

# Model intercomparison of indirect effect

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# Prescribed experiments

- 1. Prescribed aerosol mass; no effect of aerosols on precipitation efficiency; common treatment of precipitation efficiency; common treatment of cloud droplet number parameterization; does not include aerosol direct effects on the heating profile
- 2. Prescribed aerosol mass and size distribution; no effect on precipitation by aerosols; common treatment of precipitation efficiency; no common cloud droplet number parameterization; does not include aerosol direct effects on the heating profile
- 3. Prescribed aerosol mass and size distribution; common treatment of effect of aerosols on precipitation efficiency; no common cloud droplet number parameterization; does not include aerosol direct effects on the heating profile

# Prescribed experiments

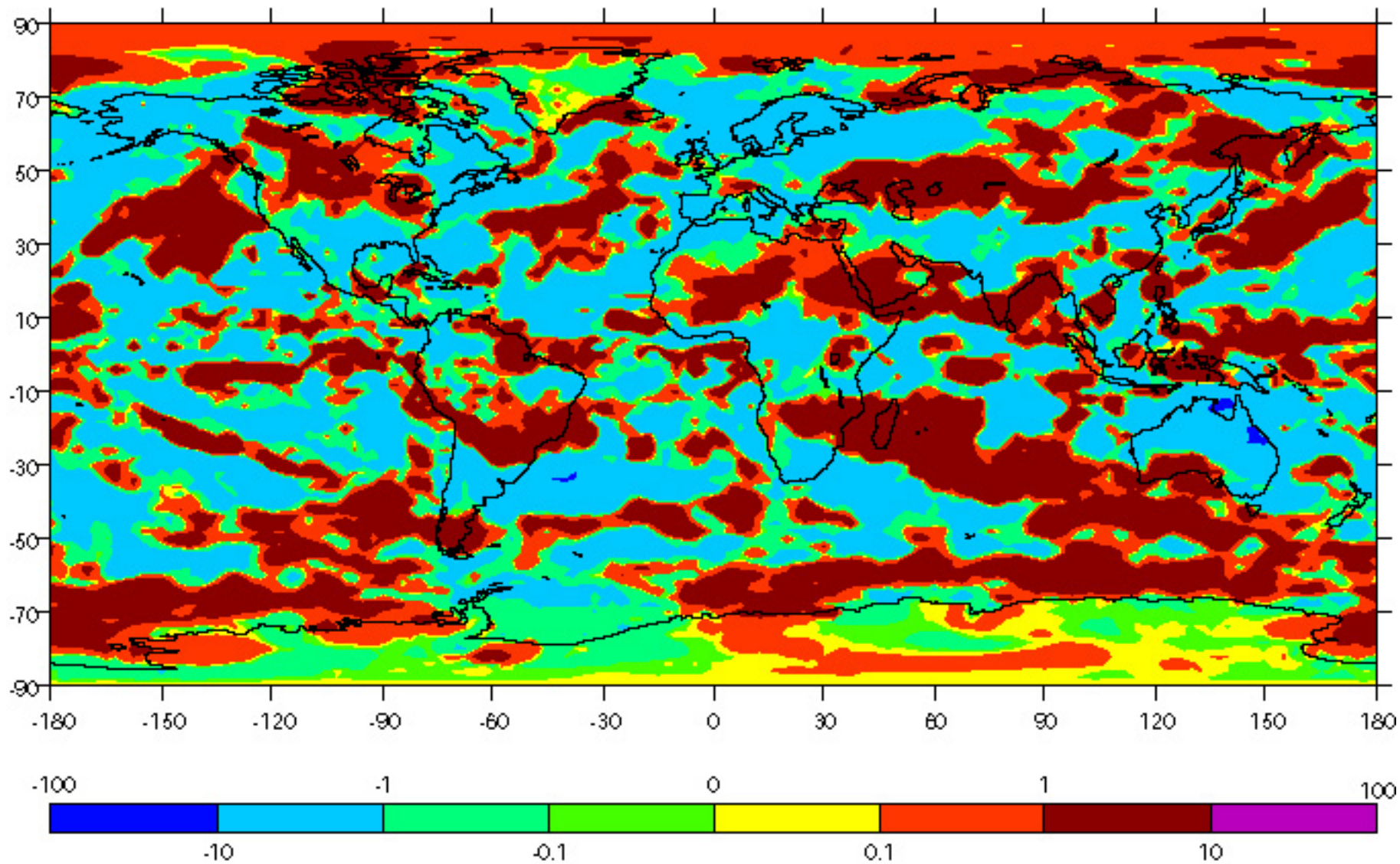
- 4. Prescribed aerosol mass and size distribution; **NO** common treatment of effect of aerosols on precipitation efficiency; no common cloud droplet number parameterization; does not include aerosol direct effects on the heating profile
- 5. Prescribed aerosol sources; no common treatment of effect of aerosols on precipitation efficiency; no common cloud droplet number parameterization; does not include aerosol direct effects on the heating profile
- 6. Prescribed aerosol sources; no common treatment of effect of aerosols on precipitation efficiency; no common cloud droplet number parameterization; includes aerosol direct effects on the heating profile

TOAwsswf-TOAcswf\_time-avg\_cam\_exp1

Mean -0.585913

Max 8.60656

Min -11.5325



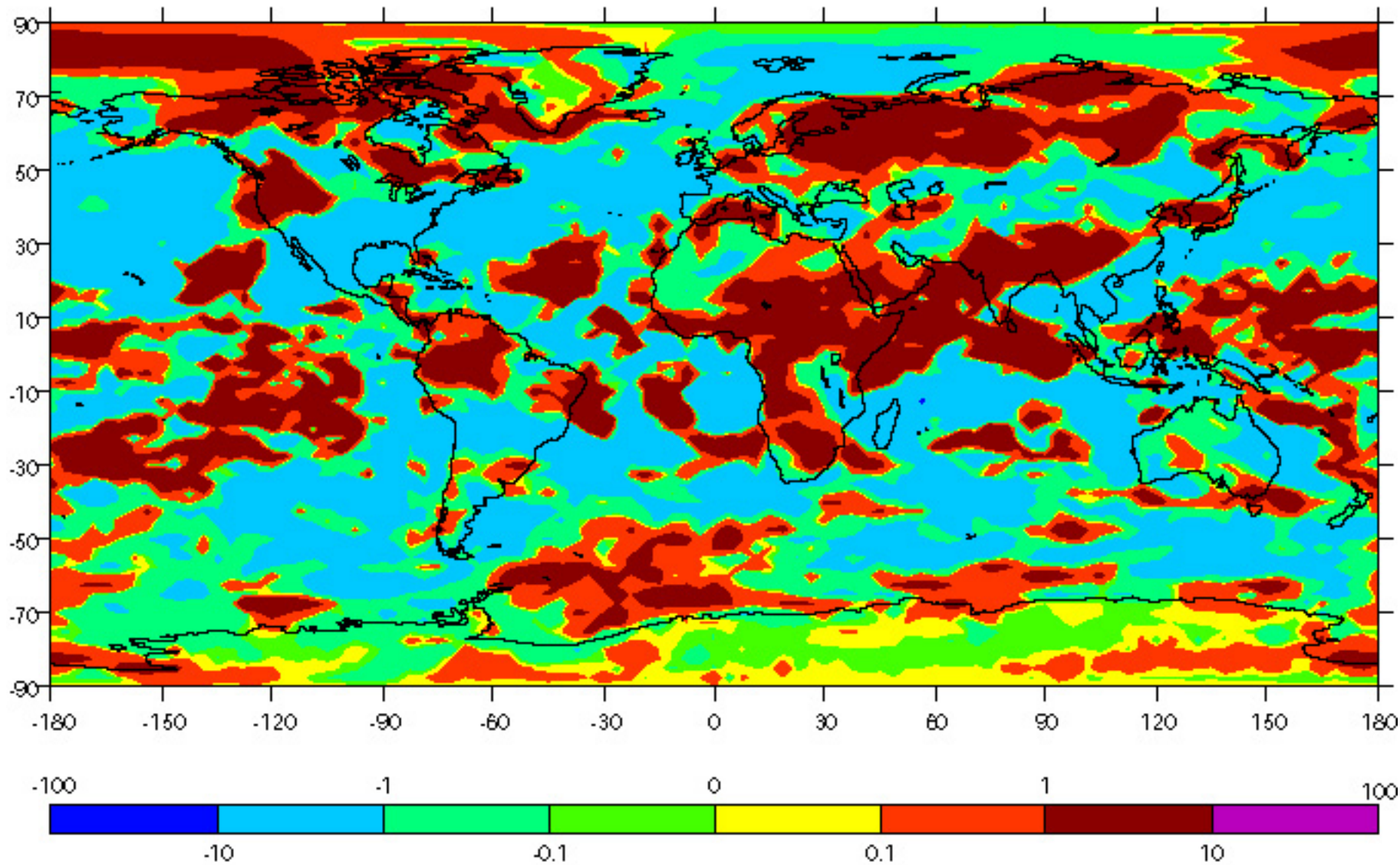


TOAwsswf-TOAcswf\_time-avg\_lmd\_exp1

Mean -0.629805

Max 8.48685

Min -12.6378

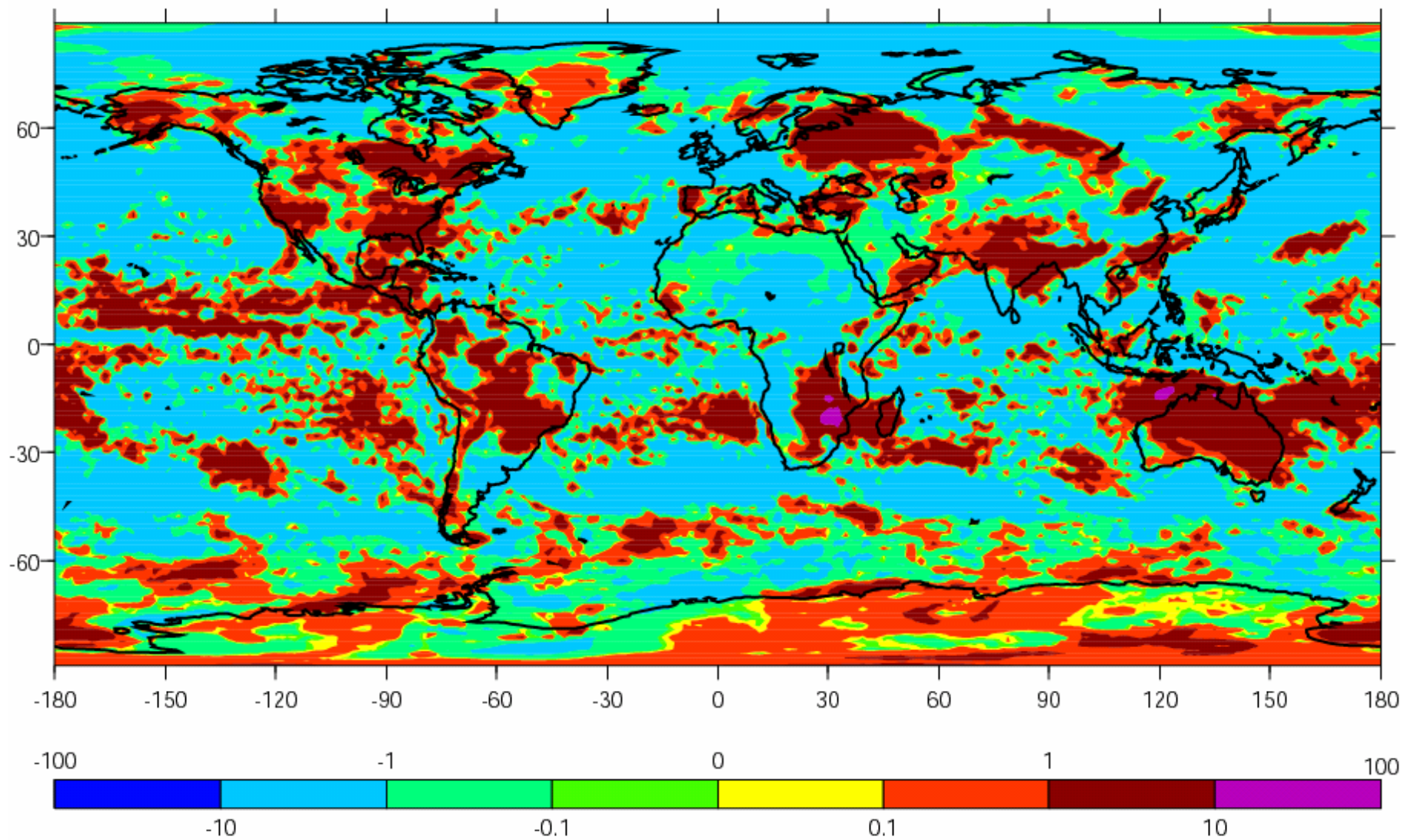


TOAwswf-TOAcswf\_time-avg\_sprint\_exp1

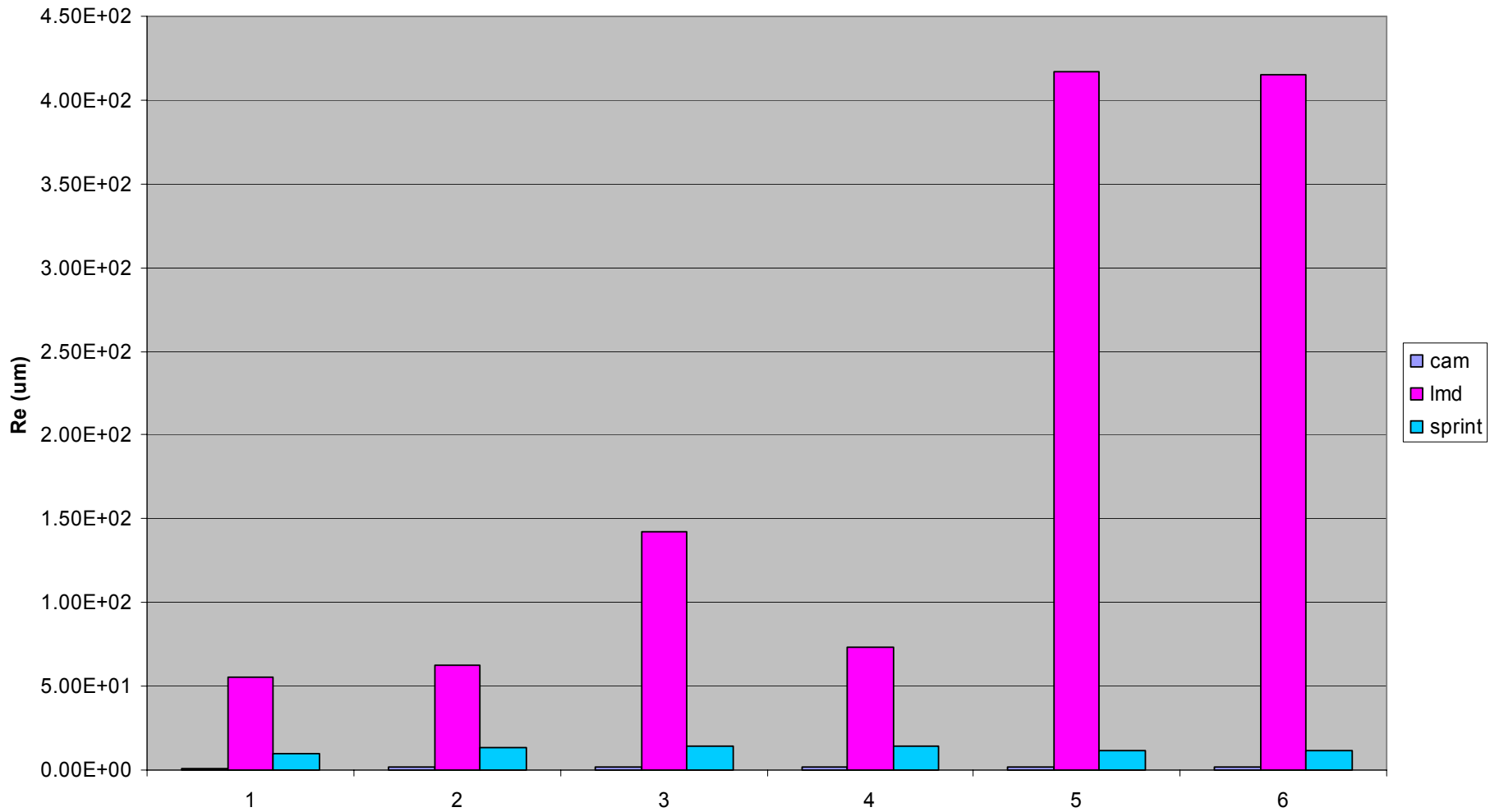
Mean -0.70914

Max 18.2742

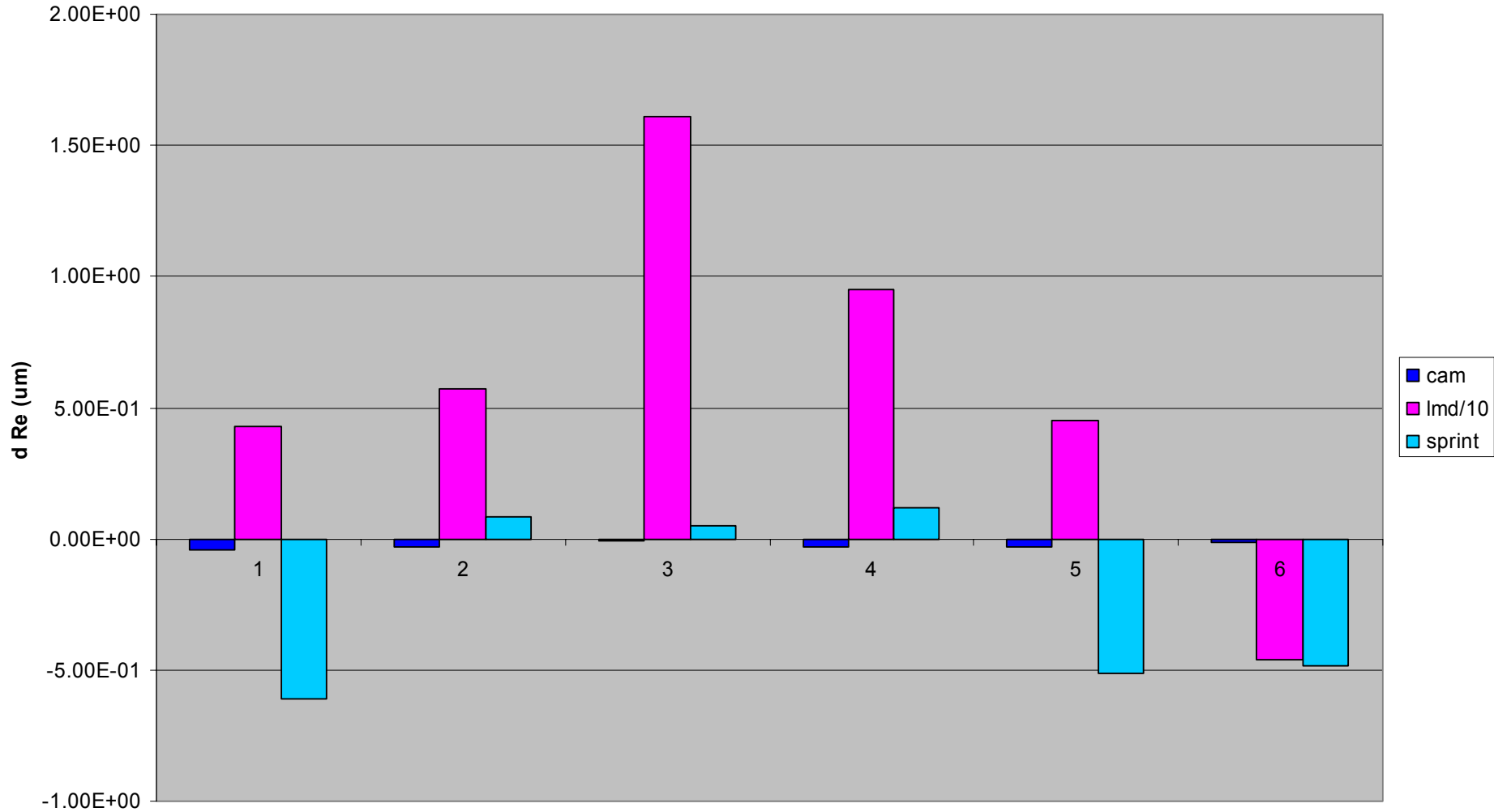
Min -10.0533



# Cloud Effective Radius

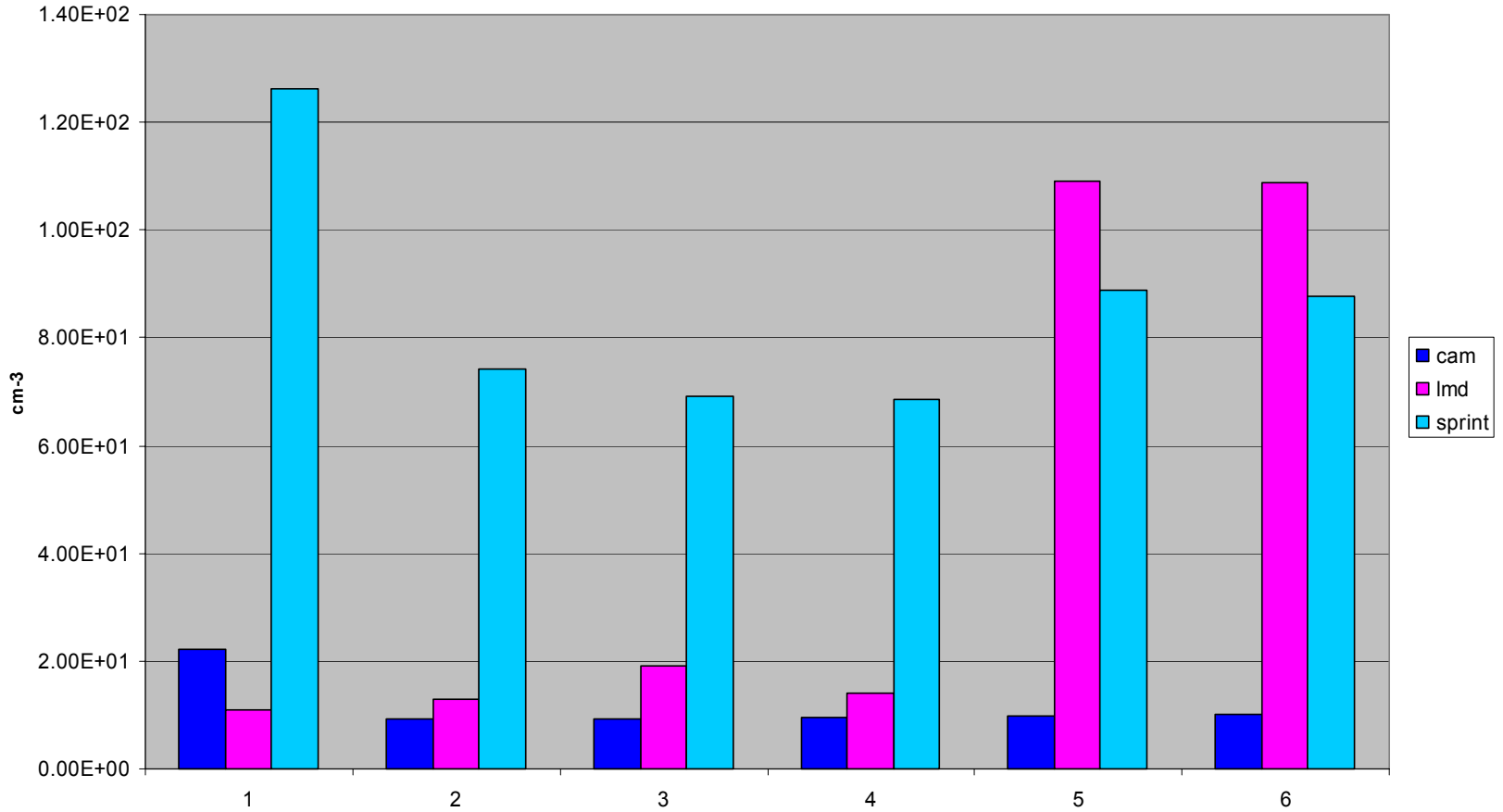


# Change in Effective Radius

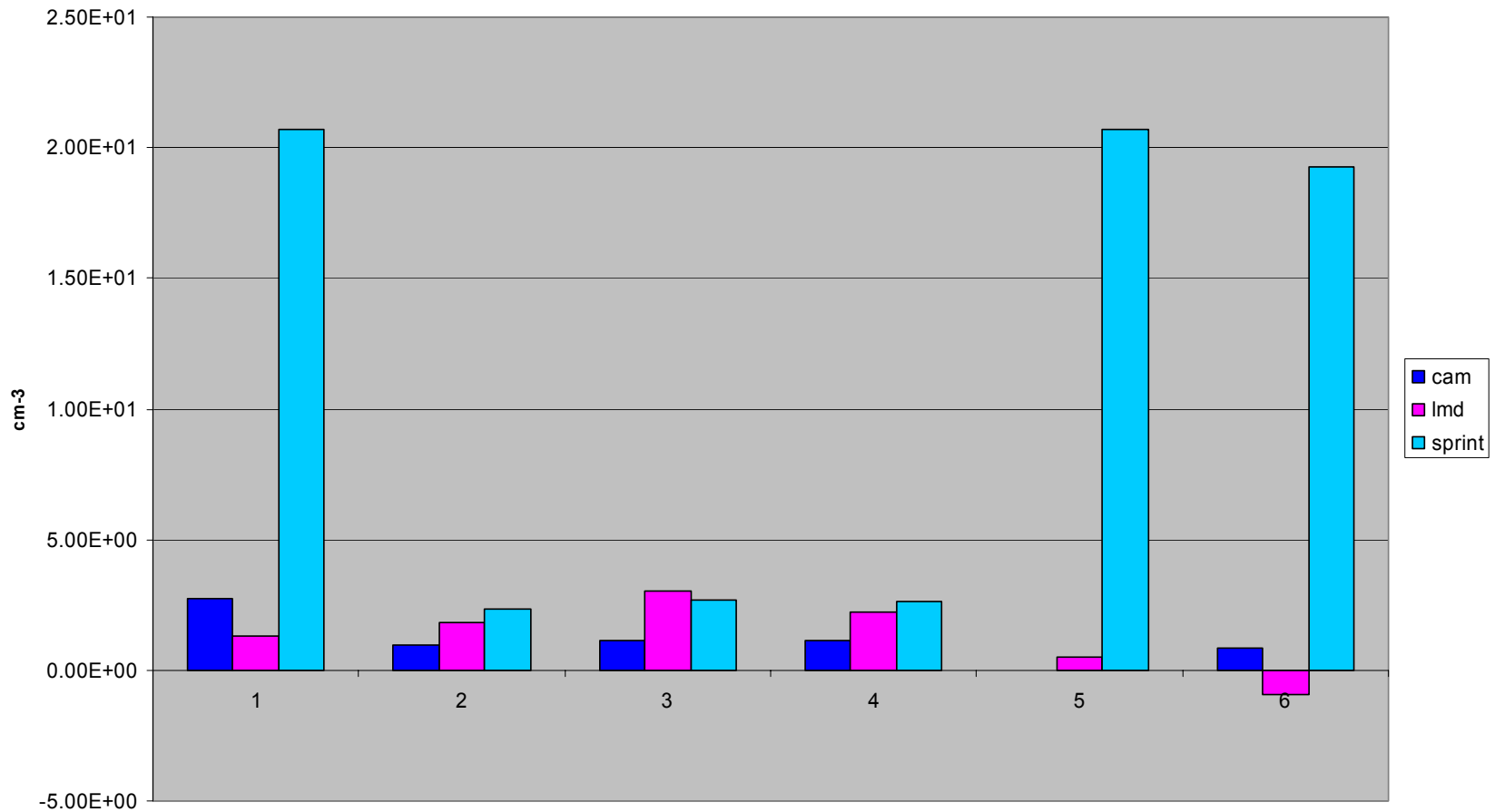




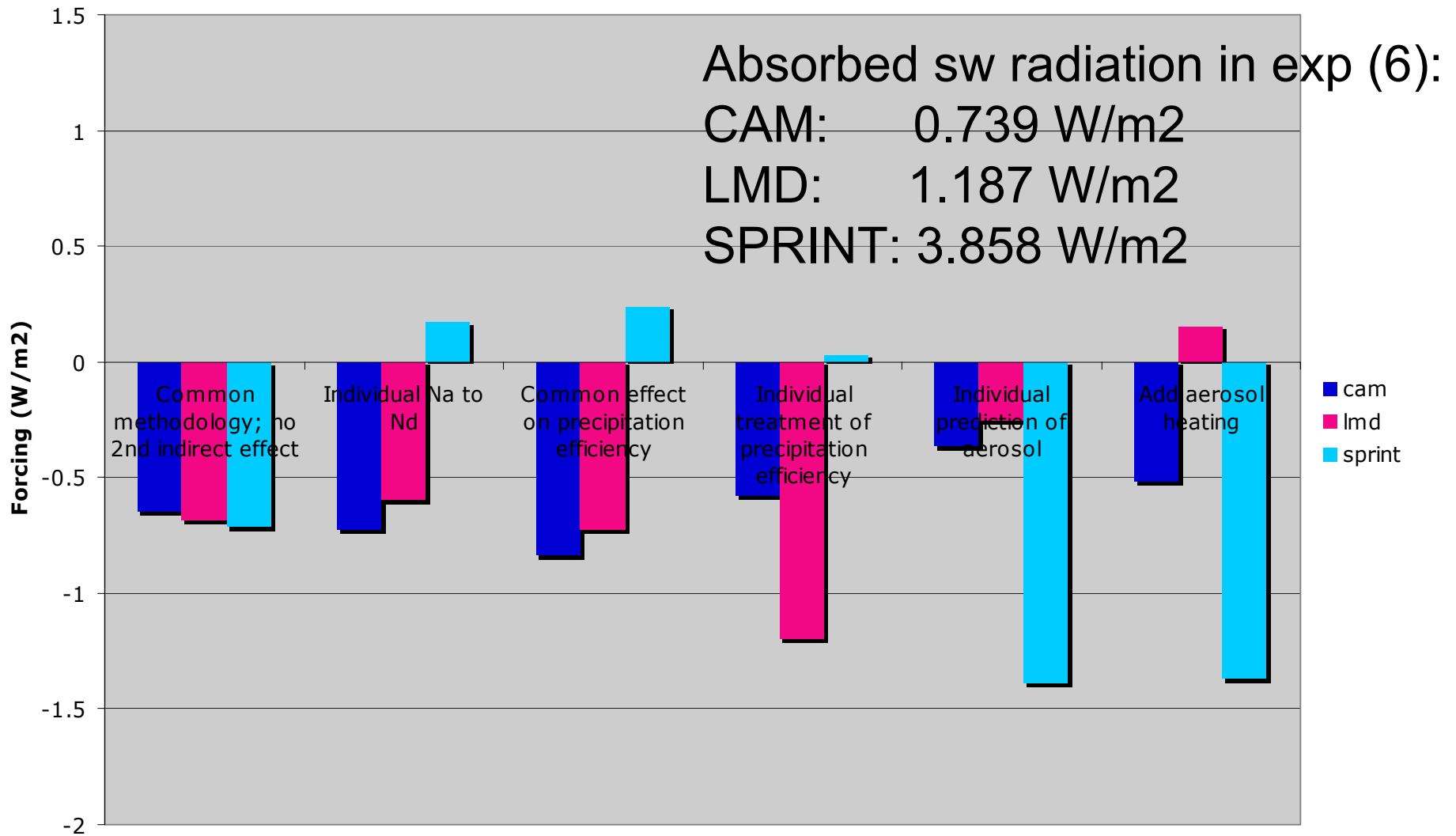
# Cloud Number Concentration



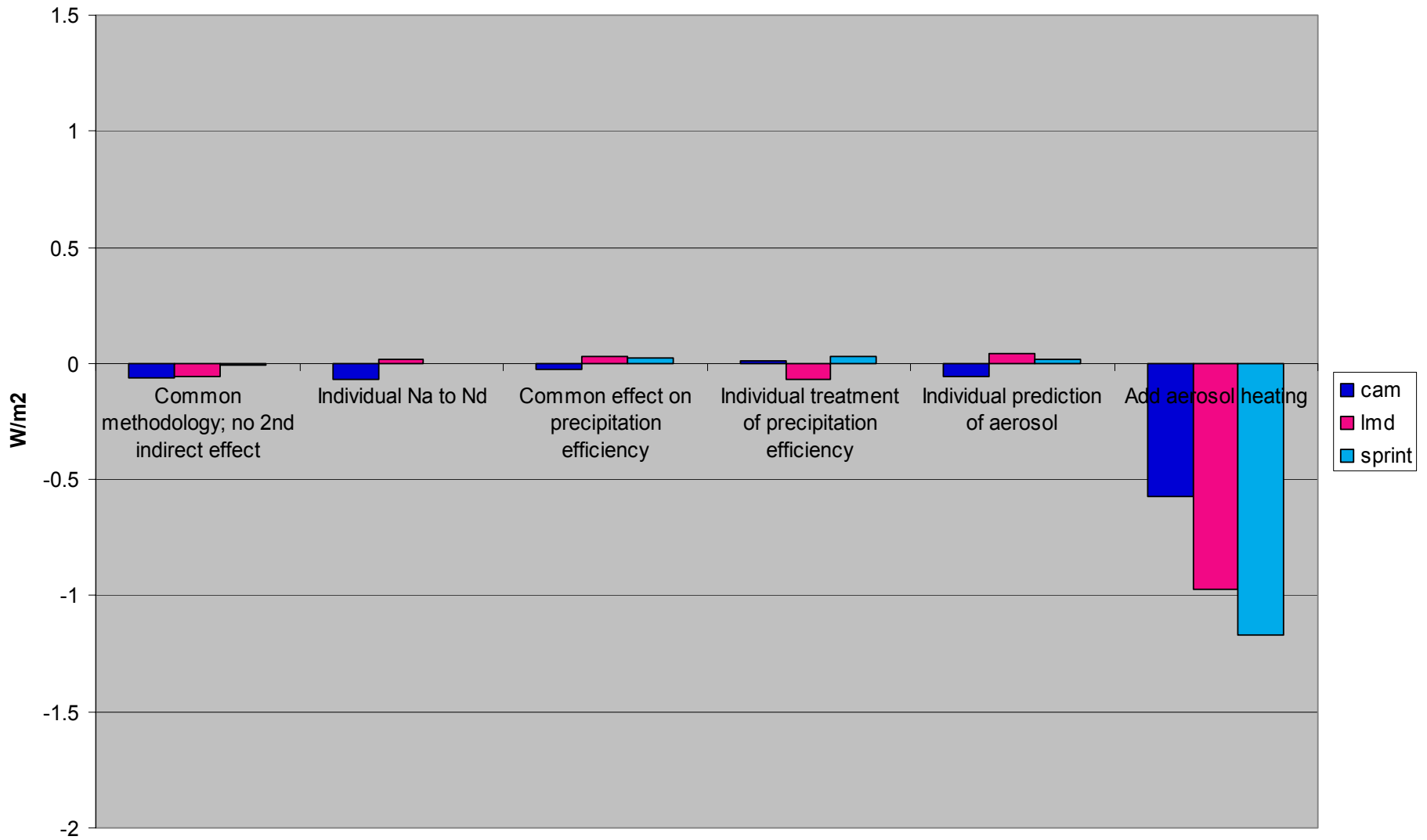
# Change in Number Concentration



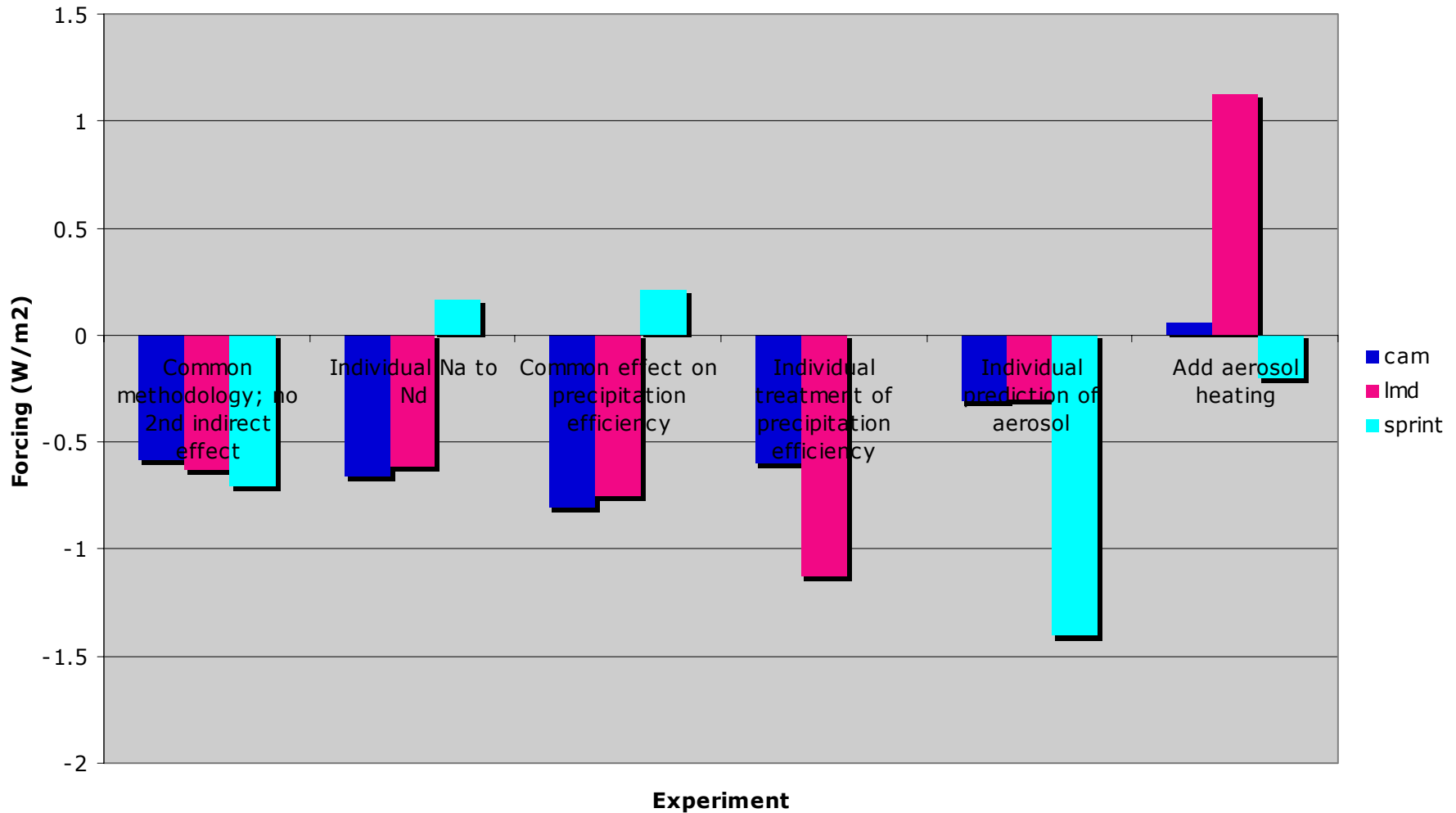
# Whole sky forcing



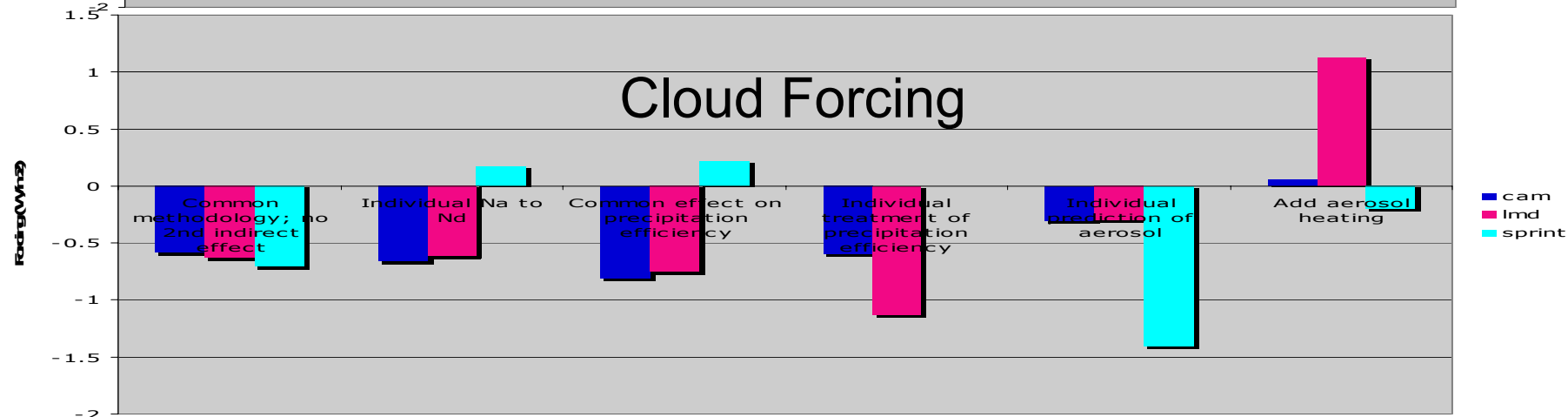
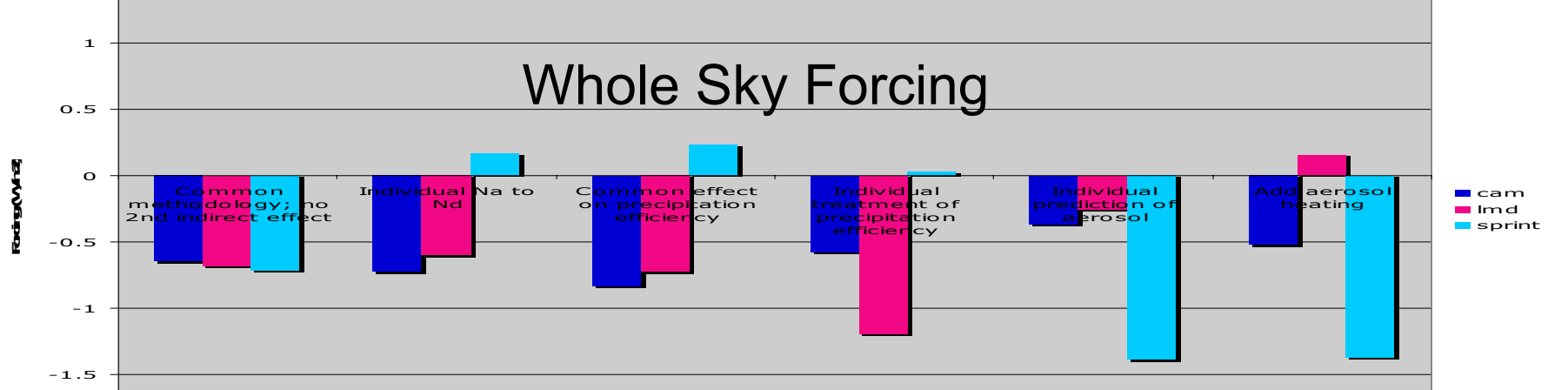
# Clear sky Forcing



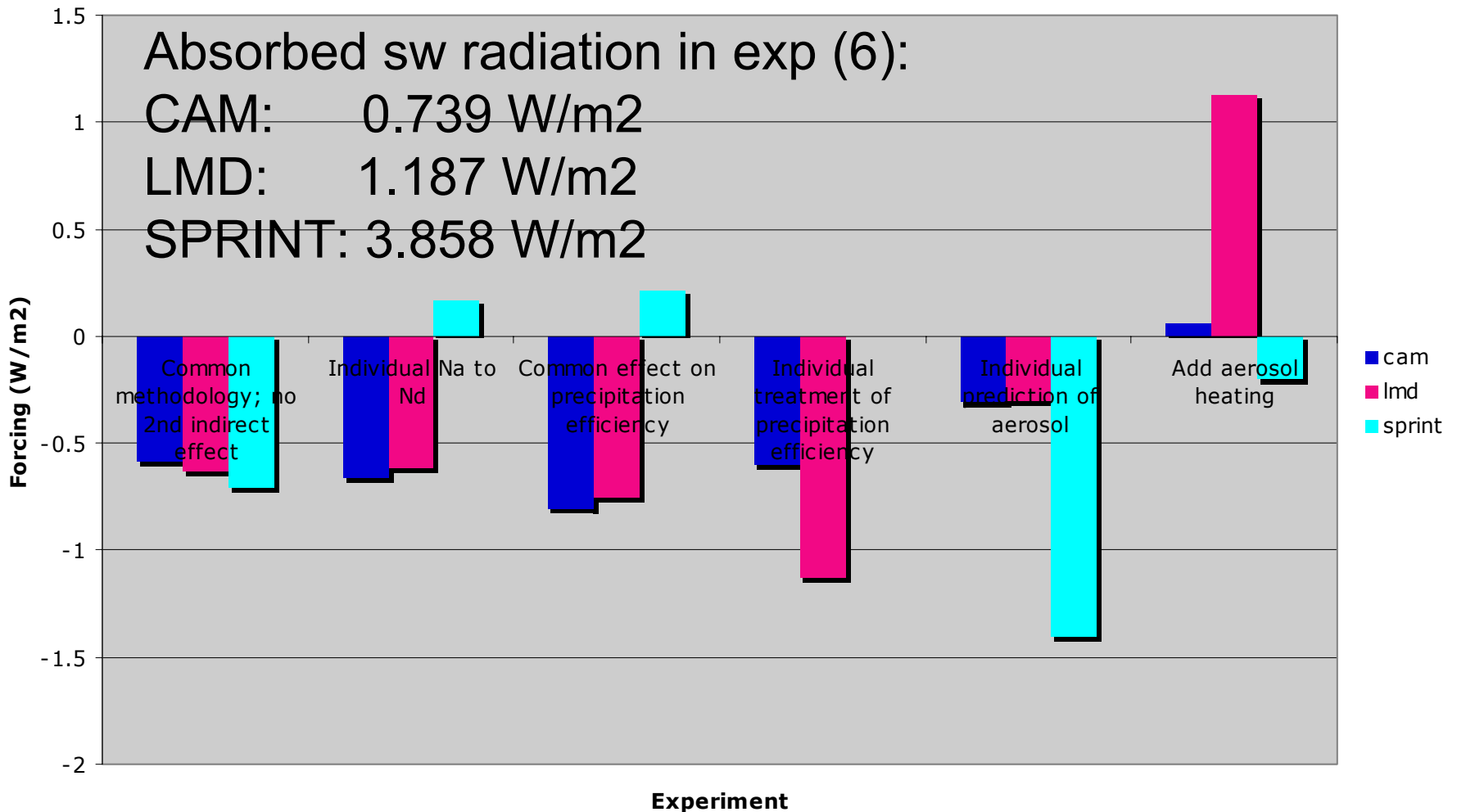
# Cloud forcing



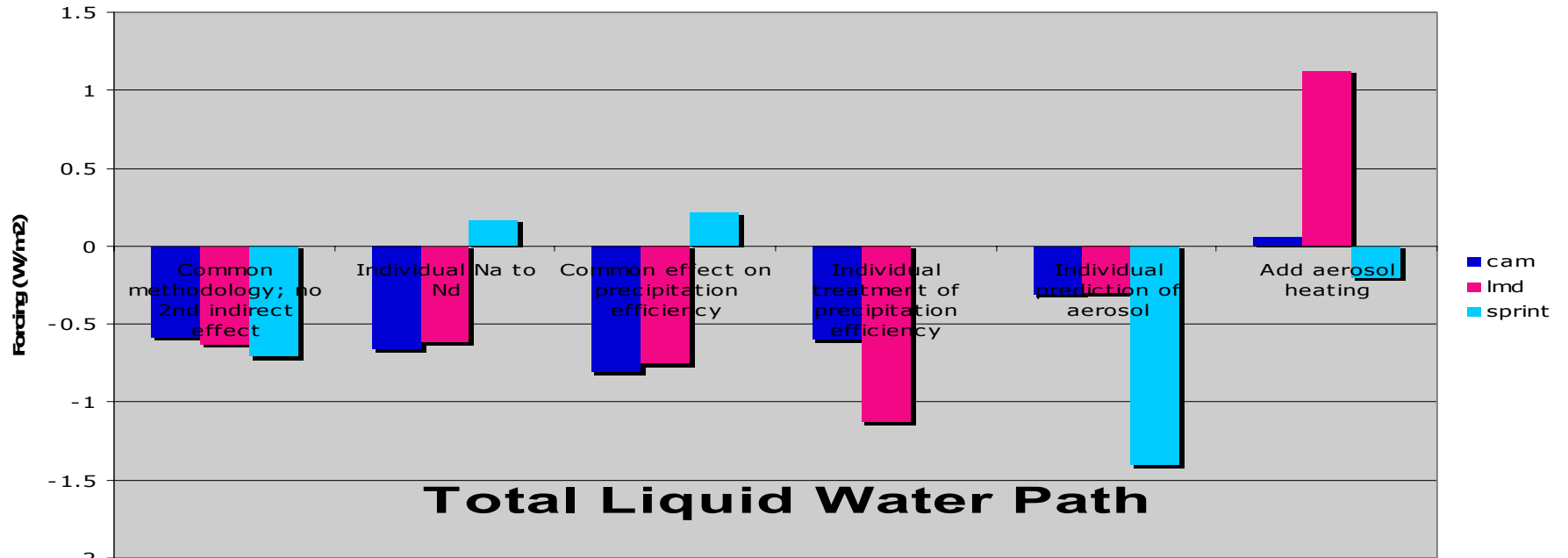




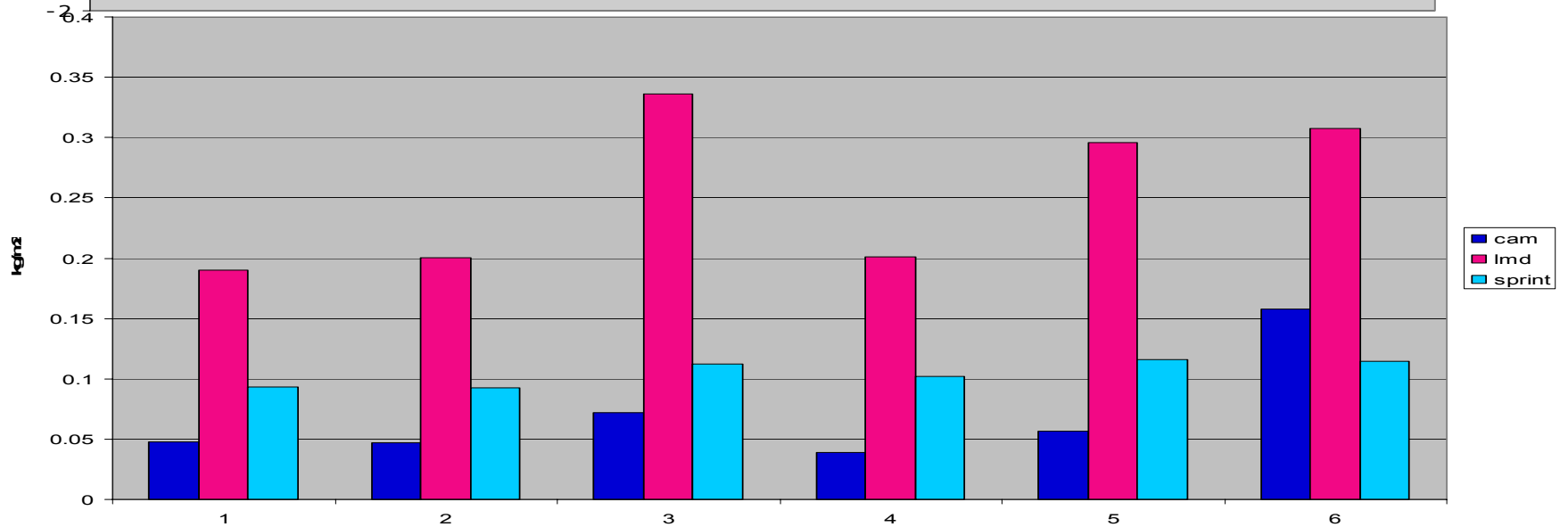
# Cloud forcing



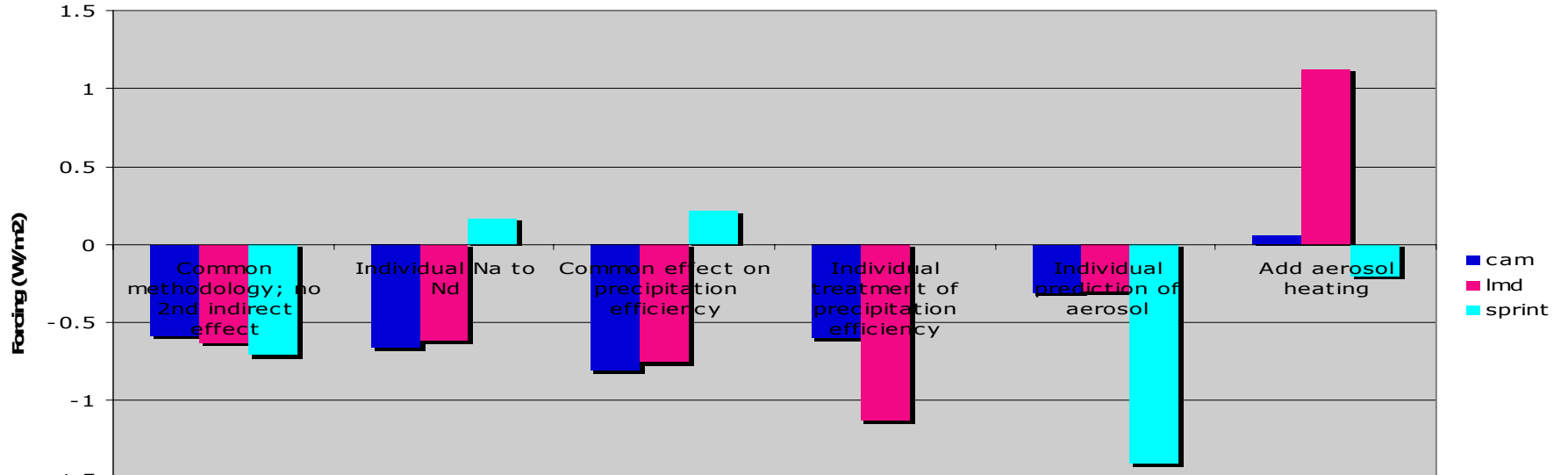
# Cloud forcing



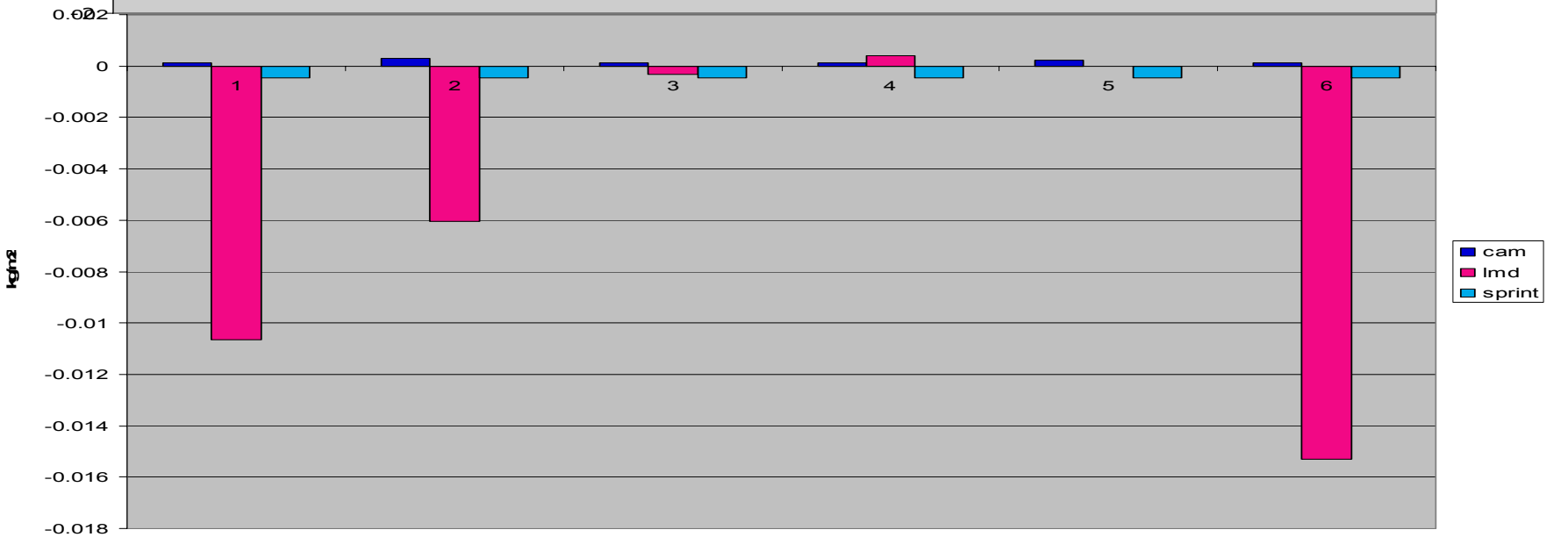
# Total Liquid Water Path



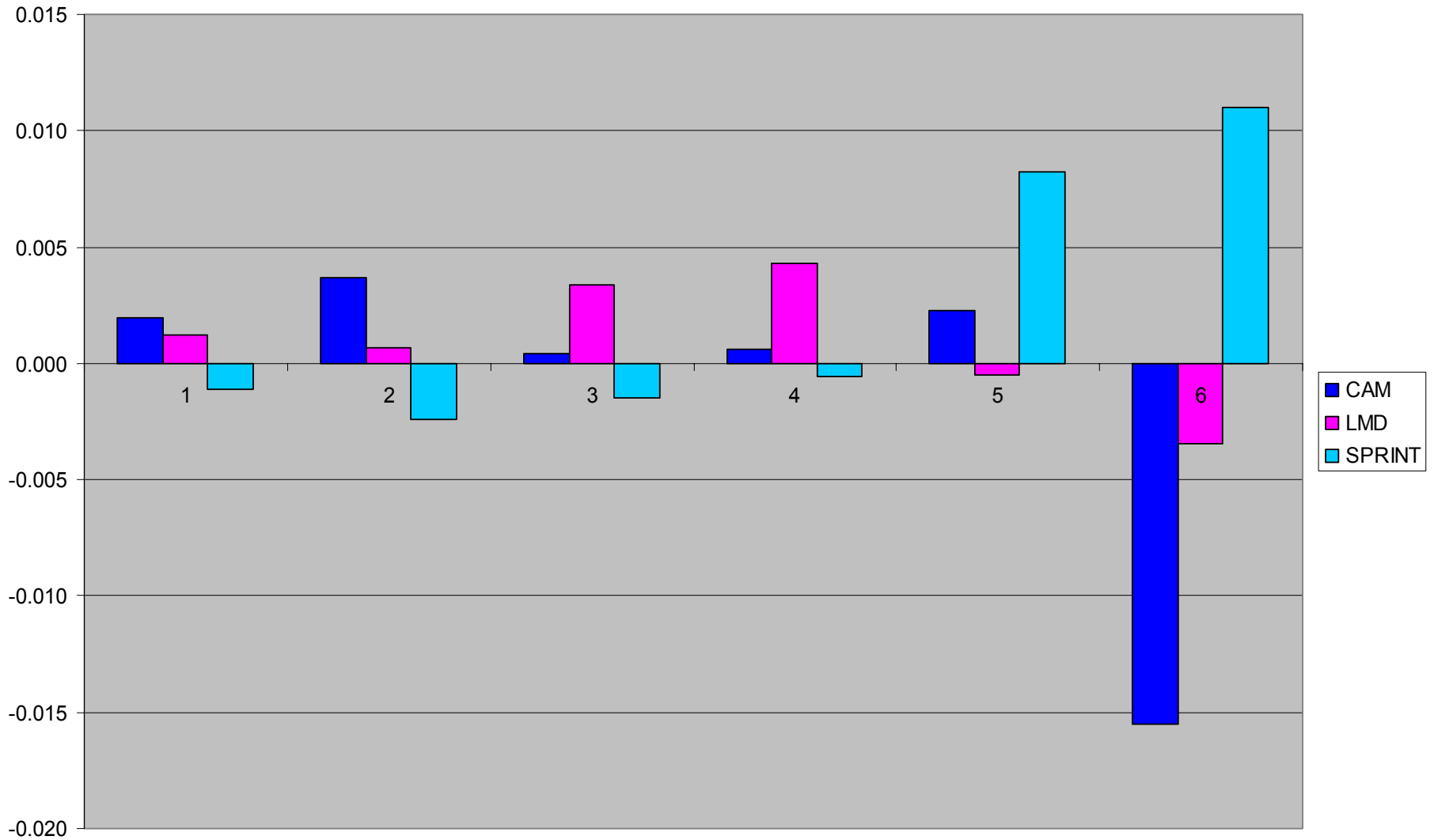
# Cloud forcing



# Total LWP Change

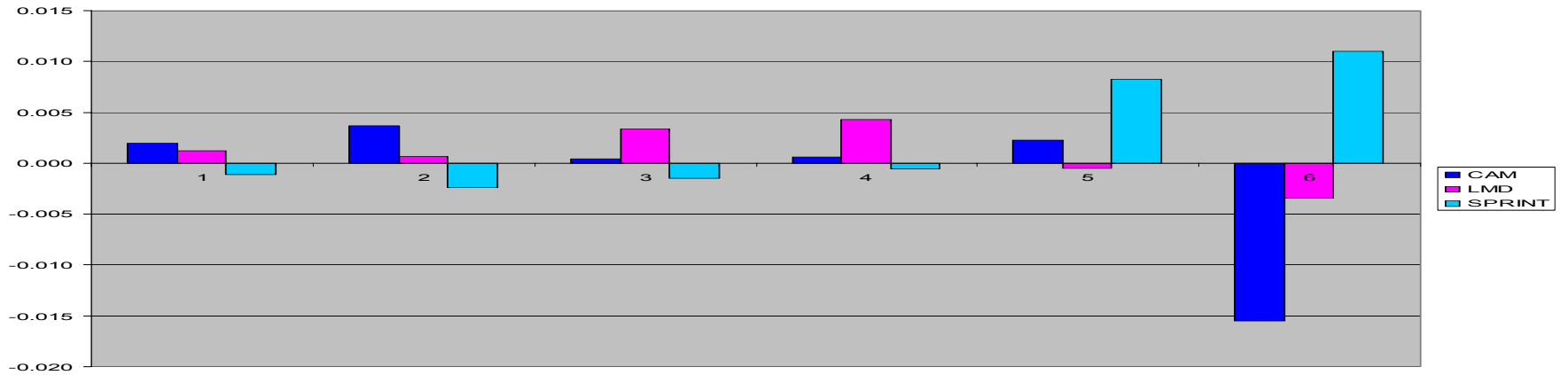
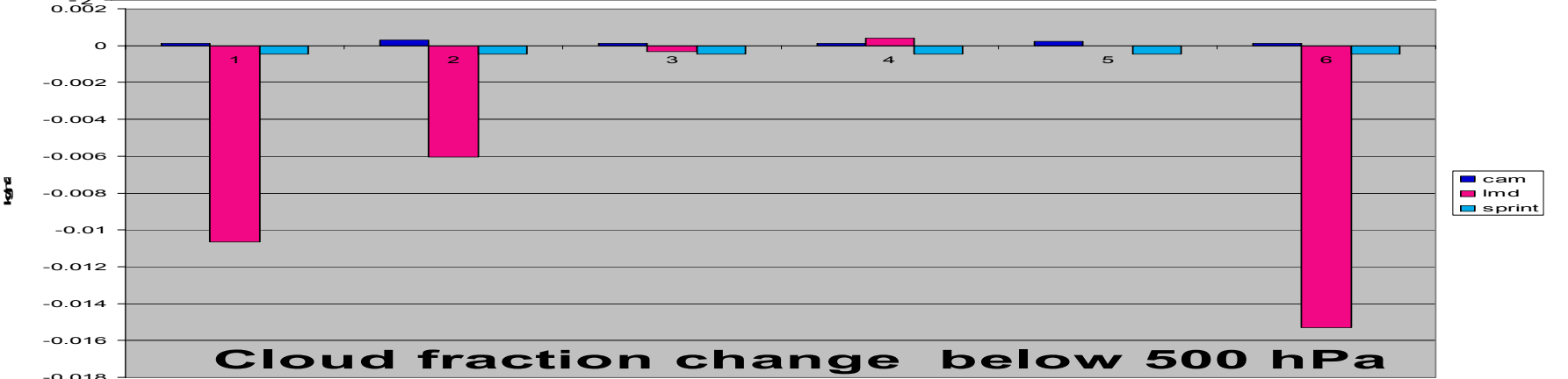
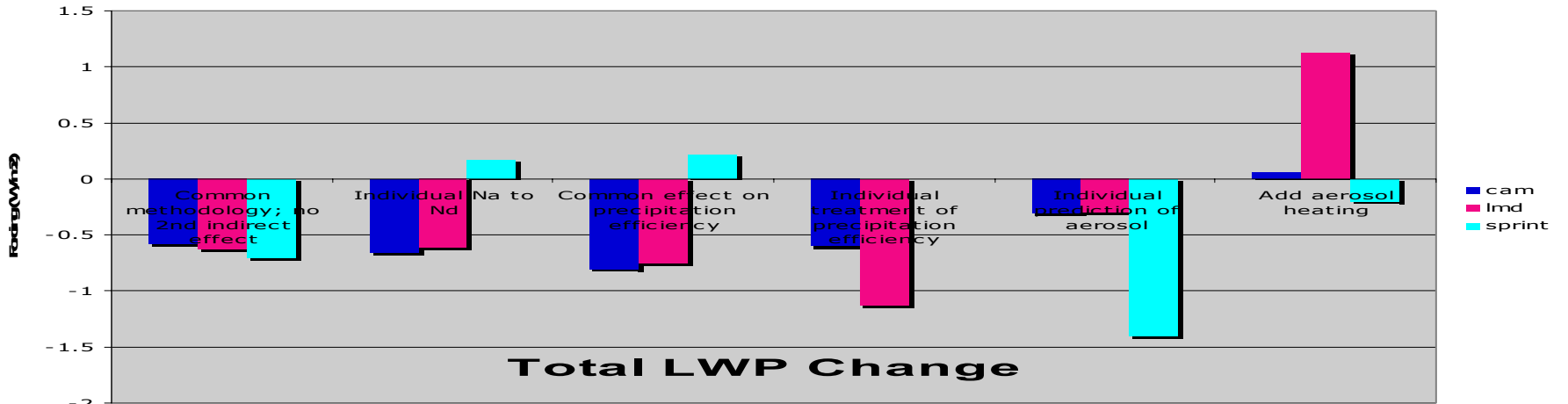


# Cloud fraction change below 500 hPa

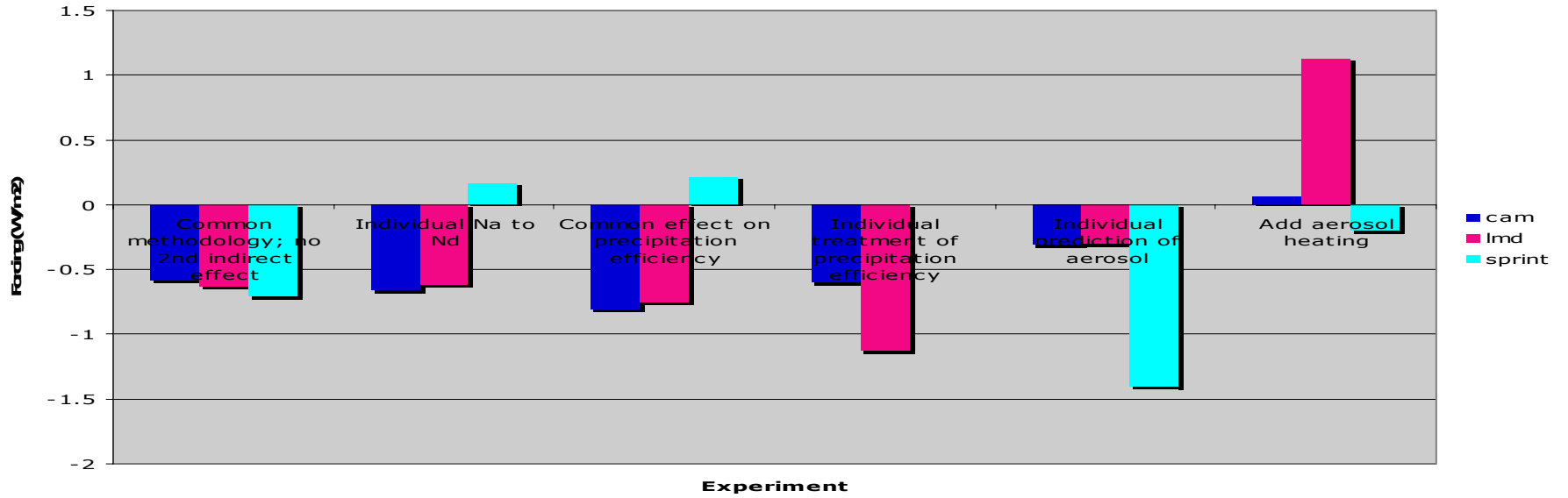




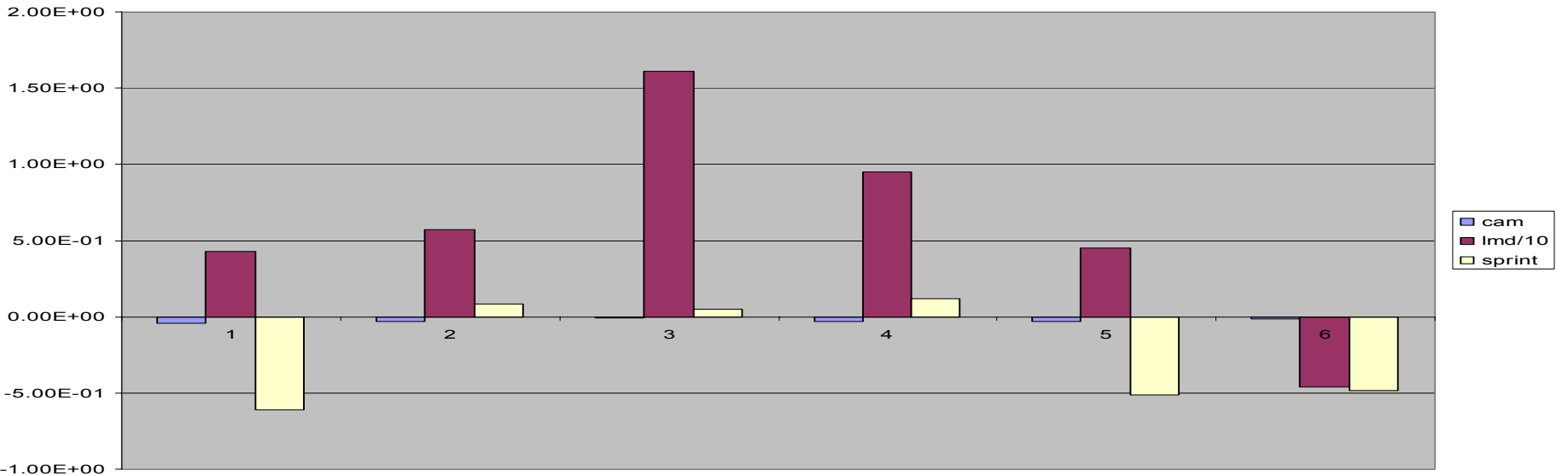
# Cloud forcing



# Cloud forcing

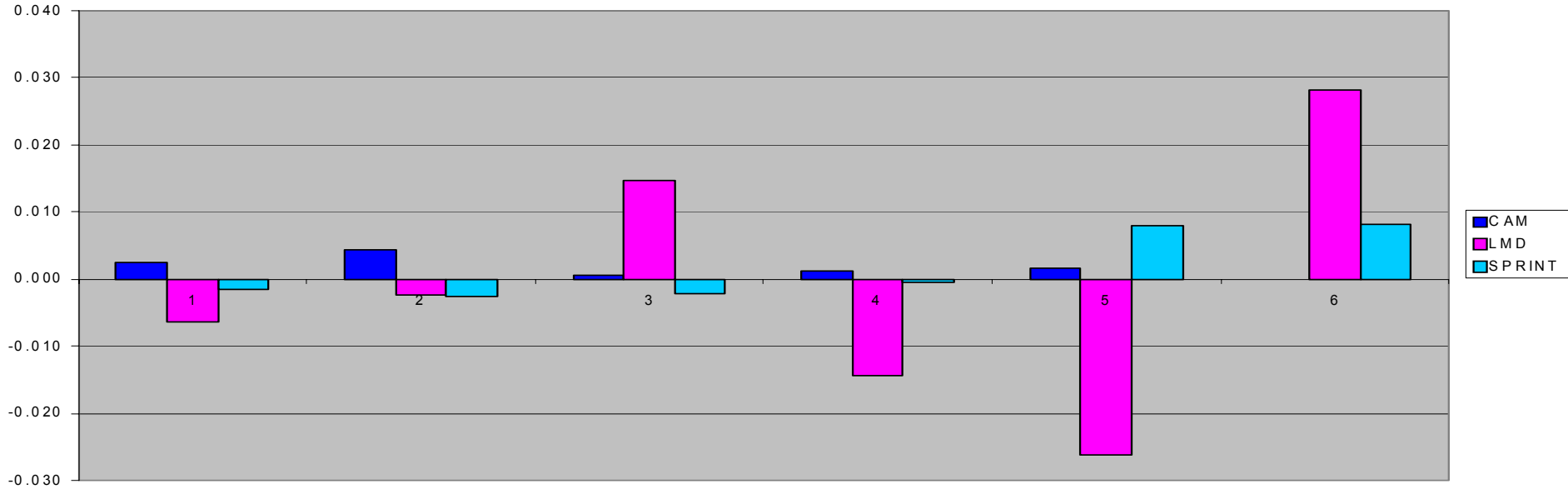


# Change in Effective Radius



# Conclusions

# Cloud fraction change w/o zeros below 500 hPa



# Cloud fraction change below 500 hPa

