# Federal Aviation Weather Brainstorm

## Think about ways to complete a project, individually and as a group

### Overview

Holding a brainstorm isn't unique, holding a productive brainstorm is. Great brainstorms are ones that set the stage for fresh and generative thinking through simple guidelines and an open and collaborative environment. Use this when you're just kicking-off a new project and want to hit the ground running with big ideas that will move your team forward.

30 - 60 min | 3 - 10 people | Beginner

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### Let's get started

STEP 1
**Choose your best "How Might We" Questions.**
Share the top 5 brainstorm questions that you created and let the group determine where to begin by selecting 1 to move forward with based on what seems to be the most promising for idea generation in the areas you are trying to impact.

STEP 2
**Set the stage for creativity and inclusivity.**
Go over the brainstorming rules and keep them in front of your team while brainstorming to encourage collaboration, optimism and creativity.

STEP 3
**Start out solo.**
Have each participant begin in the "solo brainstorm space" by silently brainstorming ideas and placing them into the template. This "silent-storming" avoids group-think and creates an inclusive environment for introverts and extroverts alike. Set a time limit. Encourage people to go for quantity.

STEP 4
**Brainstorm as a group.**
Have everyone move their ideas into the "group sharing space" within the template and have the team silently read through them. As a team, sort and group them by thematic topics or similiarities. Discuss and answer each any questions that arise. Encourage "Yes, and..." and build on the ideas of other people along the way.

STEP 5
**Vote and determine next steps.**
Use Dot Voting to select the ideas that seem most promising based on your criteria. As a team, decide together what the best next steps should be. Do additional people need to be in the room? Are there better questions to ask? Is more sorting or prioritization needed? Are there ideas to go more deeply into using **Crazy 8's** or to test using **Rapid Experimentation**?

### Brainstorming Rules

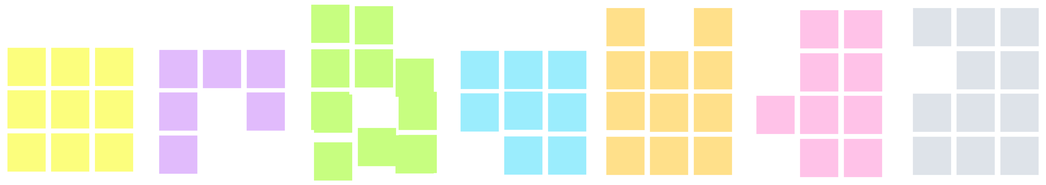
1. **Encourage wild ideas**. (If none of the ideas sound a bit ridiculous, then you are filtering yourself too much.)
2. **Defer judgment.** (This can be as direct as harsh words or as subtle as a condescending tone or talking over one another.)
3. **Build on the ideas of others**. ("I want to build on that idea" or the use of "yes, and...")
4. **Stay focused on the topic at hand.**
5. **Have one conversation at a time.**
6. **Be visual.** (Draw and upload and/or show ideas whenever possible.)
7. **Go for quantity.**

**Interested in learning more?**
Check out the Facebook Think Kit website for additional tools and resources to help your team collaborate, innovate and move ideas forward with confidence.

2021 FEDERAL AVIATION WEATHER TEM BRAINSTORMING QUESTIONS

- **Federal Aviation Weather GAPS**
- **Federal Aviation Weather DUPLICATION OF EFFORT**
- **Federal Aviation Weather COLLABORATION OPPORTUNITIES**
- **Federal Aviation Weather TANGIBLE TEM OUTCOMES**

SOLO BRAINSTORM



**Data Availability**

Free and open data sharing

Lack of harmonization - In situ turbulence reporting

Gap: Lack of rationale to site additional low cost weather sensors/ wx cams other than at airports.

Data Sharing

Sharing costs of acquiring new data sets or observation systems from the private sector across federal agencies.

Data Archiving

**UAS AAM Wx Needs**

UAS operation need non-airport observations

We discussed UAS gaps, but the eVTOL/ AAM community will need wx on Vertiports and areas where wx is unpredictable

Insufficient amounts of weather observation information, especially in the PBL

Weather radar gaps in locations distant from airports to support AAM operations

Urban Micro-Weather

**PIREPs**

Pirep Process is Broken

**Safety**

VFR into IMC accidents continue to happen

ICAMS can collect these shortfalls and present them to the WGs for Co mmittee on Observations

Duplicate convective forecast MRMS and CoSPA

**Data Distribution**

Collaborative strategy between NOAA and FAA on very high resolution "urban" (~100 m) modeling

NWP large data distribution/ management strategy as models increase in resolution/domain sizes/ensembles

What is the incentive for private sector to produce high resolution models for AAM operators if FAA and NASA will make high resolution modeling products freely available?

Dissemination limitations

**Aircraft Observations**

Near real-time meteorological data access from UAS and ADS-B for assimilation in operational NWP

Ubiquitous AbO, starting with ADS-B Wx

ADS-B Wx data ground data distribution ConOps

ADS-B Wx data distribution standards for surveillance data interchange, e.g. ASTERIX

**R2O and O2R**

Effectively getting things into operations

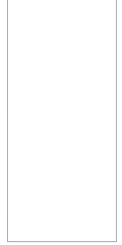
Find better ways to understand the needs of the end users, not the producers

**Probabilistic Weather Info**

Effective use of NWP ensemble spread information for forecast uncertainty/probabilities

Vote

*DRAG dots out to place your votes*



evaulation of Urban micro weather, standards and approval.

Urban