Airline Industry Turbulence Safety Initiatives

NCAR Turbulence Mitigation Workshop IV

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Industry Turbulence Safety Action Team (ITSAT)

- Built on success of **InfoShare** forums
  - *collectively address systemic safety risks via open sharing in a non-competitive, protected environment*
- **[Nov 6, 2019]**: kickoff meeting; formed notional sub-groups
- **[April-May 2020]**: re-focus in wake of COVID; data standardization effort survives
- **[Sept 2020]**: aligned on first initiative: *research study on normalization of in situ turbulence detection methodologies*
- **[Mar 2, 2021]**: submitted formal research proposal to FAA Weather Needs Portal:

  "Operational assimilation of disparate automated in situ turbulence sensing applications"

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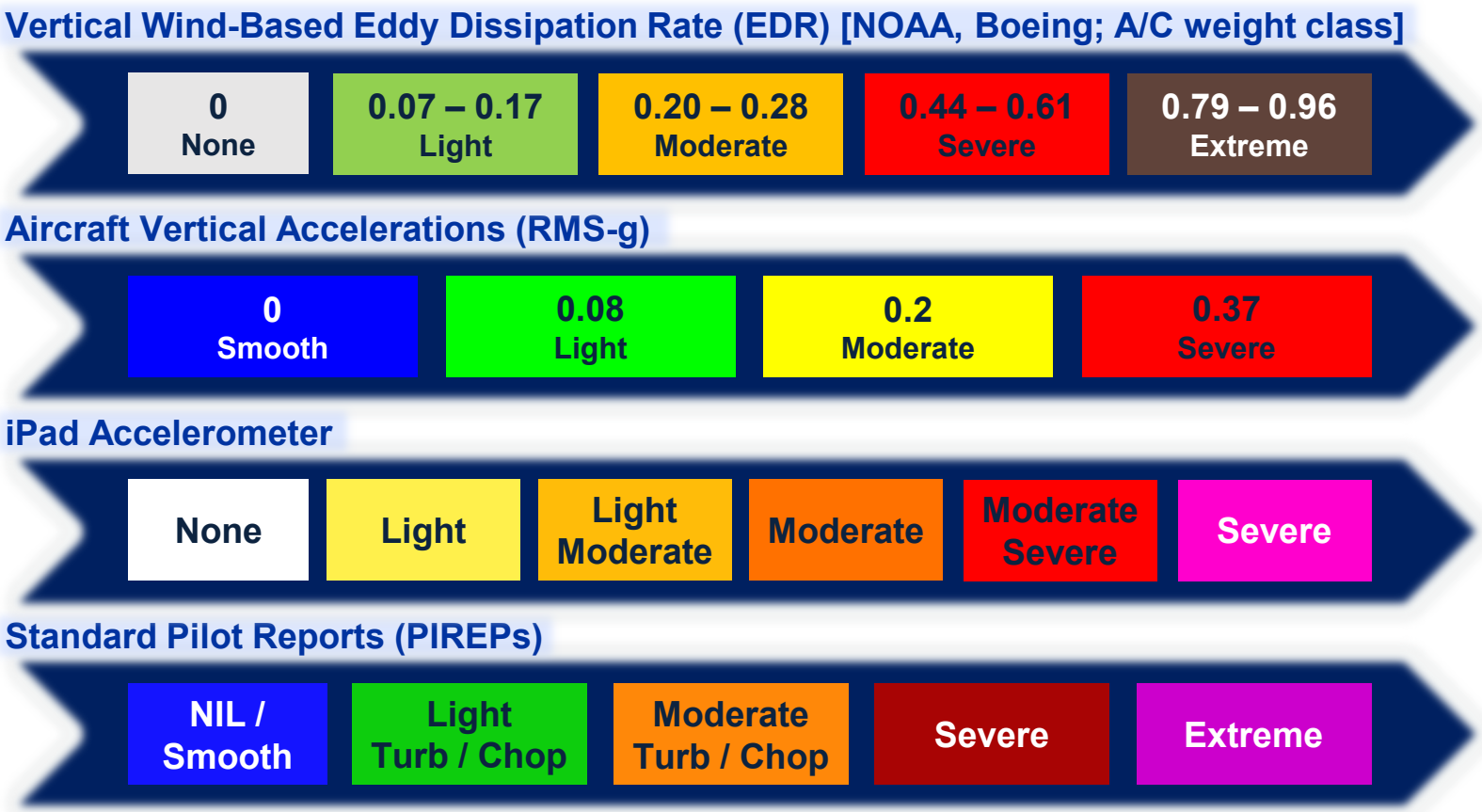
Normalization of intensity scales will be a challenge



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What is the “ideal state”?

- Maximize the number of sensors contributing to real-time, standardized measure of atmospheric state
- Improve quality and quantity of observations used to initialize and validate numerical weather forecast models
- Calibrate industry SOPs and end users to objective observation set
- Establish scalable standards to handle future new entrants (e.g., ADS-B)

  >> foundation for RTCA DO-370 v2.0?

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Washington, DC 20594

- Determine how to harmonize current and future eddy dissipation rate algorithm performance in operational environments and publish the results of this determination. (A-21-27) (See section 4.1.2.)

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Research methodology

- Live flying testbed? Simulated environment? Both?
- How many different aircraft types or sub-fleets?
- What measurement or reporting rate/interval to use?
- Incorporate QAR / DFDR data?
- Minimum sample size needed?
- Consider regional coverage, time of day, seasons, altitudes?