

Multi-angle Remote Sensing using MISR

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Jet Propulsion Laboratory

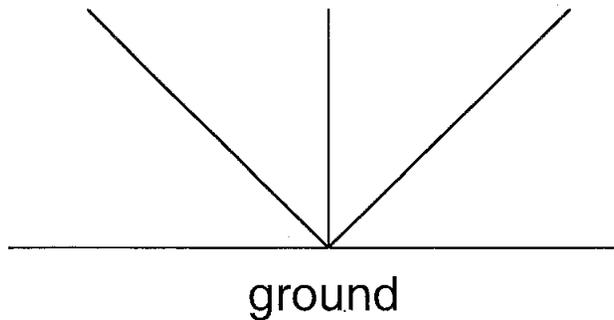
www-misr.jpl.nasa.gov

Overview

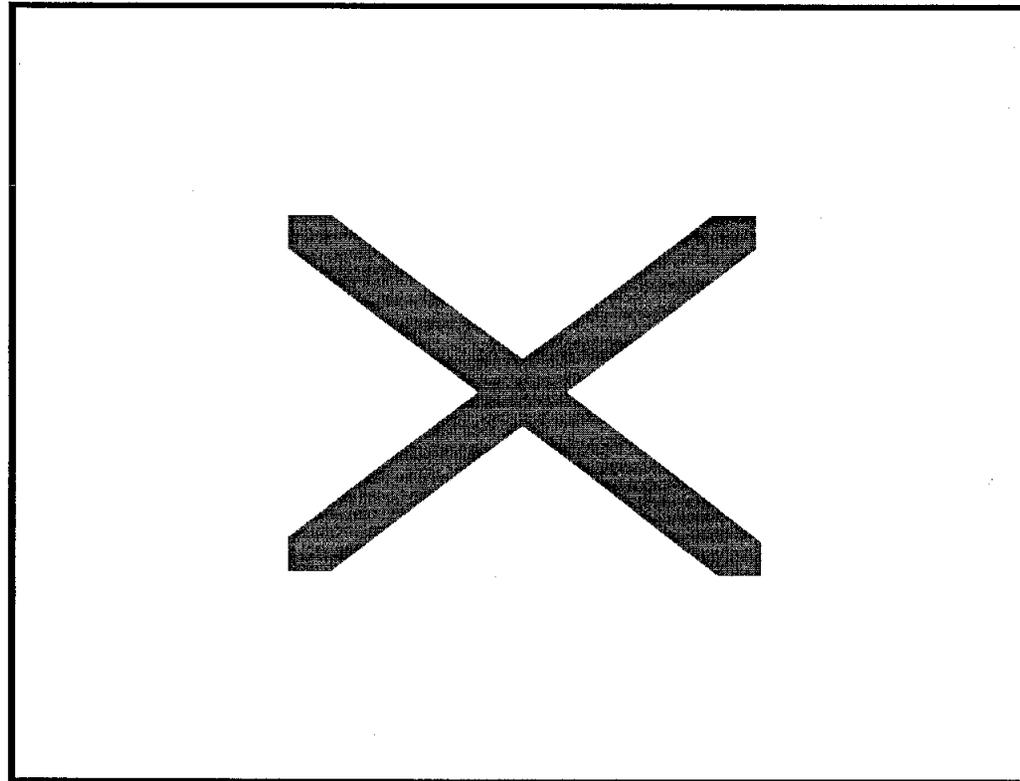
- why use multi-angles?
- the MISR instrument
- surface and aerosol examples
- cloud stereo
- cloud albedos
- cloud properties

MISR: Multiangle Imaging SpectroRadiometer

- spectral reflectivity: 4 bands
- high signal/noise
- 275 m spatial resolution, 350 km swath
- pushbroom scanner, 9 angles to $\pm 70^\circ$
- angular remote sensing



MISR Observing Concept

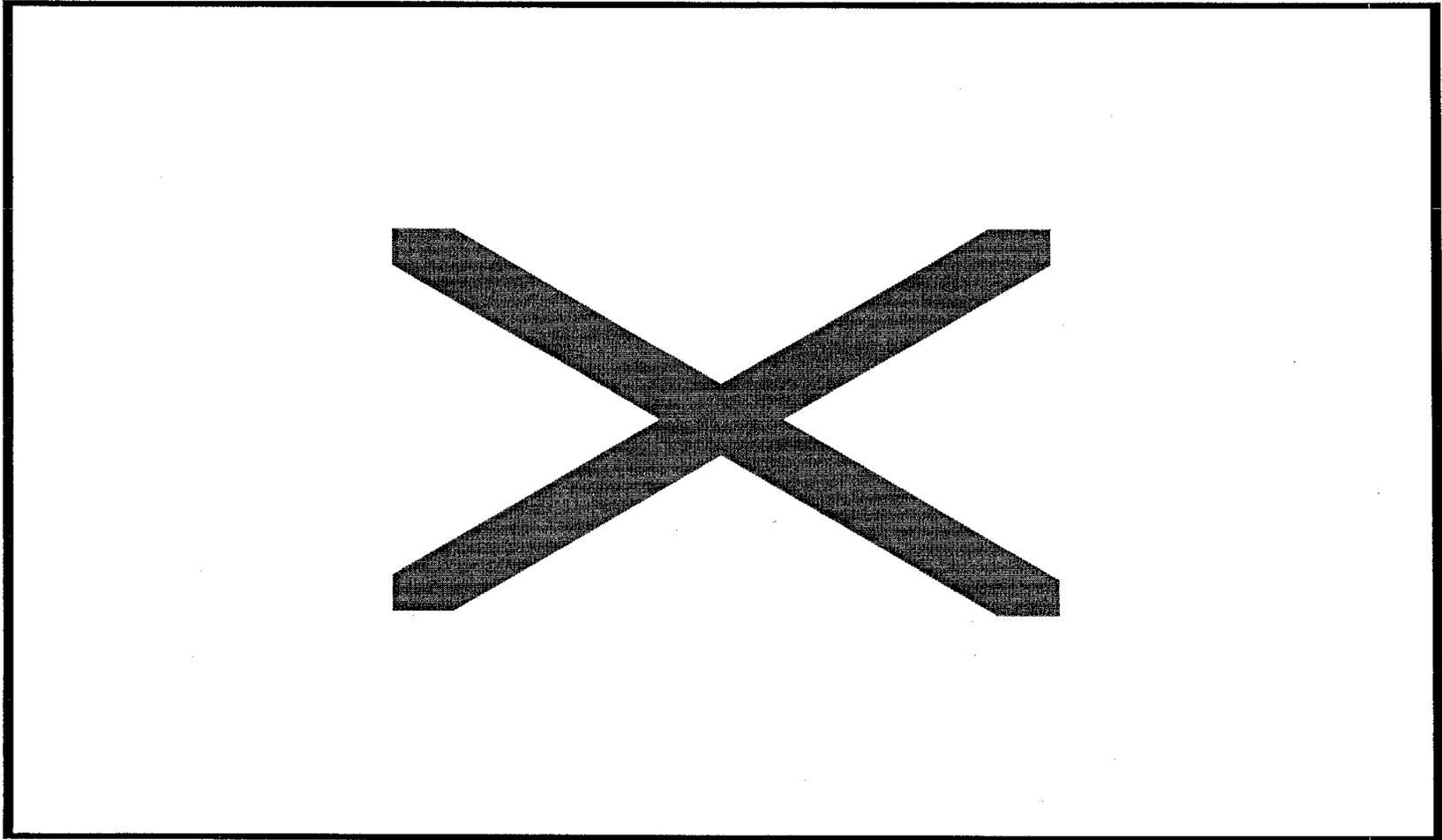


This computer-generated image shows the Terra spacecraft, with the MISR instrument on board, orbiting Earth. Direction of flight is toward the lower left. The actual locations imaged by the 9 cameras, each with 4 color bands, along Earth's surface are illustrated here with translucent surfaces. The background star field is also realistic.

April 15, 2003

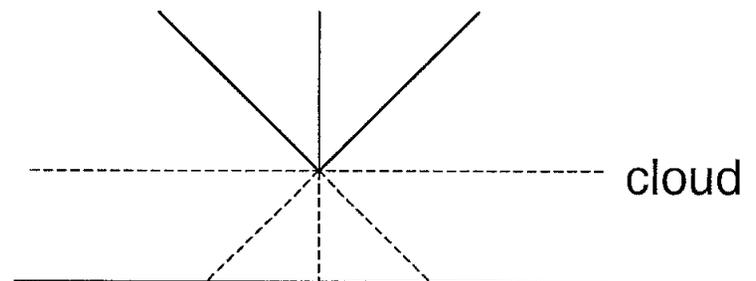
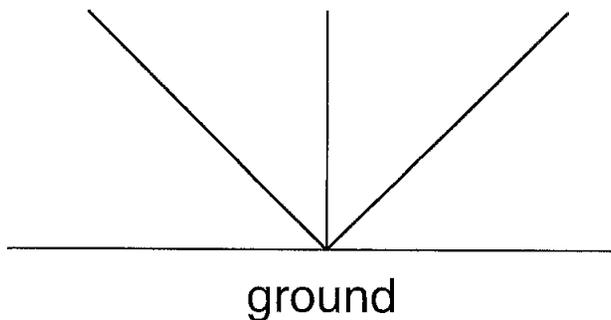
Image courtesy of Shigeru Suzuki and Eric M. De Jong, Solar System Visualization Project.
JPL image P-49081

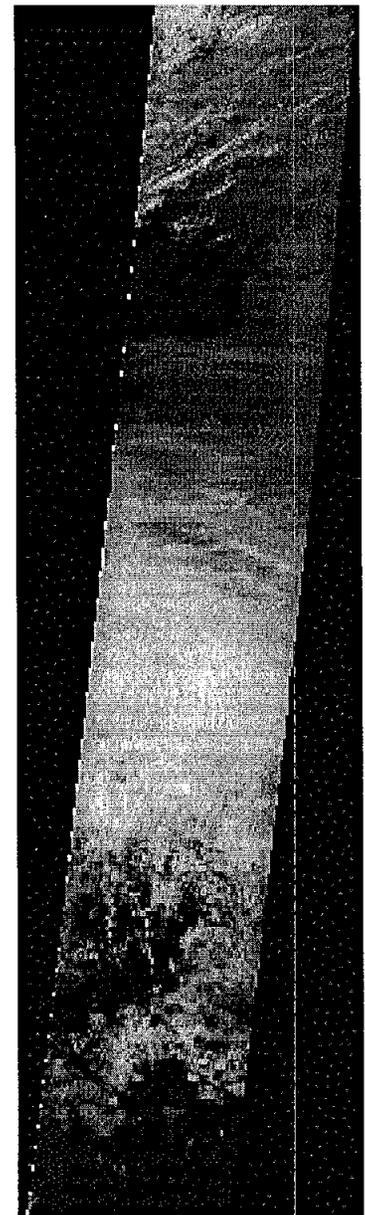
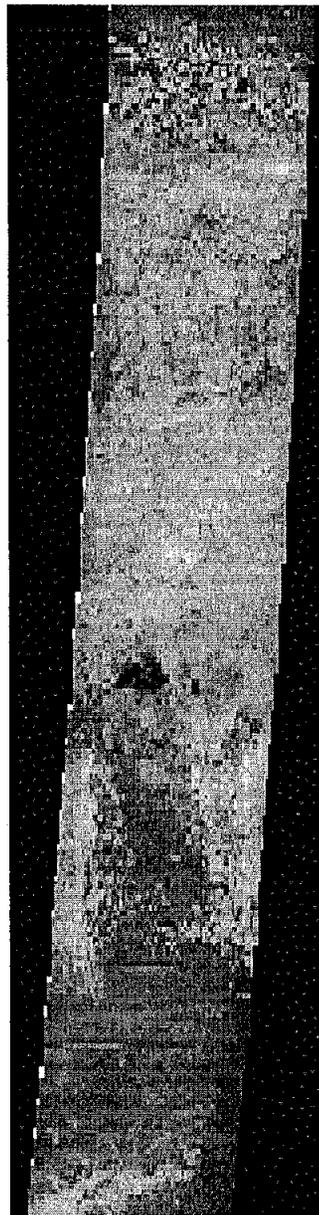
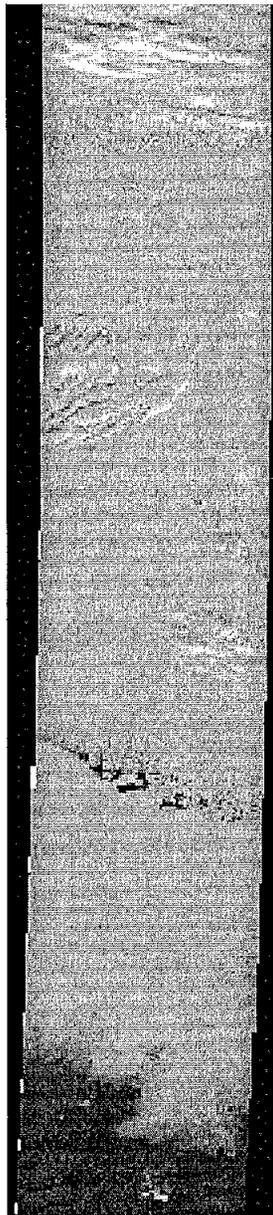
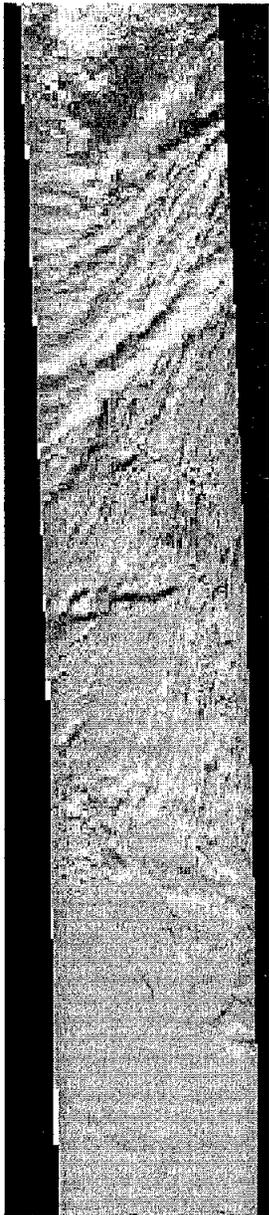




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Arctic

NW Pacific

April 15, 2003

ETH talk

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Spectral reflectivity at coarse resolution, from one orbit, first half



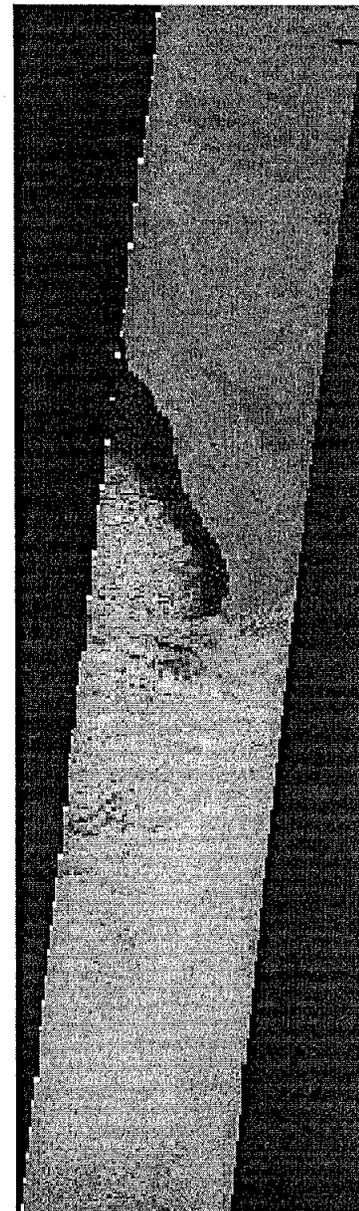
Philippines

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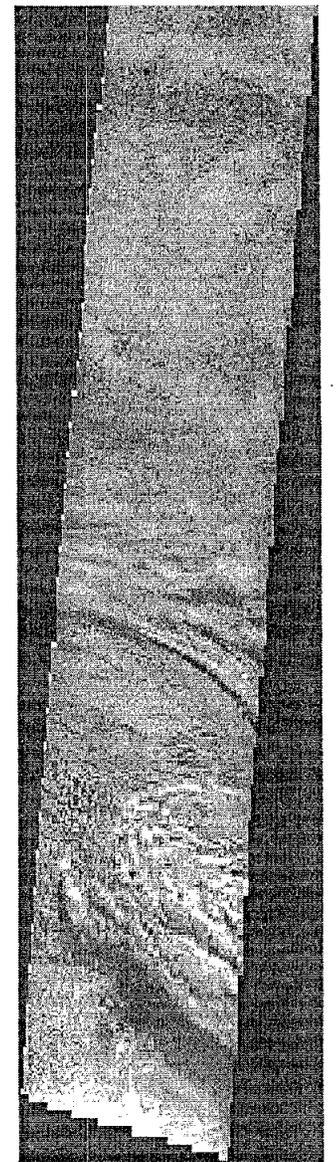


Indonesia

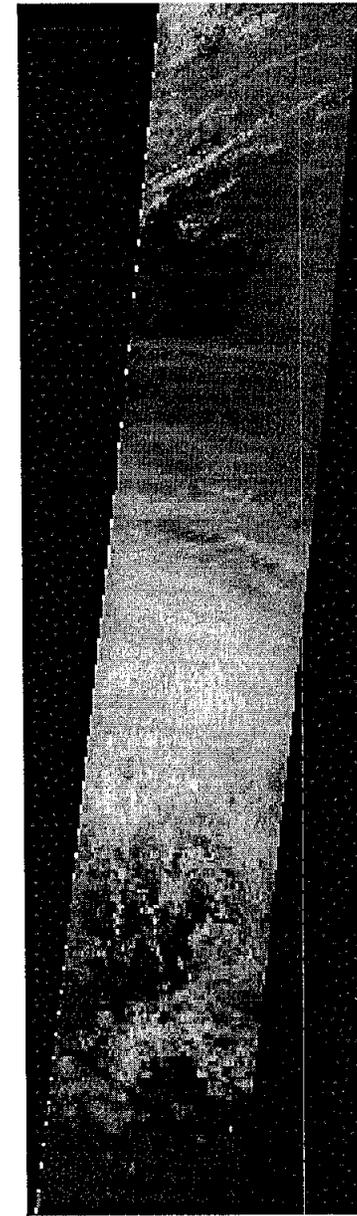
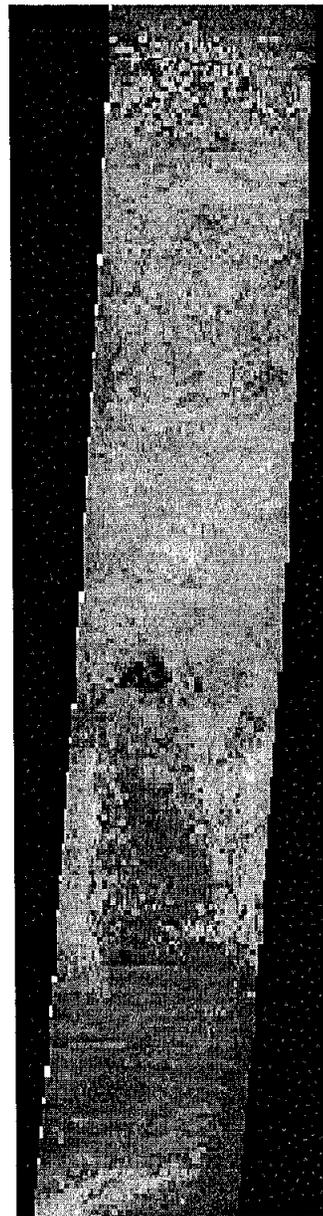
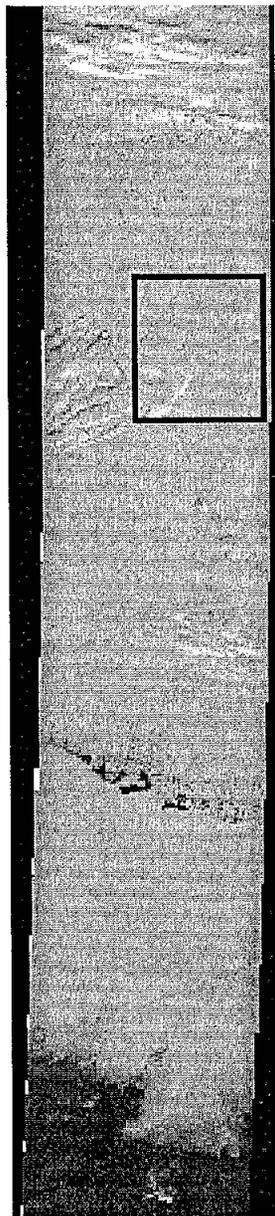
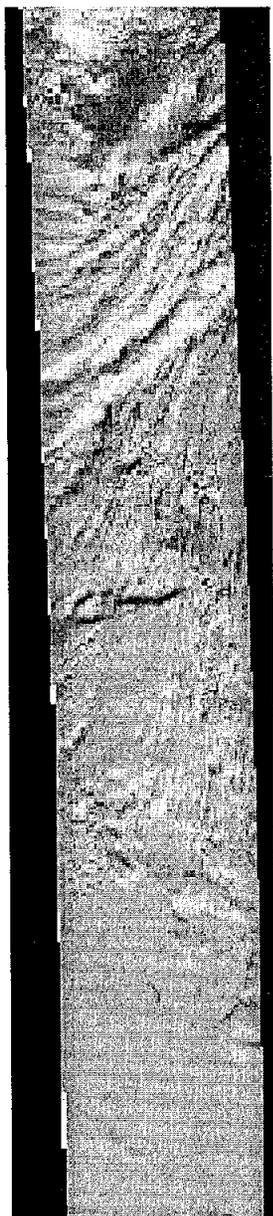
ETH talk



SW Australia



second half



Arctic

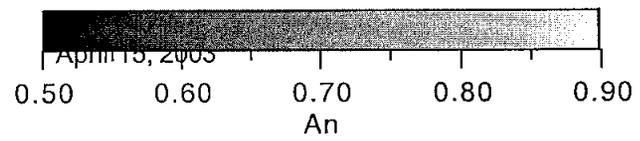
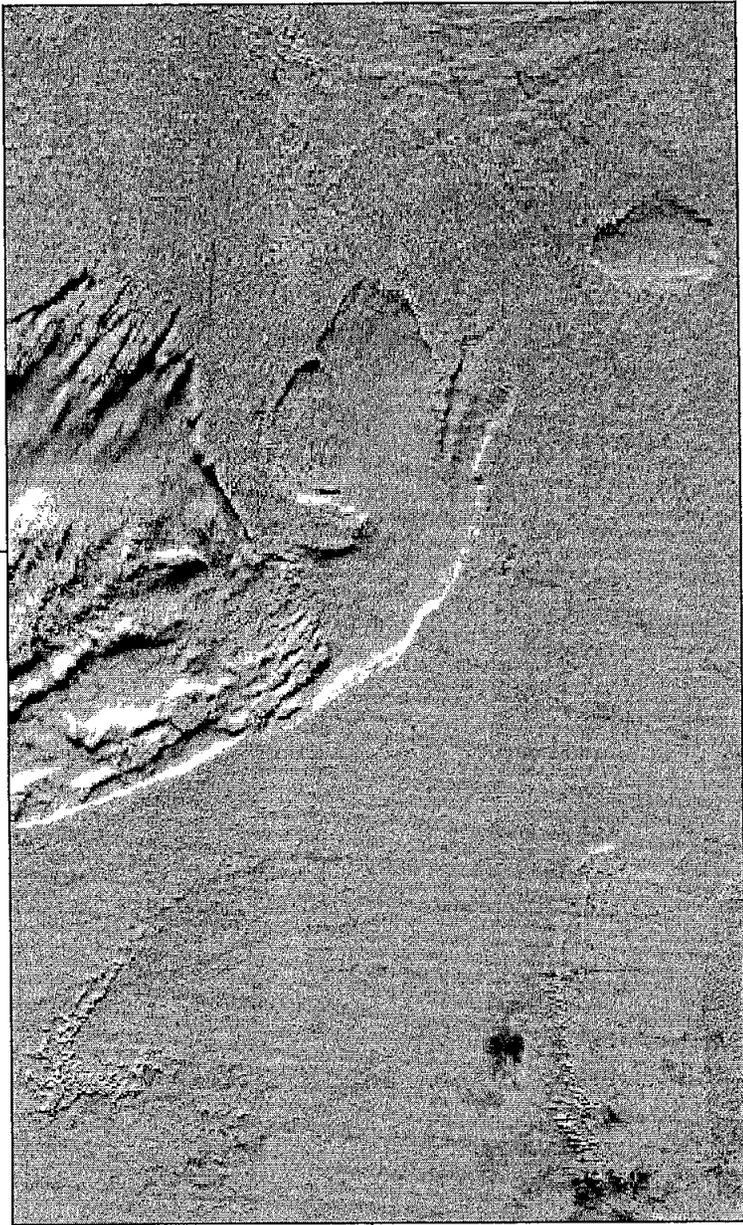
NW Pacific

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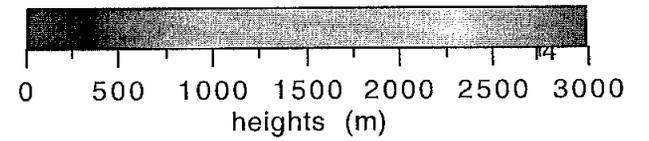
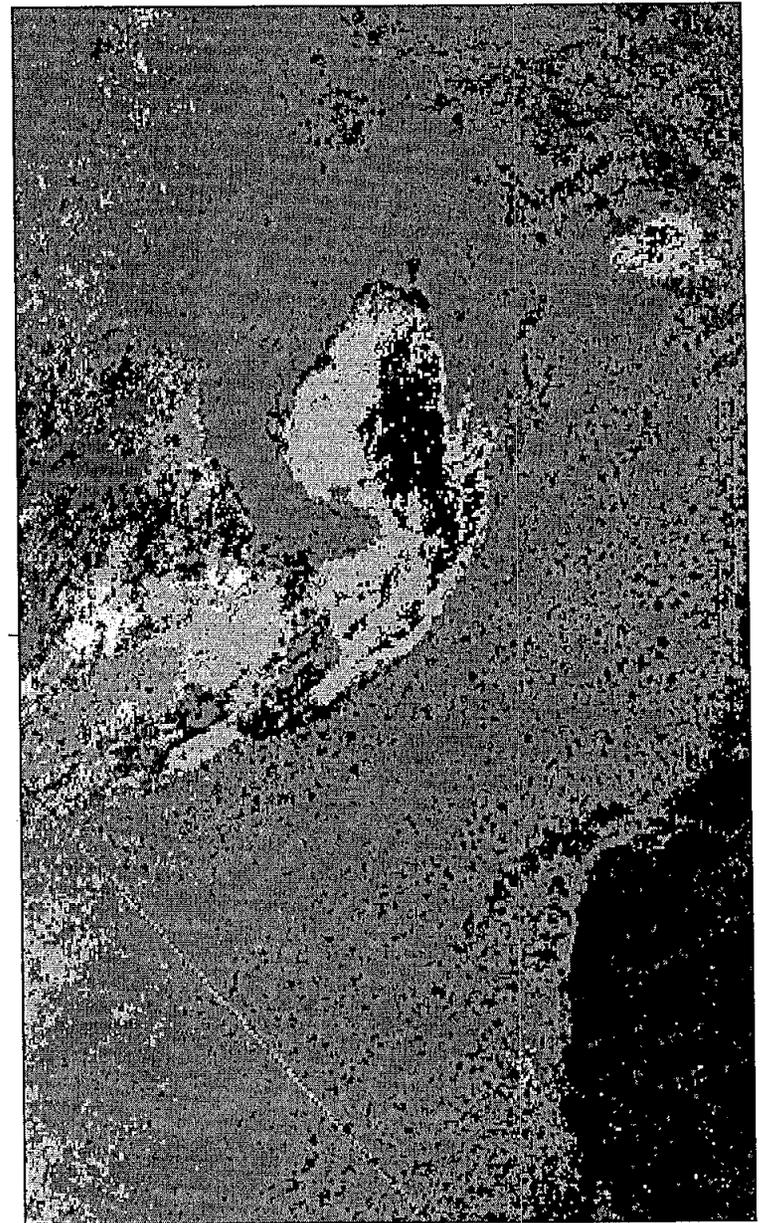
ETH talk

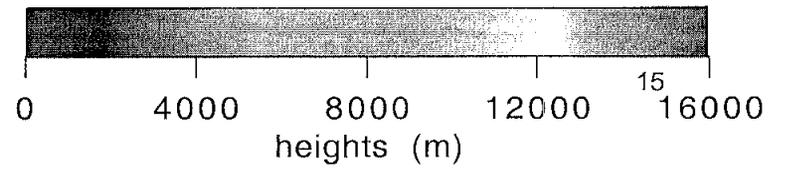
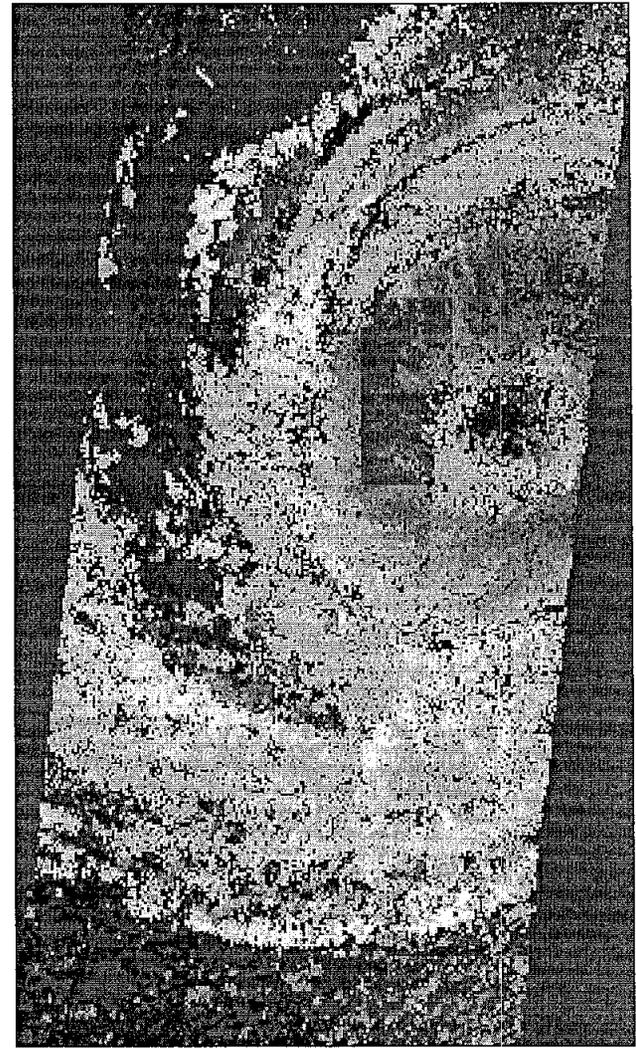
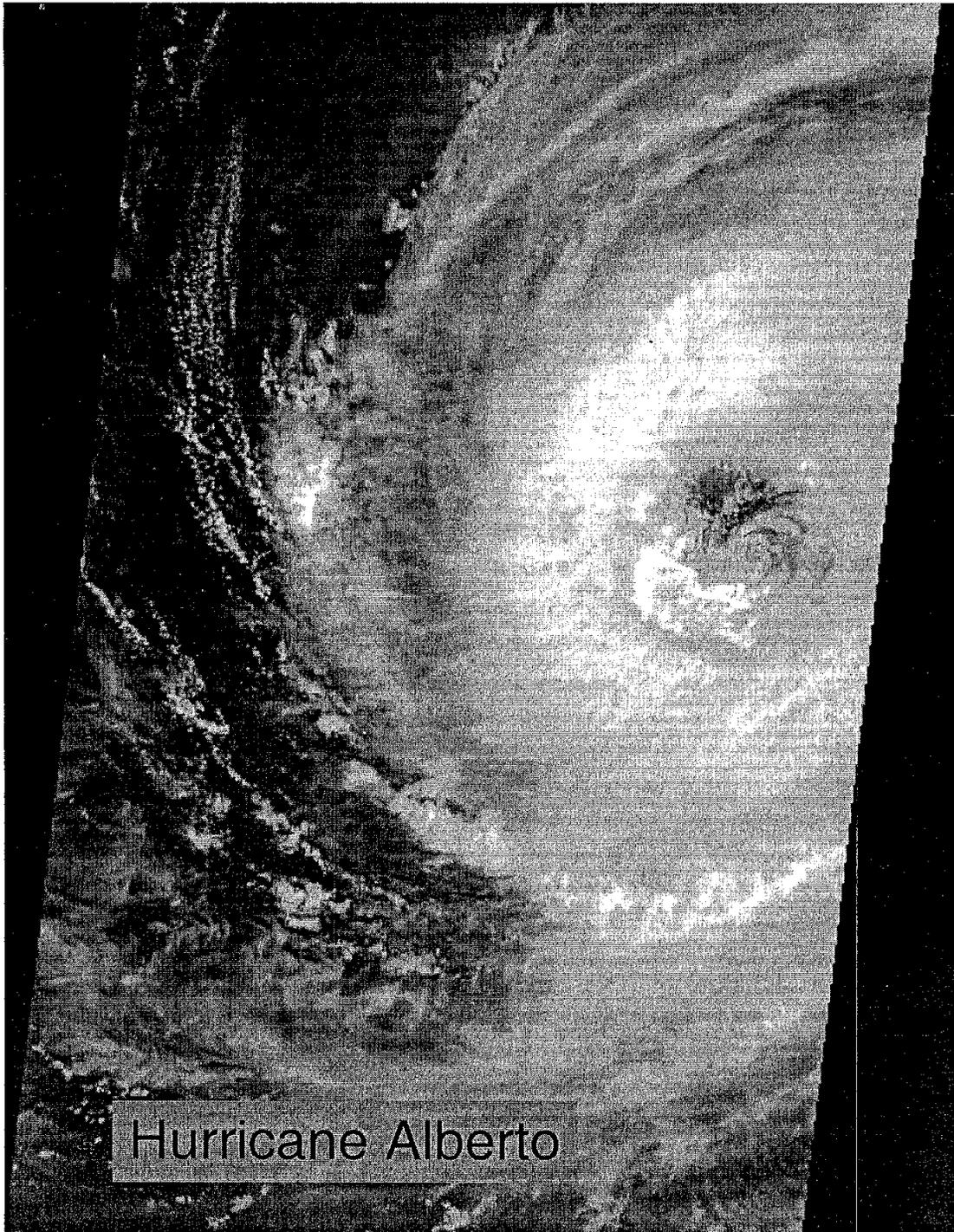
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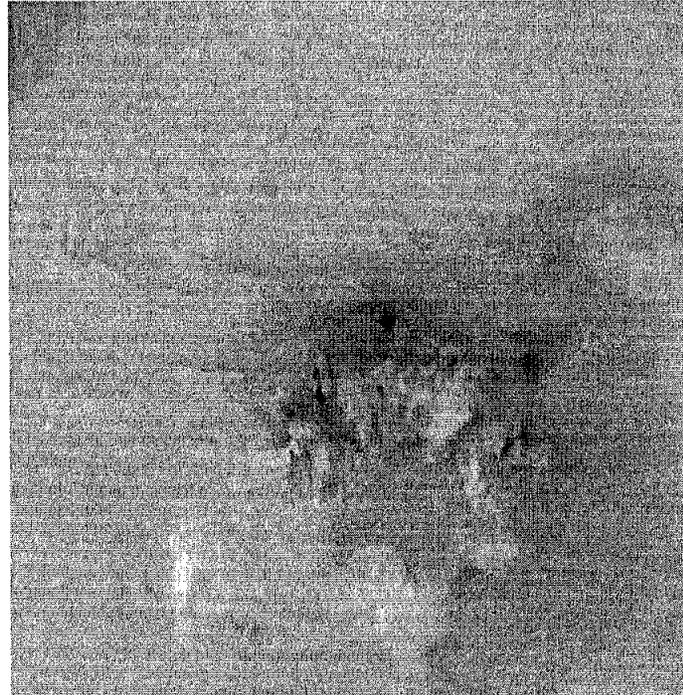
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ETH talk



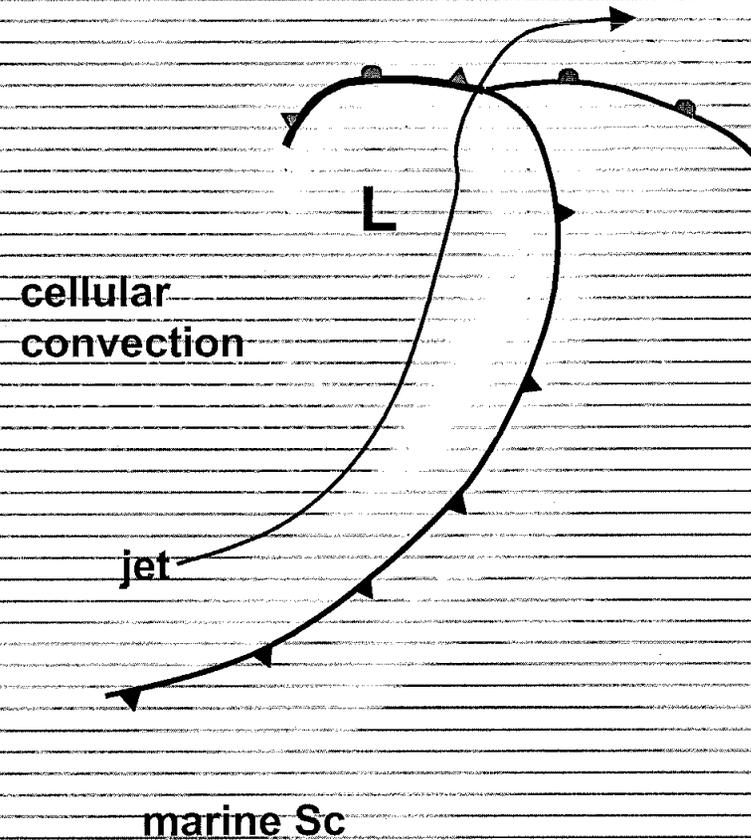




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Case study

- Mature extratropical cyclone
- 26 April 2000
- GOES-W visible at 2000Z



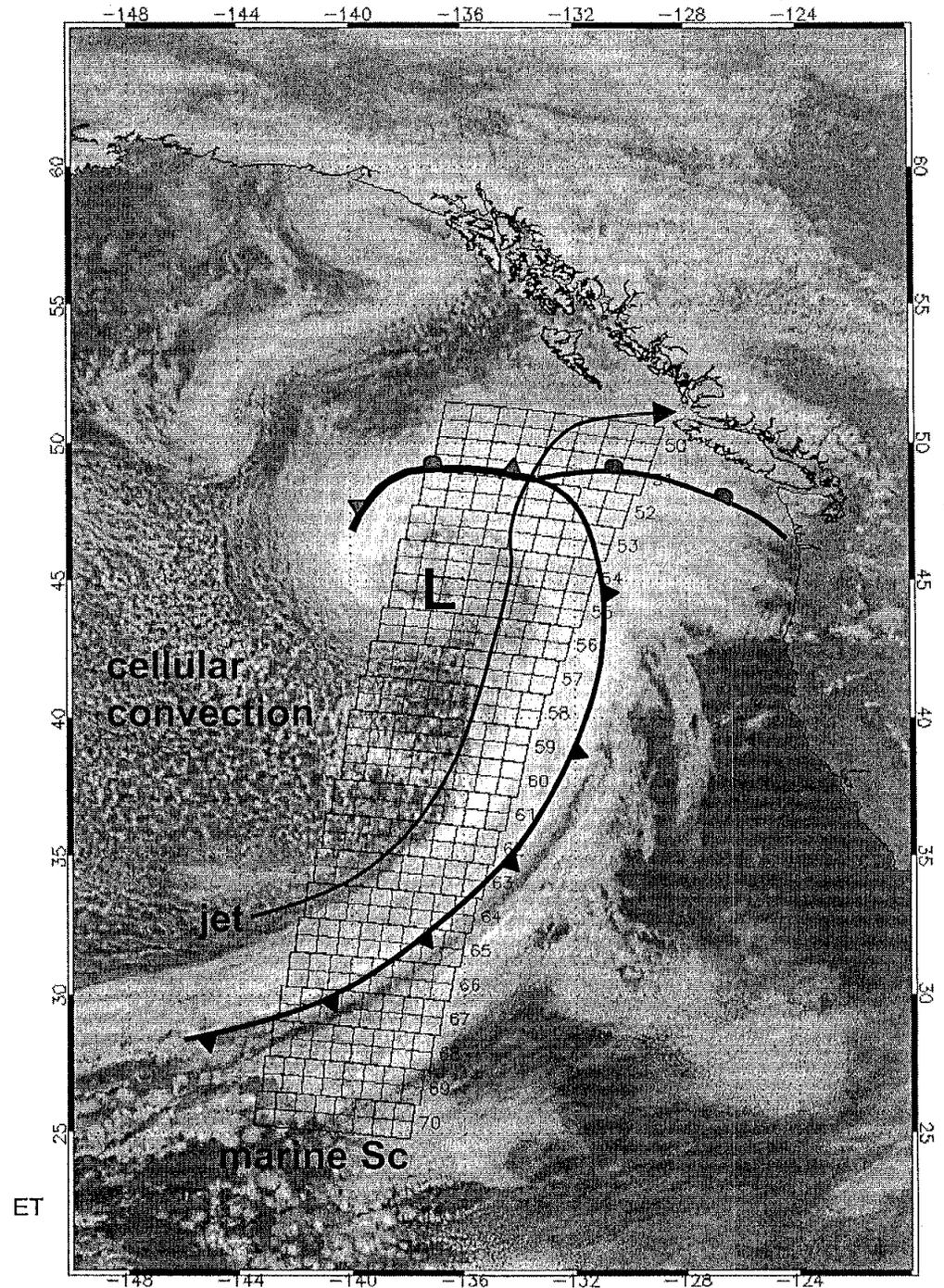
Case study

- Mature extratropical cyclone
- 26 April 2000
- GOES-W visible at 2000Z
- Corresponding MISR data

path: 054

orbit: 1900

block: 50-70



April 15, 2003