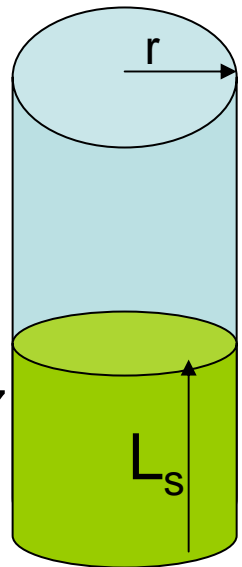


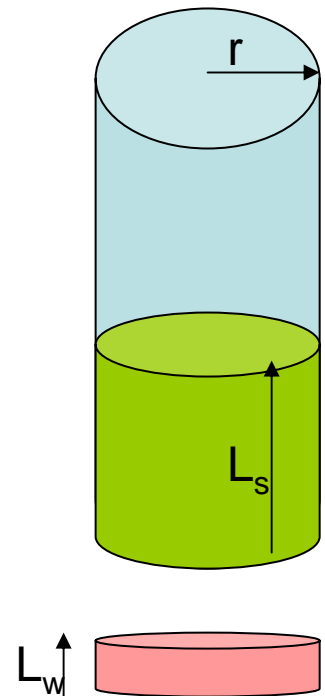
# Measuring Snow to Liquid Water Ratio (SLR)

- A-Area of tube:  $\pi r^2$ 
  - $r=2.1$  cm
  - $A=13.8$  cm<sup>2</sup>
- $V_s$ - Volume of snow:  $AL_s$ 
  - $L_s$ - height of snow measured (cm)
  - Wed morn:  $L_s=7$  cm
  - $V_s=96.6$  cm<sup>3</sup> of snow
- $V_w$ - Volume of water equivalent
  - Water: 1 ml = 1 cm<sup>3</sup>
  - Wed morn: 10-11 ml= 10.5 cm<sup>3</sup> water
- $SLR= V_s/V_w$ :
  - Tues morning:  $L_s=3.5$  cm;  $V_w=4.5$  ml:  $V_s/V_w = 48.3/4.5= 10.7$
  - Tues afternoon:  $L_s=1.3$  cm;  $V_w=2.3$  ml:  $V_s/V_w = 18/2.3= 7.8$
  - Wed morning:  $L_s=7$  cm;  $V_w=10.5$  ml:  $V_s/V_w = 96.6/10.5= 9.2$
  - Thurs afternoon:  $L_s=4.5$  cm;  $V_w=9$  ml:  $V_s/V_w = 62/9=6.8$



# Measuring Snow to Liquid Water Ratio

- $SLR = V_s / V_w = AL_s / AL_w = L_s / L_w$ 
  - A-Area of tube:  $\pi r^2$
  - $r = 2.1$  cm
  - $A = 13.8$  cm<sup>2</sup>
- $L_w$ - Height of liquid water equivalent in tube (cm)
  - $L_w = V_w / A$
  - Wed morn:  $L_w = 4.5$  cm<sup>3</sup> / 13.8 cm<sup>2</sup> = .32 cm
- SLR:  $L_s / L_w$  Inches (or cm) snow to inches (or cm) water ratio
  - Tues morning: 10.7
  - Tues afternoon: 7.8
  - Wed morning: 9.2
  - Thurs afternoon: 6.8
- Snow density =  $L_w / L_s = 1 / SLR$ 
  - Tues morning:  $1 / 10.7 = 9\%$
  - Tues afternoon:  $1 / 7.8 = 12.8\%$
  - Wed morning:  $1 / 9.2 = 10.8\%$
  - Thurs afternoon:  $1 / 6.8 = 14.7\%$



# SLR Ratio at Alta

- Mon 27<sup>th</sup>:  $7 : .51 = 13.7$  or  $1/13.7 = 7.3\%$
- Tues 28<sup>th</sup>:  $21 : 1.06 = 19.8$  or  $1/19.8 = 5\%$
- Wed 29<sup>th</sup>:  $11.5 : .63 = 18.25$  or  $1/18.25 = 5.4\%$

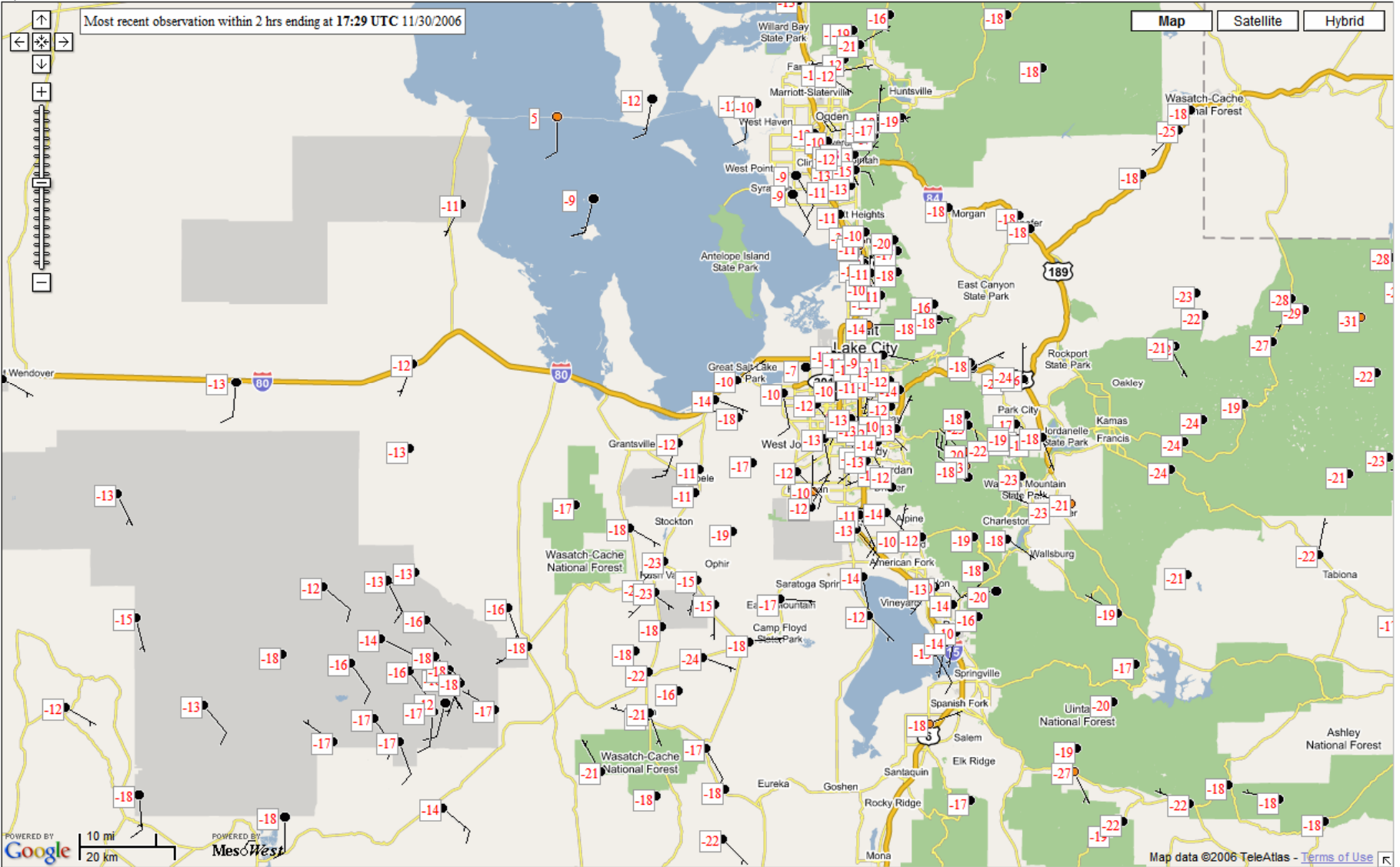


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