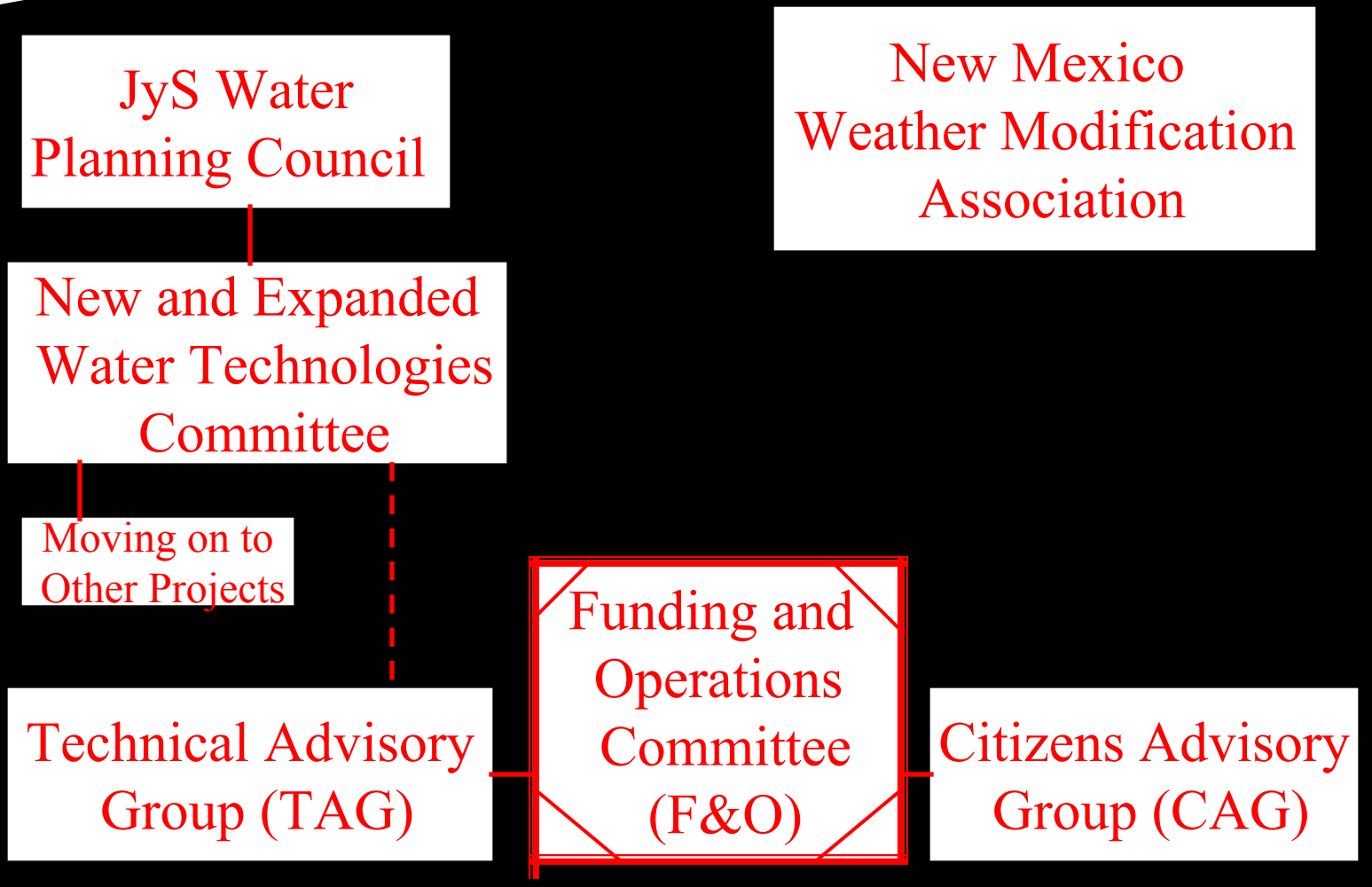
Introduction to Technical Advisory Group (TAG)



TAG Membership

- About 30 Volunteers
- 10 meteorologists
- Hydrologists from Santa Fe City and County and LANL
- New Mexico State ISC Water Planner
- Membership open and growing

TAG Mission

- Serve as technical conscience - provide technical advice
- Gather and interpret data
- Provide information to other organizations and the public
- Develop relationships with other organizations

TAG Tasks

- Develop a pre-seeding program
- Assist in developing a pilot cloud seeding project
- Monitor pilot project
- If pilot project is successful, help design and monitor ongoing cloud seeding programs

Summer vs Winter Seeding - Summer Seeding

PROS

- More precipitation comes in summer
- New radar technology applies

CONS

- Much water may not reach reservoirs
- Not usually done in mountainous regions
- Rain comes mostly in later summer/fall
- More expensive and risky (aircraft)

Summer vs Winter Seeding - Winter Seeding

PROS

- Snowmelt reaches reservoirs
- Moisture comes in springtime
- Been done in SW for 40 years

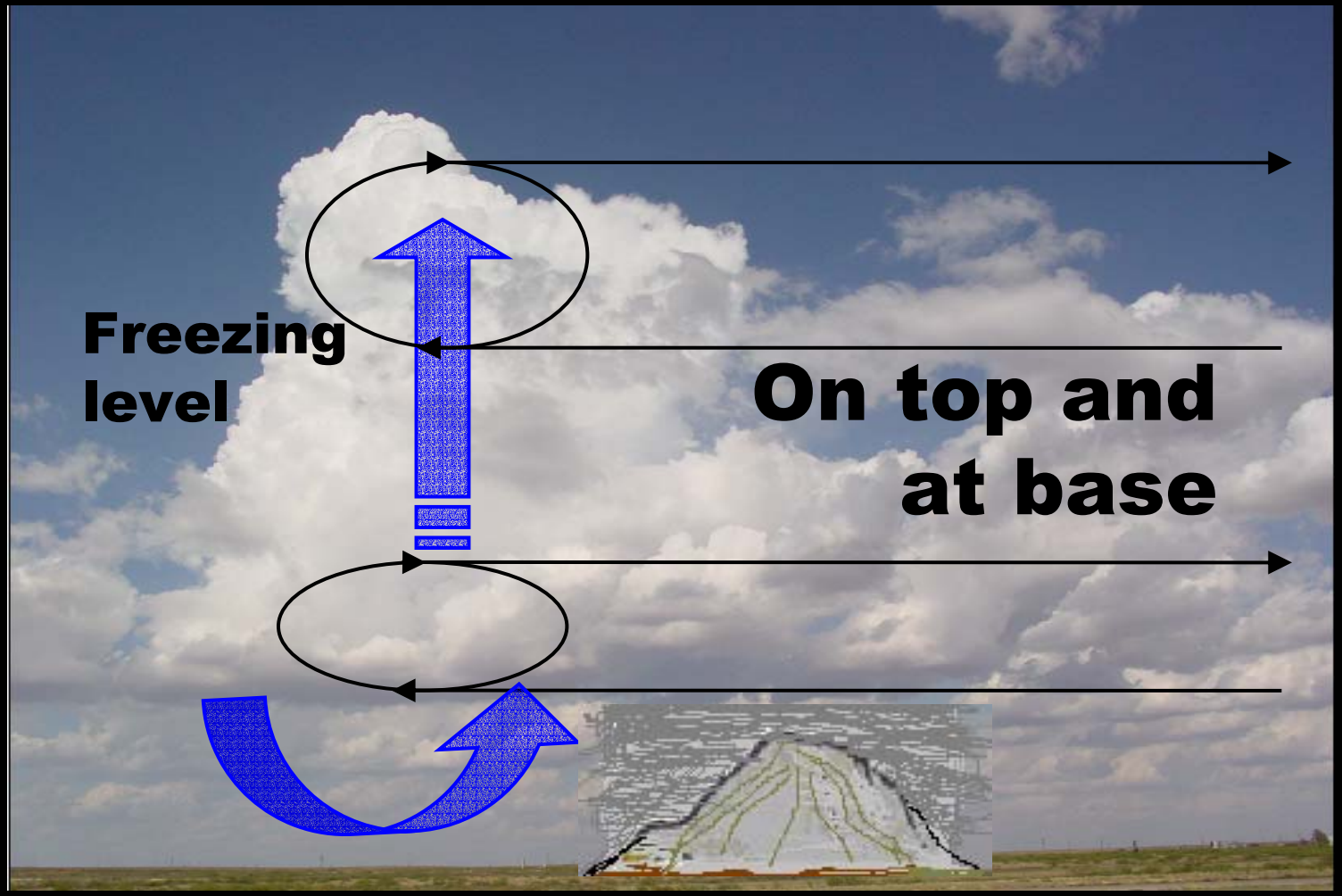
CONS

- New radar doesn't work on winter storms
- Can't measure precipitation as accurately

Pre-seeding Program

- Objectives:
  - establish feasibility of seeding throughout the state
  - provide necessary data for design of pilot project
- Approach
  - state-wide cloud inventory using satellite imagery
  - computer modeling
  - in cloud data acquisition

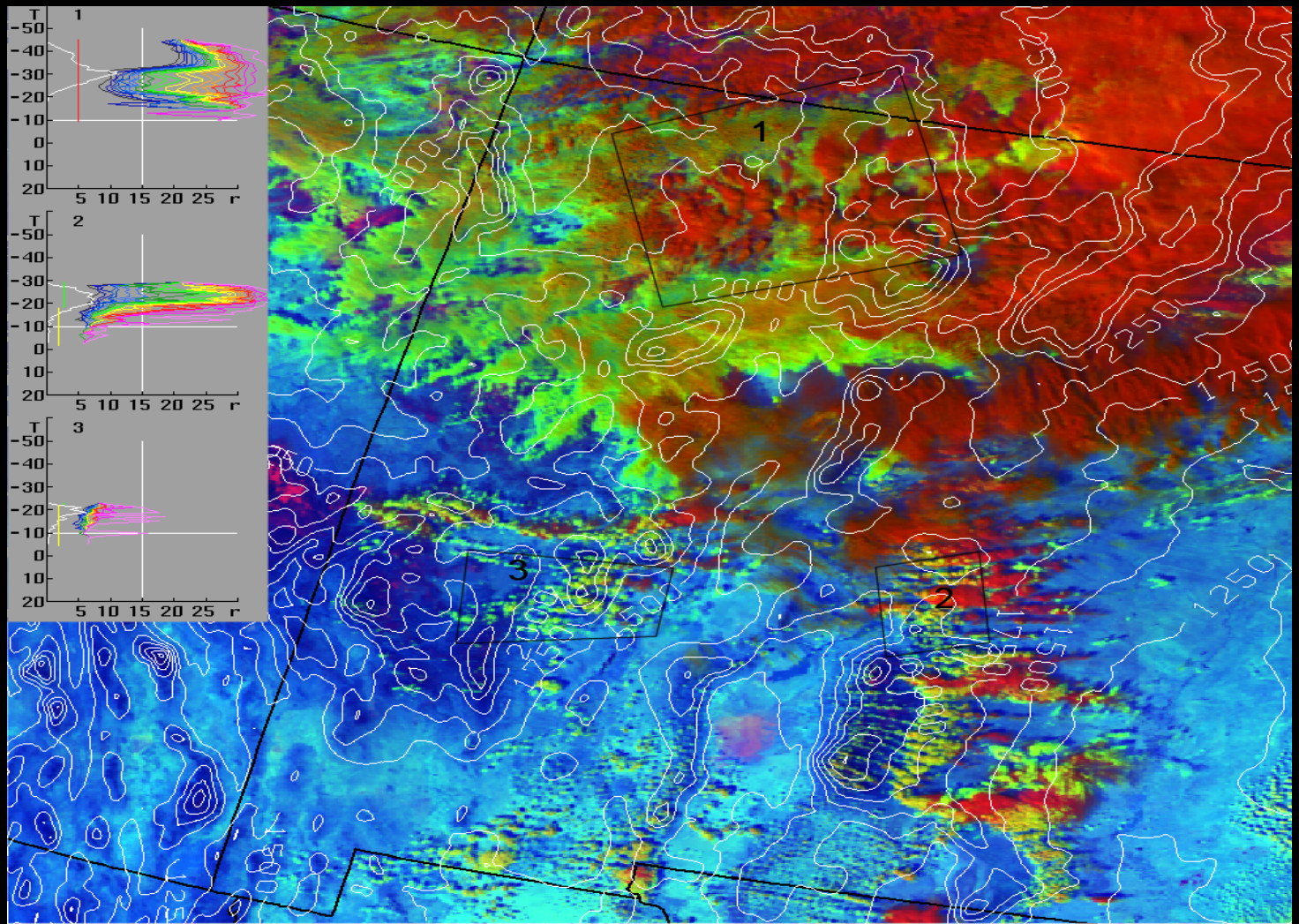
Cloud Inventory using Multispectral Satellite Imagery



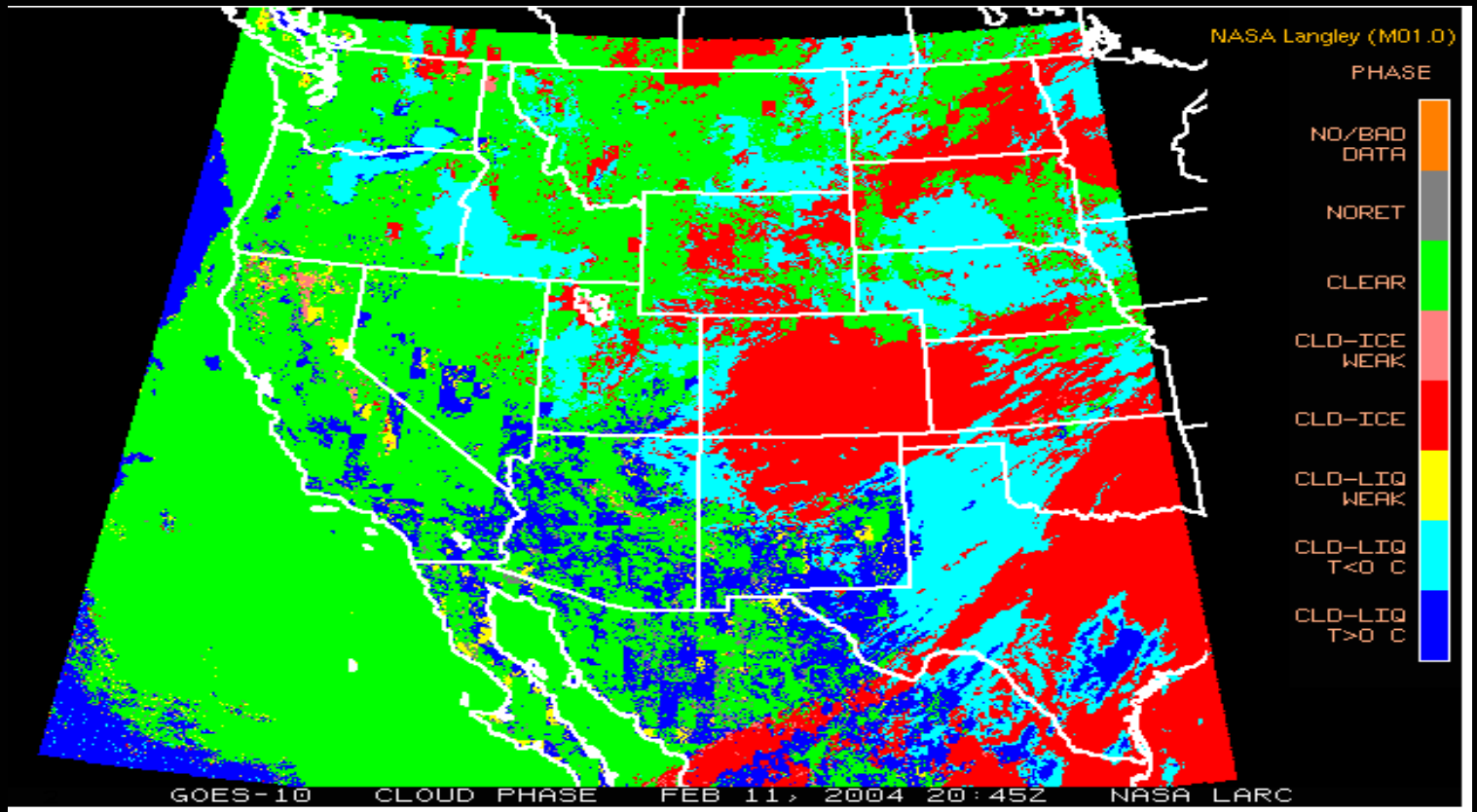
Cloud Inventory using Multispectral Satellite Imagery

- Infrared spectrum - cloud top temperature
- Brightness (reflectance) - clouds with supercooled liquid water (SLW) vs those with snow
- Right combination - clouds with SLW are seedable.

Cloud Inventory using Multispectral Satellite Imagery



Cloud Inventory using Multispectral Satellite Imagery



Modeling

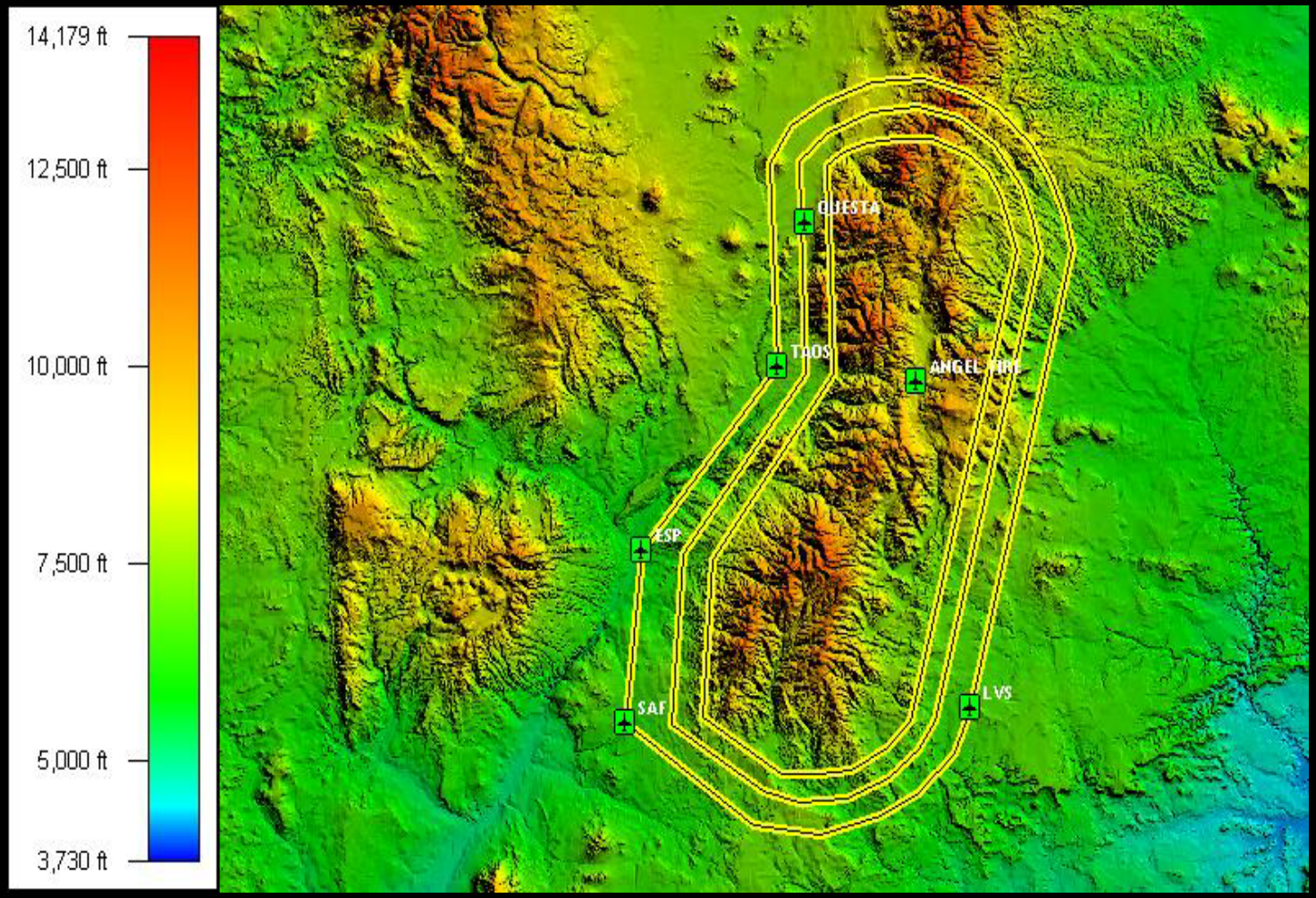
- Plan the in-Cloud Flights
- Position ground-based silver iodide generators
- Track nucleant dispersion in clouds

In-cloud Data Acquisition

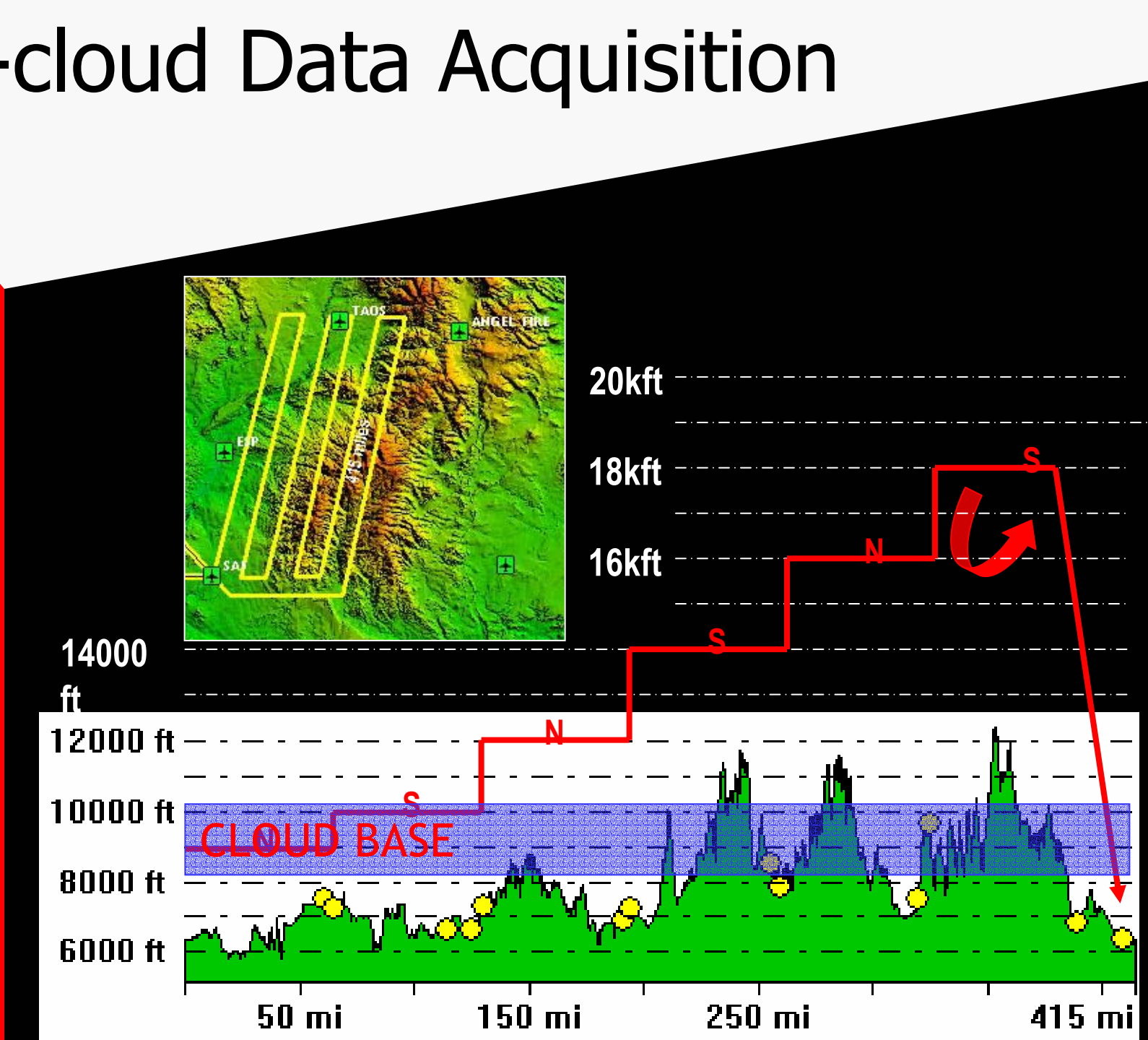
- In situ sensors to measure cloud characteristics
- Validates satellite imagery interpretation
- Provides feedback for better modeling and data for designing pilot project

In cloud Data Acquisition

In-cloud Data Acquisition



In-cloud Data Acquisition



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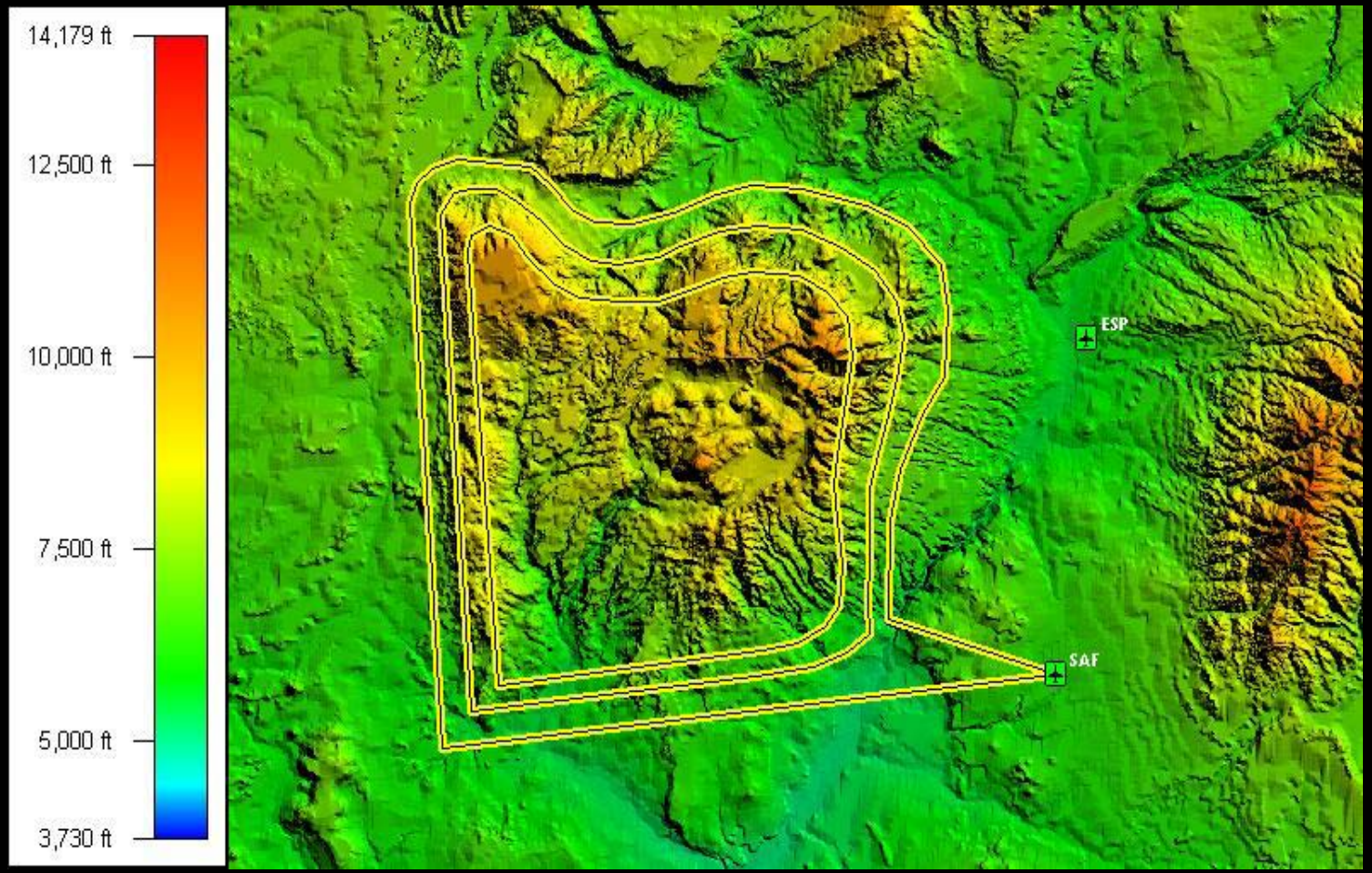

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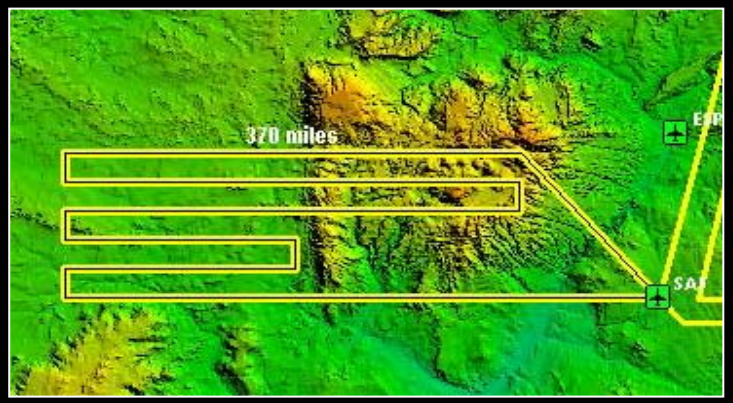

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14kft
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10000 ft
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8000 ft
7000 ft
6000 ft
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CLOUD BASE
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150 mi
200 mi
250 mi
369 mi