



# Monitoring Network Design, Data, and Results

*Presentation by: Great Basin Unified Air Pollution Control District*

# Monitoring Network Components



PM10

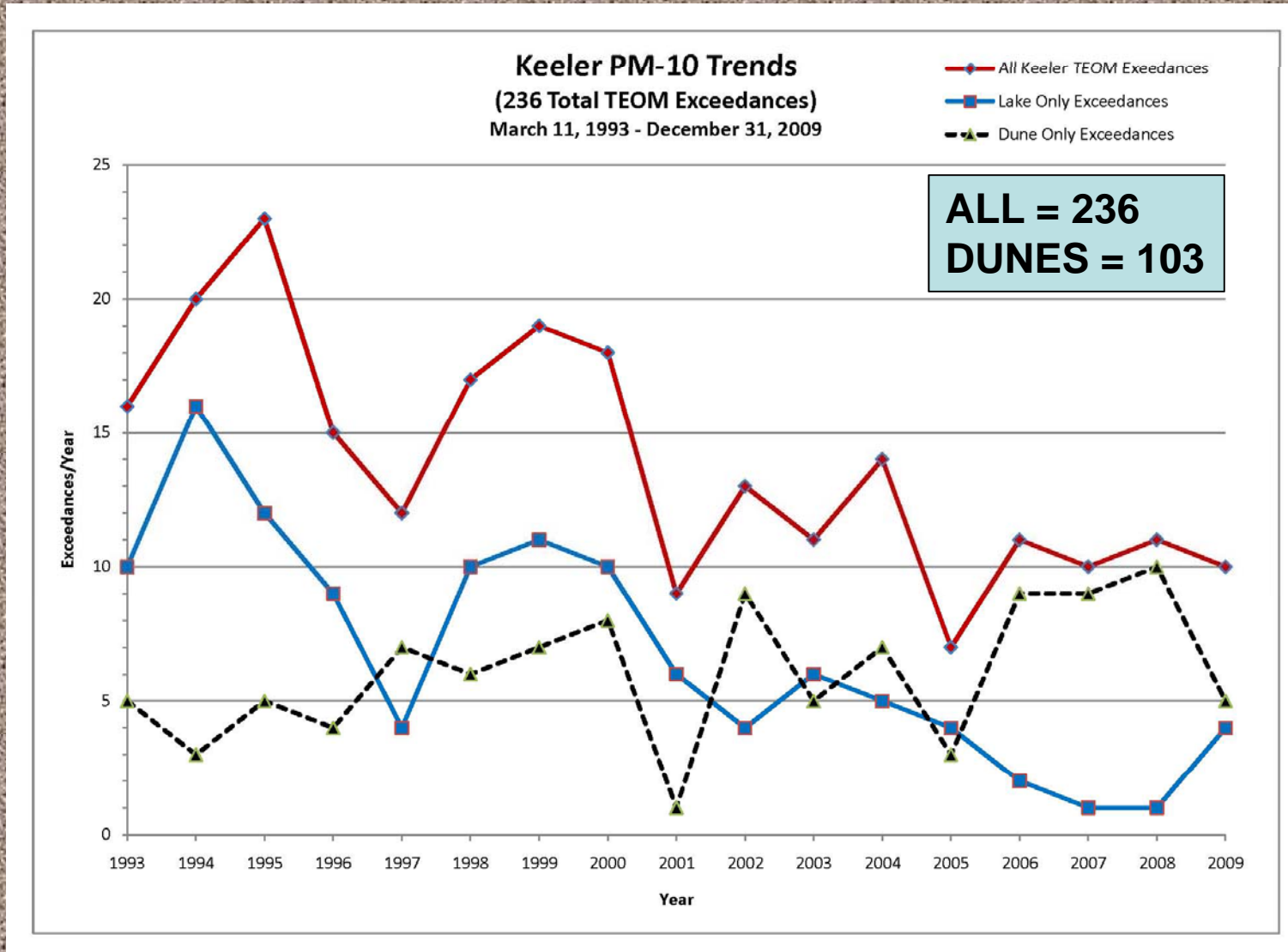


Sand Motion



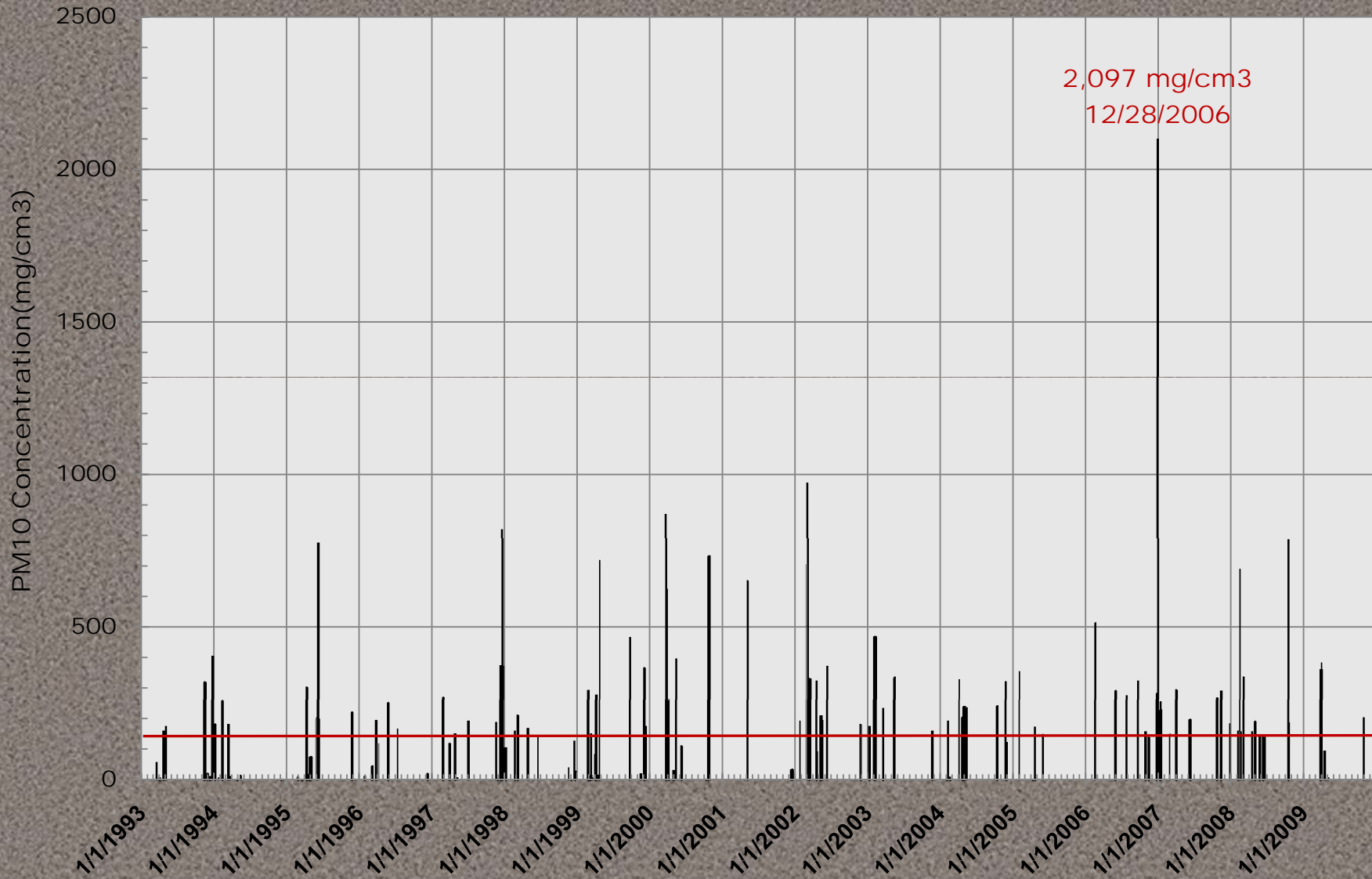
Video

# PM10 MONITORING



Graph of the number of monitored exceedances of the Federal PM<sub>10</sub> standard per year measured at the Keeler Monitoring station from 1993 to 2009. There were 236 total exceedances monitored of which 103 were from the dunes only.

## 24-Hour PM10 Concentrations from Keeler Dunes



Graph of the PM<sub>10</sub> concentrations from the Keeler Dunes for exceedance days, measured at the Keeler Monitoring station from 1993 to 2009.

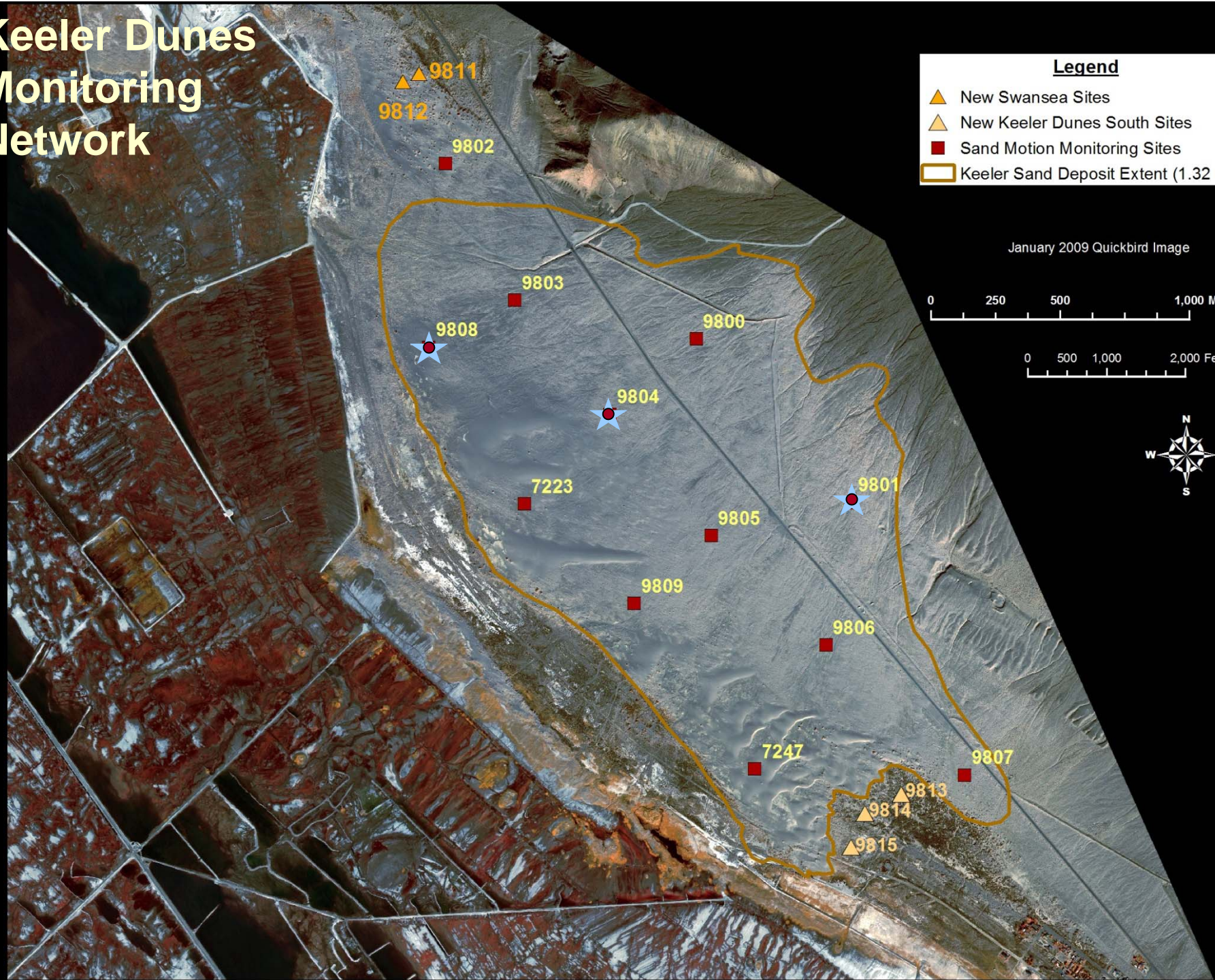
# Sand Motion Monitoring

- Sand Flux Monitoring (12 existing sites, 5 new sites)
- Wind Speed/Direction Monitoring (17/8)
- Dust Cameras (2)
- Dust Observation Mapping
- Ground Photos

# Keeler Dunes Monitoring Network

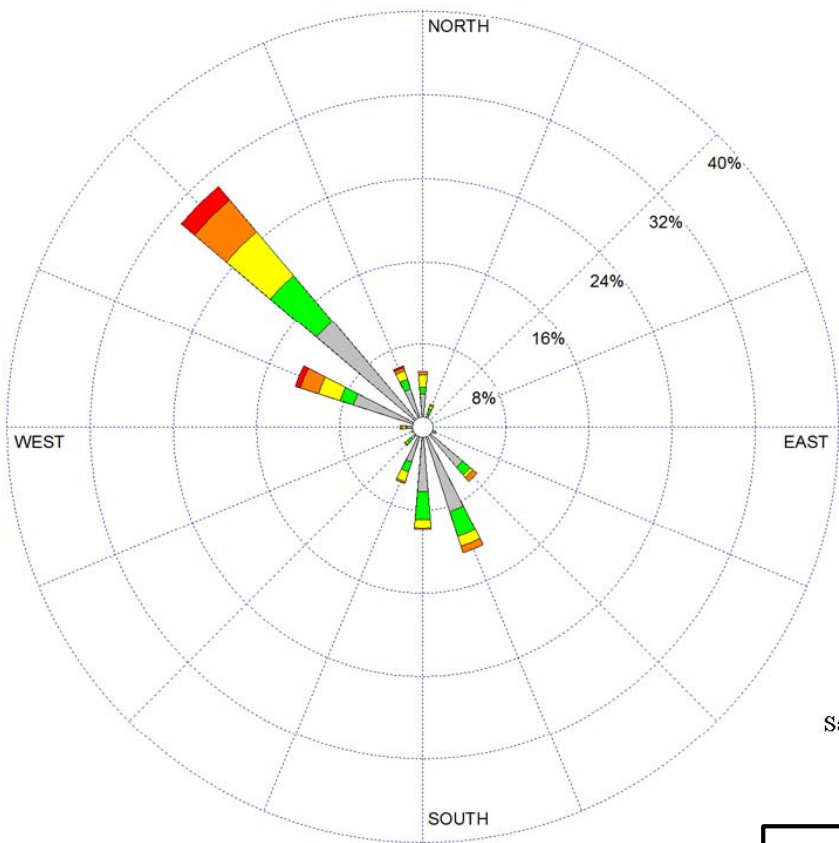


January 2009 Quickbird Image

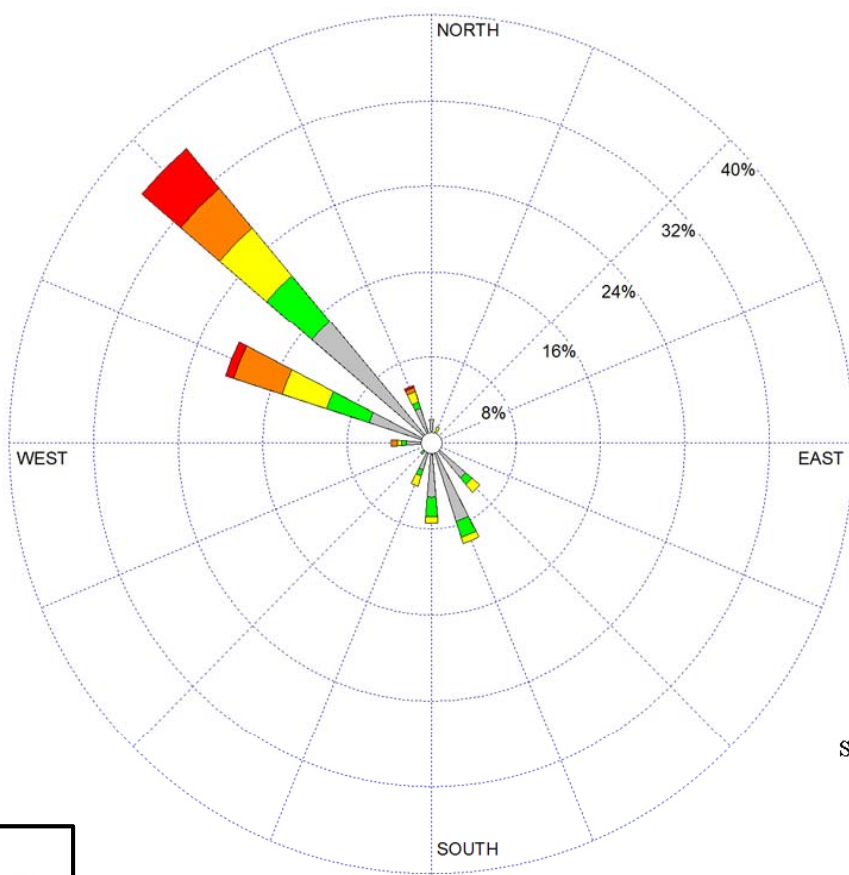


# Sand Flux Roses

Site 7247 (Feb 2009 - Apr 2010)



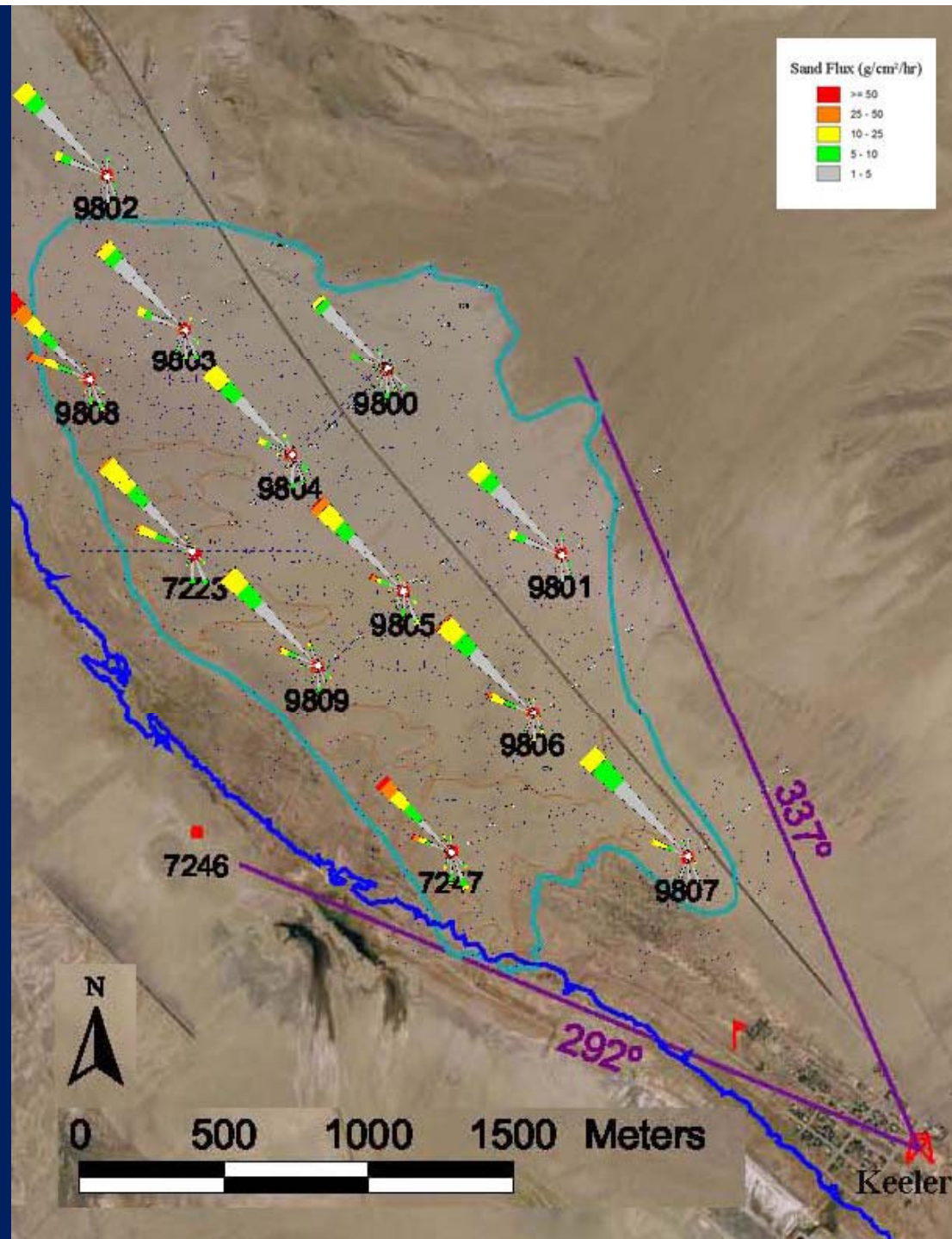
Site 9808 (Feb 2009 - Apr 2010)



Sand Flux (g/cm<sup>2</sup>/hr)

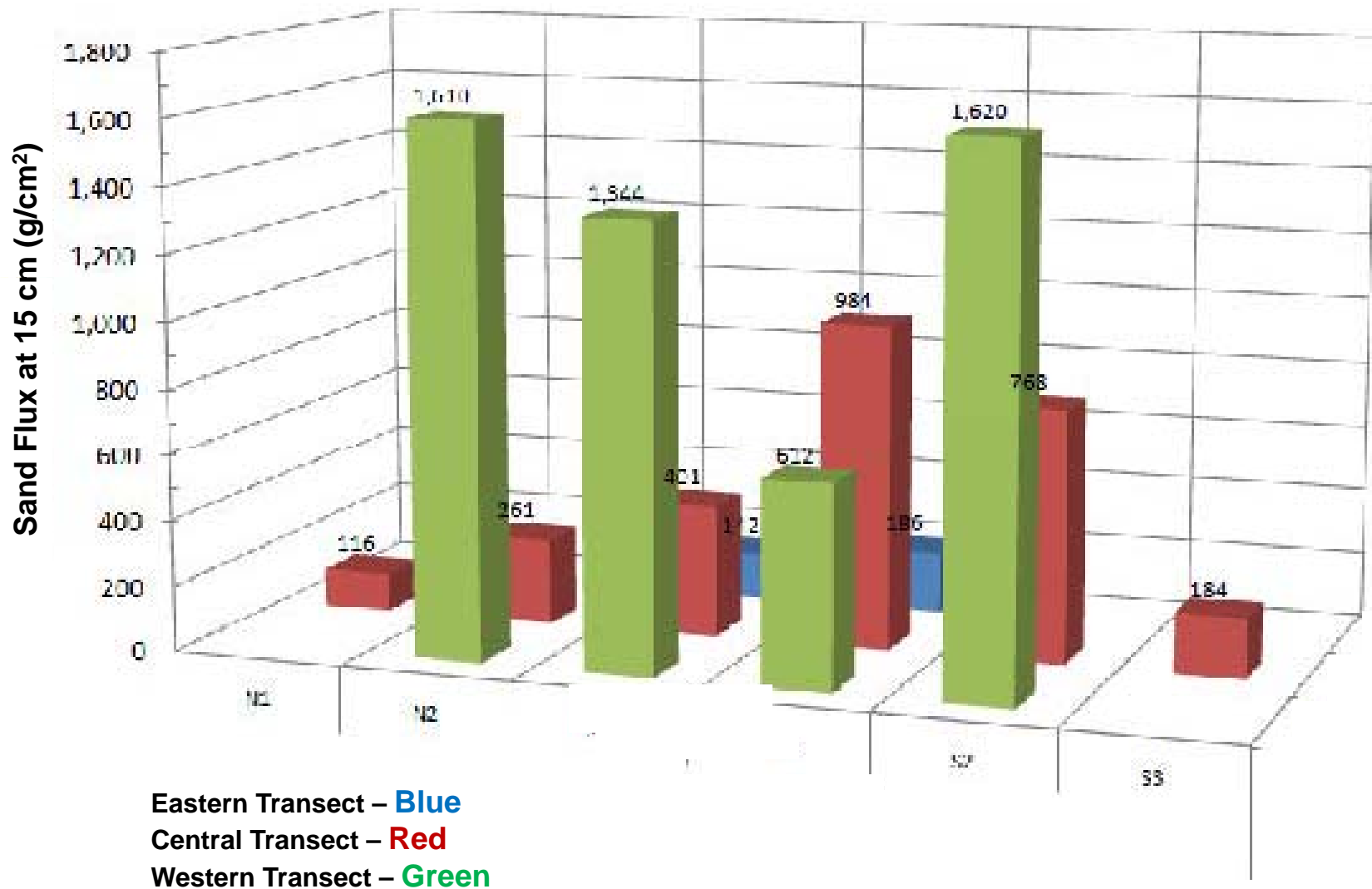
- >= 50
- 25 - 50
- 10 - 25
- 5 - 10
- 1 - 5

# Sand Flux Roses





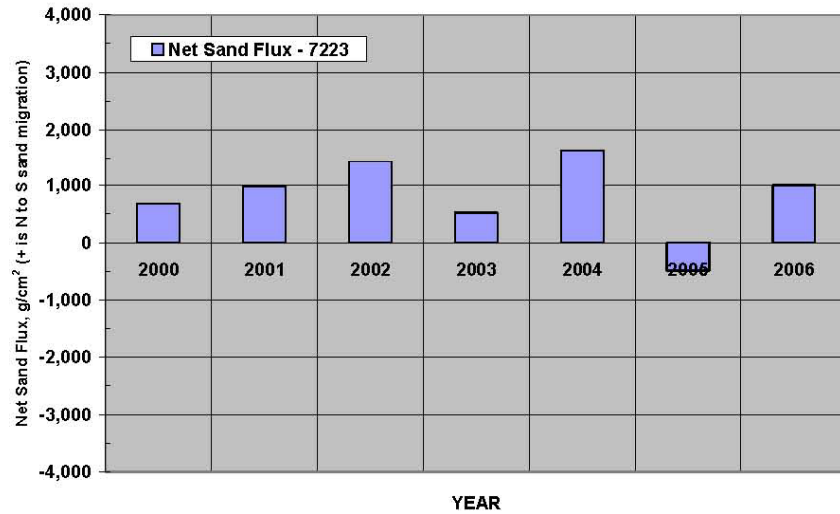
# Total Sand Flux at Keeler Dunes Sites (Feb – Apr 2009)



# Sand Movement Direction

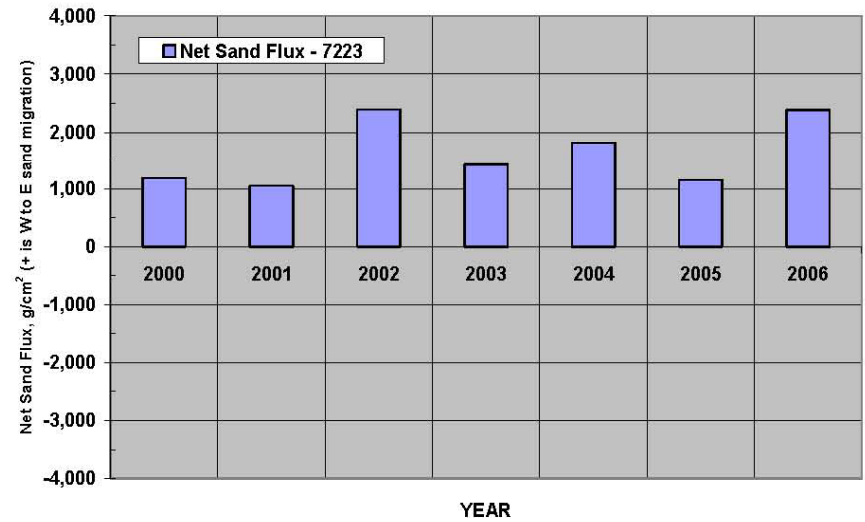
## North to South

North to South Net Annual Sand Flux  
Keeler Dunes - Site 7223

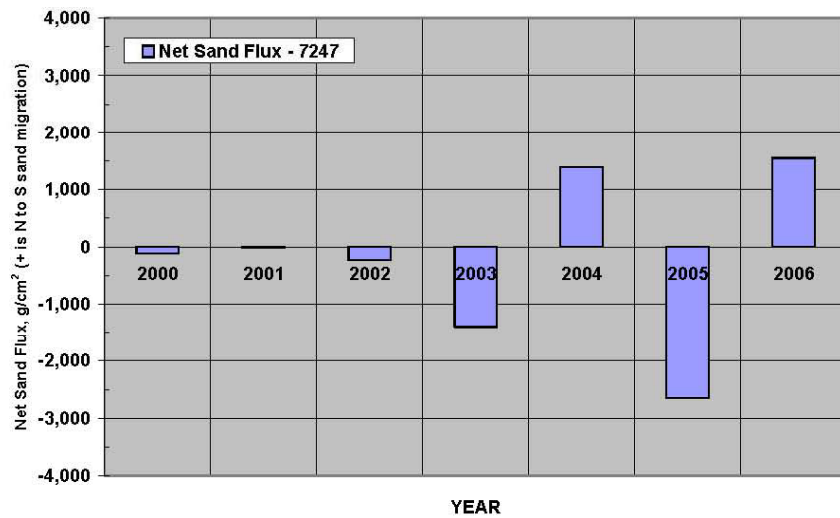


## West to East

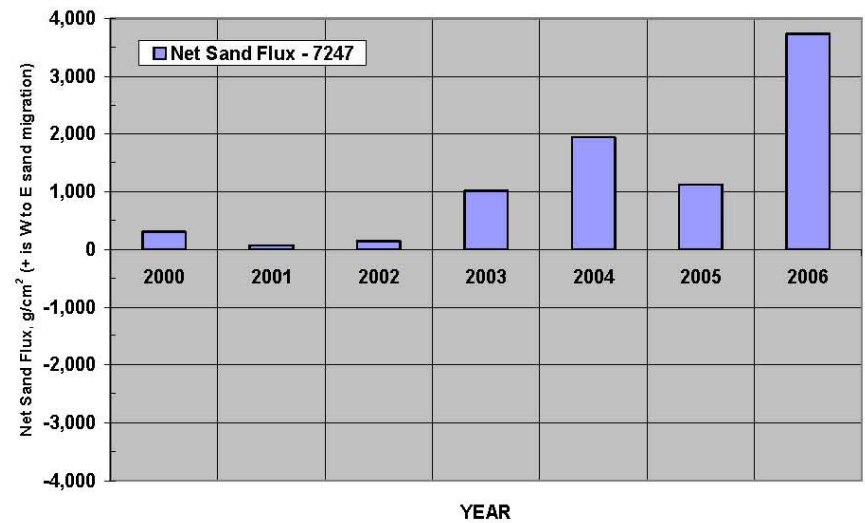
West to East Net Annual Sand Flux  
Keeler Dunes - Site 7223



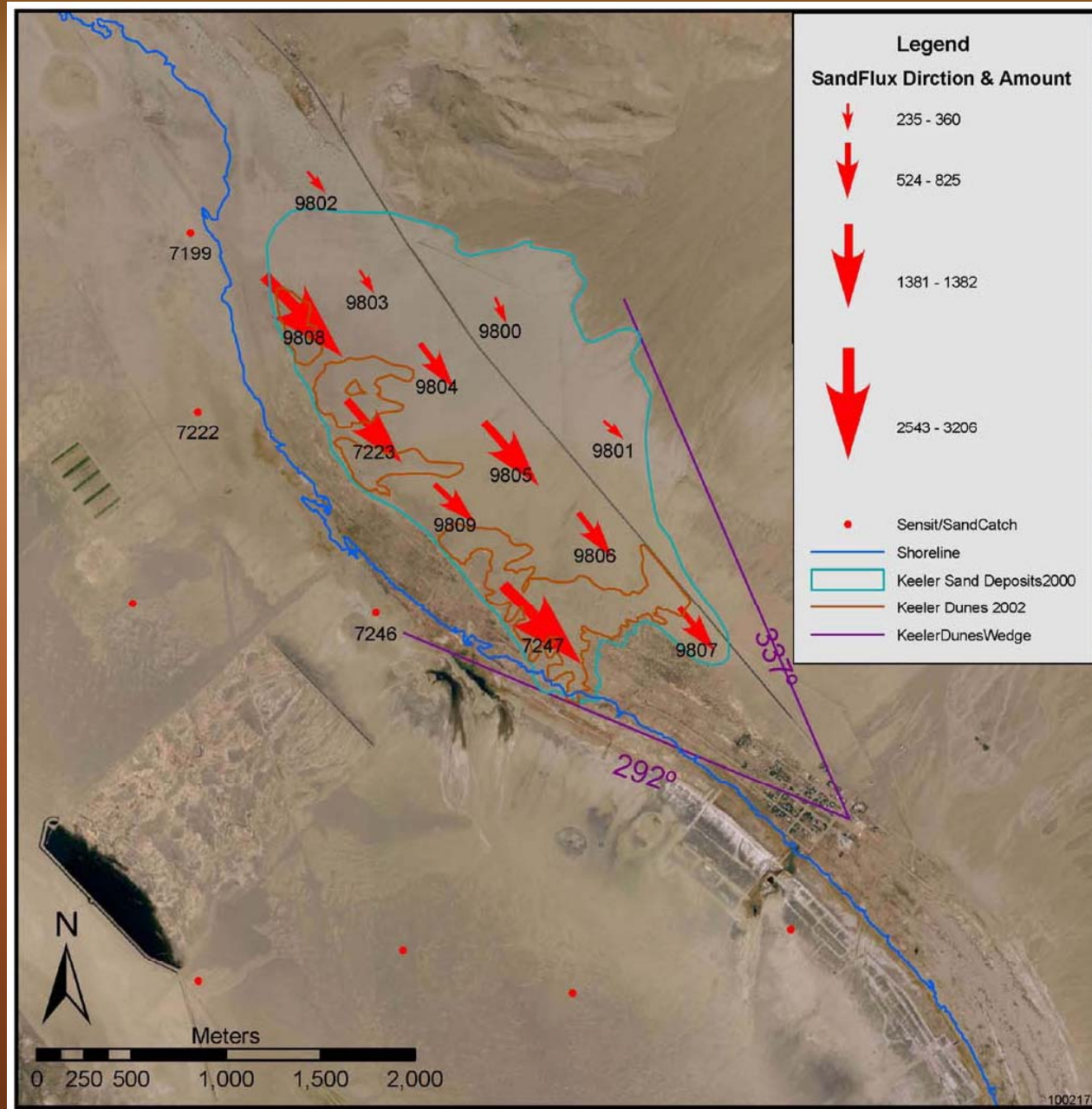
North to South Net Annual Sand Flux  
Keeler Dunes - Site 7247



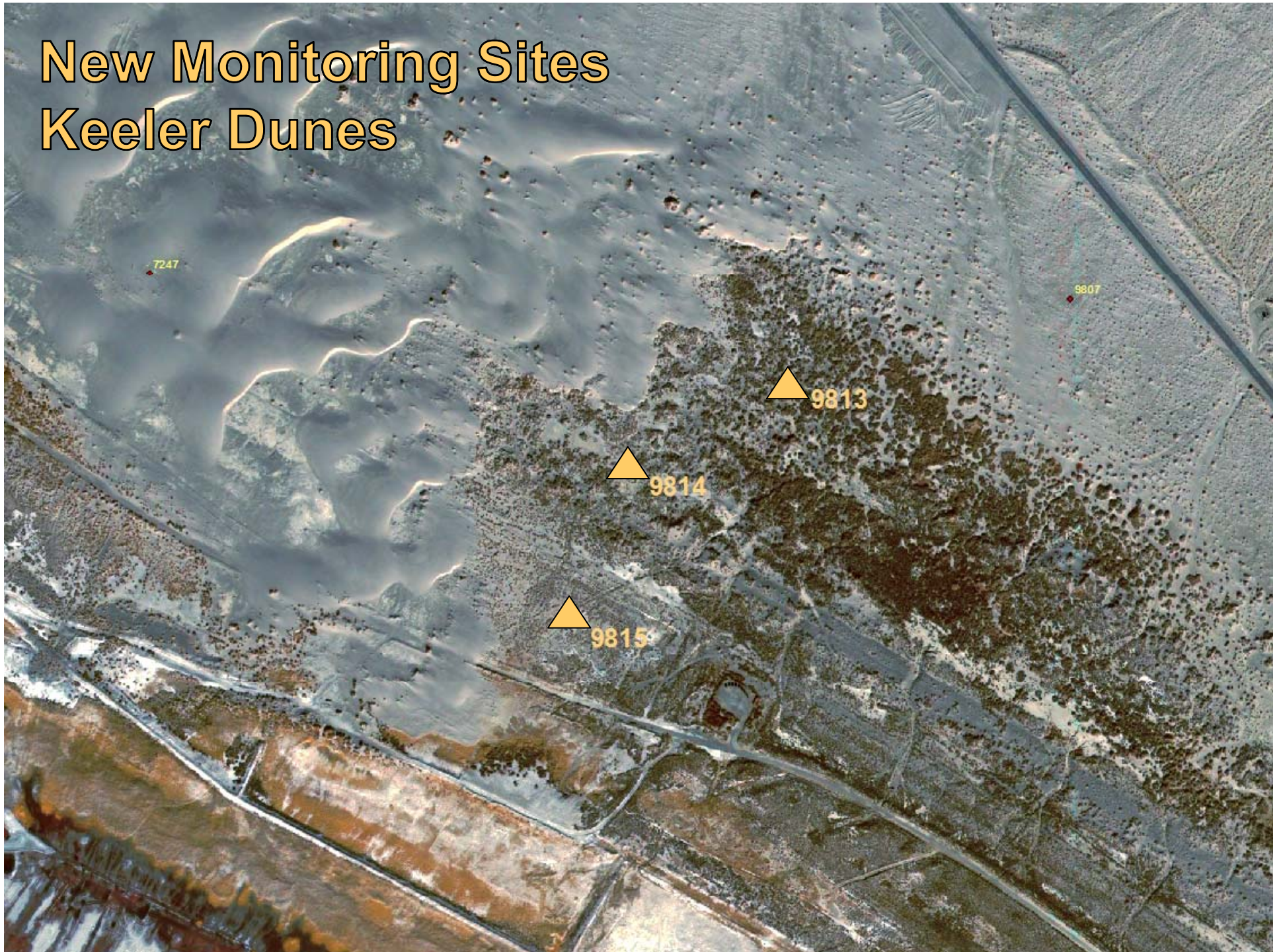
West to East Net Annual Sand Flux  
Keeler Dunes - Site 7247



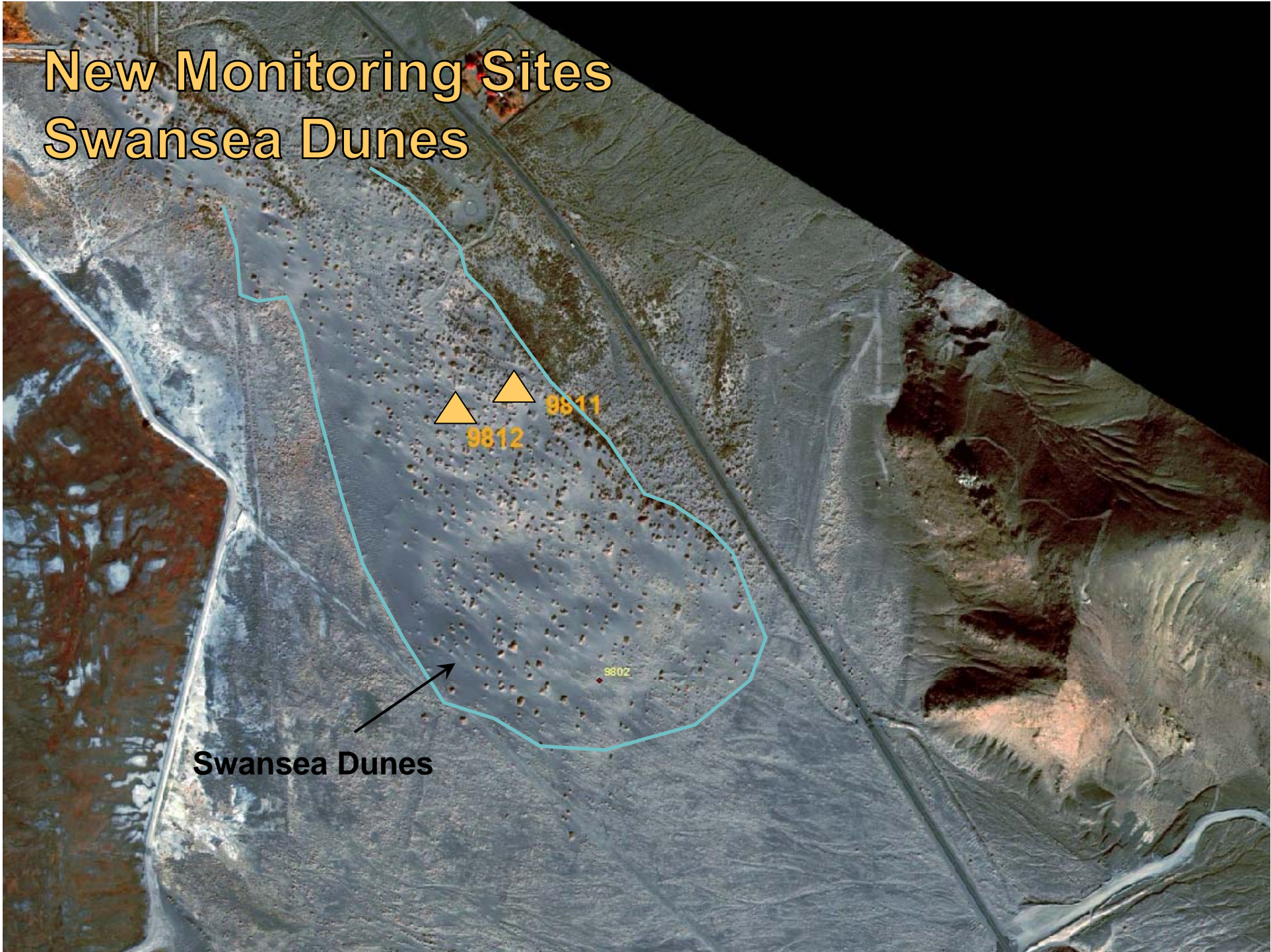
# Net Sand Movement (July 2009 – April 2010)



# New Monitoring Sites Keeler Dunes



# New Monitoring Sites Swansea Dunes



Swansea Dunes



# Monitoring Site Photo Animations

- 1. Site 7247 – view to south**
- 2. Site 9808 – view to west**

05/03/2010

# Dust Video/Sand Flux Animation

- **October 28, 2009 Video from Dolomite 1 Camera Combined with Animation of Sand Flux.**

**Dolomite C1**

**Tue, Mar 23, 2010 7:20:08 AM**