



# Welcome to the 6<sup>th</sup> Annual Research Implementation Forum

January 7 2008



**NRC-CNRC**  
Aerospace/Aérospatiale

**[dstl]**

**AIR FORCE**  **FORCE AÉRIENNE**



Environment  
Canada

Transport  
Canada

National  
Defence

Environnement  
Canada

Transports  
Canada

Défense  
Nationale



**AIRA**  
AIRCRAFT ICING RESEARCH ALLIANCE



### Objectives:

- Develop and maintain an integrated aircraft icing research strategic plan that balances short-term and long-term research needs
- Implement an integrated aircraft icing research strategic plan through research collaboration among the AIRA members
- Strengthen and foster long-term aircraft icing research expertise
- Exchange appropriate technical and scientific information
- Encourage the development of critical aircraft icing technologies
- Provide a framework for collaboration between AIRA members



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Visit: [IcingAlliance.org](http://IcingAlliance.org)

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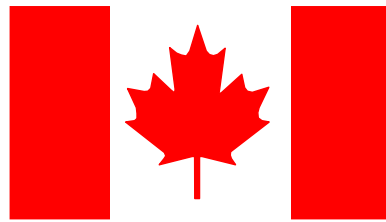
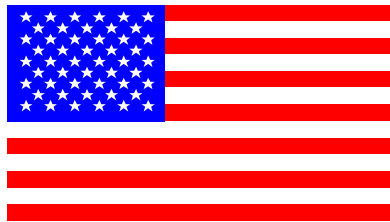
## The AIRA Mission

*“...to coordinate ... the conduct of collaborative aircraft icing research activities that improve the safety of aircraft operations in icing conditions.”*



# Our Current Partners...

- NASA
- FAA
- NOAA
- Environment Canada
- Transport Canada
- National Research Council of Canada (NRC)
- Canadian Department of National Defence
- UK Defense Science and Technology Laboratory (DSTL)



# AIRA Priority Research Focus Areas (RFA's)

<b>Theme</b>	<b>Sub Theme</b>	<b>Research Focus Area</b>
In-Flight Icing	Aerodynamic Performance and Handling Qualities	1. Aerodynamic Performance and Handling Qualities in icing- Appendix C, SLD, ZR
	Atmospheric Characterization	2. High ice water content
	Weather and Forecasting	3. Nowcasting development and validation
		4. Dissemination of weather information
		5. Forecasting development and validation
		6. Remote sensing systems for icing detection
	Facilities, Simulators, and Instrumentation Systems	7. Comparison of tools, techniques and facilities and the establishment of standards
	Fundamental Ice Physics	8. Ice formation mechanics
		9. Scaling
	Ice Shedding	10. Ice shedding mechanisms
	Propulsion and Powerplant icing	11. High ice water ingestion
Aircraft Icing While on the Ground		12. Fluid integrity detection system
		13. Performance effects of limited contamination
Runway Winter Contamination		None
Operations, Human Factors and Training		14. Flight crew training module for operations in icing conditions
Safety and Economic Analysis		None
Emerging Technologies		None

## **AIRA's Current Emphasis...**

- Exploration of collaborative efforts focused on:
  - propulsion system icing
  - ice adhesion/shedding on rotating surfaces
- Increase European involvement in AIRA
- Assess needs/opportunities for icing research focused on UAV applications

# Finally...

- AIRA's current emphasis
  - Development of collaborative efforts focused on propulsion system icing and ice adhesion/shedding of rotating systems
  - Increase European involvement in AIRA
  - Asses needs/opportunities for research focused on UAV icing

All through research collaborations....

- The AIRA Web site - <http://icingalliance.org> -is there to help you get involved!
  - Protocol
  - Strategy
  - Communication with AIRA members
- YOUR feedback, suggestions are truly welcomed!