

# **AtSc 252 Applied Weather Modification**

## **Study Guide: Spring 2022 - Exam 1**

### **Weather Modification Projects and Aircraft Research Experience**

North Dakota Cloud Modification Project Location, Flight Hours, and Partners  
Aircraft Seeding Equipment and Activities  
Types of Aircraft Flight Activities  
Research Aircraft Projects, Activities and Objectives

### **Weather Modification History and Critical Thinking**

Weather Modification Pioneers  
First Test: Results and Experiments  
Operational Programs Locations  
Analyze to Formulate Conclusions/Opinions

### **Legal, Environmental and Sociological**

Licenses/Permits, Laws, and Liability  
Water Rights  
Cloud Seeding Environmental Impacts  
Effect of Silver Iodide (AgI)  
Public Awareness, Concerns and Fears

### **Economics and Inadvertent Modification**

Costs and Benefits  
North Dakota Economic Impacts  
Scale of Possible Effects  
Possible Mechanisms for Inadvertent Effects  
Urban and Rural Impacts

### **Evaluation of Weather Modification Projects**

Black Box and Physical  
Operational Evaluations Issue  
Distribution, Hypothesis Testing and P-values  
Statistical Evaluation Methods  
Evaluation of North Dakota Cloud Modification Projects

### **Aerosols, Water and Nucleation**

Aerosol, Cloud Condensation Nuclei (CCN) and Ice Nucle (IN) Concentrations and Sizes  
Atmospheric Aerosols Vertical, Horizontal and Temporal Distribution  
Sources, Sinks and Composition  
Energy and Phases of Water  
Saturation and Changes  
Equilibrium of Water  
Mechanisms of Ice Crystal Nucleation  
Ice Nucleation Activity as a Function of Temperature