

# Weather for Emerging Modes of Transportation

## Part 3: Weather and Automation

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Manned

Unmanned



Size & Weight

Flight Altitude



Urban air mobility



Increasing Sensitivity to Weather

## Weather Proof – Think Again . . .

### NSF T-28 Research Aircraft

- Armor plated to fly into hailstorms



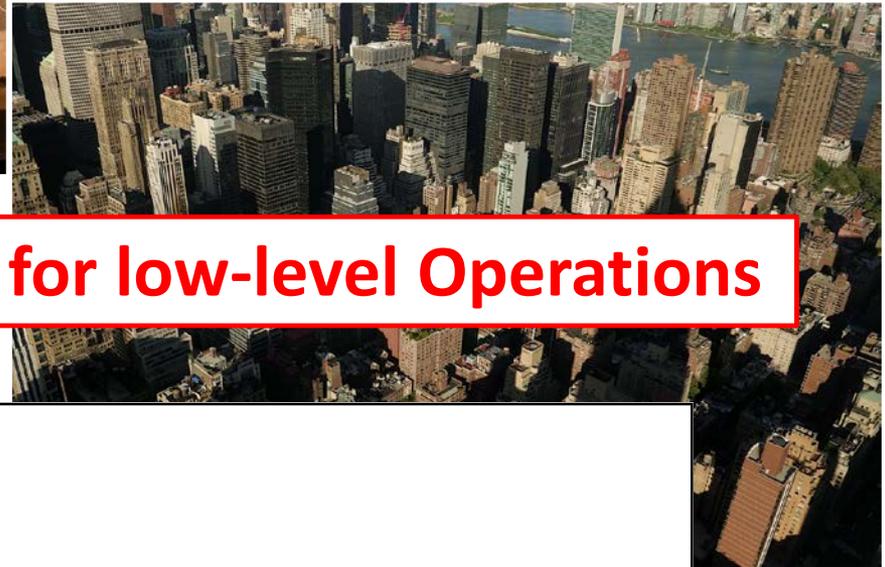
**Weather affects Safety, Efficiency & Reliability**

### NRC Convair Research Aircraft

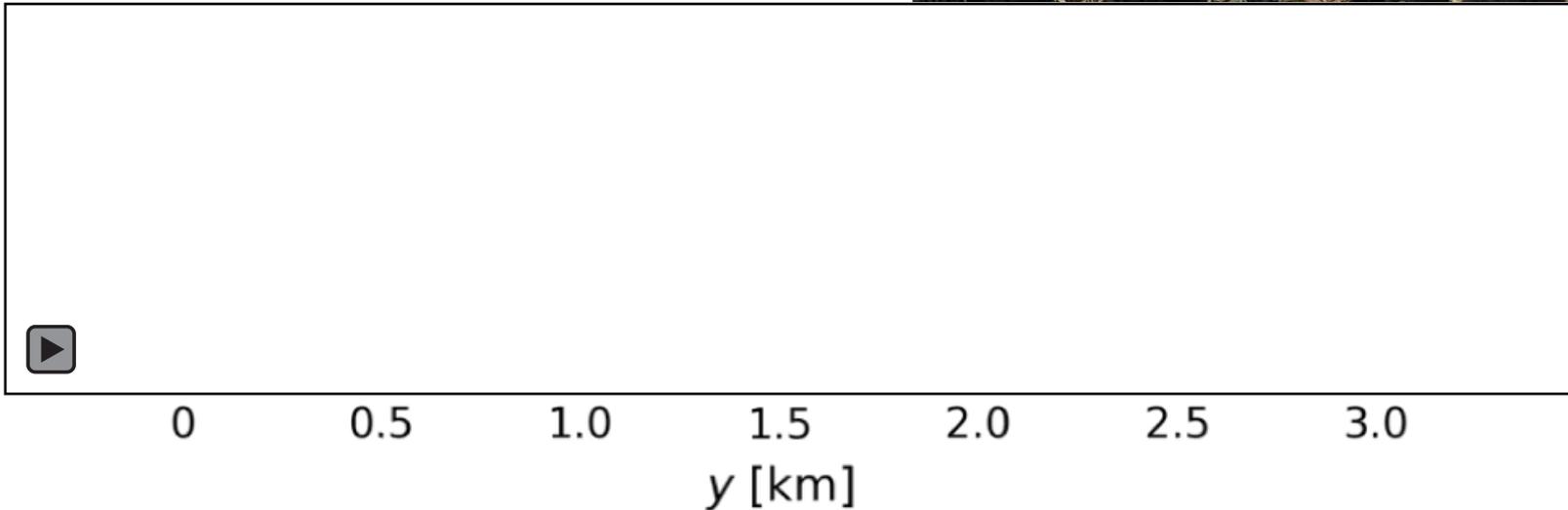
- Used to study aircraft icing conditions



# Particular Environmental Challenges



**Limited Weather Guidance for low-level Operations**



# Human – Technology – Weather Nexus

## Pilot in Cockpit

- Increasing automation
- Automation supported by sensors
- Human in control

**Weather affects Sensors**

## Remotely Piloted

- Human cognition replaced with onboard sensors
- Pilot in control may be far away
- Increasing use of DST

## Autonomy

- Computers make flight decisions without human input
- But, can computers understand & interpret sensor readings?
- How mature is artificial intelligence?

