Panel Speakers and Topics

Allen White (PSD) – Observing System Needs

Gary Wick (PSD) – Satellite Observations

David Parrish (CSD) – Ozone Trends in the Eastern Pacific Troposphere

Ola Perrson (PSD) – Linking Synoptic Events with Variability of Arctic Sea Ice Thickness

John Brown (GSD) – Operational NWP Perspective on West Coast Heavy Precipitation Events

Bill Neff (PSD) – Climate Variability and Air Quality

ESRL Theme Presentation on the Weather-Climate Connection

Observing System Needs

Allen B. White

NOAA/Earth System Research Lab./Physical Sciences Div., Boulder, CO

Presented at:
ESRL Theme Presentation on the Weather-Climate Connection
DSRC Building, Boulder, CO: 1 November 2007

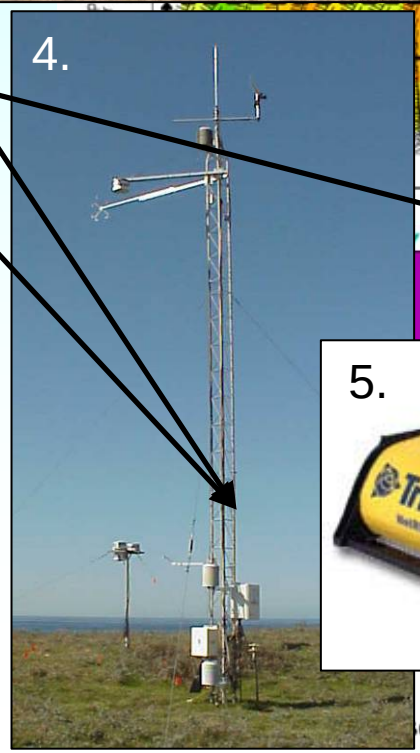
Atmospheric River Observatory

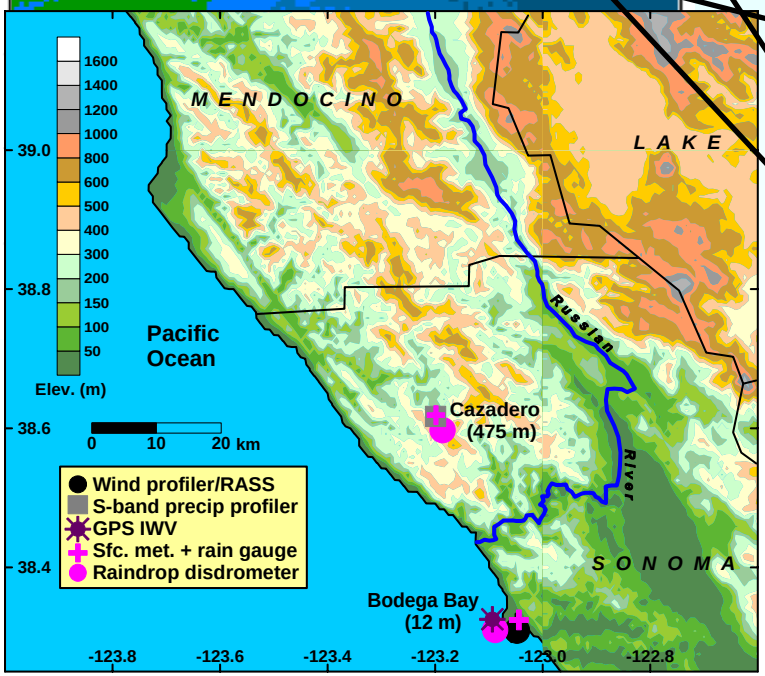
Atmospheric River (AR) Observatory: Russian River Prototype

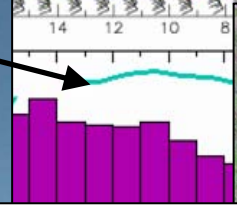
Objectives: Detect and monitor the fuel and forcing that causes extreme precipitation

Observing systems: ?

1. Wind profiler/RASS
2. S-band radar
3. Disdrometer
4. Surface met
5. GPS-IWV
6. Rain gauges





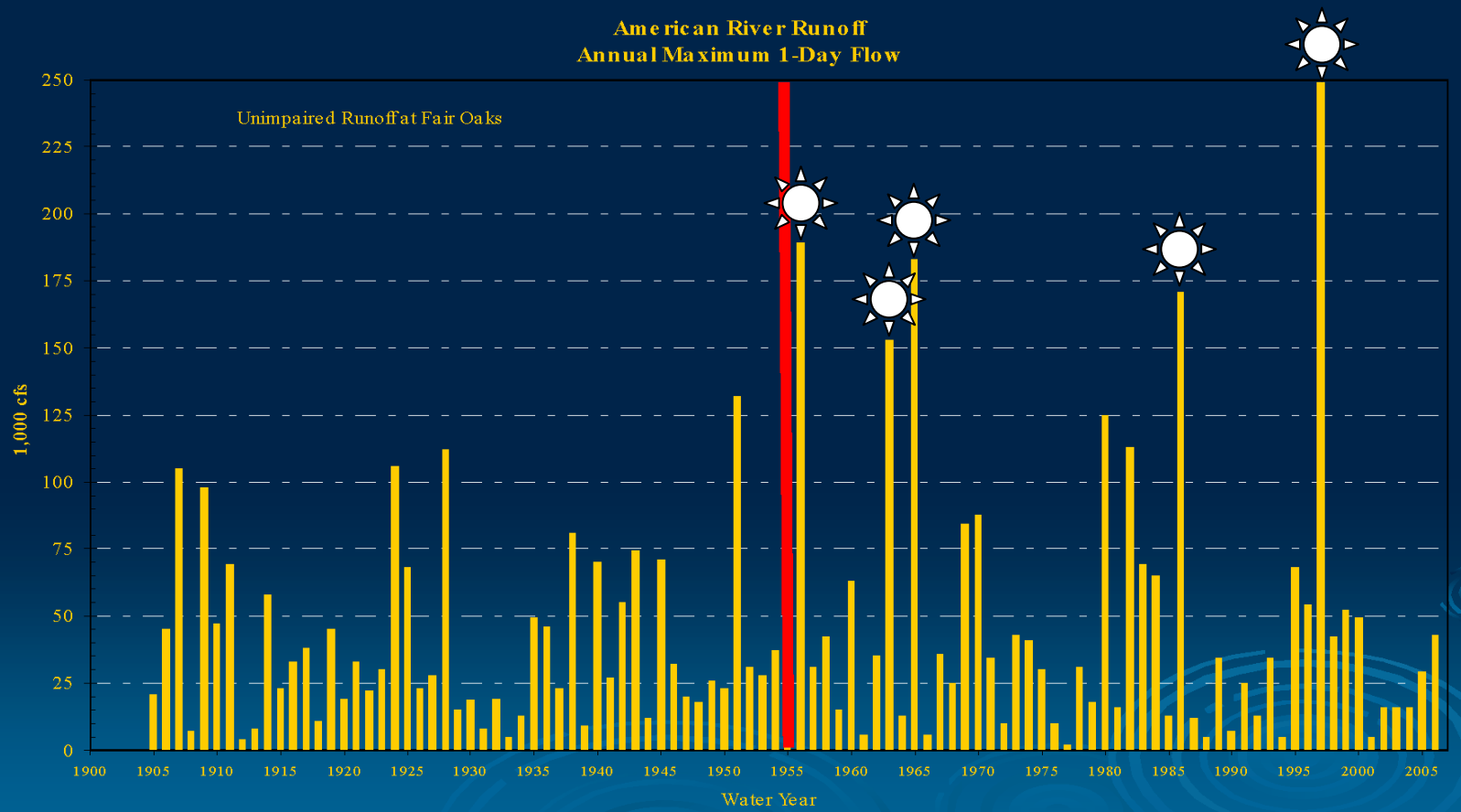


Time (UTC)

Coastal rain (BBY) 0.75 in.
Mountain rain (CZC) 4.20 in.

A Different Flow Regime in the American River Basin?

Changes in Peak Flows
American River



Red Line = Construction of Folsom Dam

Lester Snow, CA-DWR

Satellite Observations

Ongoing Activities

- Model intercomparisons
- GPS radio occultation data

Key Challenges

- Obtaining quantitative transport information (wind profiles)
- Maintaining the status quo in measurements over the near future

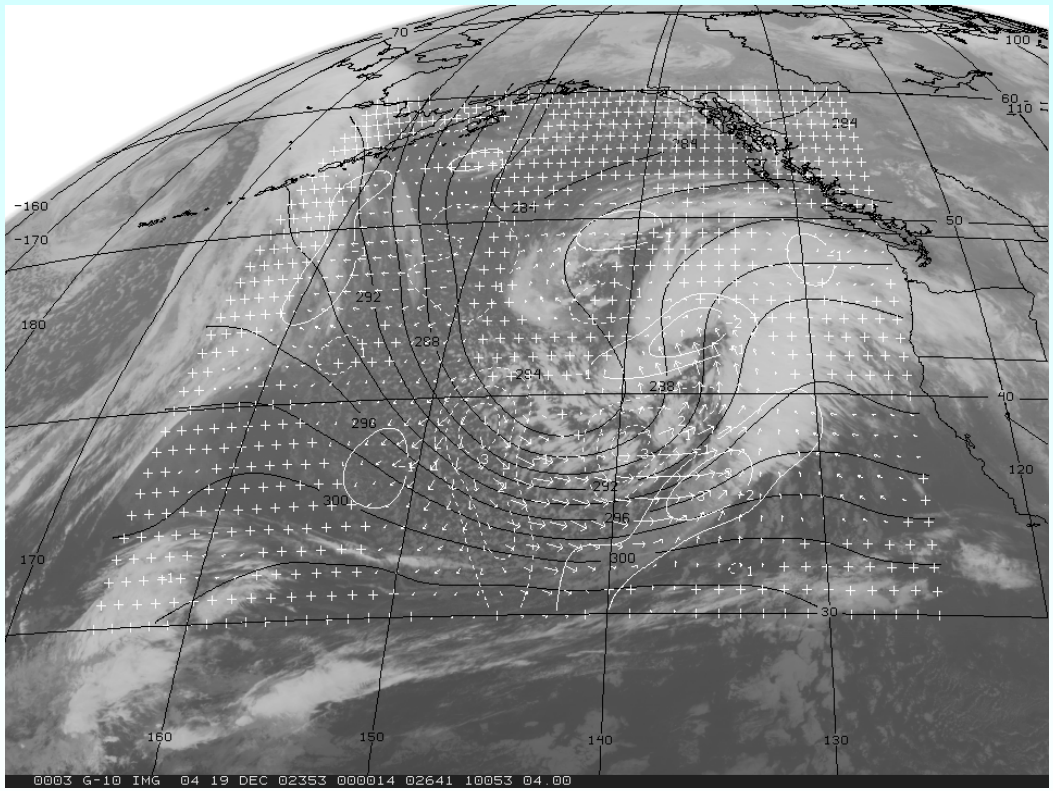


Figure courtesy Jack Dostalek, CIRA/CSU

ESRL Theme Presentation on the Weather-Climate Connection

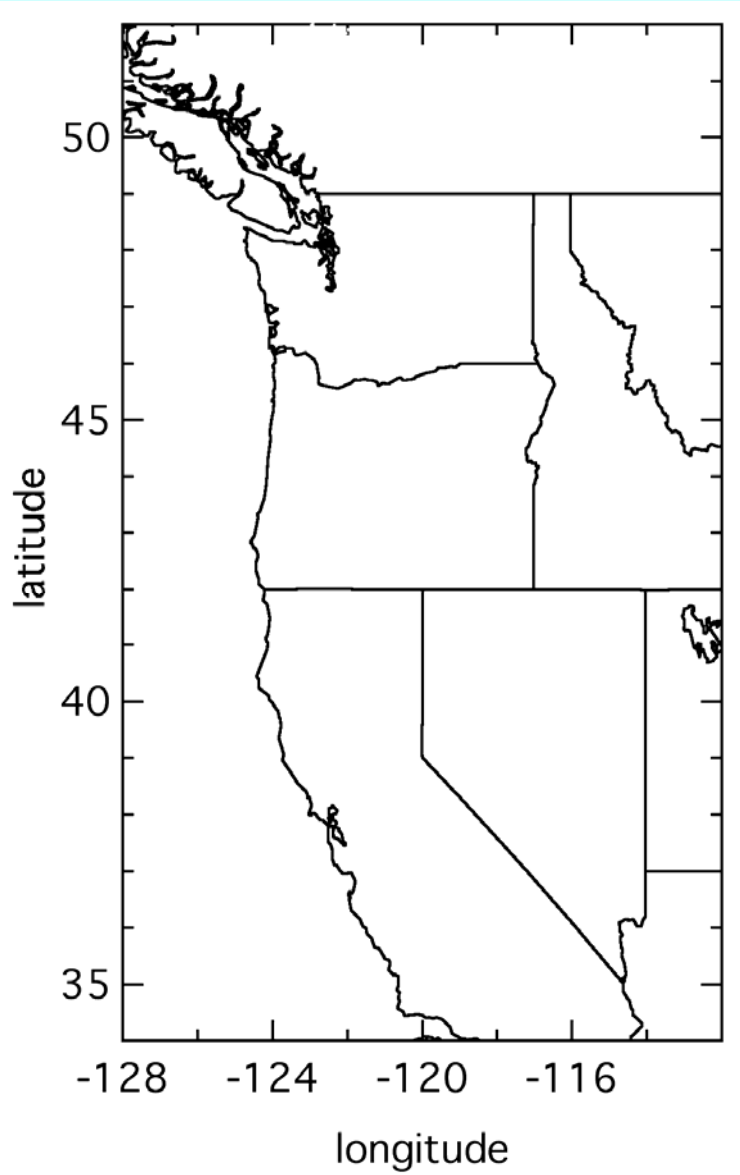
Ozone Trends in Eastern Pacific Troposphere: Effect of Interannual Meteorological Variability?

David Parrish[1]

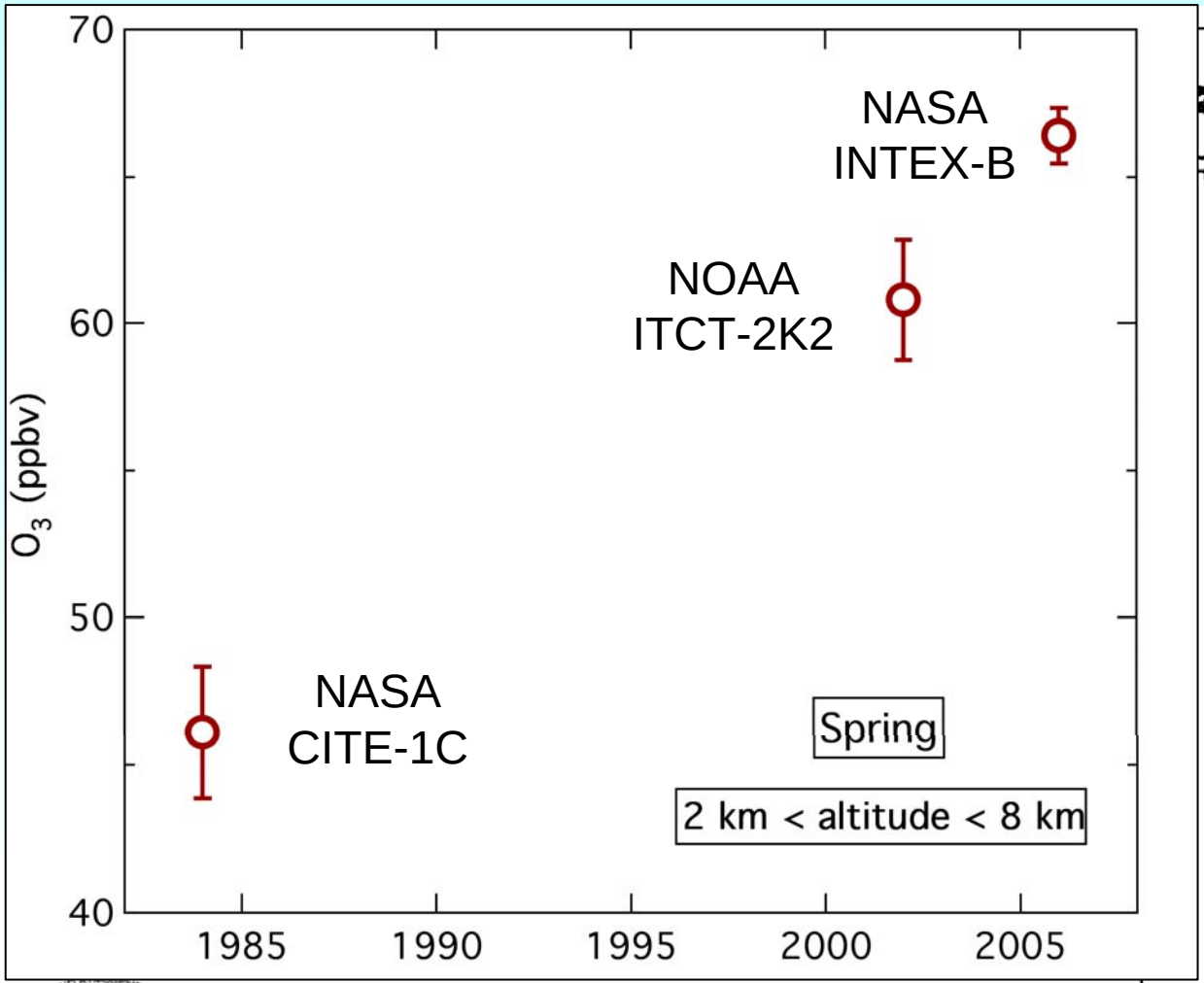
[1]NOAA/Earth System Research Lab./Chemical Sciences Div., Boulder, CO

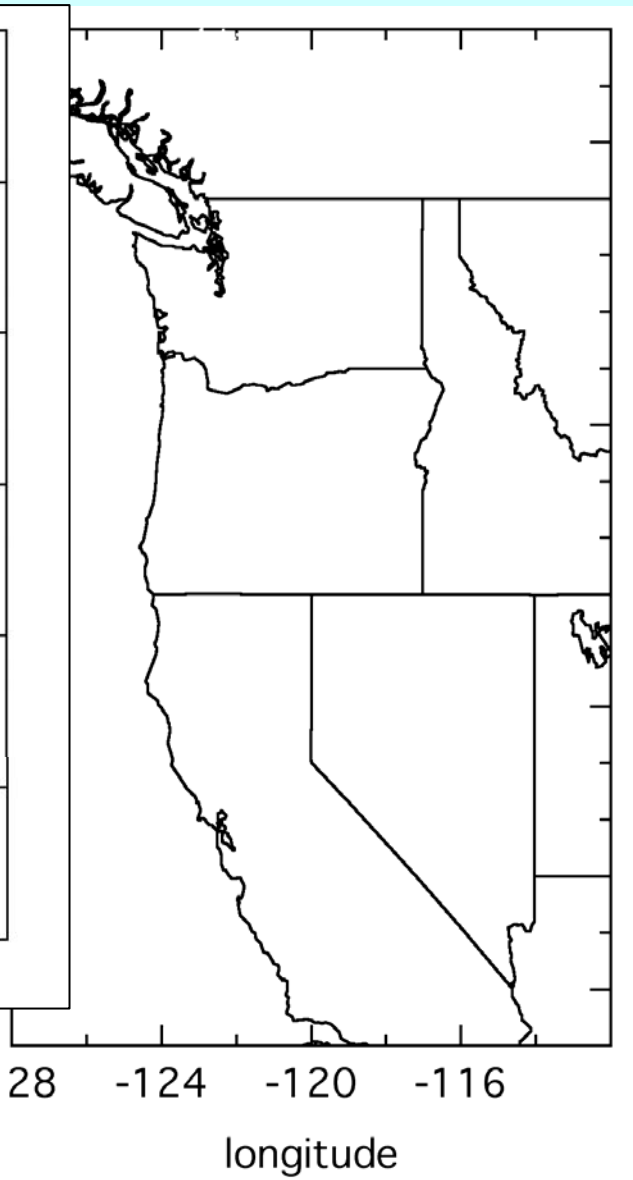
Presented at:
ESRL Theme Presentation on the Climate-Weather Connection
DSRC Building, Boulder, CO: 1 November 2007

Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades

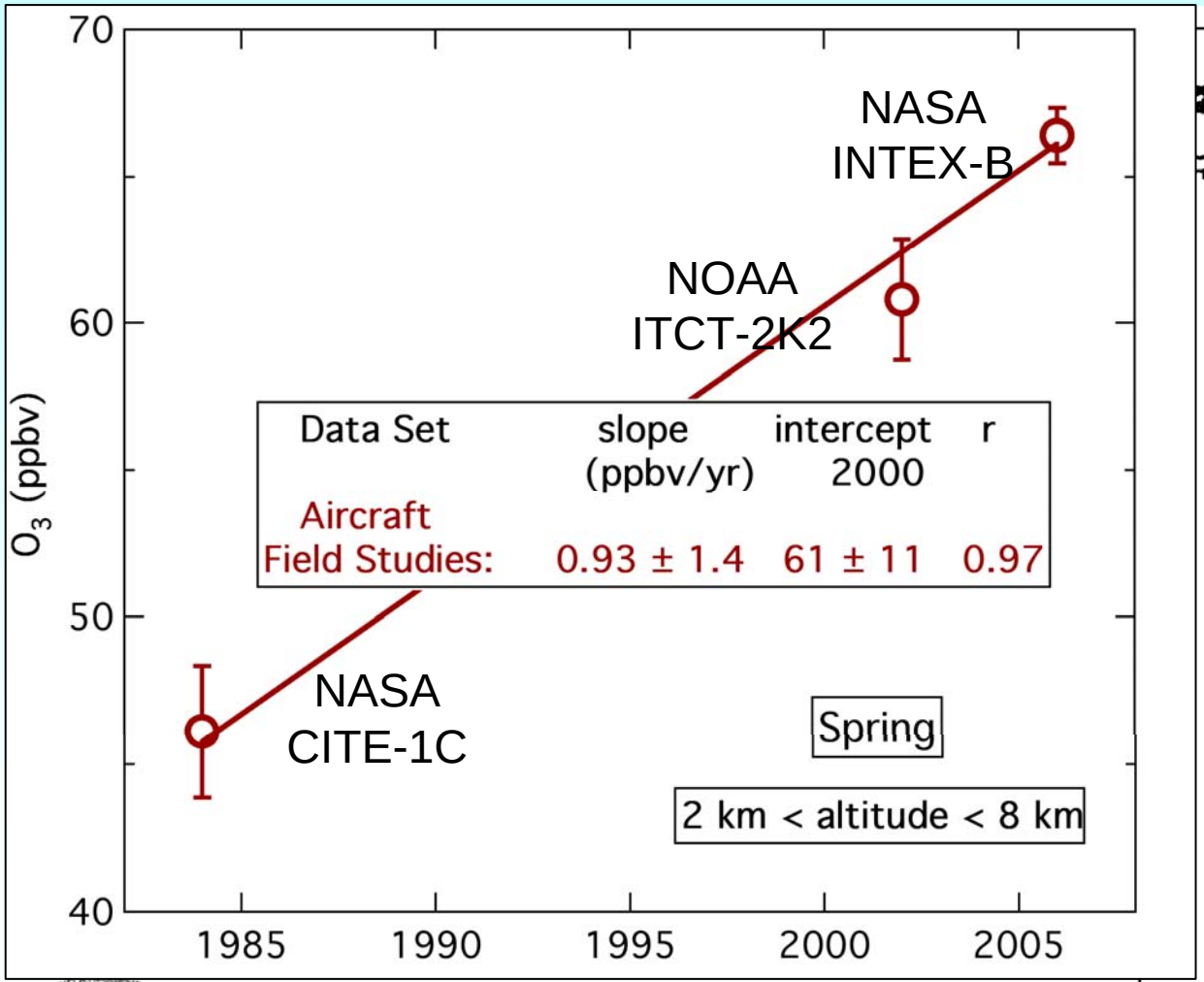


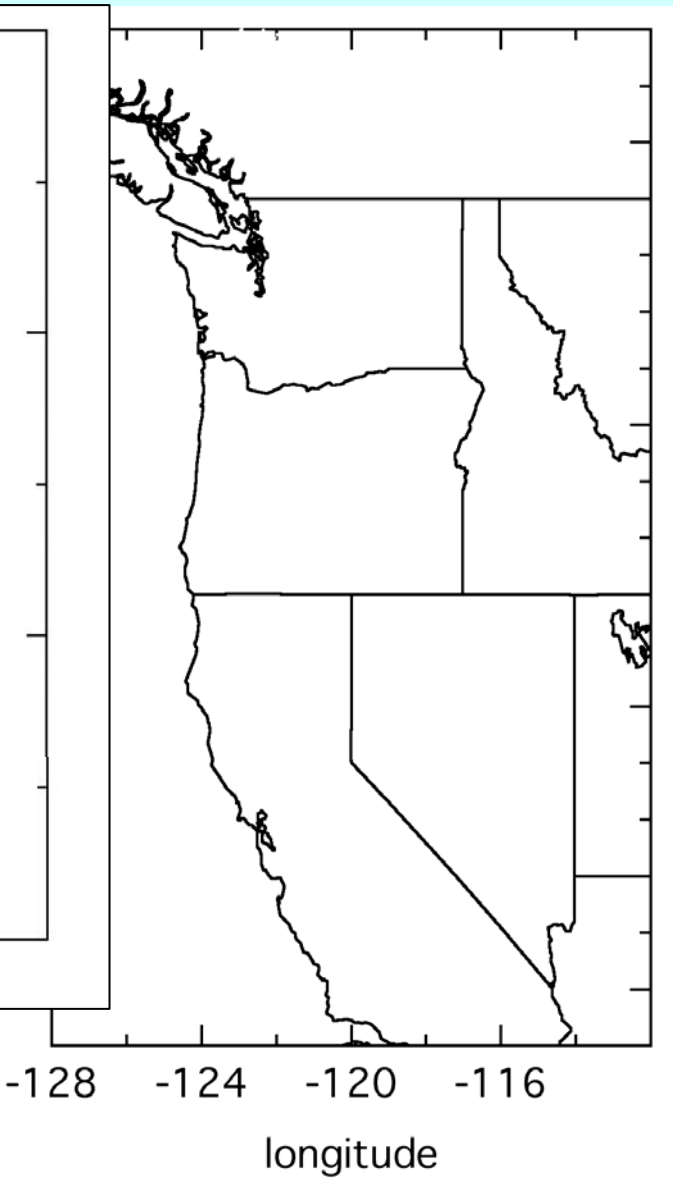
Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades





Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades



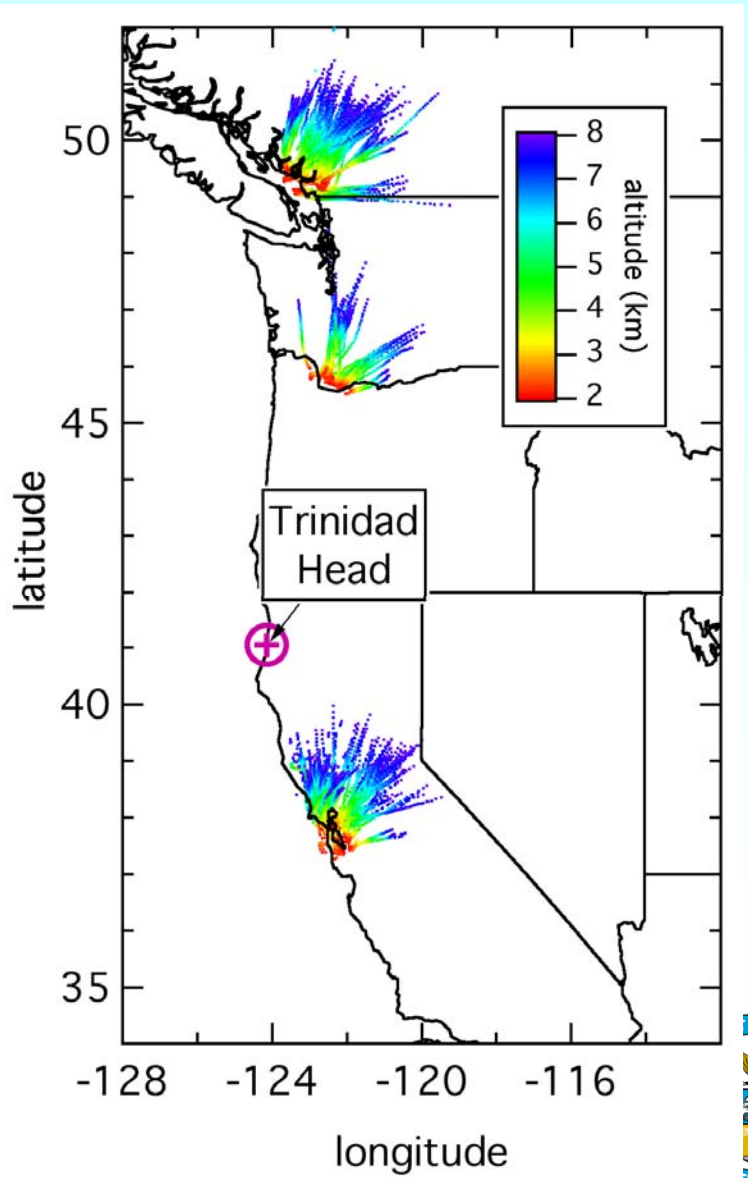


Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades

Examine 2 other data sets:

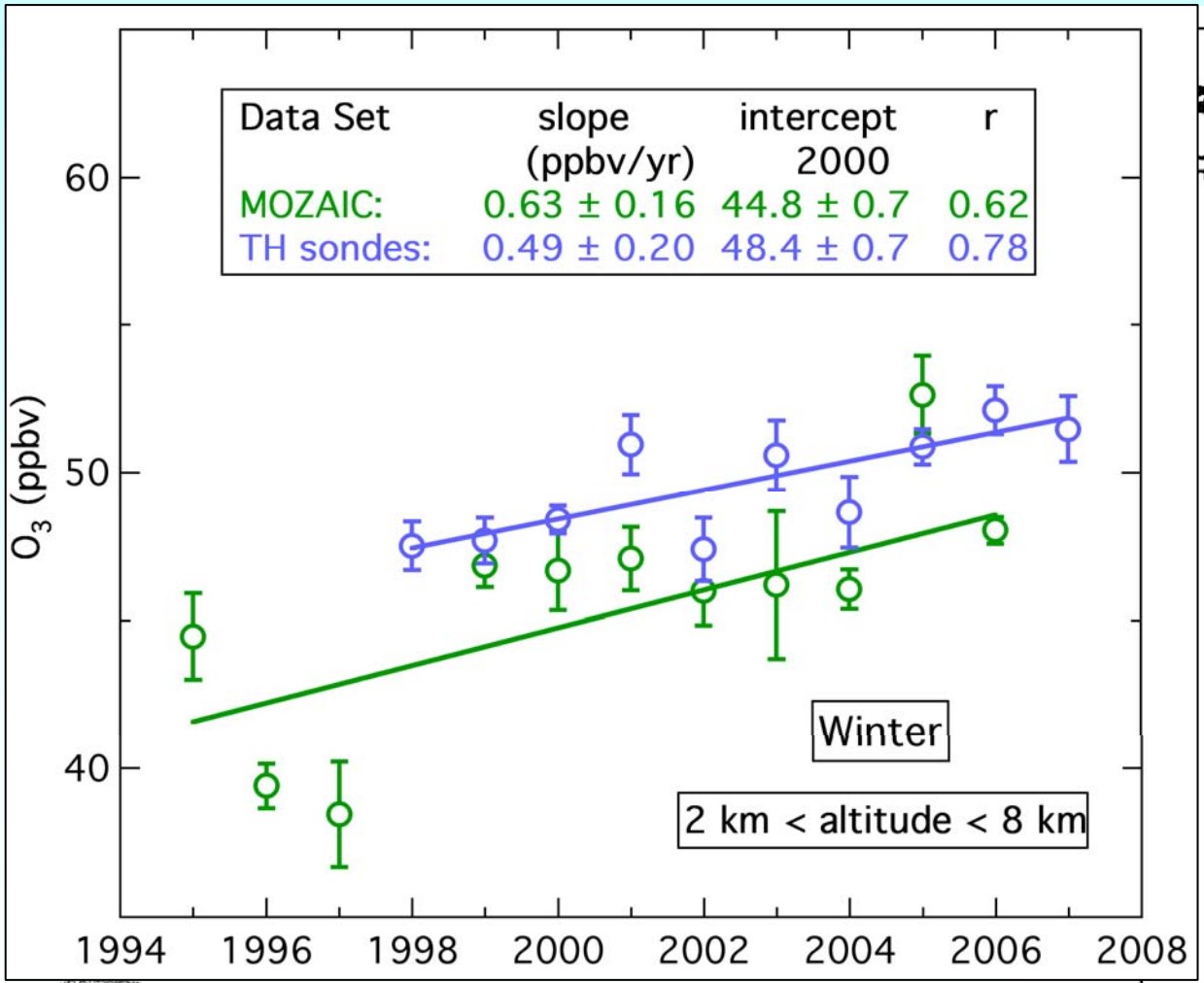
Trinidad Head Ozone sondes
- Sam Oltmans
- NOAA/ESRL/GMD
- 1998 to present
- Generally weekly

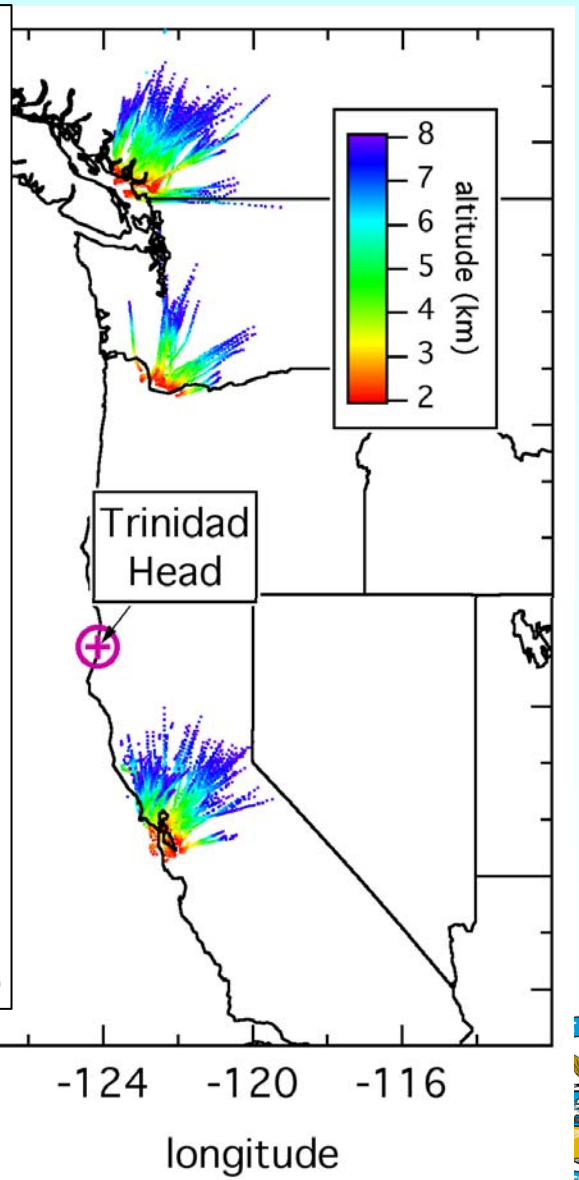
MOZAIC* aircraft profiles
- 1995 to present
- avg. 10/month in winter



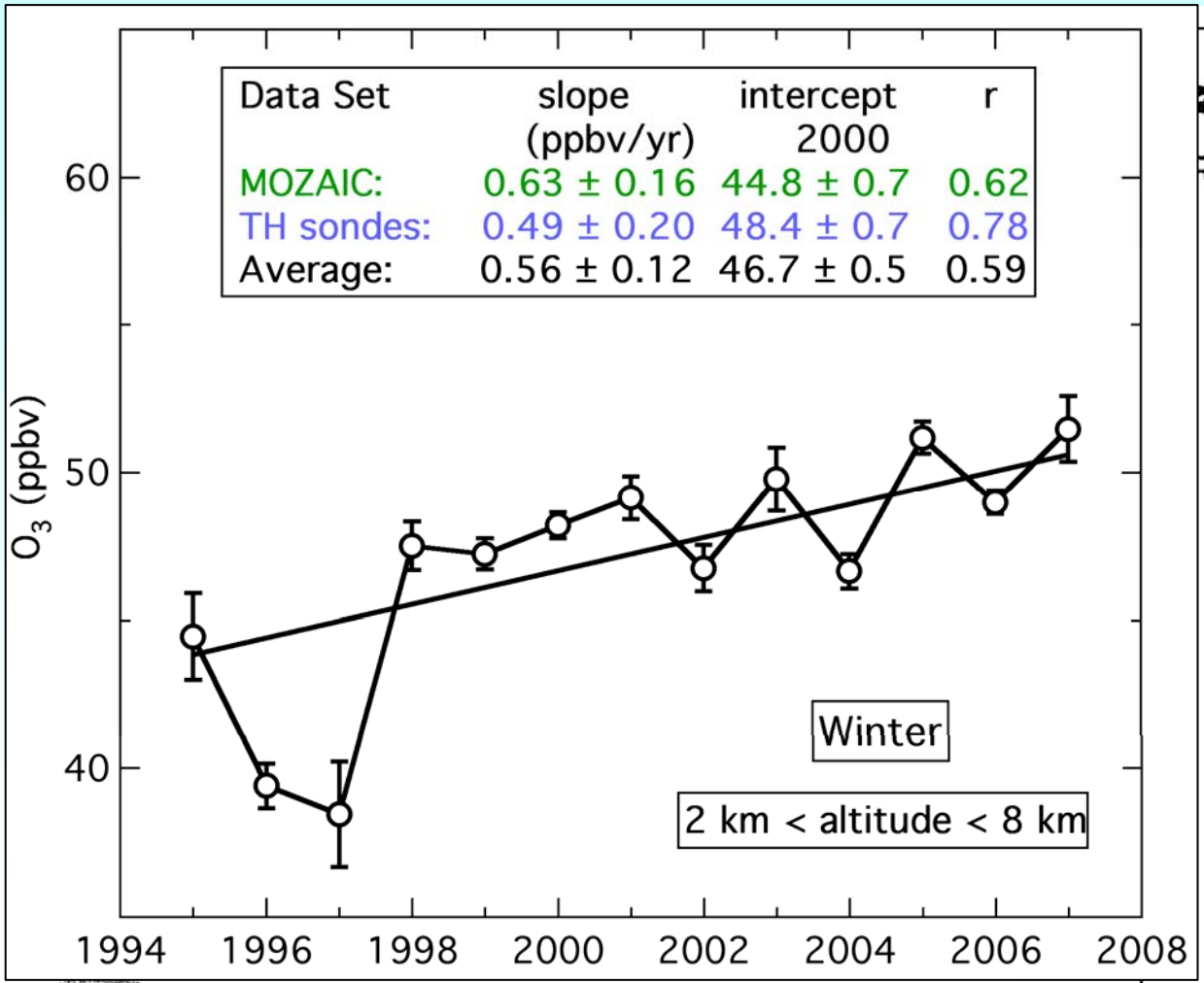
*Measurements of Ozone, Water Vapour, Carbon Monoxide and Nitrogen Oxides by In-Service Airbus Aircraft

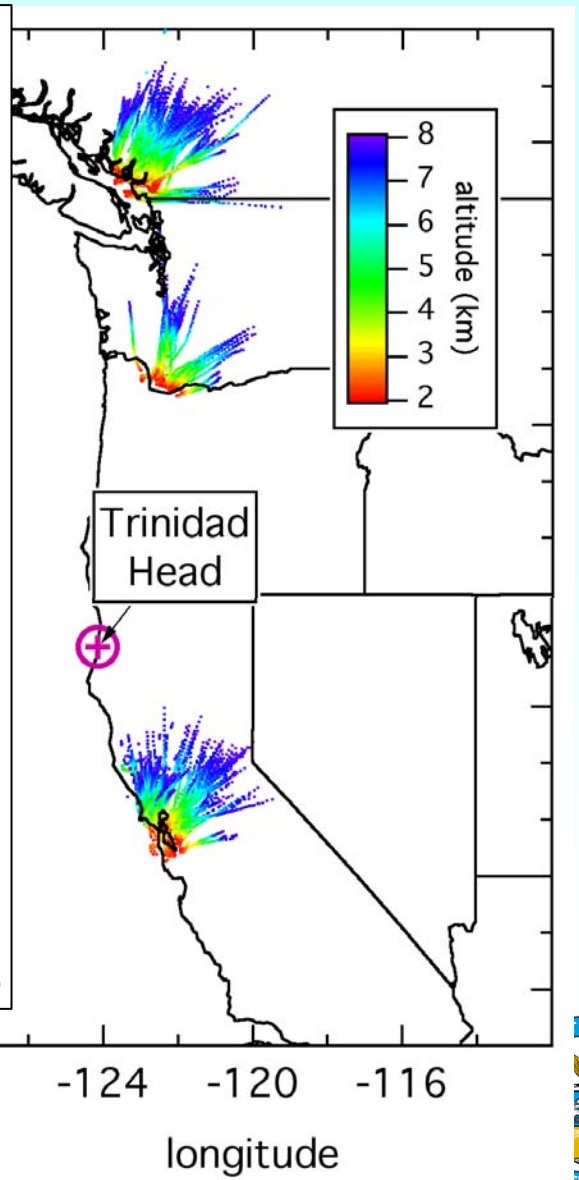
Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades



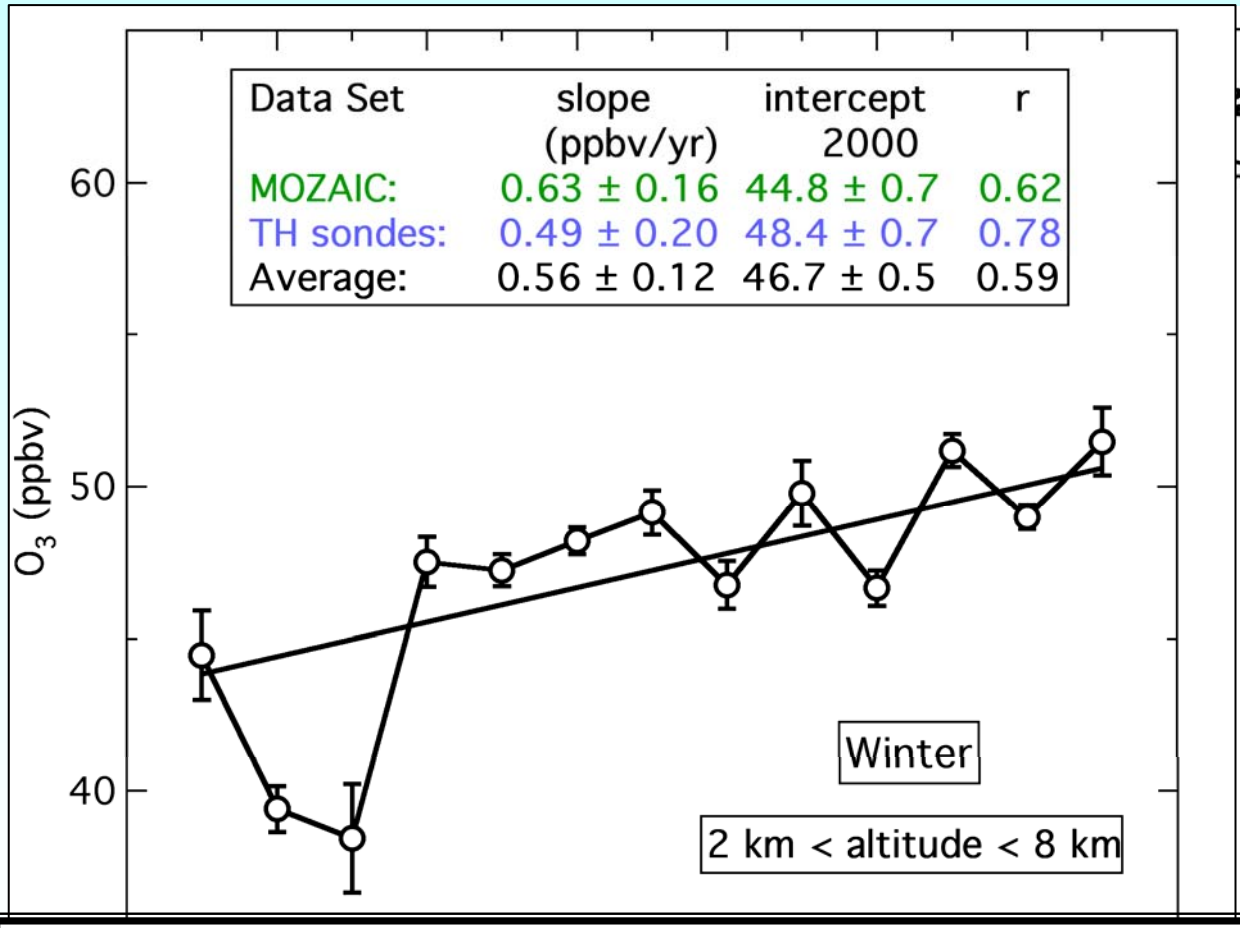


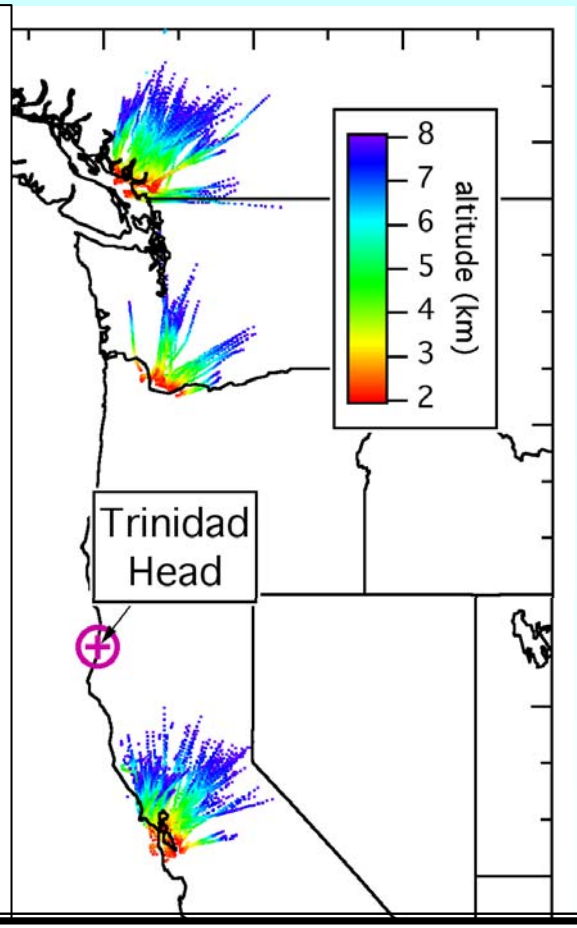
Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades





Tropospheric Ozone Entering the US from the Pacific Has Increased over the Past 2 Decades





Can Interannual Meteorological Variability Explain Some of the Variance and/or the Cause of the Trend?