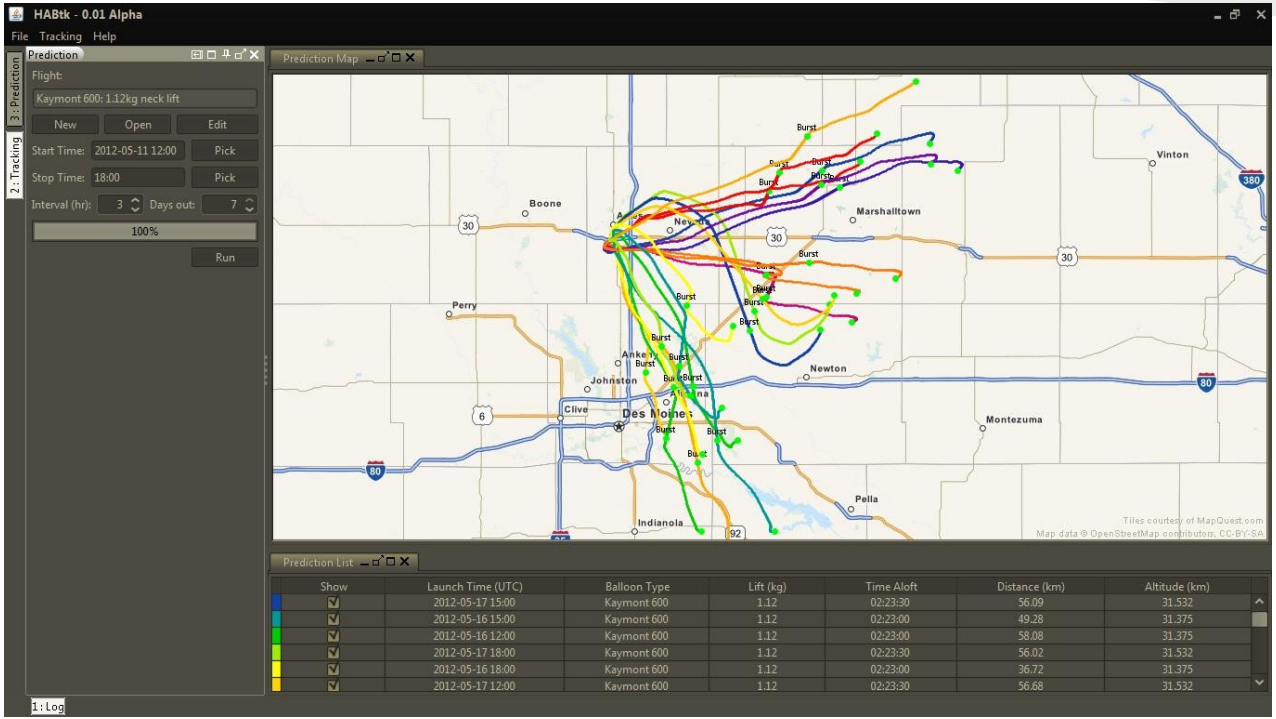
What’s hard?

Airspace awareness





Scheduling


HABtk - 0.01 Alpha
File Tracking Help
Prediction
Flight:
Kaymont 600: 1.12kg neck lift
New Open Edit
Start Time: 2012-05-11 12:00 Pick
Stop Time: 18:00 Pick
Interval (hr): 3 Days out: 7
100%
Run
3 : Prediction
2 : Tracking
1 : Log
Prediction Map
Boone
Marshalltown
Vinton
Perry
Newton
Johnston
Clive
Des Moines
Montezuma
Pella
Indianola
Burst
Tiles courtesy of MapQuest.com
Map data © OpenStreetMap contributors, CC-BY-SA
Prediction List
Show
Launch Time (UTC)
Balloon Type
Lift (kg)
Time Aloft
Distance (km)
Altitude (km)
2012-05-17 15:00 Kaymont 600 1.12 02:23:30 56.09 31.532
2012-05-16 15:00 Kaymont 600 1.12 02:23:00 49.28 31.375
2012-05-16 12:00 Kaymont 600 1.12 02:23:00 58.08 31.375
2012-05-17 18:00 Kaymont 600 1.12 02:23:30 56.02 31.532
2012-05-16 18:00 Kaymont 600 1.12 02:23:00 36.72 31.375
2012-05-17 12:00 Kaymont 600 1.12 02:23:30 56.68 31.532

Regulations

No certificate may be issued unless a completed application form has been received (14 C.F.R. 91, 101, and 105).

U.S. Department of Transportation
Federal Aviation Administration

APPLICATION FOR CERTIFICATE OF WAIVER OR AUTHORIZATION

Form Approved: O.M.B. No. 2120-0027

APPLICANTS — DO NOT USE THESE SPACES

Region | Date

Action
☐ Approved ☐ Disapproved — *Explain under "Remarks"*

Signature of authorized FAA representative

INSTRUCTIONS

Submit this application in triplicate (3) to any FAA Flight Standards district office.

Applicants requesting a Certificate of Waiver or Authorization for an aviation event must complete all the applicable items on this form and attach a properly marked 7.5 series Topographic Quadrangle Map(s), published by the U.S. Geological Survey (scale 1:24,000), of the proposed operating area. The map(s) must include scale depictions of the flightlines, showlines, race courses, and the location of the air event control point, Police dispatch, ambulance, and fire fighting equipment. The applicant may also wish to submit photographs and scale diagrams as supplemental material to assist in the FAA's evaluation of a particular site. Application for a Certificate of Waiver or Authorization must be submitted 45 days prior to the requested date of the event.

Applicants requesting a Certificate of Waiver or Authorization for activities other than an aviation event will complete items 1 through 8 only and the certification, item 15, on the reverse.

1. Name of organization | 2. Name of responsible person

3. Permanent mailing address | House number and street or route number | City | State and ZIP code | Telephone No.

4. FAR section and number to be waived

5. Detailed description of proposed operation *(Attach supplement if needed)*

6. Area of operation *(Location, altitudes, etc.)*

7a. Beginning *(Date and hour)* | b. Ending *(Date and hour)*

8. Aircraft make and model (a)	Pilot's Name (b)	Certificate number and rating (c)	Home address *(Street, City, State)* (d)

Pre-flight

- Heuristic guidance
- Trajectory prediction
- Long term forecasting
- Airspace awareness
- Standardized reporting

In-flight

- Telemetry aggregation
- Real time prediction
- Airspace awareness
- Enhanced communication

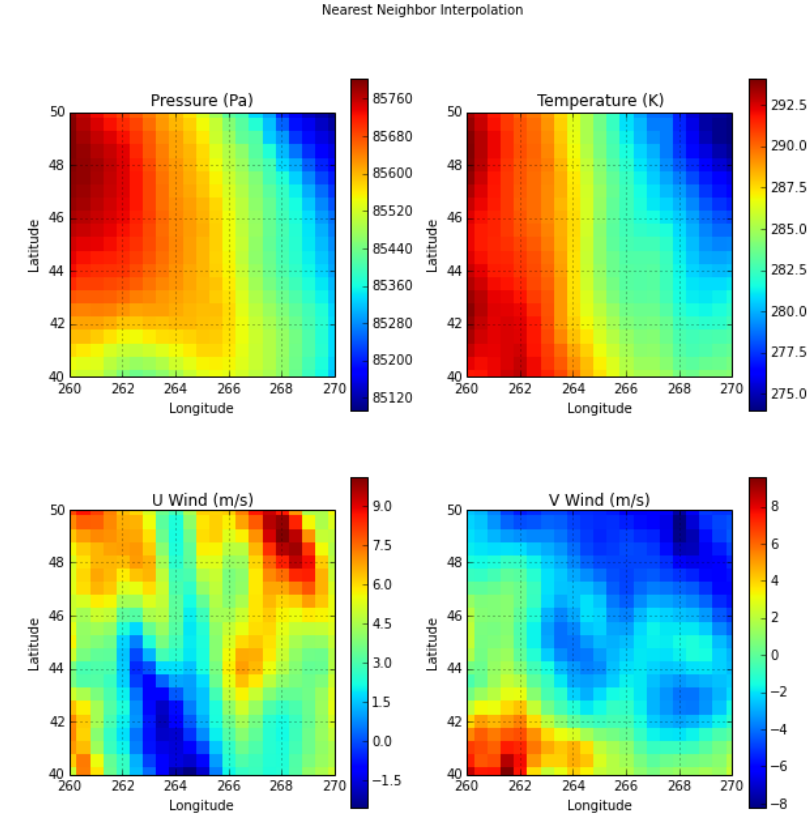
Post-flight

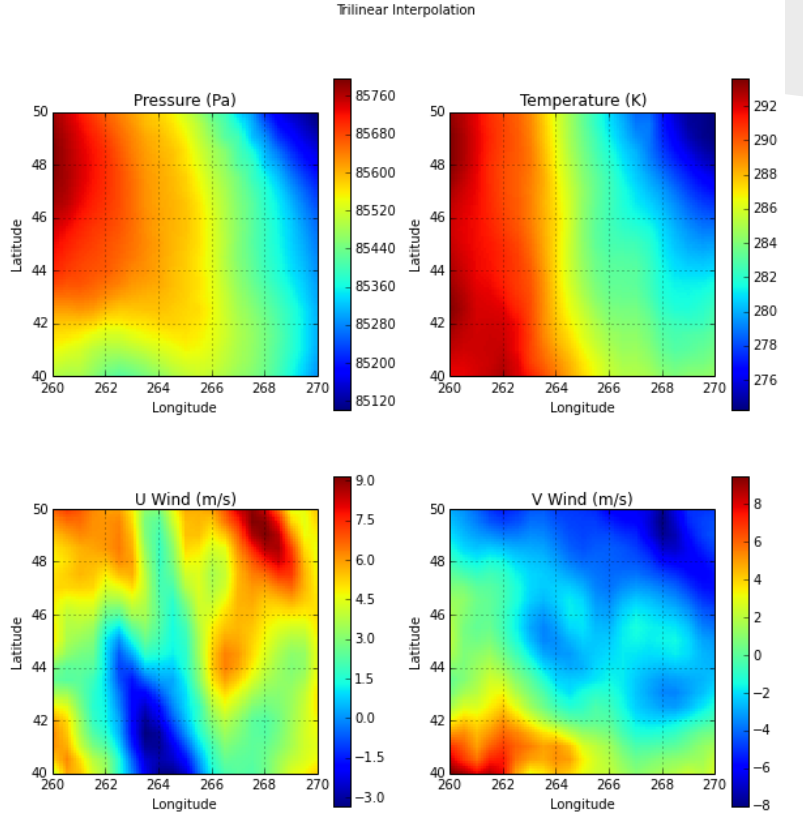
- Data assimilation
- Data analysis
- Data sharing
- Continuous improvement

Current Work

- Online prediction
- Online tracking
- Offline tracking
- Data assimilation/presentation

Interpolation





Future?