

APPENDIX D

2018 Visibility Projections for CENRAP Class I Areas Using 2002 Typical and 2018 Base Case Base G Emission Scenario CMAQ Results and EPA Default Projection Method and Comparison with 2018 Uniform Rate of Progress (URP) Glidepaths

- Figure D-1: Caney Creek Wilderness Area (CACR), Arkansas
- Figure D-2: Upper Buffalo Wilderness Area (UPBU), Arkansas
- Figure D-3: Breton Island Wilderness Area (BRET), Louisiana
- Figure D-4: Boundary Waters Canoe Area Wilderness Area (BOWA), Minnesota
- Figure D-5: Voyageurs National Park (VOYA), Minnesota
- Figure D-6: Hercules Glade Wilderness Area (HEGL), Missouri
- Figure D-7: Mingo Wilderness Area (MING), Missouri
- Figure D-8: Wichita Mountains Wilderness Area (WIMO), Oklahoma
- Figure D-9: Big Bend National Park (BIBE), Texas
- Figure D-10: Guadalupe Mountains National Park (GUMO), Texas

Uniform Rate of Reasonable Progress Glide Path Caney Creek Wilderness - 20% Data Days

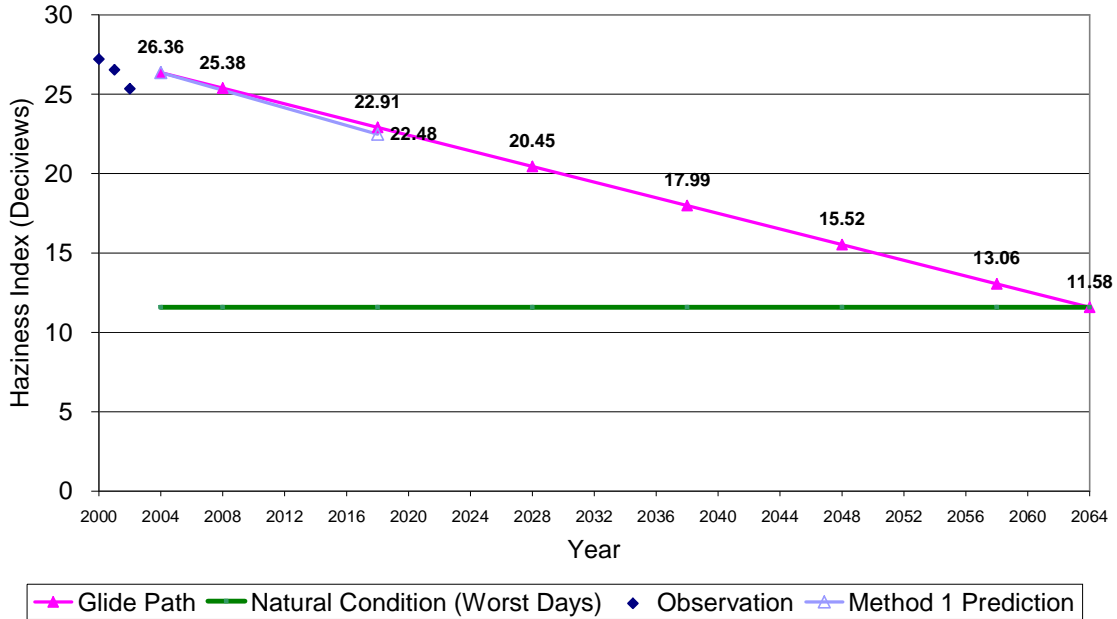


Figure D-1a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Caney Creek (CACR), Arkansas and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Caney Creek Wilderness - Best 20% Days

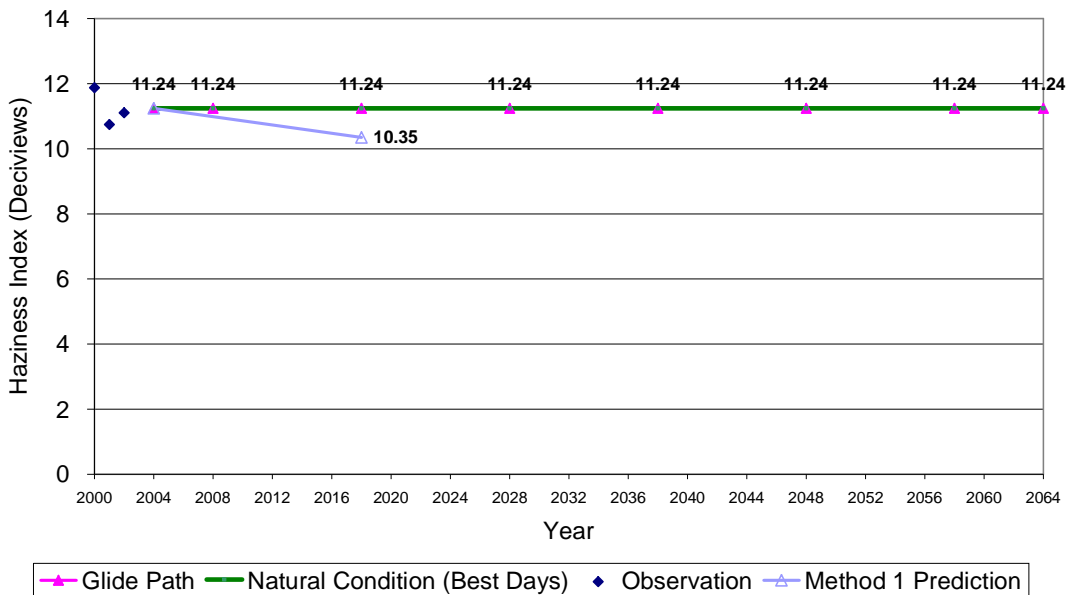


Figure D-1b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Caney Creek (CACR), Arkansas and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

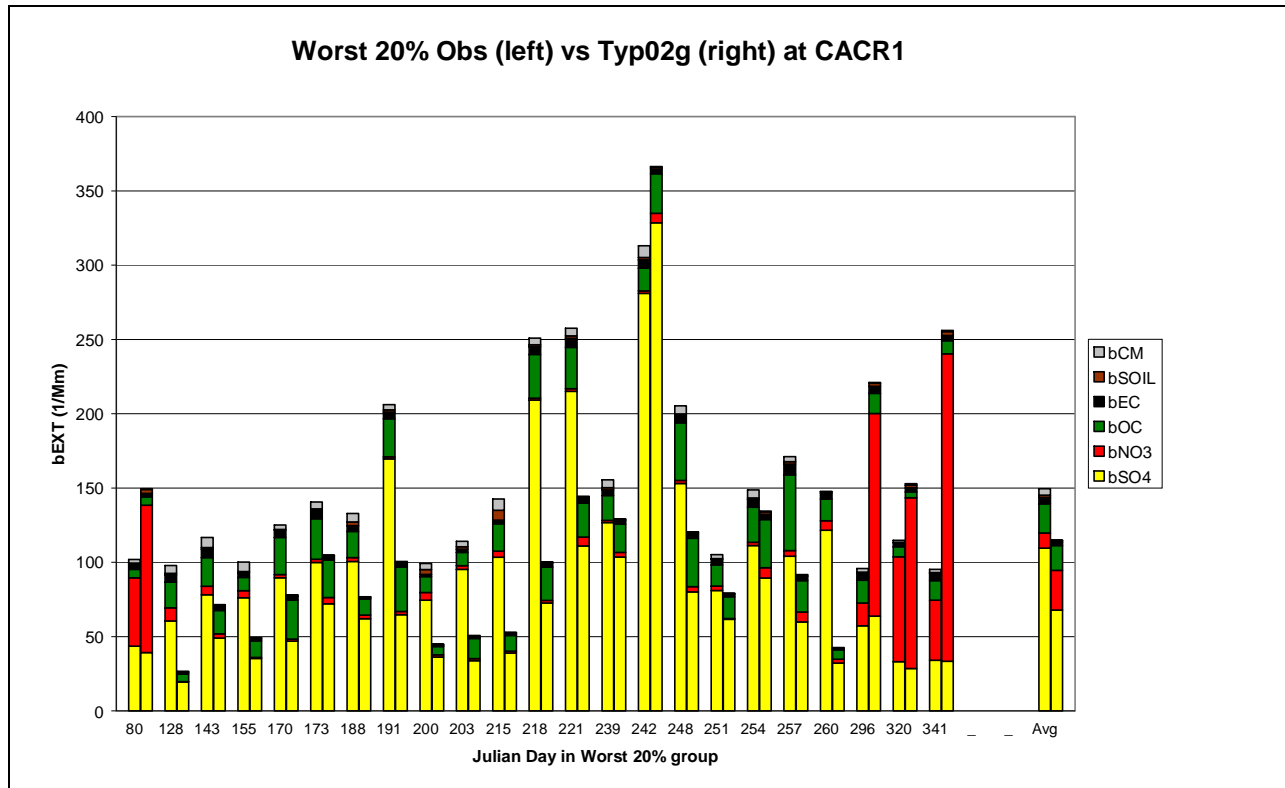


Figure D-1c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Caney Creek (CACR), Arkansas and Worst 20% (W20%) days in 2002.

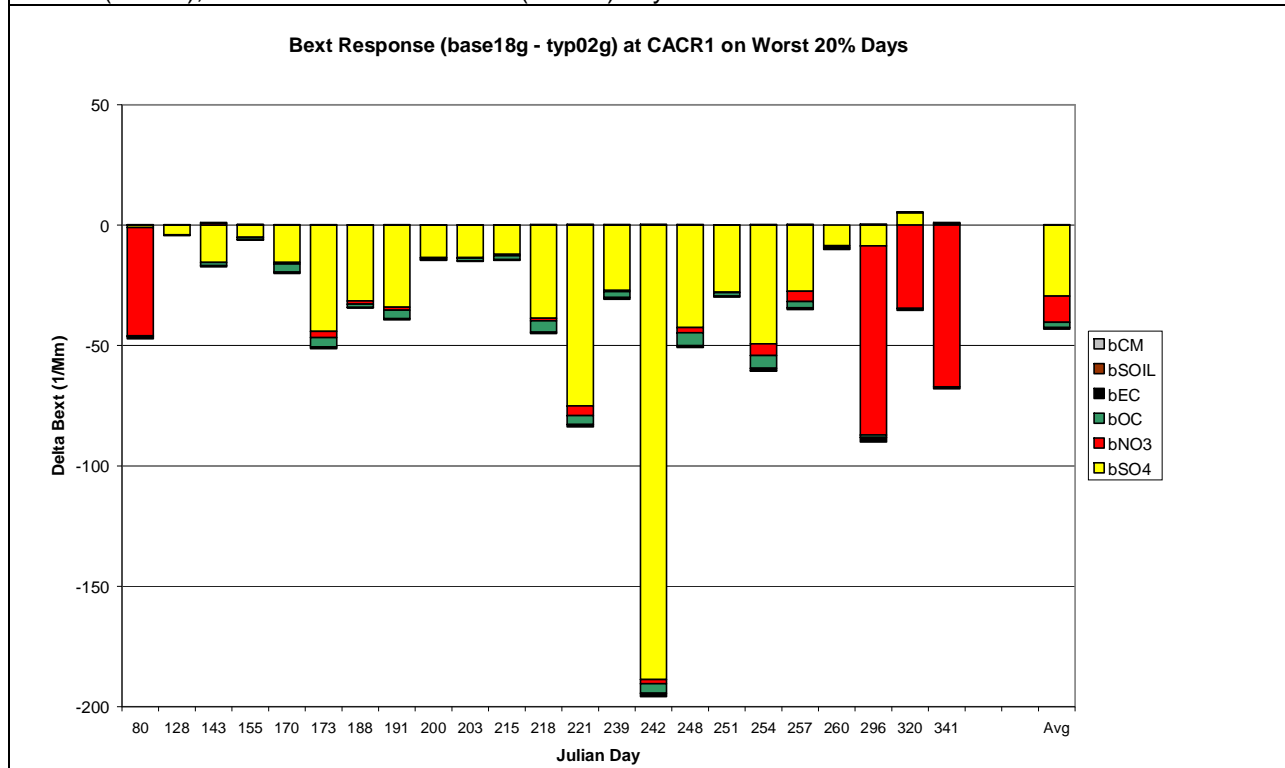


Figure D-1d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Caney Creek (CACR), Arkansas and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Upper Buffalo Wilderness - 20% Data Days

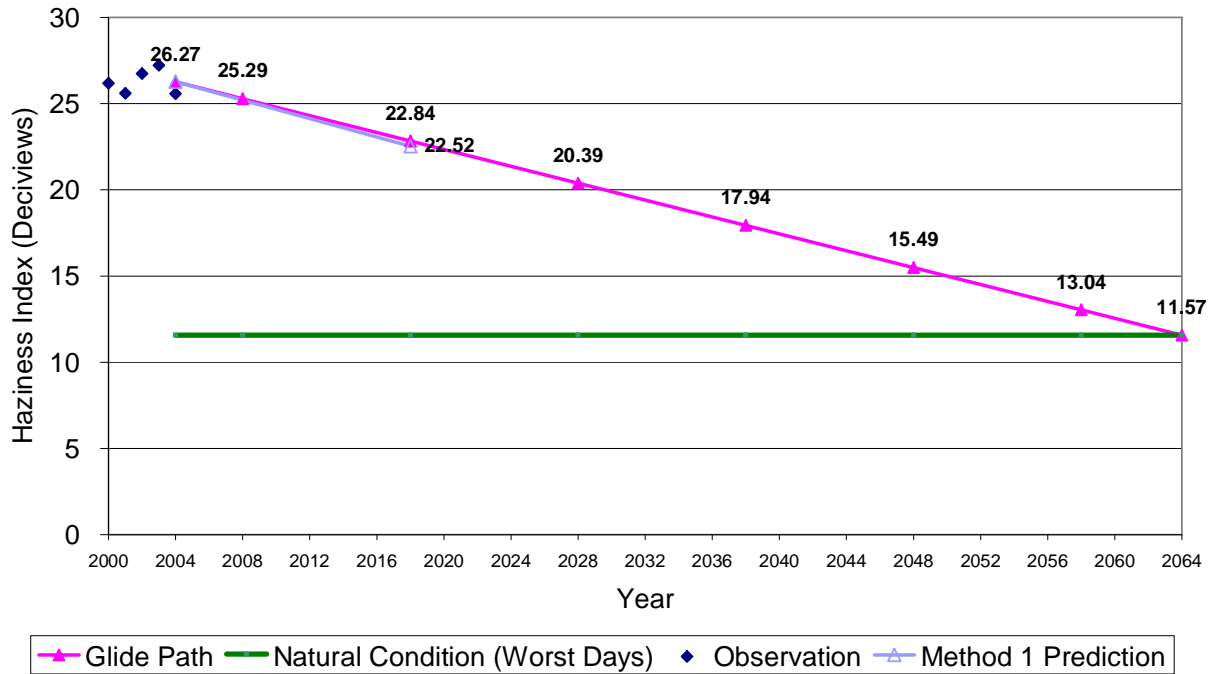


Figure D-2a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Upper Buffalo (UPBU), Arkansas and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

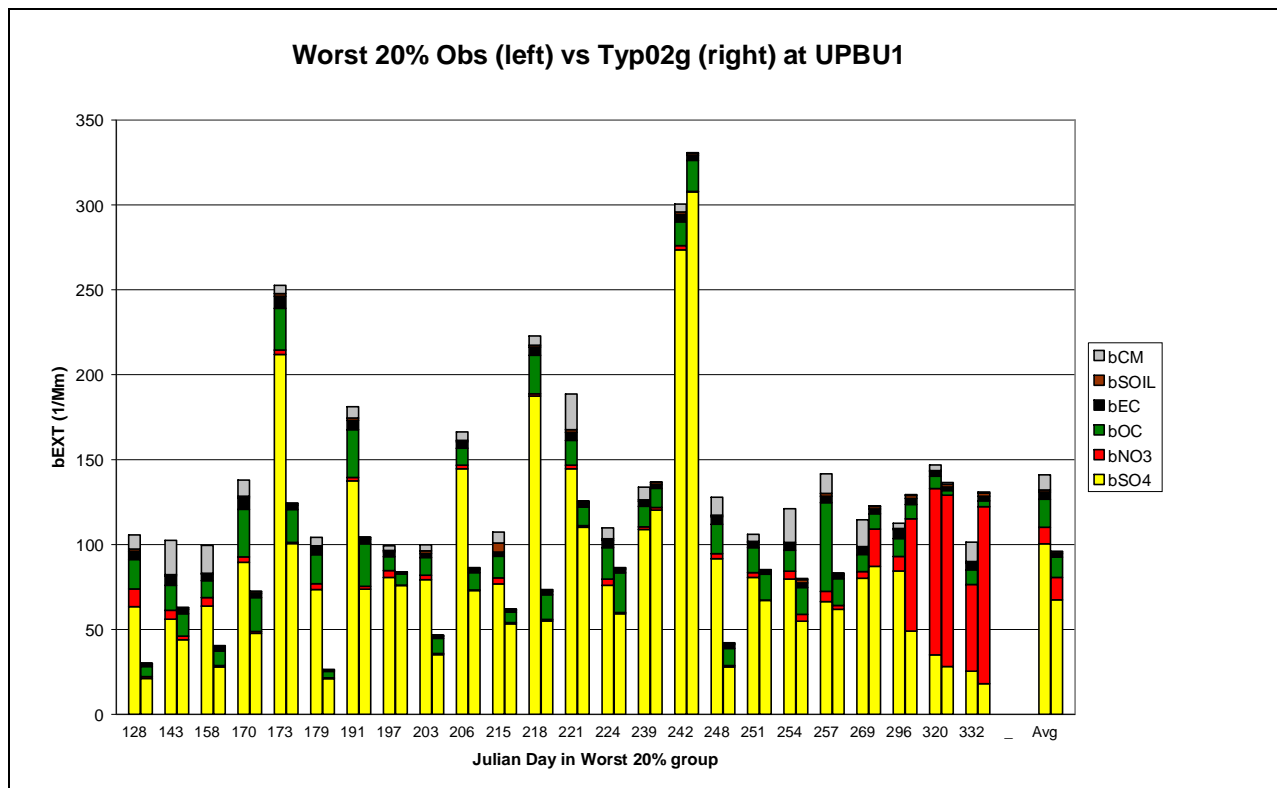


Figure D-2c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Upper Buffalo (UPBU), Arkansas and Worst 20% (W20%) days in 2002.

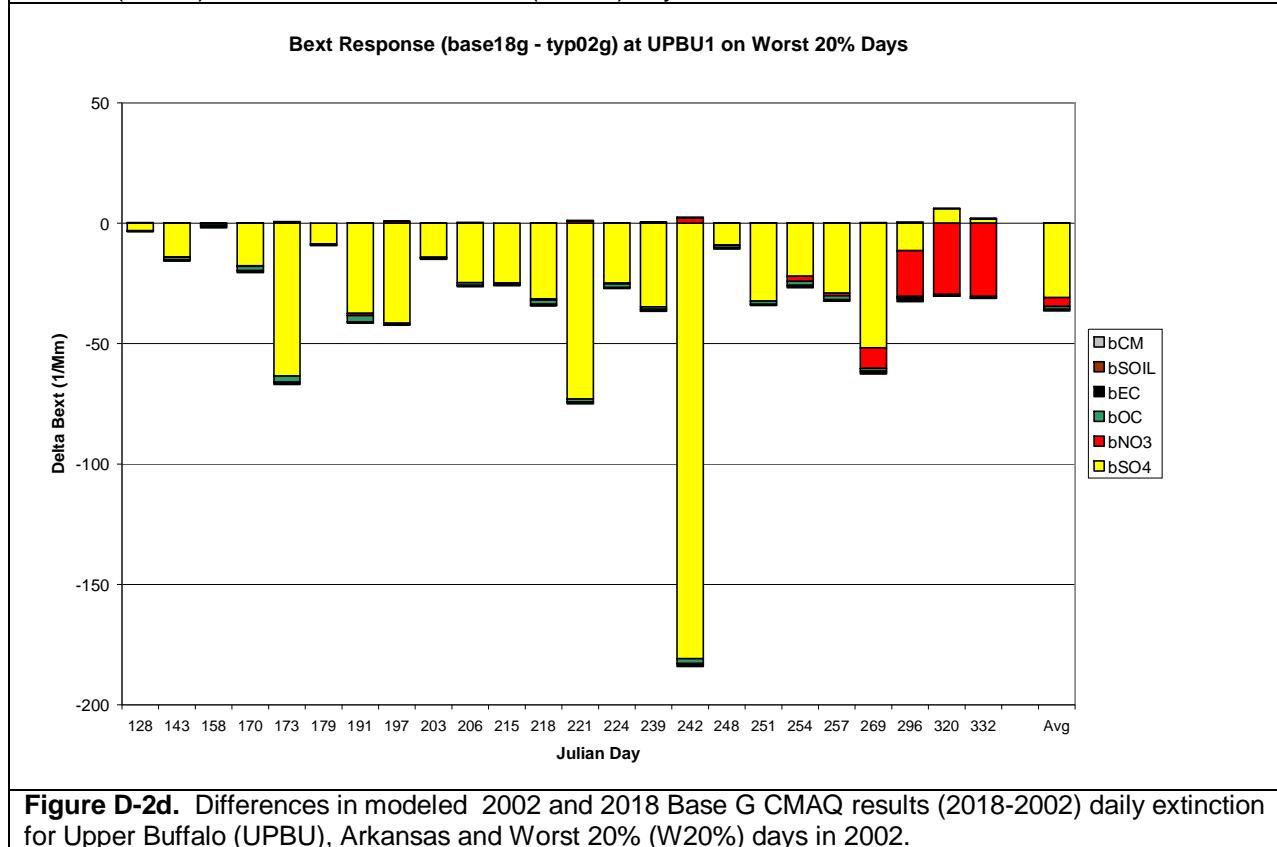


Figure D-2d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Upper Buffalo (UPBU), Arkansas and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Breton - 20% Data Days

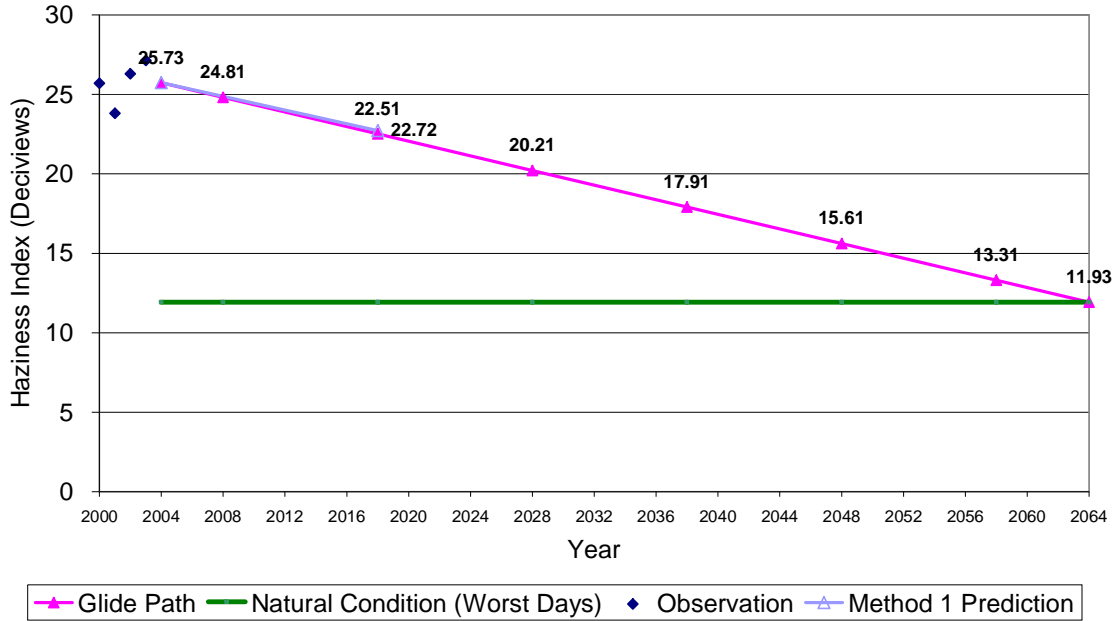


Figure D-3a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Breton Island (BRET), Louisiana and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Breton - Best 20% Days

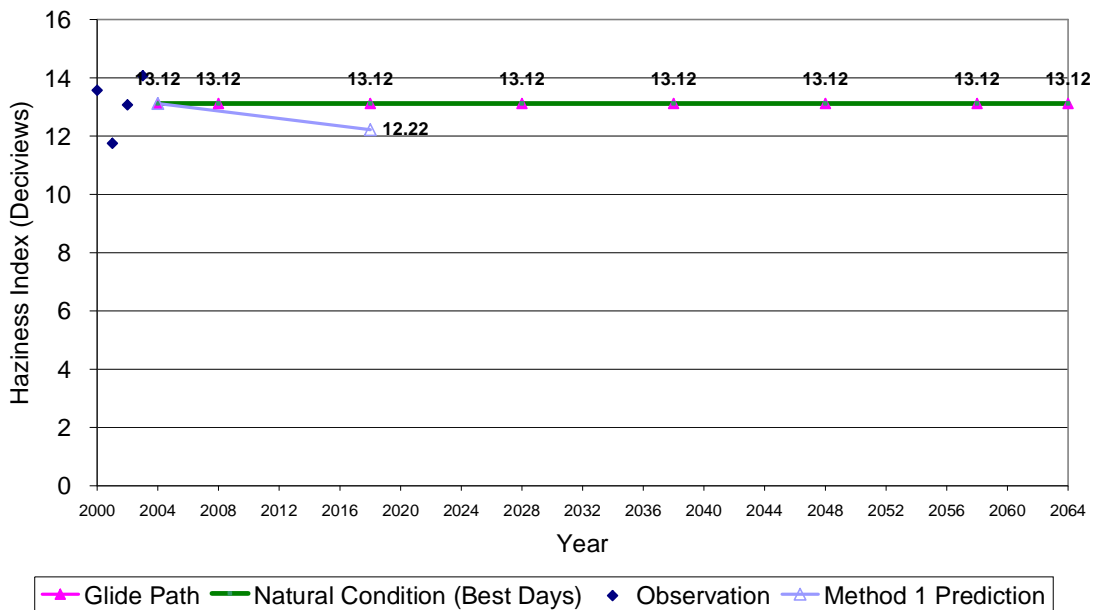


Figure D-3b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Breton Island (BRET), Louisiana and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

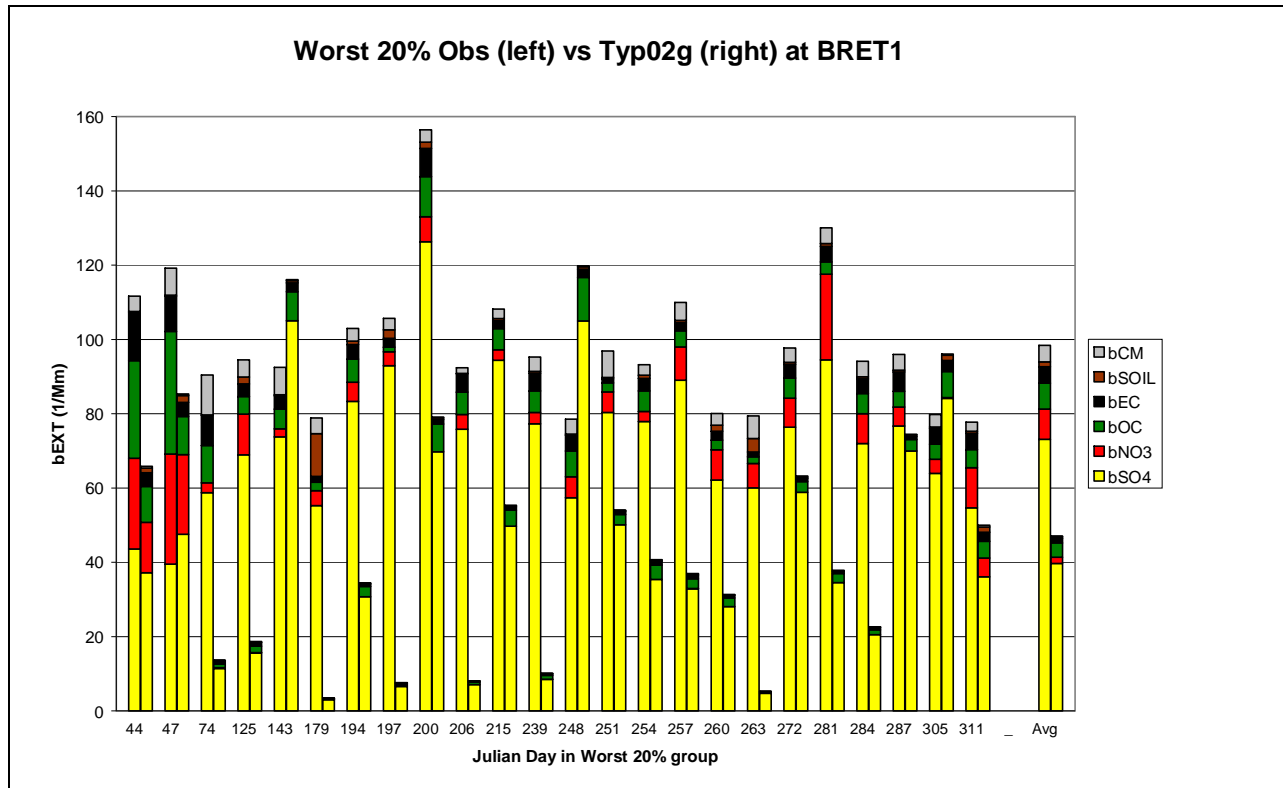


Figure D-3c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Breton Island (BRET), Louisiana and Worst 20% (W20%) days in 2002.

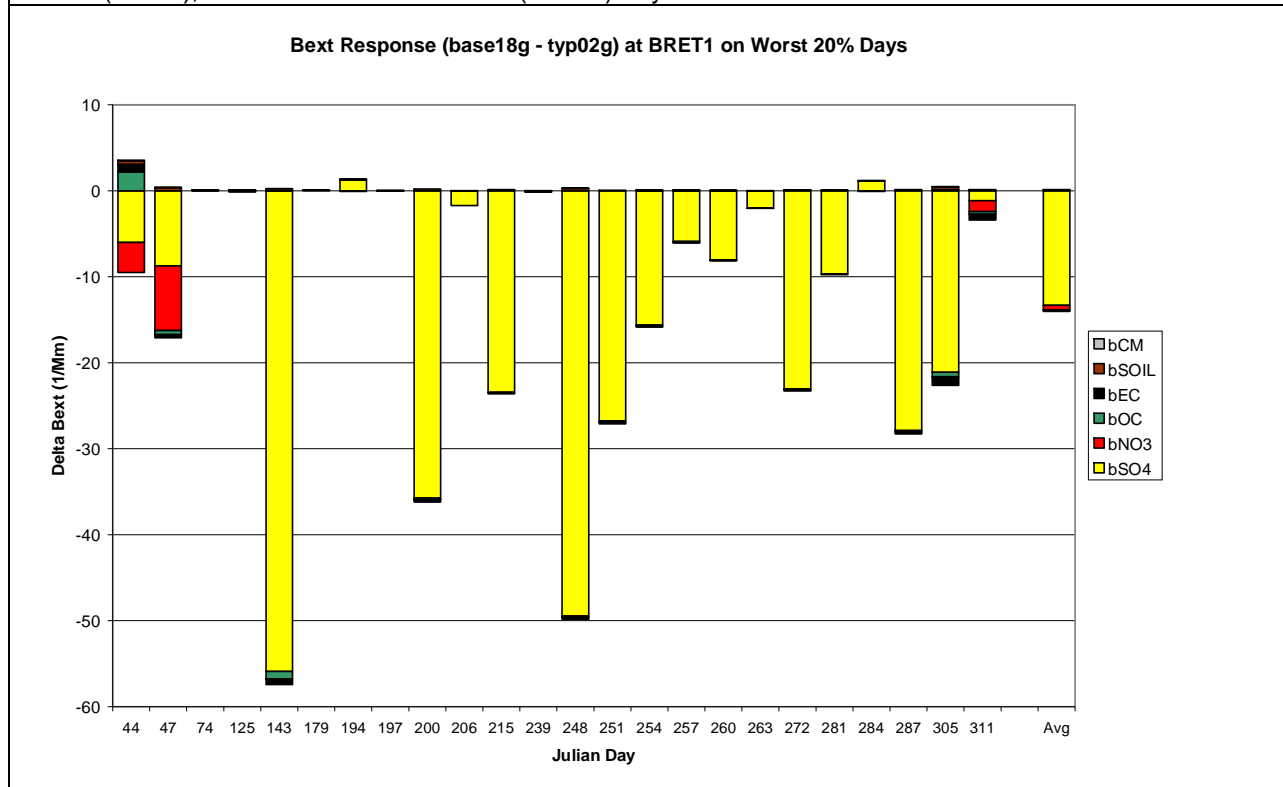


Figure D-3d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Breton Island (BRET), Louisiana and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Boundary Waters Canoe Area - 20% Data Days

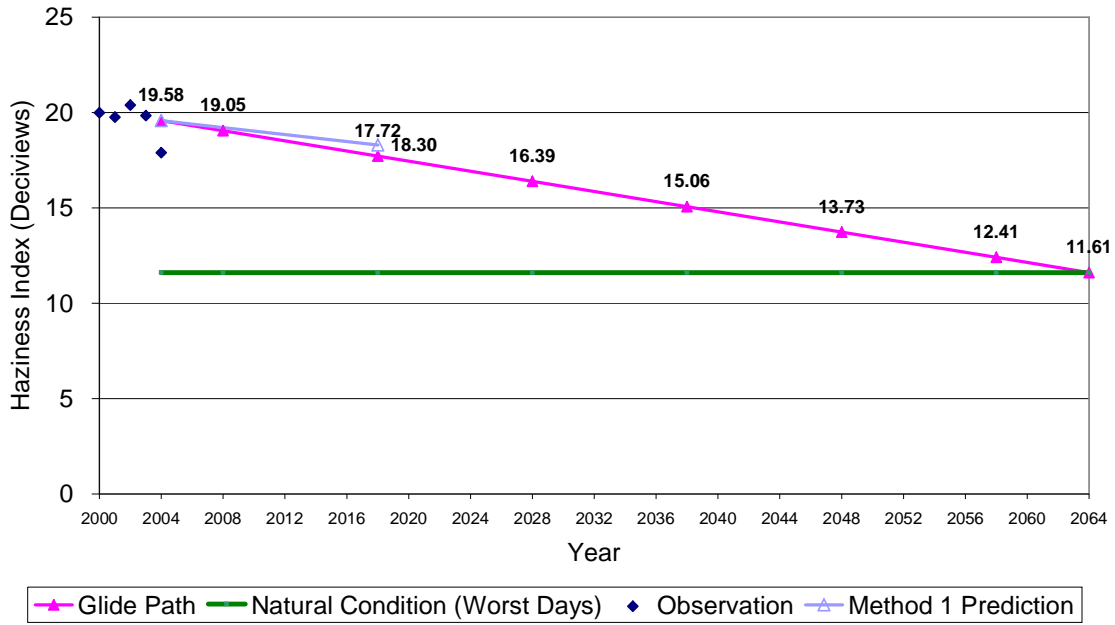


Figure D-4a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Boundary Waters (BOWA), Minnesota and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Boundary Waters Canoe Area - Best 20% Days

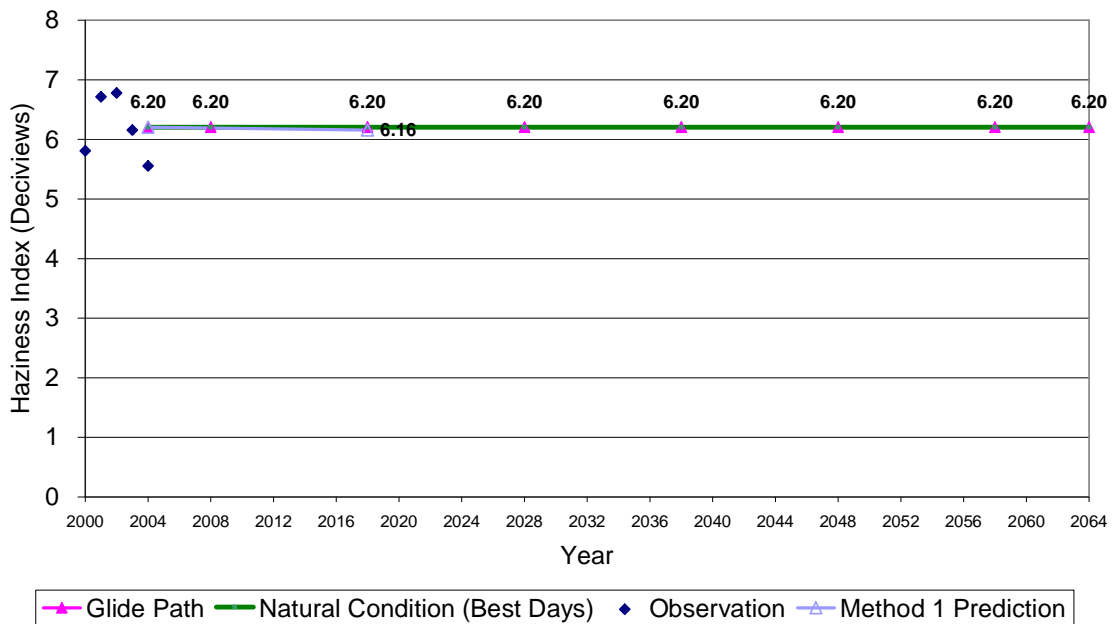


Figure D-4b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Boundary Waters (BOWA), Minnesota and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

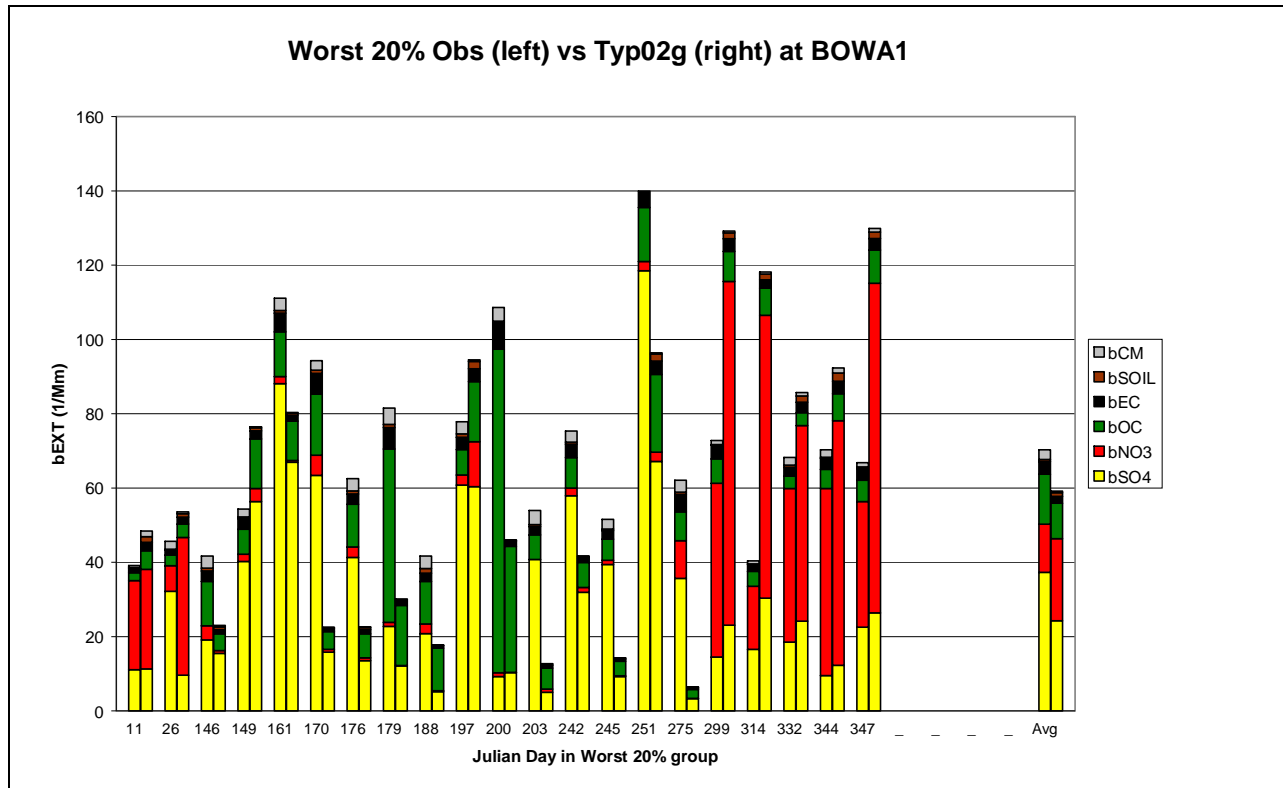


Figure D-4c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Boundary Waters (BOWA), Minnesota and Worst 20% (W20%) days in 2002.

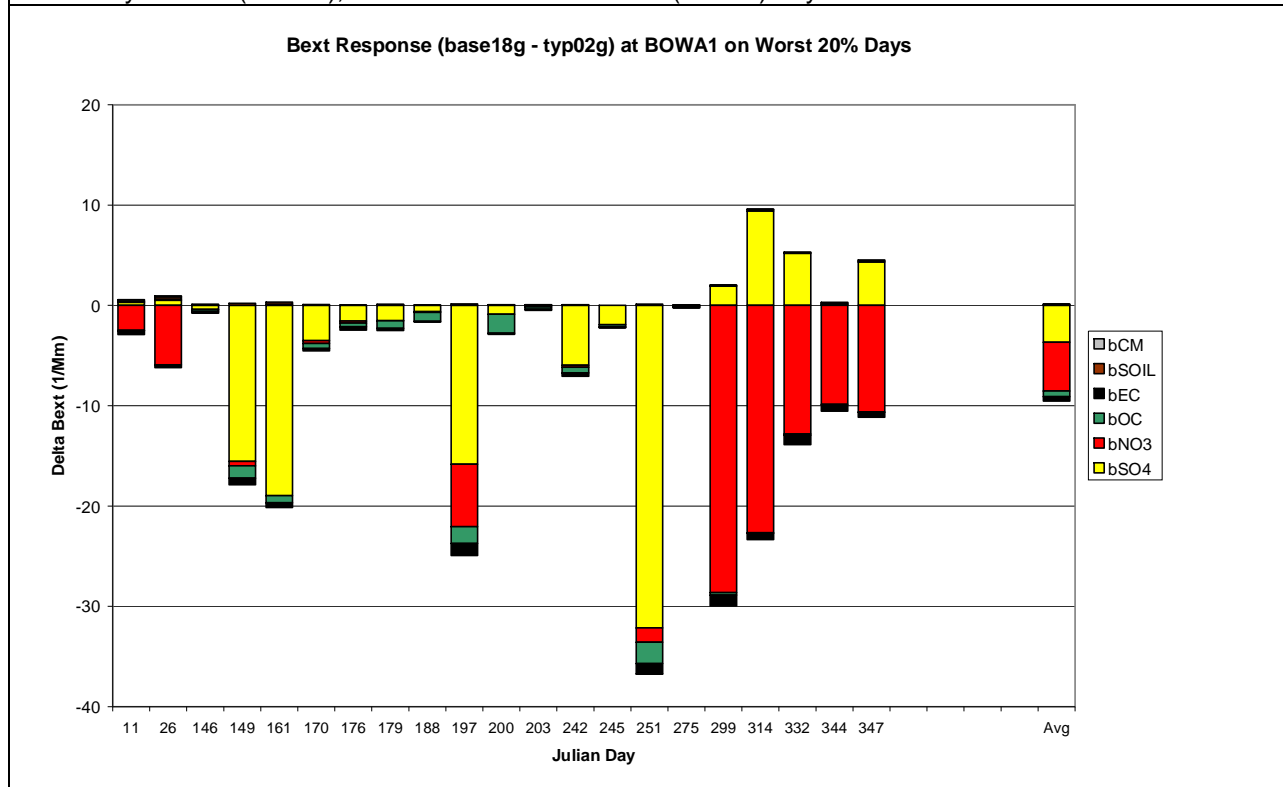


Figure D-4d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Boundary Waters (BOWA), Minnesota and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Voyageurs NP - 20% Data Days

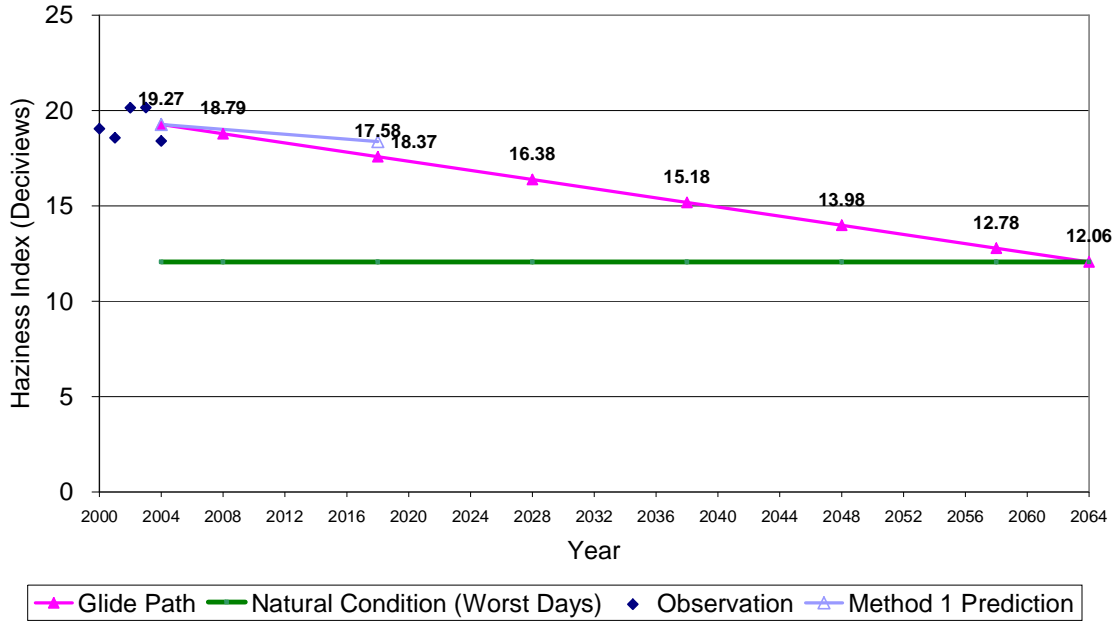


Figure D-5a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Voyageurs (VOYA), Minnesota and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Voyageurs NP - Best 20% Days

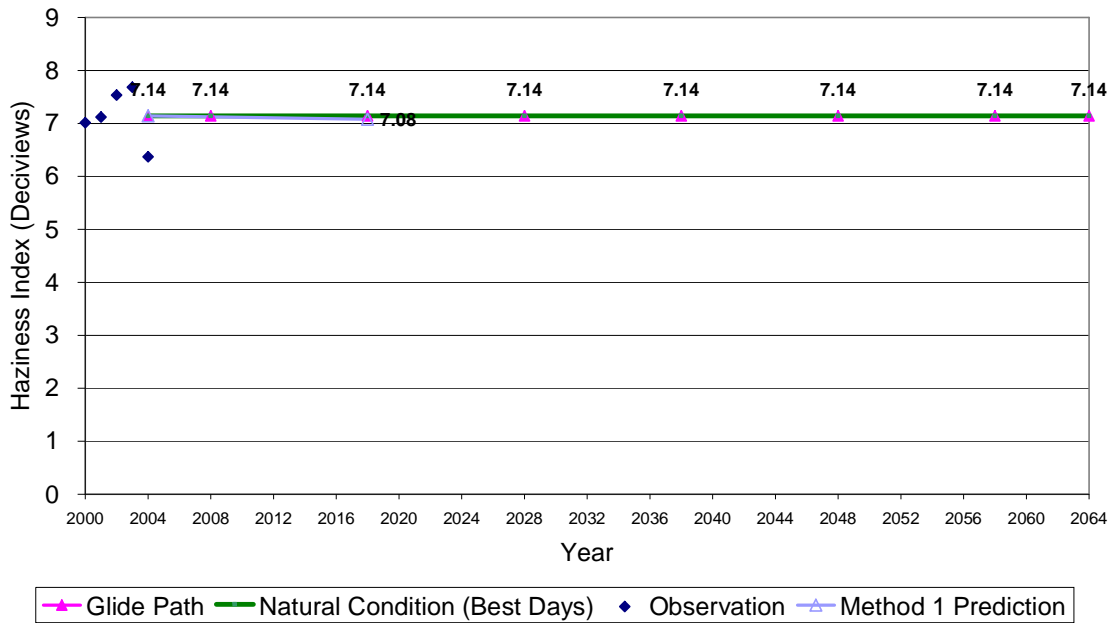


Figure D-5b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Voyageurs (VOYA), Minnesota and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

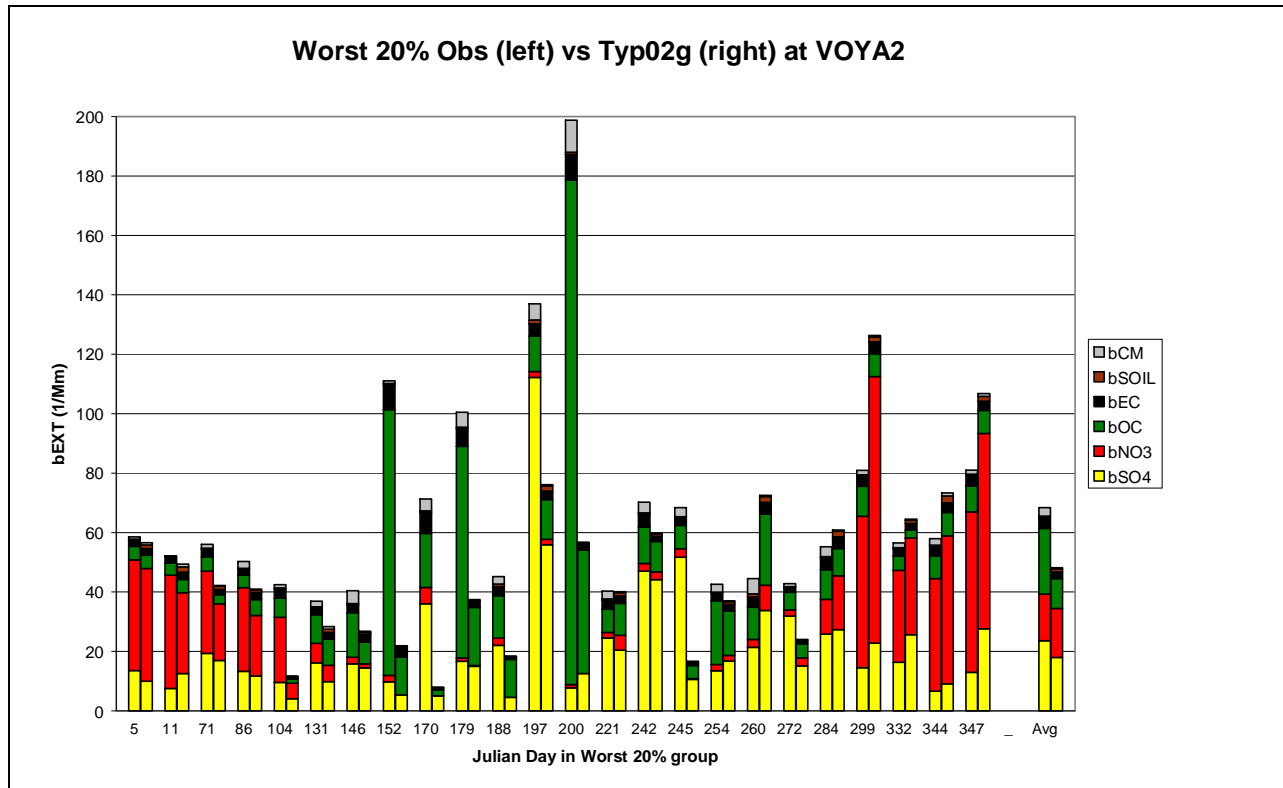


Figure D-5c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Voyageurs (VOYA), Minnesota and Worst 20% (W20%) days in 2002.

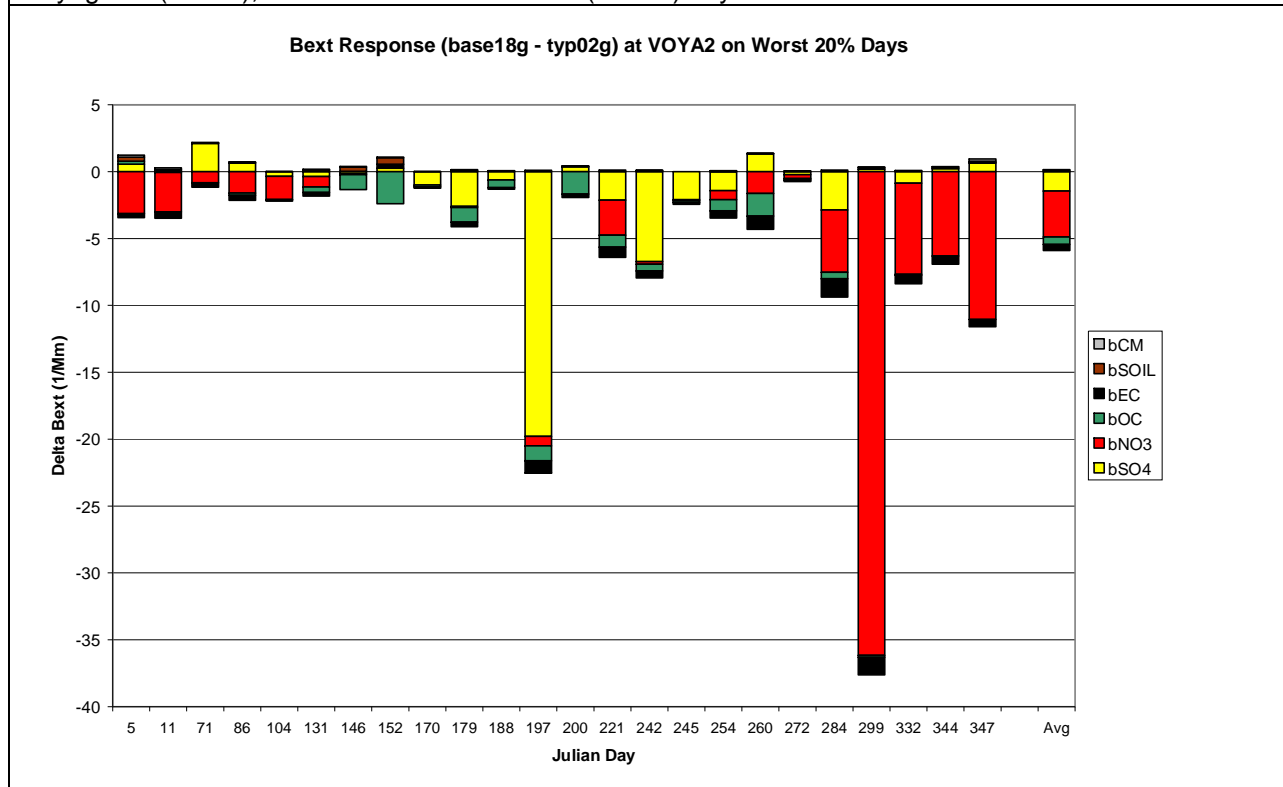


Figure D-5d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Voyageurs (VOYA), Minnesota and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Hercules-Glades Wilderness - 20% Data Days

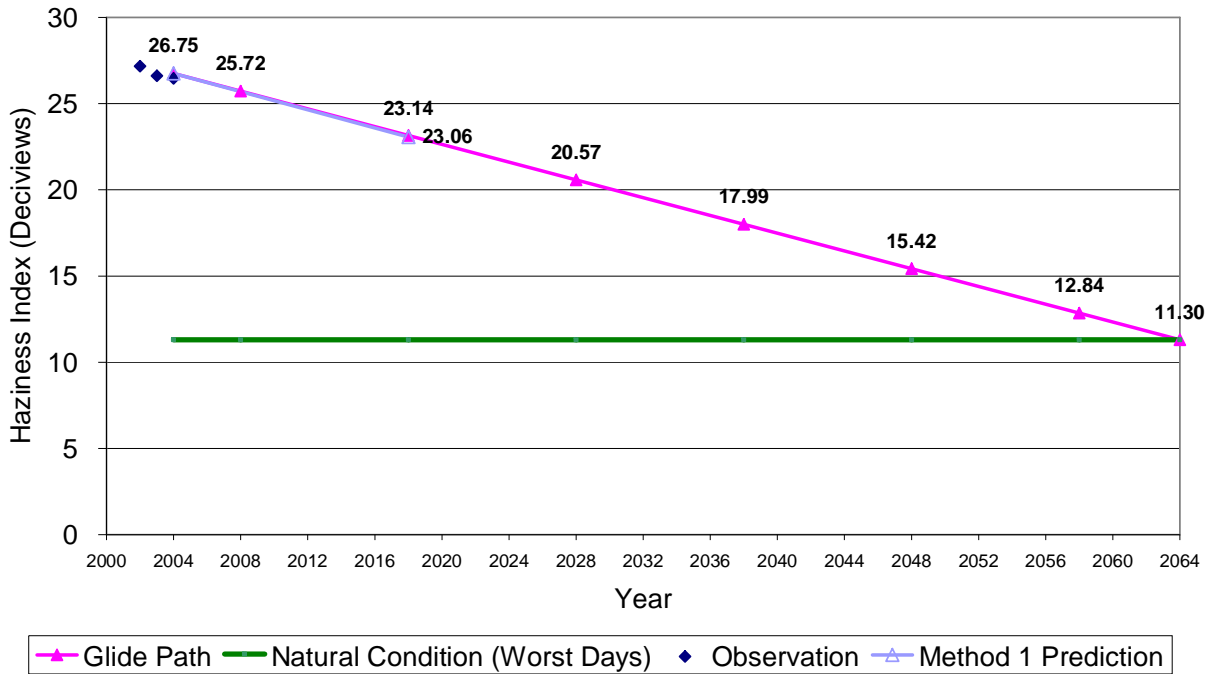


Figure D-6a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Hercules-Glade (HEGL), Missouri and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Hercules-Glades Wilderness - Best 20% Days

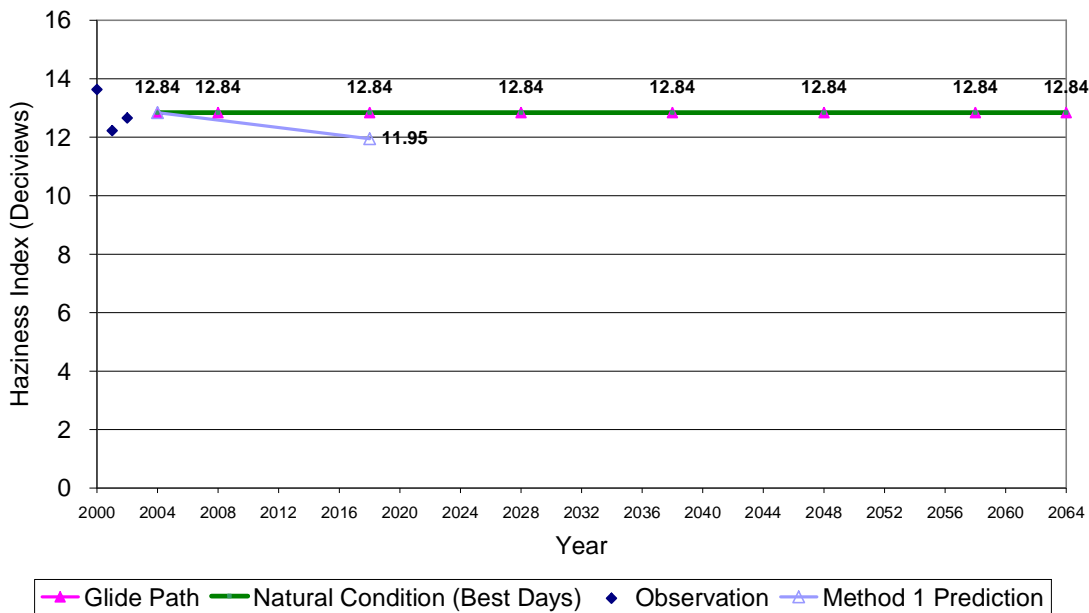


Figure D-6b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Hercules-Glade (HEGL), Missouri and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

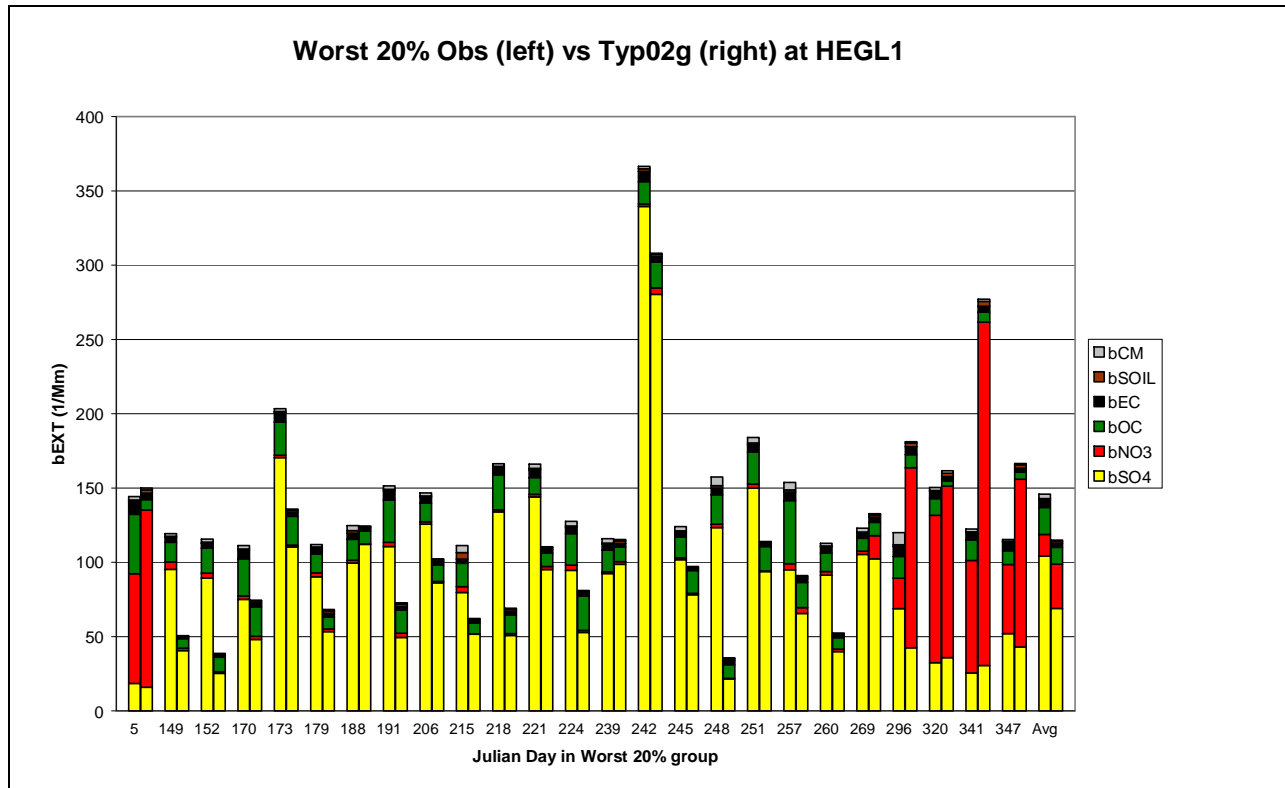


Figure D-6c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Hercules-Glade (HEGL), Missouri and Worst 20% (W20%) days in 2002.

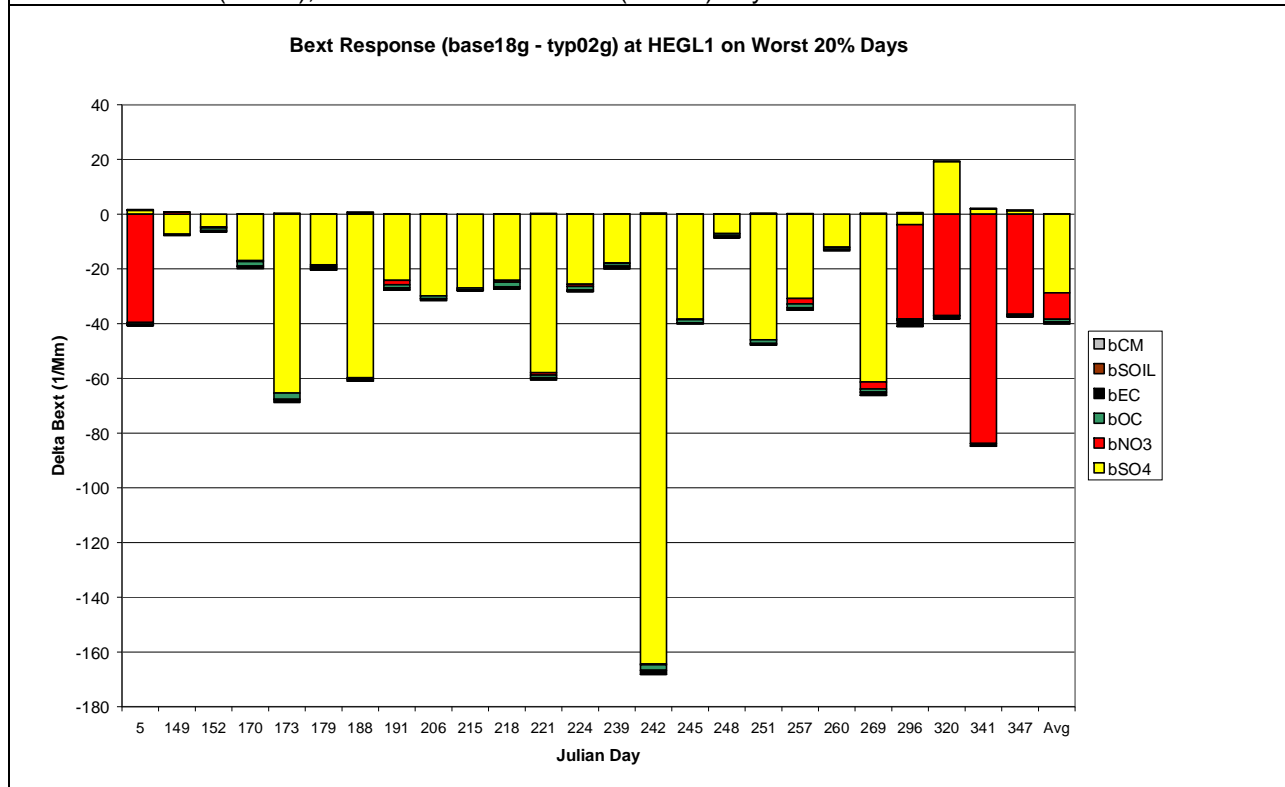


Figure D-6d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Hercules-Glade (HEGL), Missouri and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Mingo - 20% Data Days

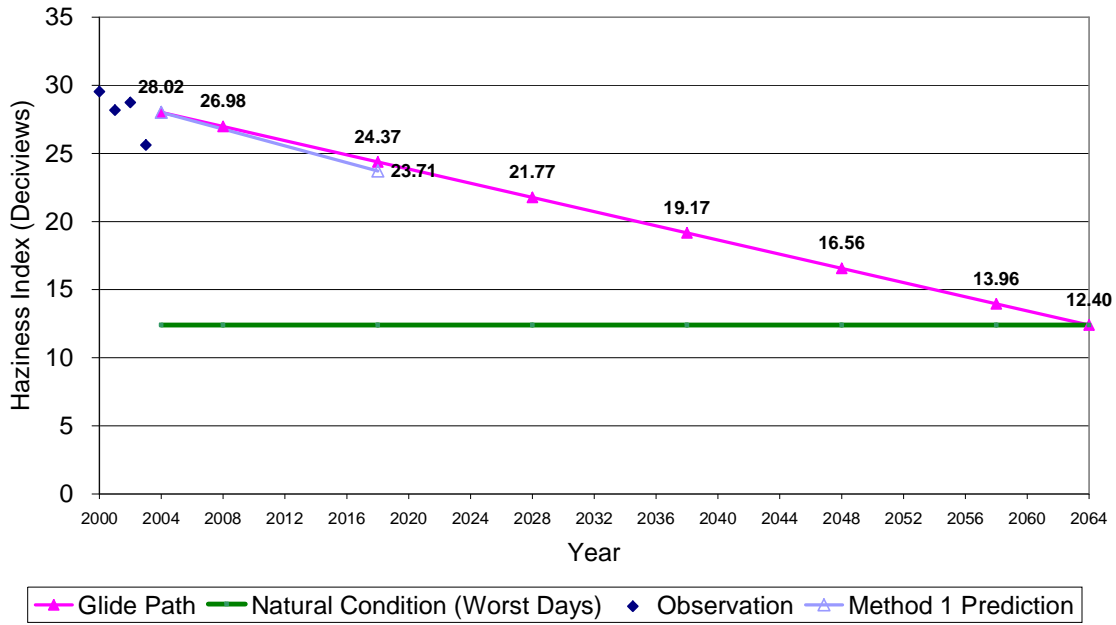


Figure D-7a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Mingo (MING), Missouri and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Mingo - Best 20% Days

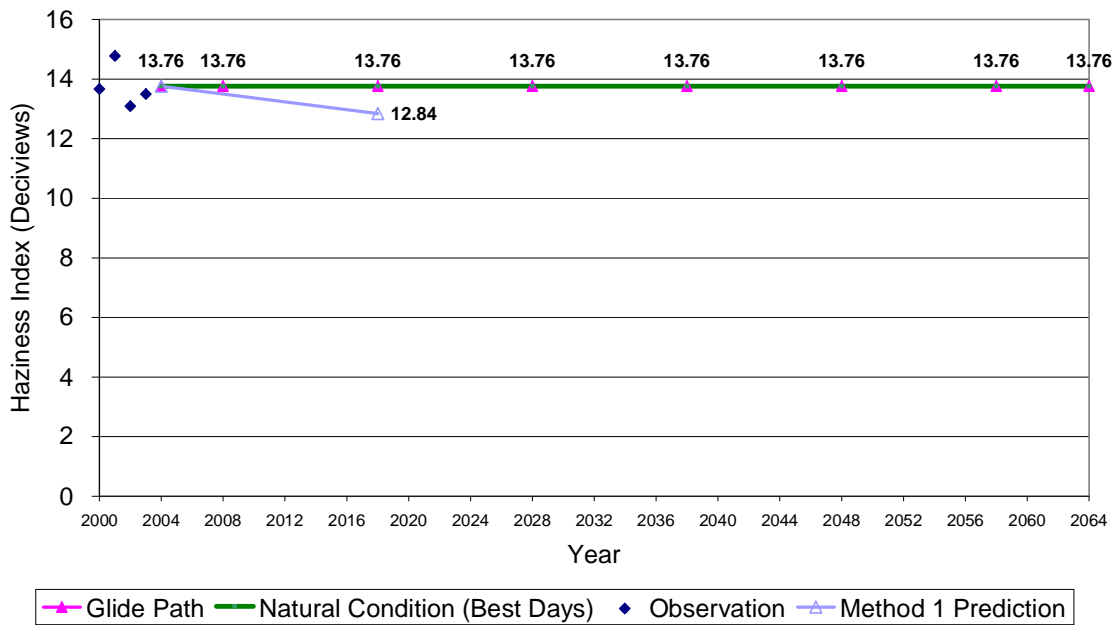


Figure D-7b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Mingo (MING), Missouri and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

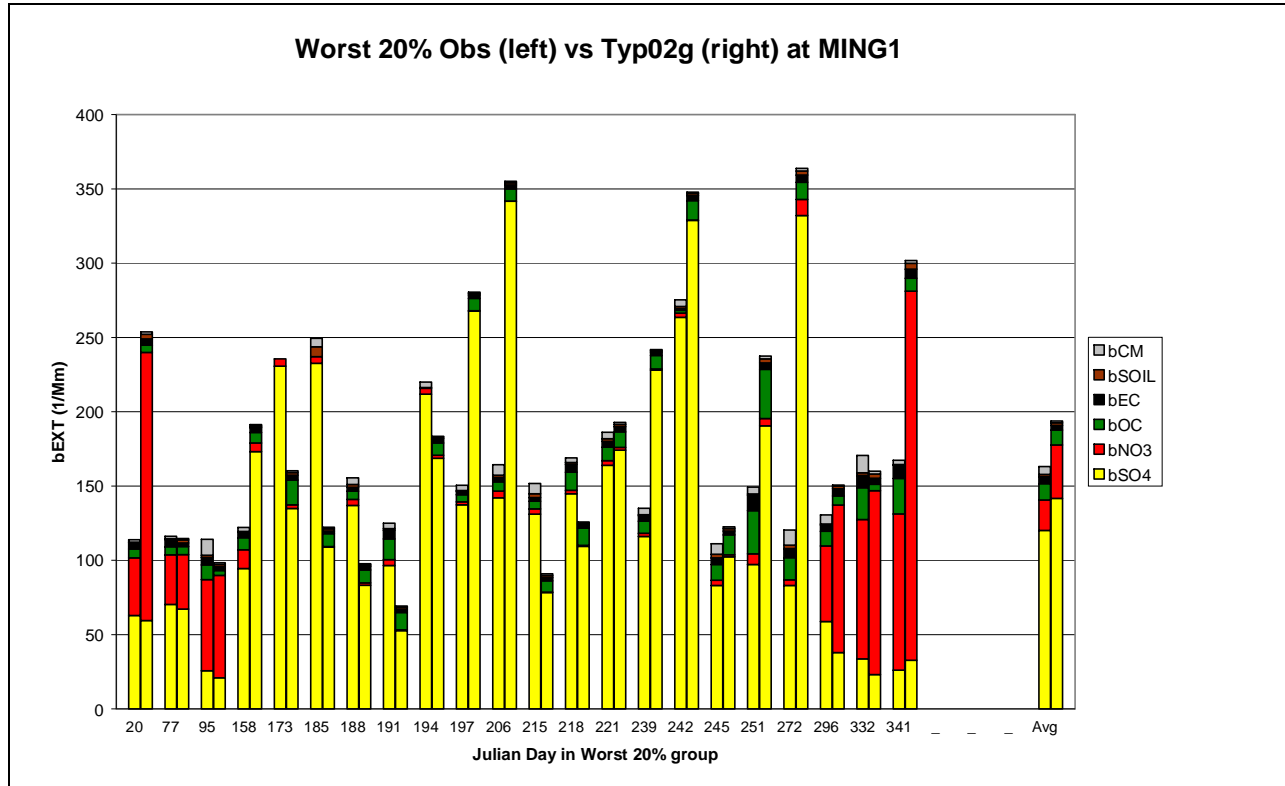


Figure D-7c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Mingo (MING), Missouri and Worst 20% (W20%) days in 2002.

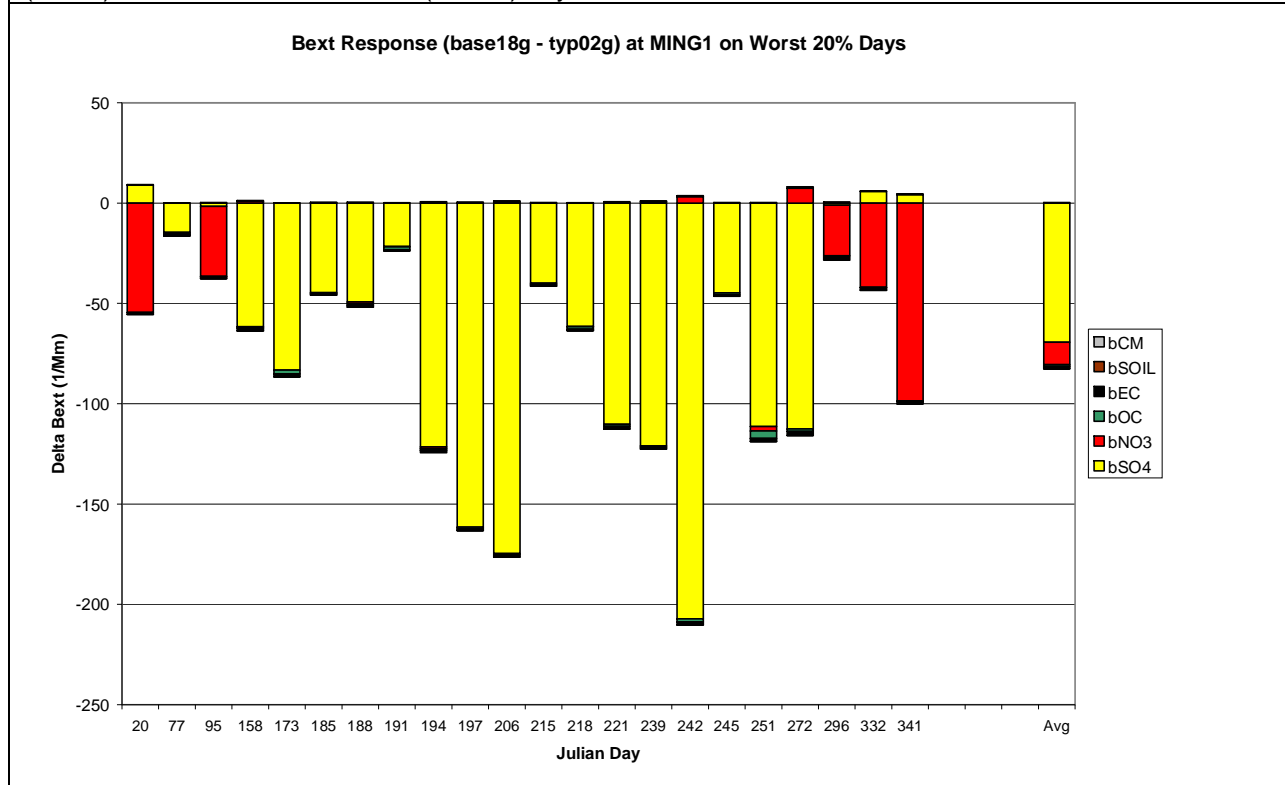


Figure D-7d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Mingo (MING), Missouri and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Wichita Mountains - 20% Data Days

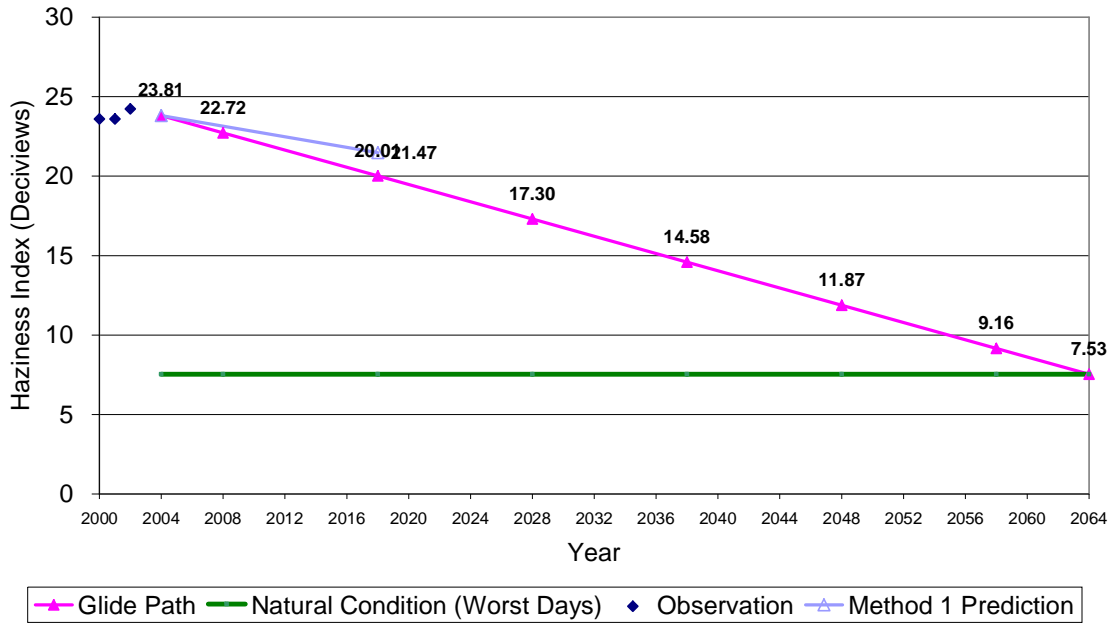


Figure D-8a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Wichita Mountains (WIMO), Oklahoma and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Wichita Mountains - Best 20% Days

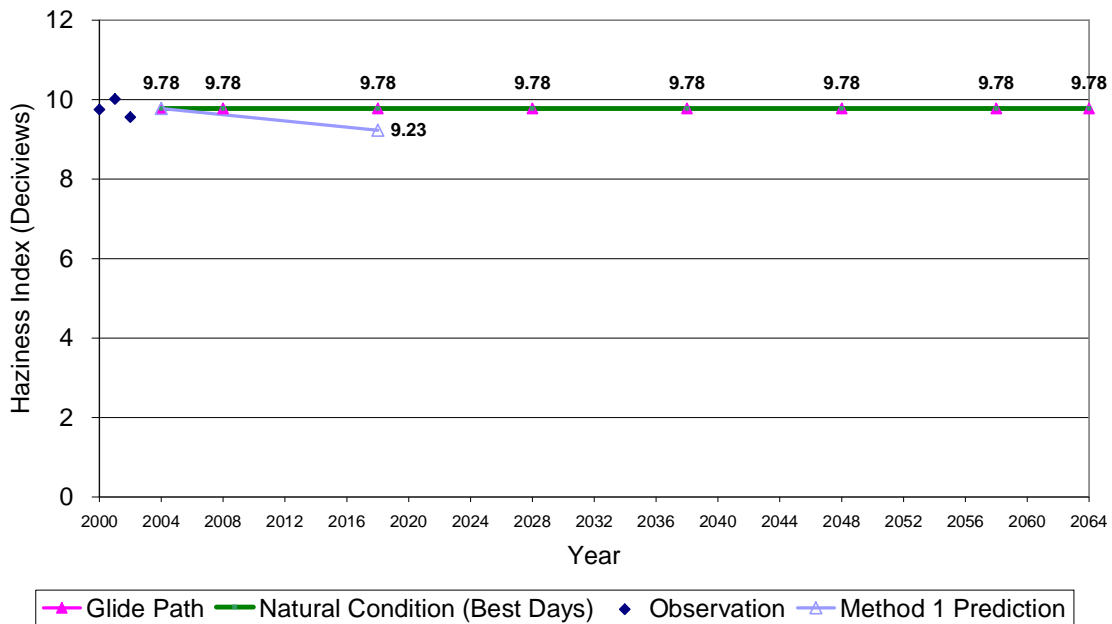


Figure D-8b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Wichita Mountains (WIMO), Oklahoma and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

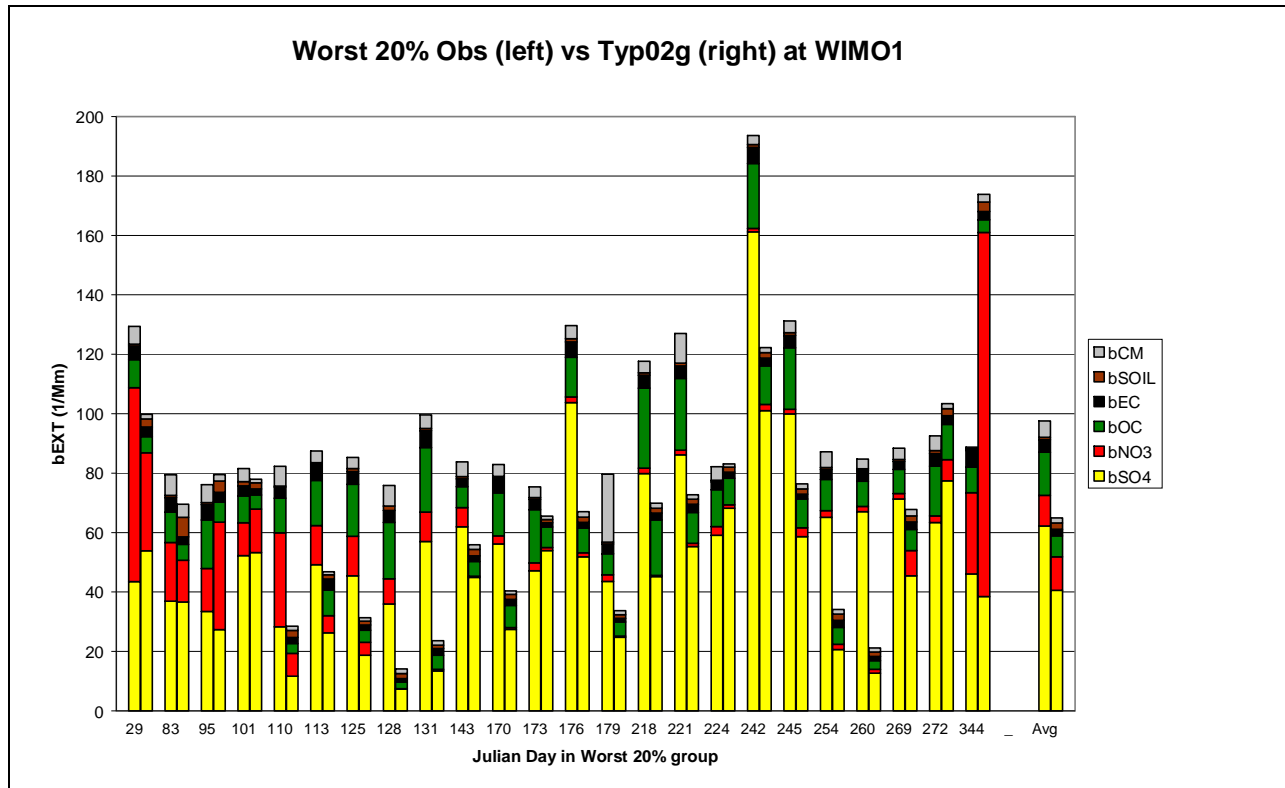


Figure D-8c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Wichita Mountains (WIMO), Oklahoma and Worst 20% (W20%) days in 2002.

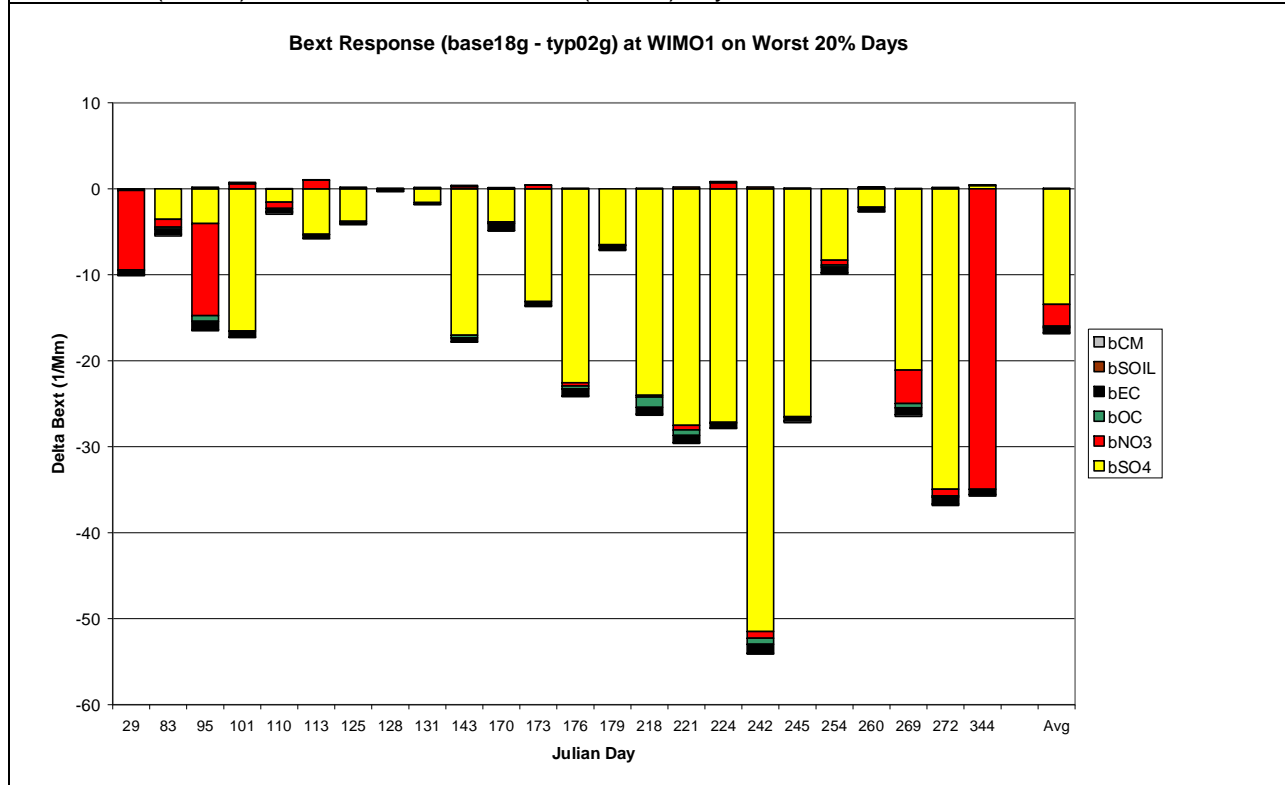


Figure D-8d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Wichita Mountains (WIMO), Oklahoma and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Big Bend NP - 20% Data Days

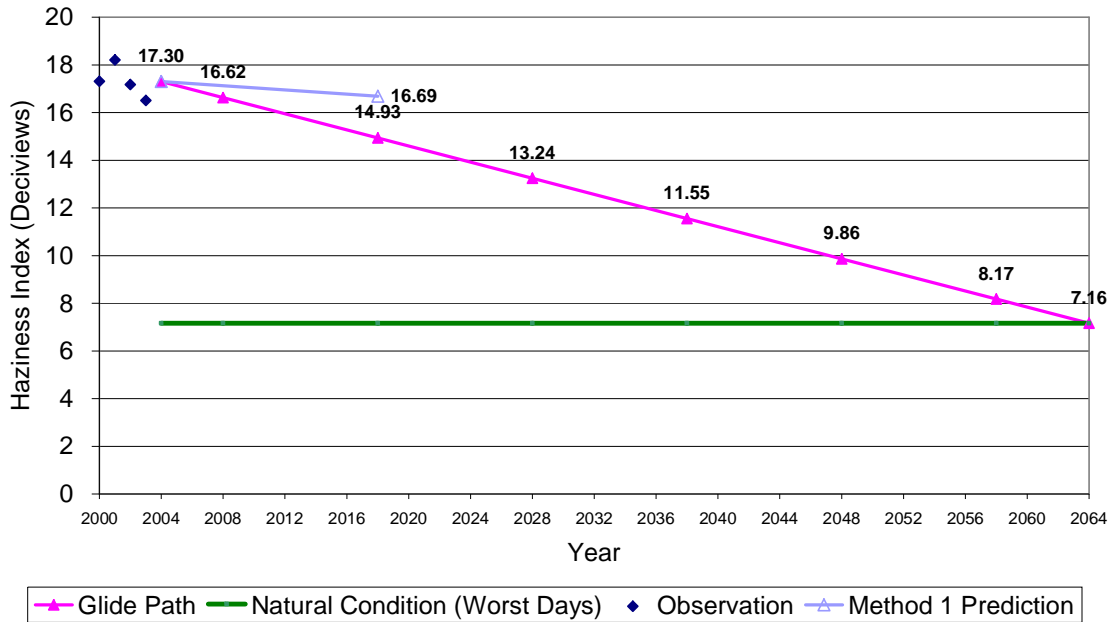


Figure D-9a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Big Bend (BIBE), Texas and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Big Bend NP - Best 20% Days

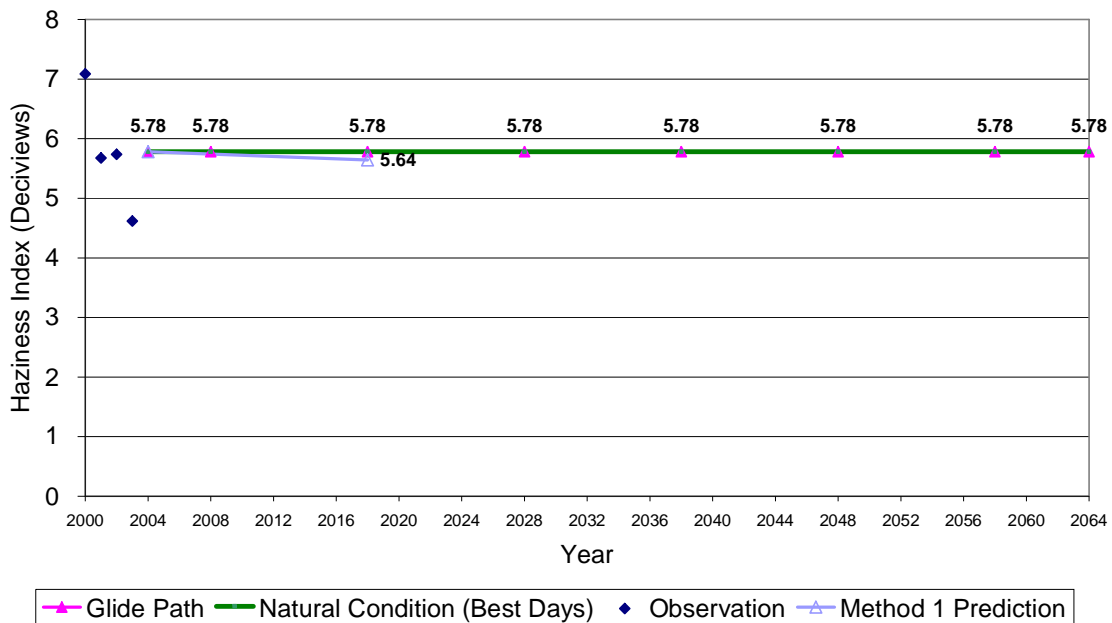


Figure D-9b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Big Bend (BIBE), Texas and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

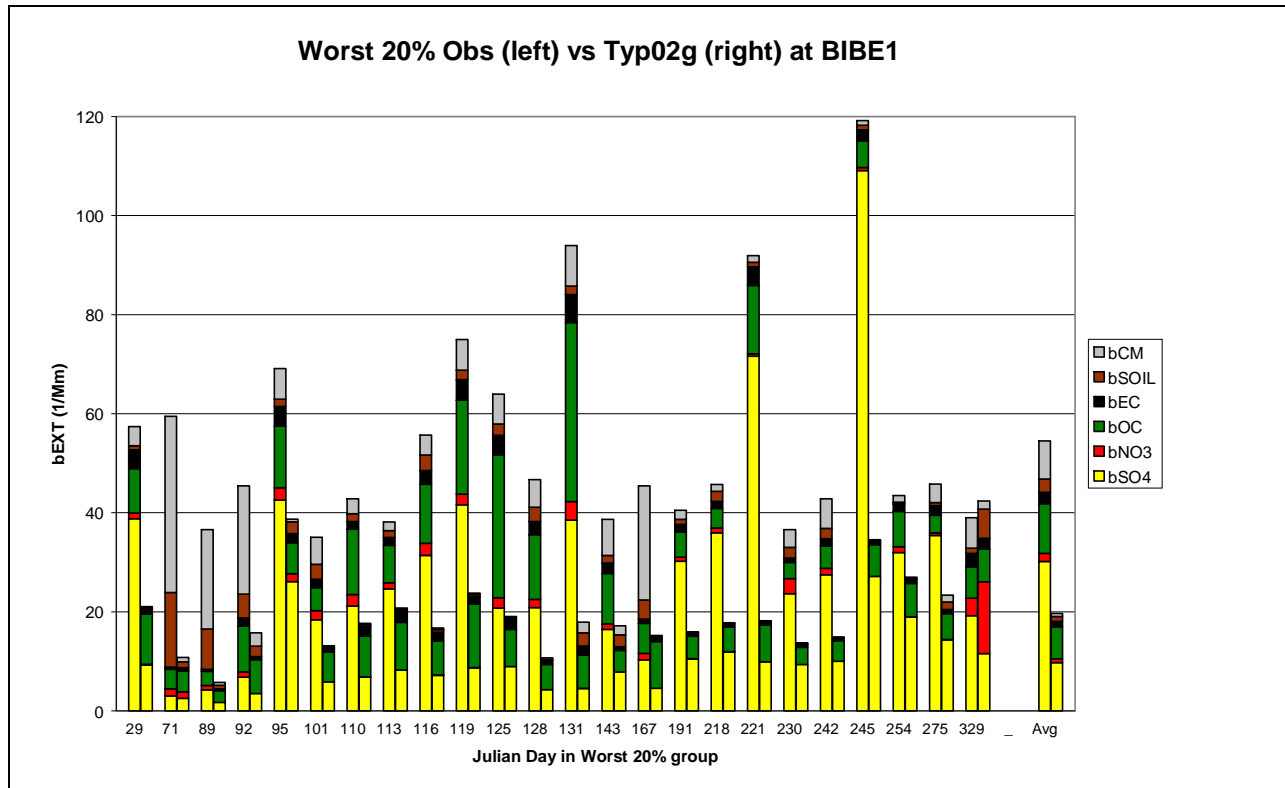


Figure D-9c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Big Bend (BIBE), Texas and Worst 20% (W20%) days in 2002.

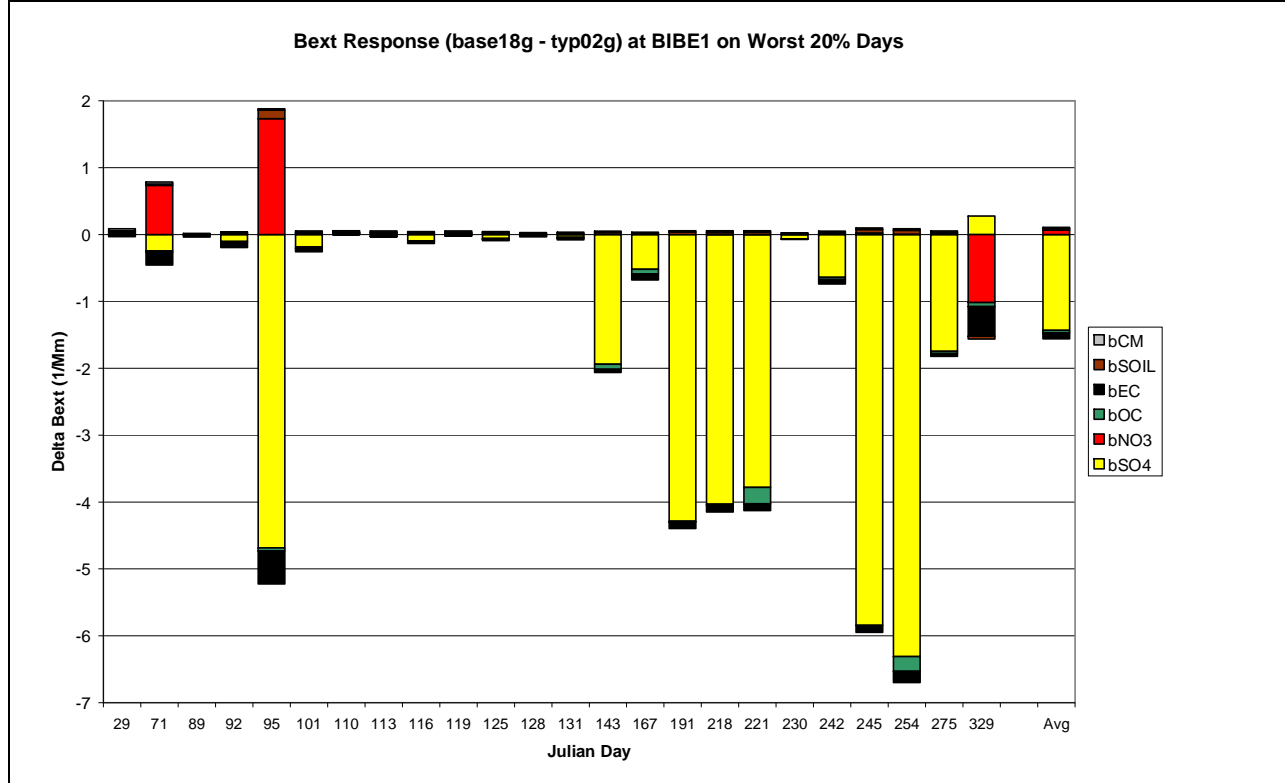


Figure D-9d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Big Bend (BIBE), Texas and Worst 20% (W20%) days in 2002.

Uniform Rate of Reasonable Progress Glide Path Guadalupe Mountains NP - 20% Data Days

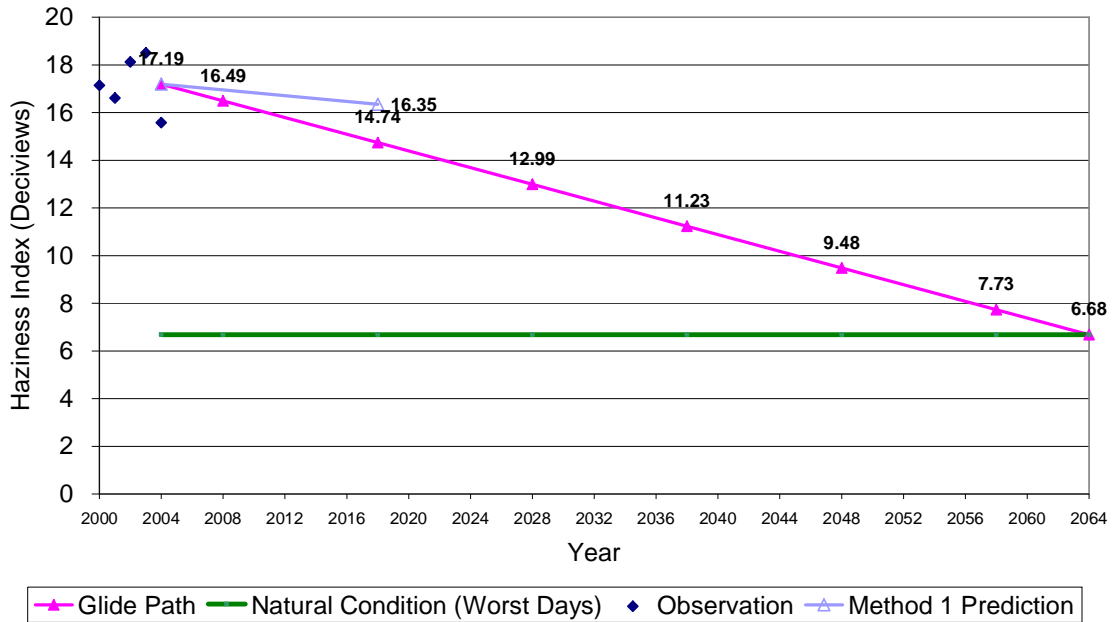


Figure D-10a. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Guadalupe Mountains (GUMO), Texas and Worst 20% (W20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

Uniform Rate of Reasonable Progress Glide Path Guadalupe Mountains NP - Best 20% Days

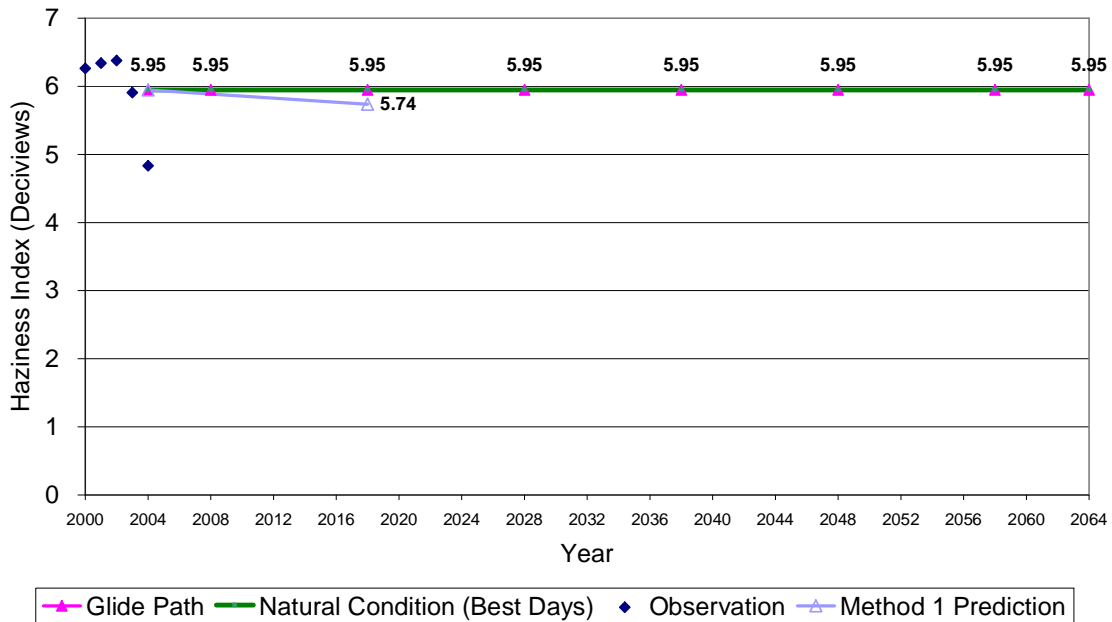


Figure D-10b. 2018 Visibility Projections and 2018 URP Glidepaths in deciview for Guadalupe Mountains (GUMO), Texas and Best 20% (B20%) days using 2002/2018 Base G CMAQ 36 km modeling results.

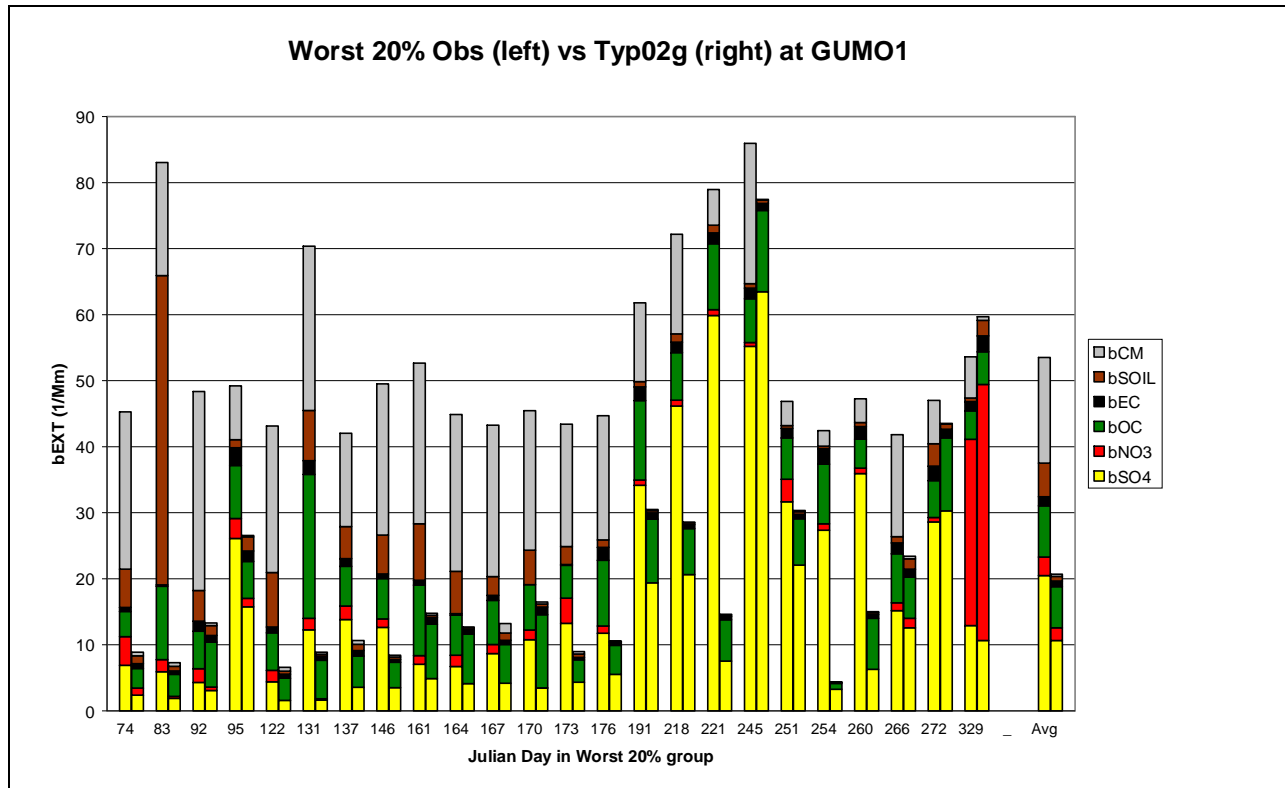


Figure D-10c. Comparison of observed (left) and 2002 Base G modeled (right) daily extinction for Guadalupe Mountains (GUMO), Texas and Worst 20% (W20%) days in 2002.

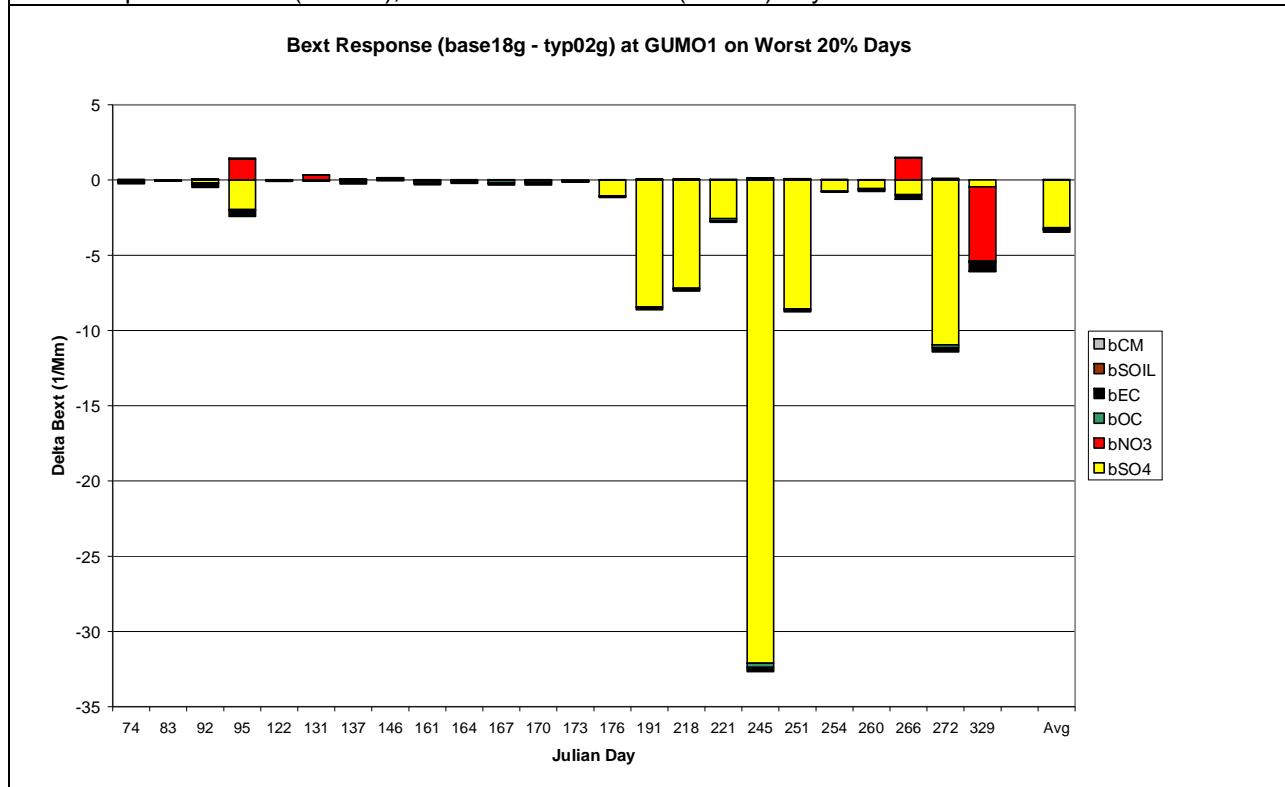


Figure D-10d. Differences in modeled 2002 and 2018 Base G CMAQ results (2018-2002) daily extinction for Guadalupe Mountains (GUMO), Texas and Worst 20% (W20%) days in 2002.