

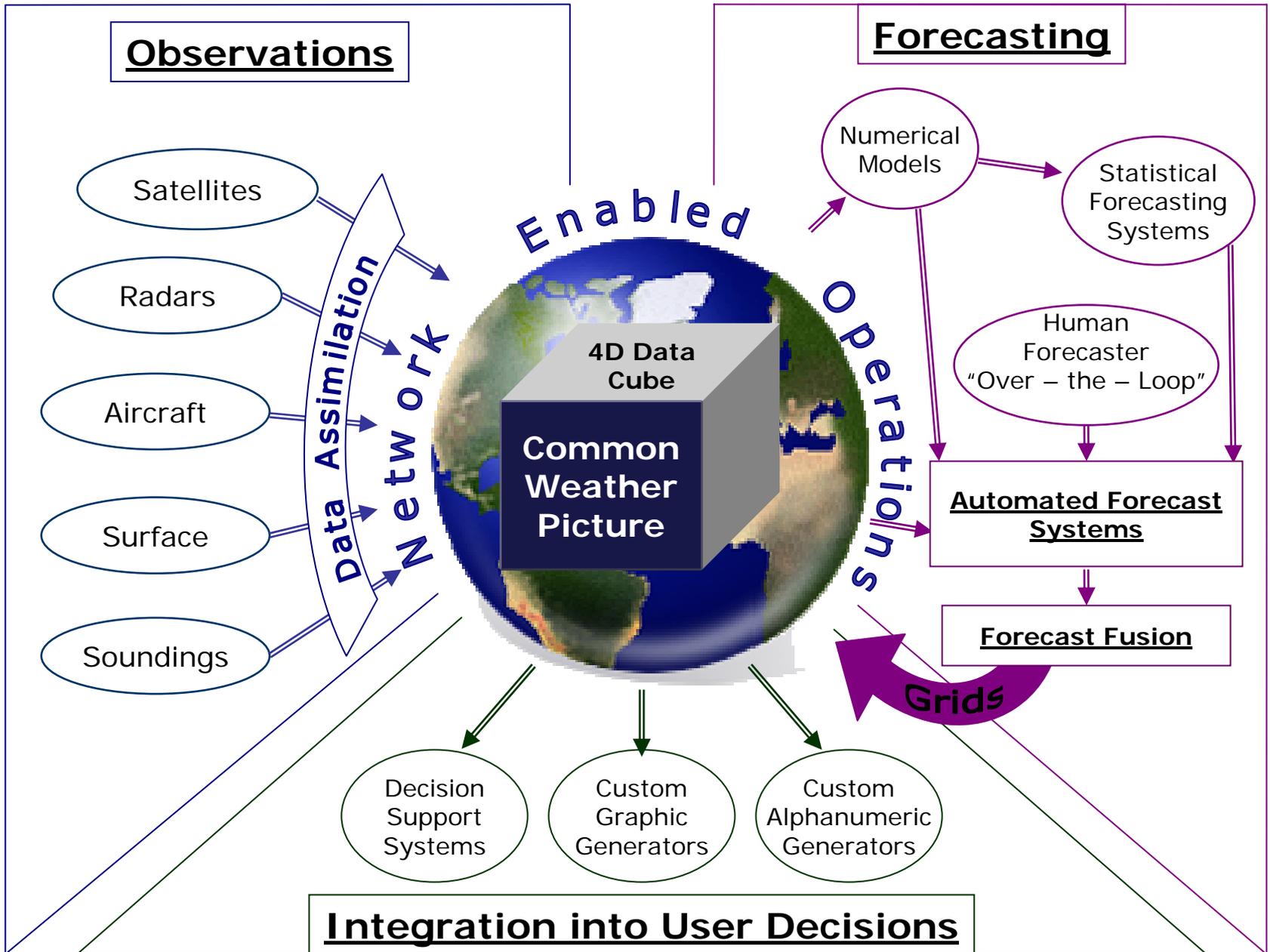


# Ceiling and Visibility in NextGen



- The NextGen Concept of Operations assumes that weather will be assimilated into decision making and that consistent weather information will be used throughout at any specific point in the NAS.
- The NWS is working with the FAA and other agencies to design a 4D weather system compatible with NextGen
- If you haven't been "NextGen'd" enough yet, the next slide is another view of 4D weather and the Common Weather Picture.

# NextGen Aviation Weather 4D Weather





# Ceiling and Visibility in NextGen



- 4D ceiling and visibility information (actually 3 dimensions + time + a probability component) are indeed an important part of the NextGen vision of a Common Weather Picture for Air Traffic Management (aka the Single Authoritative Source for Air Traffic Management).
- The new and/or improving technologies you are hearing from this panel are all important parts of ensuring the current and forecast data you need not only fits the NextGen concept of operations, but also meets the quality standards you expect.
- NOAA, NASA, DOD, and the FAA are working with JPDO guidance to make a set of functional and limited performance requirements to “build” the 4D Weather Cube you have heard so much about. This team has identified some tough challenges/questions ahead when dealing with obstructions to vision:



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- Note, the questions below are nothing more than points to ponder and briefly discuss, they should lead to no conclusions!
- As model resolution, model performance, etc...continue to get better, how good will the analysis fields become?
- Will continuous incorporation of observational data into the 4D analysis fields allow a user to get the latest info directly from the analysis instead of going to a site specific ASOS?
- How will probabilistic forecasts of ceiling and visibility be used. This goes well beyond obstructions to vision!
- As aircraft, aircraft systems, ground systems, etc... become more and more advanced, will obstructions to vision become a diminishing hazard?
- What quality control measures will be in place to ensure the data is accurate?



# Ceiling and Visibility in NextGen



- Let's finish up by moving out of the NextGen mode for just a second and address the last bullet from the previous slide:

**“What quality control measures will be in place to ensure the data is accurate?”**

It's probably safe to say that QC will not be completely foolproof for a while 😊, so here are some are some checks and balances:

- **METARS (especially when related to ceiling and visibility) that don't make sense probably are not accurate.**
- Always double check the time and date.
- If possible, avoid just looking at the latest data and look at the trend. A minimum of 3 hours is suggested.
- Look at nearby stations if possible.
- Do other changes in the METAR support the change to the ceiling and visibility? (i.e. precipitation, wind shift or gust, convection in the area, etc...)
- Do the remarks give any hints to a change? (i.e. “vsby lwr w-n, etc...)
- Is my temperature and dew point indicative of such a low visibility?
- Does the latest radar or satellite data give any hints?