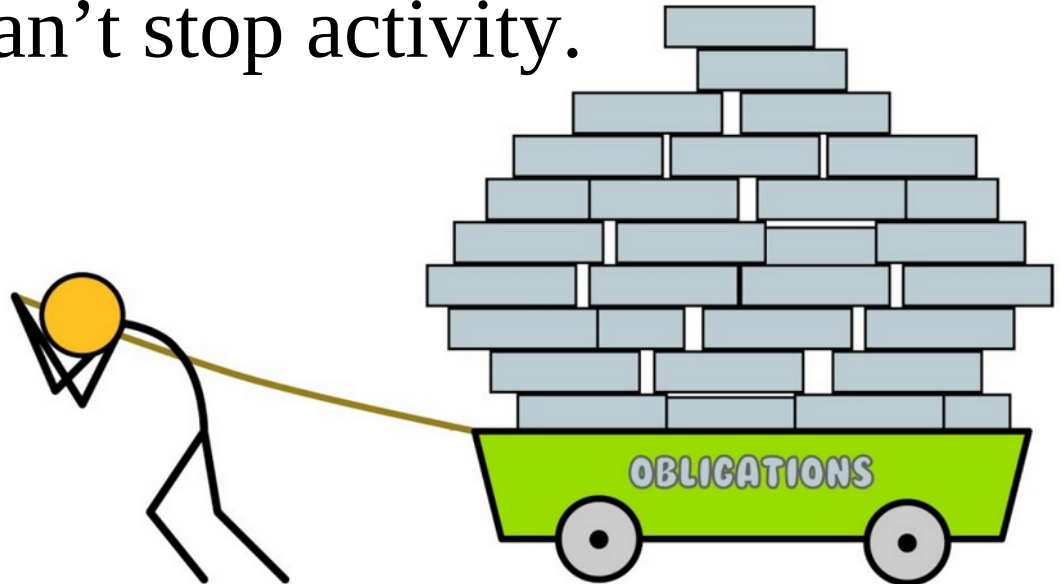


# Legal Aspects of Weather Modification Application to Programs



# International Obligations

- Notice given about seeding.
- Countries consult.
- Affected neighboring country.
- Decides what to do, but can't stop activity.
- Can take legal action.
- Has to prove liability.



# Common Way to Regulate

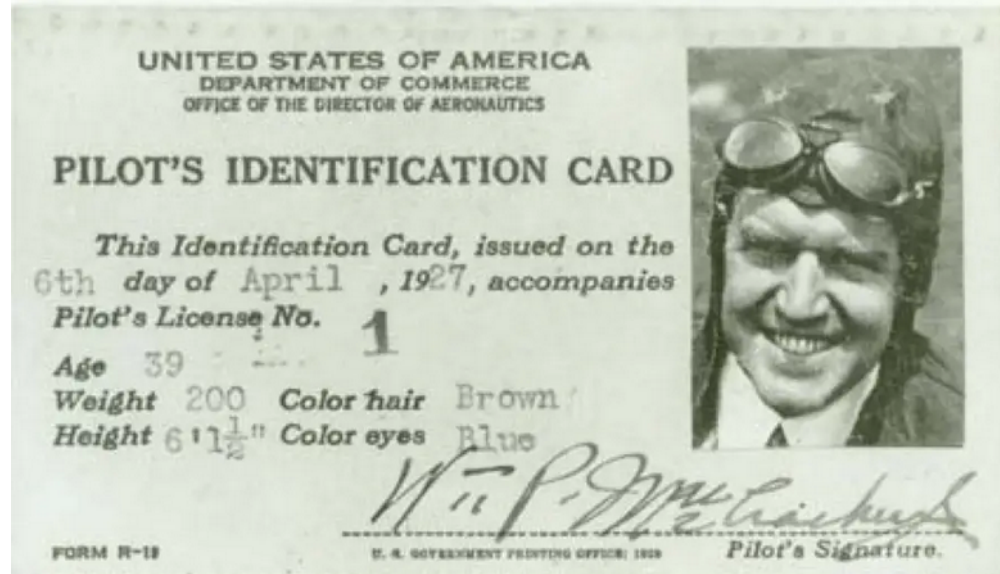
- Licensing and Permitting
  - What are some example of licenses and permits?
- Need both to conduct seeding in some states.
- License – Authority to practice profession.
- Permit – Authority to operate a given project.



Seeding Flares on Aircraft Wing

# License Criteria

- Professional Qualification
  - Training/Education
  - Or Experience
- Good Character



# Licensing Procedures

- Grant/denial
  - Application
  - Determination
- Renewal/Non-renewal
  - Application
  - Determination
- Suspension – Temporary
  - Revocation - Permanent

Image showing of Pilot's License

# Permit Procedures

- Grant/denial
- Application
  - Notices hearings determination
  - Grant as requested
  - Grant as altered
  - Denied
- Provisional/renewal/non-renewal
- Modification/Suspension/Revocation



# Permit Considerations

- Experience of Project Personnel
- Seeding Agents, Modes and Rates.
- Equipment Used
- Access and Easements
- Suspension Criteria
- Projected Environmental Impact
- Liability Insurance



# Federal Reports

- Authority
  - The only Federal law is Reporting
- Timing
- Contents
  - Days
  - Purposes
  - Hours
  - Seeding Agents
- Uses
  - Annual Report
  - WMO Register

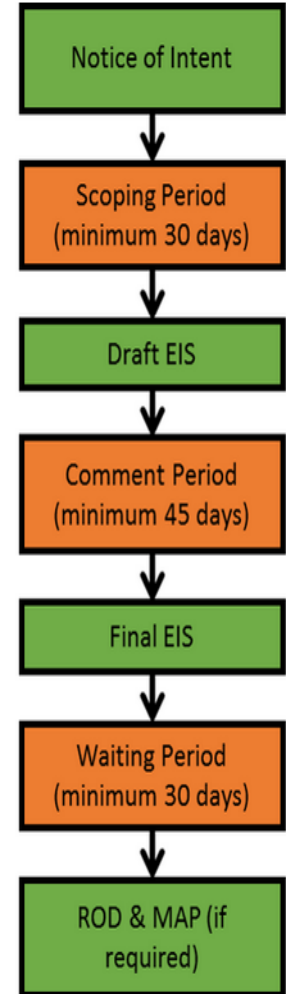
# State Reports

- Forms
- Data



# Environmental Impact Statements (EIS)

- Federal requirement under certain conditions.
- EIS are also required by some states.
- Federal EIS required when:
  - Federal dollars are involved.
  - Seeding actually done.
  - Possible significant impact on the environment.
- Process takes years, may kill project.





# Wilderness Act

- Legislation – Areas “untrammeled by the hand of man”
- Impact on Weather Modification
  - Seeding Areas
  - Data Collection



President Lyndon B. Johnson signed the Wilderness Act on September 8, 1964.

# Liability – Should this Concern You?

- Three things have to be proved to win:
  - Conduct (defendant)
  - Impact (plaintiff)
  - Causation



# Types of Liability

- Trespass (intrude on property)
- Negligence (careless)
- Nuisance (harm outweighs benefit)
- Abnormally dangerous activity



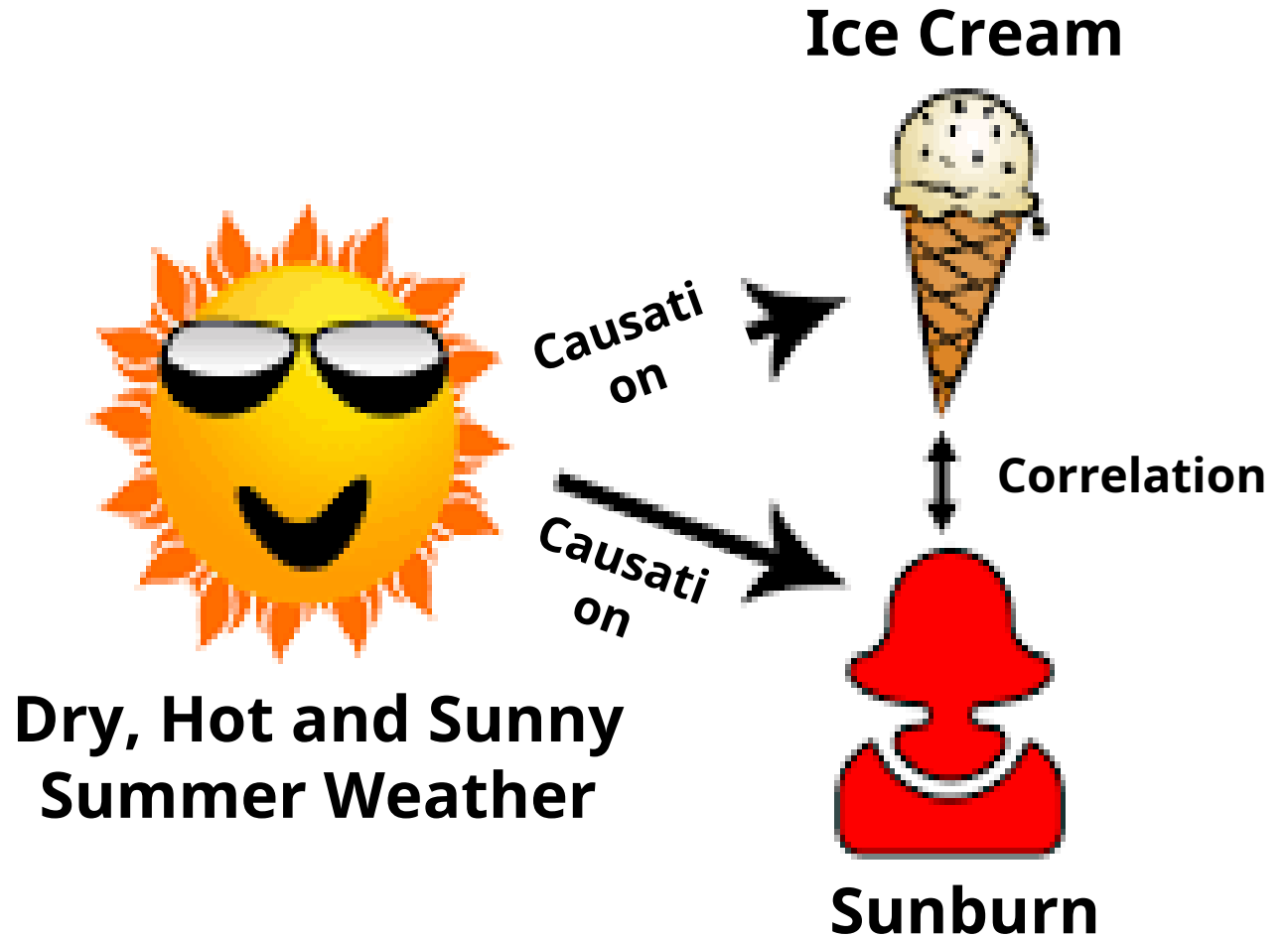
Image showing the 1997  
Flood in Grand Forks,  
North Dakota.

# Harm (Impact)

- Economic
  - Expenses Incurred
  - Income lost
- Non-economic
  - Nominal
  - Intangibles

# Causation

- Hardest to Prove
- No Cases Won



# Defenses

- Immunity (government)
- Privilege (public necessity)
- Shifting cost
  - Indemnification (contract)
  - Insurance
    - Most states' statutes require weather modification operators to secure basic liability and professional liability insurance coverage.



# Litigation

- The city of Boise, Idaho, was sued in the early 1990s because of a car accident in the vicinity of the local airport following an airborne fog dispersal seeding event.
- As a result of this lawsuit, such operations are now performed via a mobile ground dry-ice delivery system in association with public advertisements.



# **Litigation Concern Regulations**

- The regulatory entity in the State of North Dakota prohibits the seeding of tornadic storms.
- If a tornado develops, treatment is to cease immediately and not resume until at least 30 minutes have elapsed after the dissipation of the tornado or funnel.
- This regulation decision is important since tornadic storms are usually among the most severe and often produce significant damaging hail.

# Water Rights: Who Gets Extra Precipitation

## Theories

- Riparian
  - Owners of land by water have equal right to use the water.
- Appropriation
  - First come, first served

## Treatment of Additional Water

- Seeder
- Landowner
  - Can Appropriate
  - Prior Appropriation
  - As Natural Precipitation (ND)



Image showing rain