TCNS – Technical Committee on Noise

HIGHLIGHTS FROM THE TECHNICAL COMMITTEE ON NOISE

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Sixth Joint Meeting
Acoustical Society of America/Acoustical Society of Japan
Honolulu, HI
Paper 1pID1

TC Noise Overview

- Mission: To increase and diffuse knowledge of noise generation and propagation, passive and active noise control, perception and the effects of noise, and the management of exposure to noise. Activities of the Committee embrace the practical and theoretical aspects of noise in all areas of acoustics.

- Includes:
  - Practitioners and Researchers
  - Industry, Government, and Education

TCNS – Technical Committee on Noise

TC Noise Activities

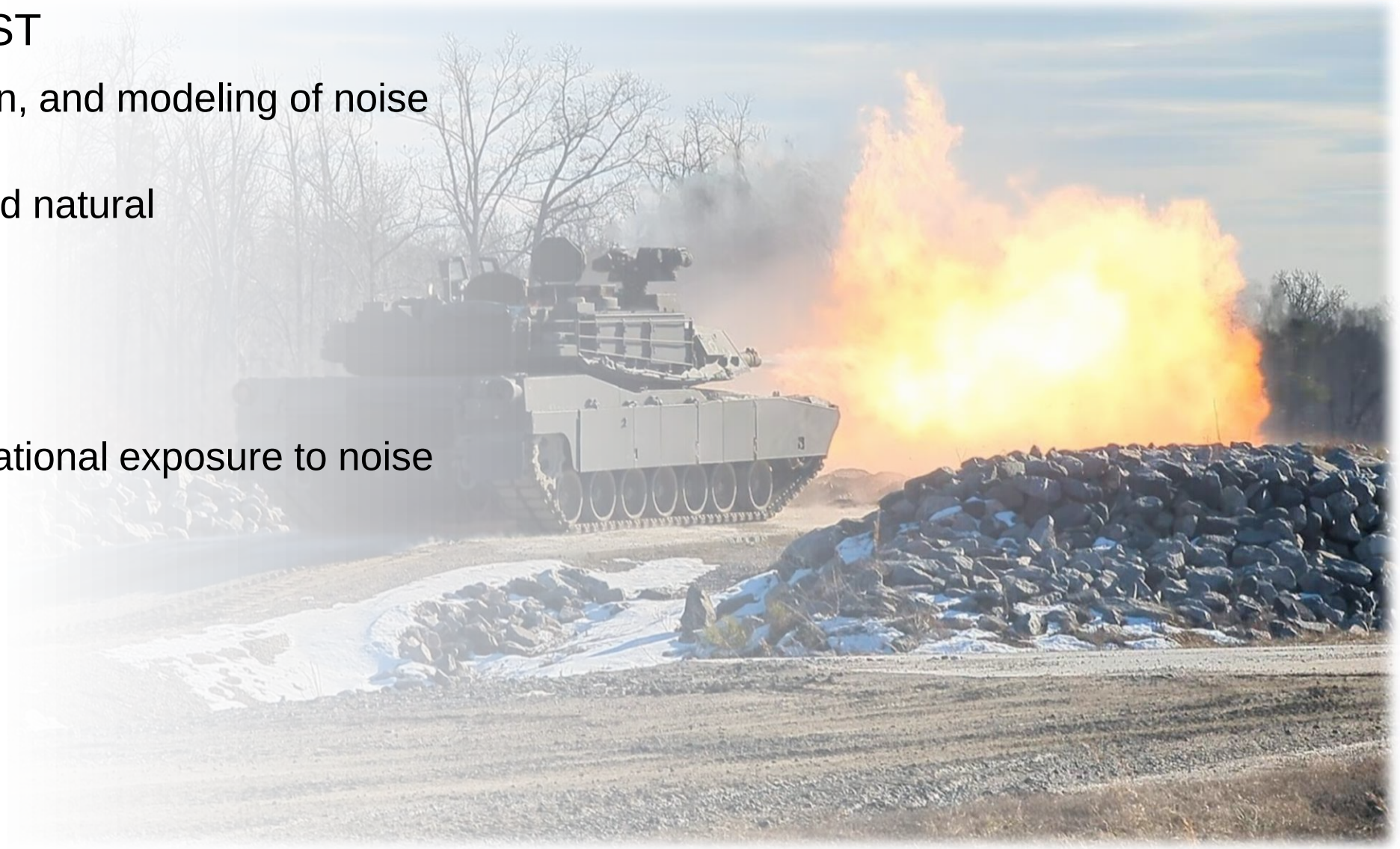
- Innovative Model Development
- Measurement Techniques
- Mitigation Strategies
- Input towards the establishment and maintenance of standards and regulations



CDC/NIOSH

TOPICS OF INTEREST

- Measurement, prediction, and modeling of noise and vibration
- Soundscapes, urban and natural
- Product sound quality
- Classroom acoustics
- Quiet system design
- Occupational and recreational exposure to noise
- Speech privacy
- Legal aspects of noise
- Codes and standards



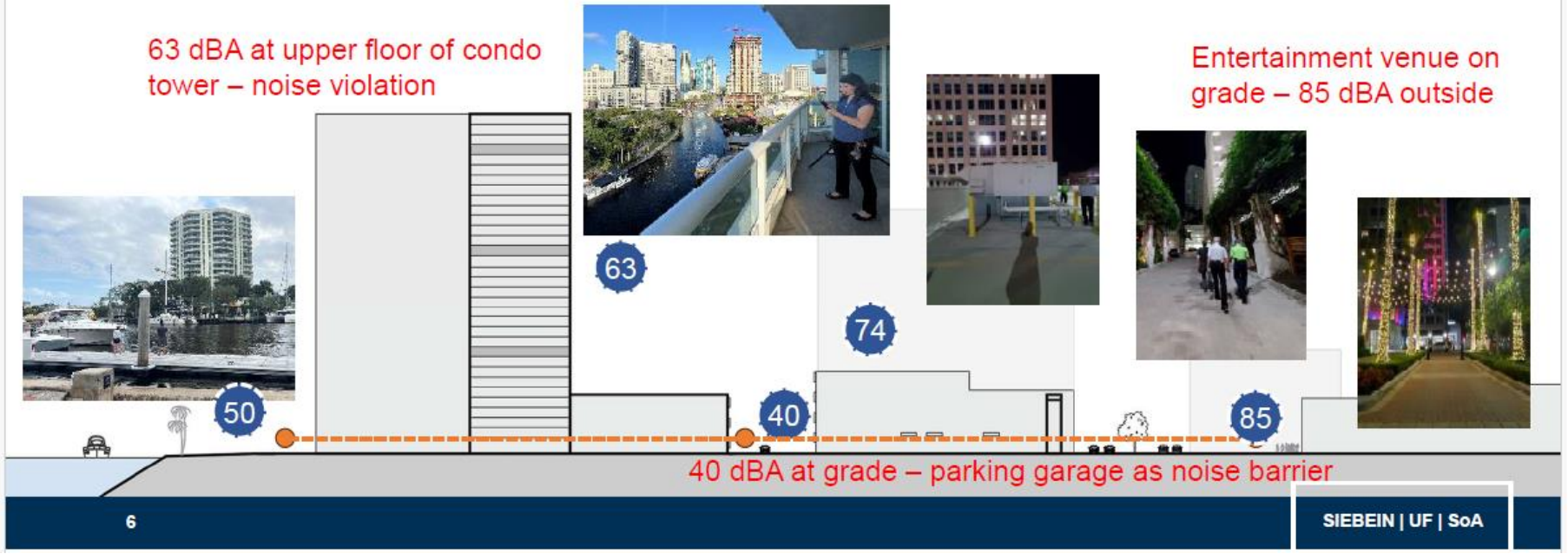
Special TC Noise Sessions This Week

- Monday
  - Soundscapes and Community Noise: 1aNS, 1pNSa
  - Psychoacoustics, Sound Quality, and Their Applications, Including in Noise Control Engineering: 1pNSb
  - Pickleball Noise Posters: 1pNSc
- Tuesday
  - Machinery Noise and Vibration: 2aNSa
  - Sonic Boom: 2aNSb, 2pNSb
  - Experiences Measuring the Effect of Head-Worn Devices on Sound Localization, Including the Use of ASA/ANSI S3.71-2019: 2pNSa
- Wednesday
  - Jet and Other Aeroacoustic Noise: 3aNSa, 3pNSa
  - Hearing Protector Fit Testing: Advances in Testing Methods: 3aNSb, 3pNSb
- Thursday
  - Measurement and Prediction of Transportation Noise: 4aNSa, 4pNS
  - Materials and Devices for Noise Control: 4aNSb
- Friday
  - Field Testing Stories and Lessons Learned: 5aNS

SOUNDSCAPES – URBAN AND SUBURBAN SOUNDSCAPES 1: AN EVOLVING METHOD (SIEBEIN, SIEBEIN, ROA, SIEBEIN, OSPINA, GOLD) – 1pNSa1

Entertainment Venues Are Located in an Acoustical Context – a soundscape

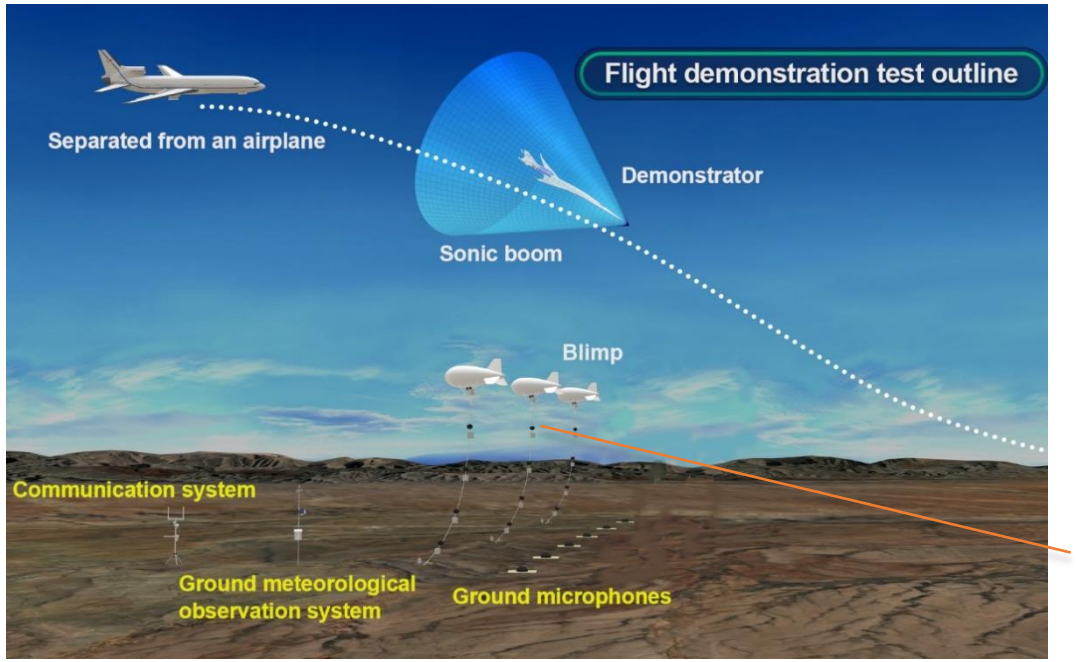
- **Nightclub built at far right on grade – indoor and outdoor entertainment**
- **Sound meets noise ordinance sound level limits on grade outside venue or 85 dBA**
- City enforces ordinance at grade – grade locations blocked by other buildings – 40 dBA in the middle

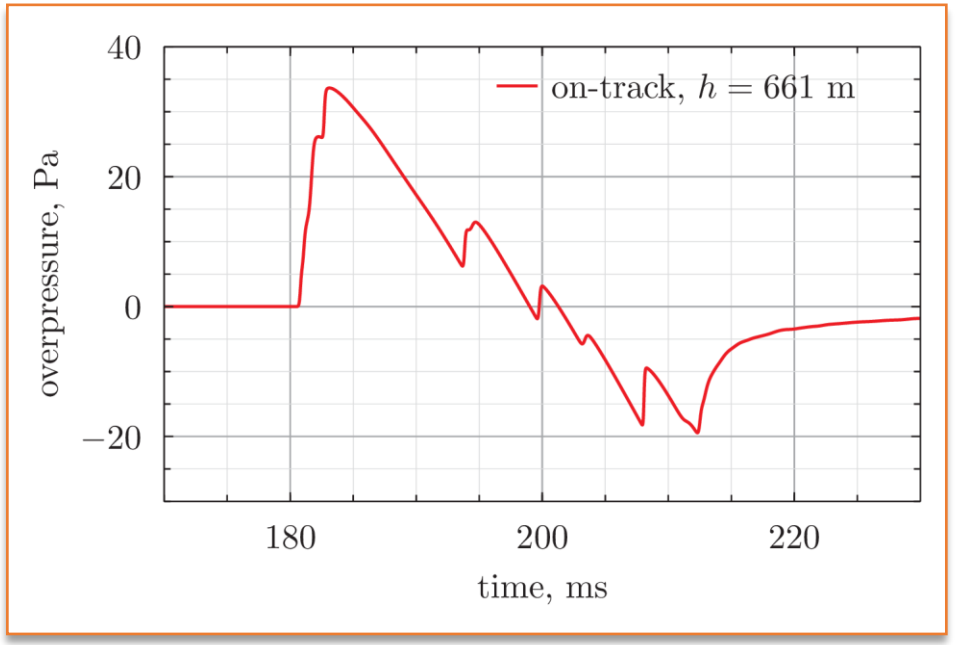


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SIEBEIN | UF | SoA

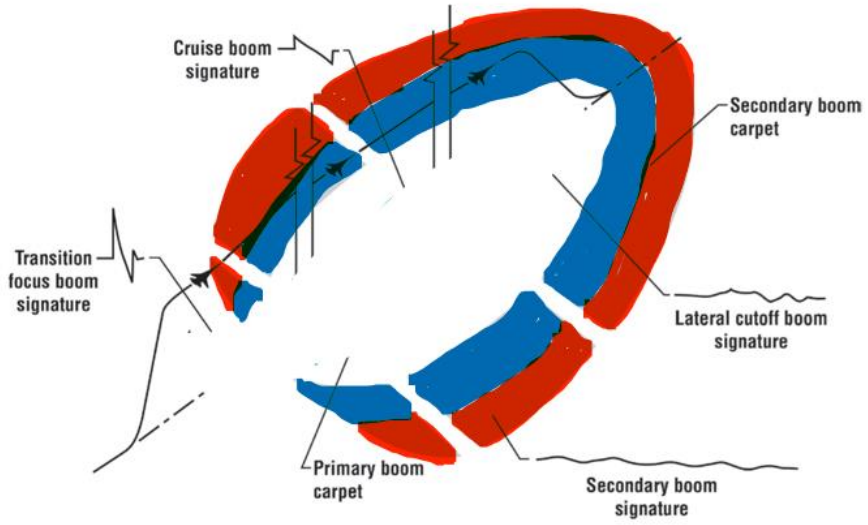
SONIC BOOMS – NUMERICAL ANALYSES OF SONIC BOOM WAVEFORMS IN FLIGHT TEST OF JAXA'S ROBUST EN-ROUTE SONIC-BOOM MITIGATION TECHNOLOGY DEMONSTRATION (RE-BOOT) PROJECT (KANAMORI ET AL.) – 2aNSb2





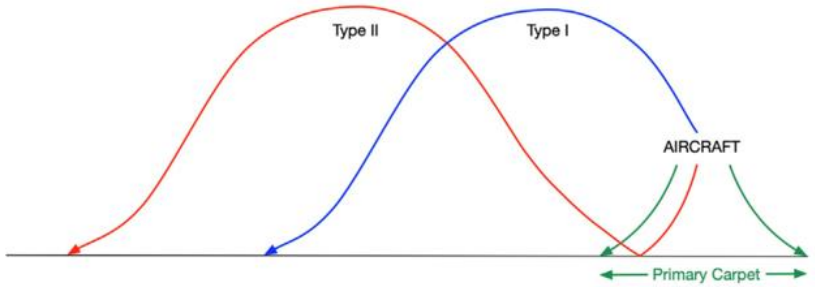
Sonic Booms – Mach cutoff flight can result in secondary sonic booms (Riegel, Sparrow) – 2pNSb2

Sonic Boom Carpet

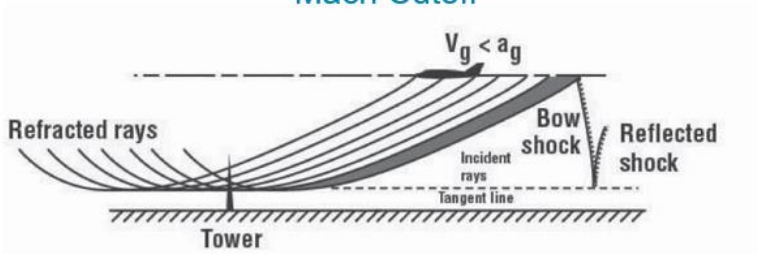


Maglieri, D. J., *et al.* (2014). *Sonic Boom: Six Decades of Research*, NASA/SP-2014-622 (NASA Langley Research Center, Hampton, VA, 2014).

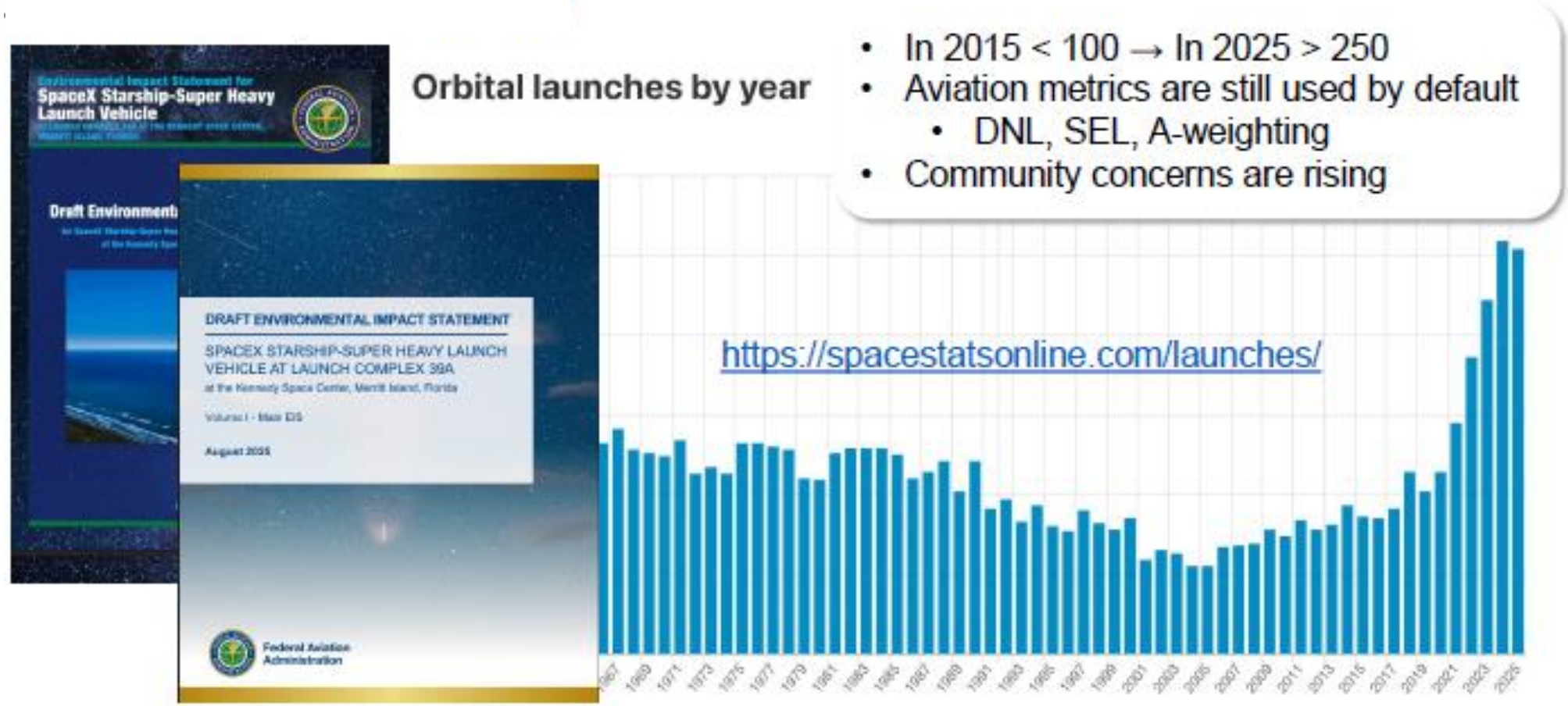
Secondary Sonic Booms



Mach Cutoff



ROCKET NOISE – EVALUATING FREQUENCY WEIGHTING IN COMMUNITY NOISE METRICS FOR ROCKET LAUNCH ASSESSMENT (COYLE, WILLIAMS, GEE, KELLISON, HART) – 3aNSa6



Transportation Noise – Learning to fly Quietly (Greenwood) – 5aNS3

Lessons learned over twenty years of making sounds with rotorcraft, including:

- Tips for instrumenting your helicopter
- Advice for being a good neighbor
- When calamity strikes—and it will—don't panic!









HIGHLIGHTS FROM TC NOISE



Noise TC Open Meeting
Wednesday, December 3rd at 7:30pm
Coral 1

https://tcnsasa.org/