EFFECTS OF MEGAN
V7.04.02 (with MEGAN) – v7.04.02 (with GEIA)
EFFECTS OF MEGAN

• Now we all agree v7.04.02 is good. Now we check the effects of MEGAN
• Summary of Results
  – When MEGAN is constrained to same global total as GEIA there are huge changes in CO
    • NH Summer: Up to 30 ppbv decrease over Europe, ~ 10-15 ppbv decrease in NH CO background
    • SH increases by > 15 ppbv over South America in all seasons
  – When MEGAN is constrained to same global total as GEIA there are moderate changes in ozone
    • In NH Winter no change NH, up to 4 ppbv change at surface over South America, more aloft
    • In NH summer mixed changes all w/in 4 ppbv at the surface

WHAT IS THE ISOPRENE CONSTRAINT? TROPICAL? THESE DECREASES JUST SEEM WRONG.
ISOPRENE SOURCE – MEGAN puts more emissions in tropics less at midlatitudes.
JULY ISOPRENE EMISSIONS

MEGAN - GEIA

Megan moves things from Europe to tropics
(note: U.S. Biogenics ~10% lower)
In January CO decrease is a few ppbv in Northern Hemisphere
July
MEGAN - GEIA CO (ppbv)

Huge decreases throughout the midlatitude Northern Hemisphere up to 30 ppbv drop over Europe!
This is when isoprene constrained to same global value as GEIA
Moderate changes in tropical ozone (up to 4 ppbv decrease at surface larger affects aloft)
JULY
MEGAN - GEIA ozone (ppbv)