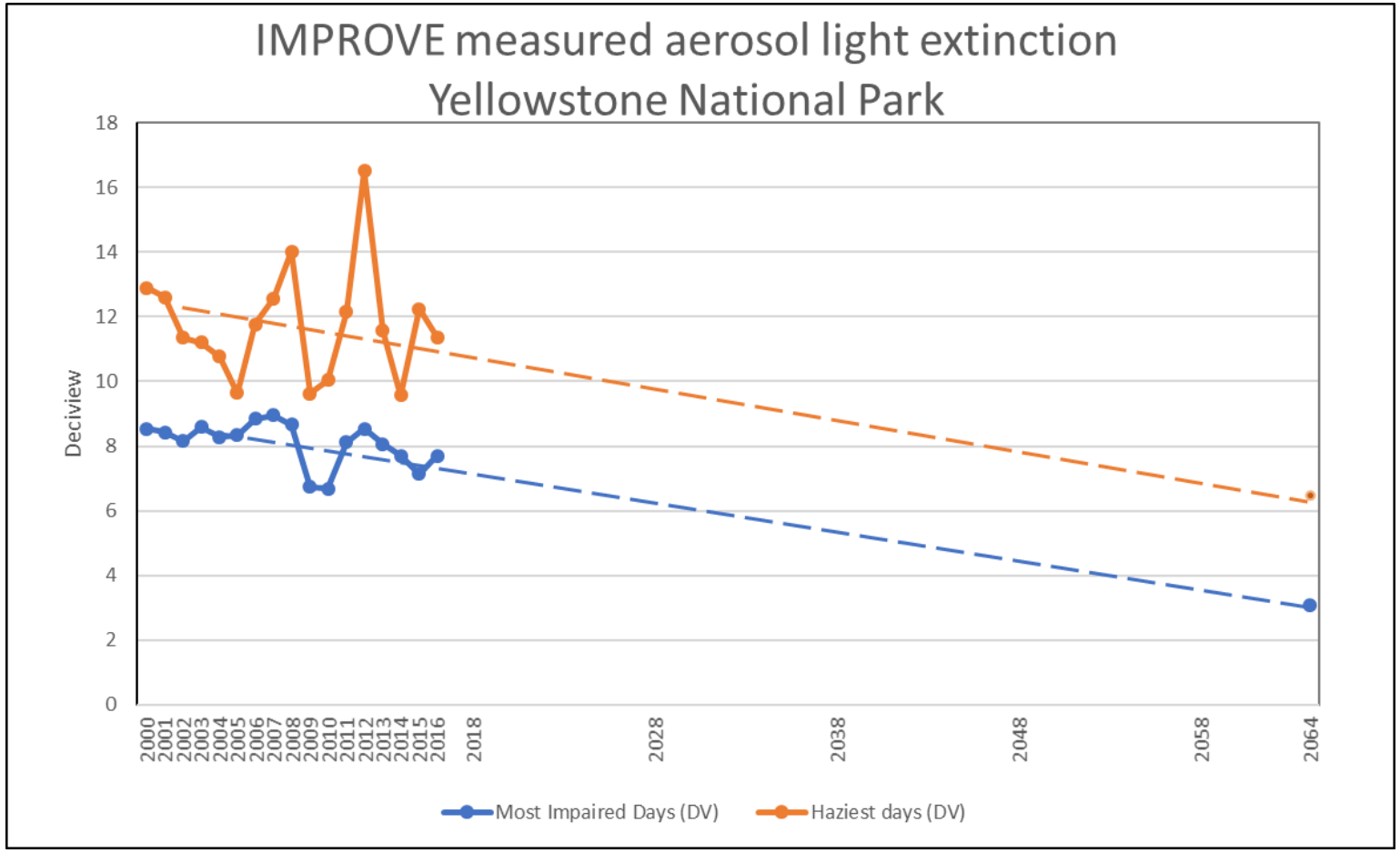
Deep Dives

- Haze vs. Impairment
  - What changes?
- 20% Most Impaired
  - Visibility trends

With emphasis on:

- Targeted seasons
- Targeted species
- Glidepaths and progress

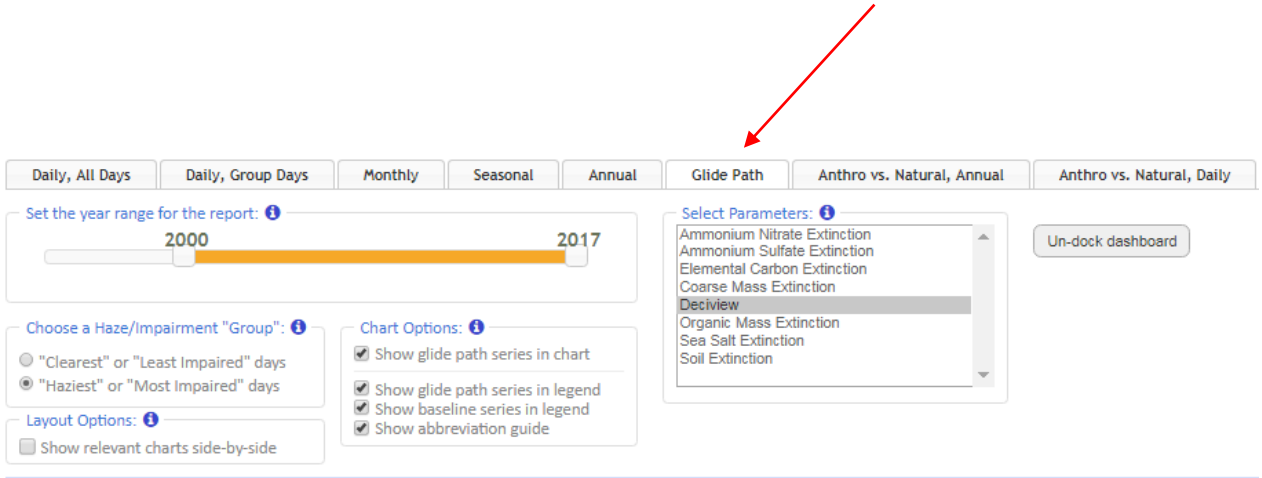


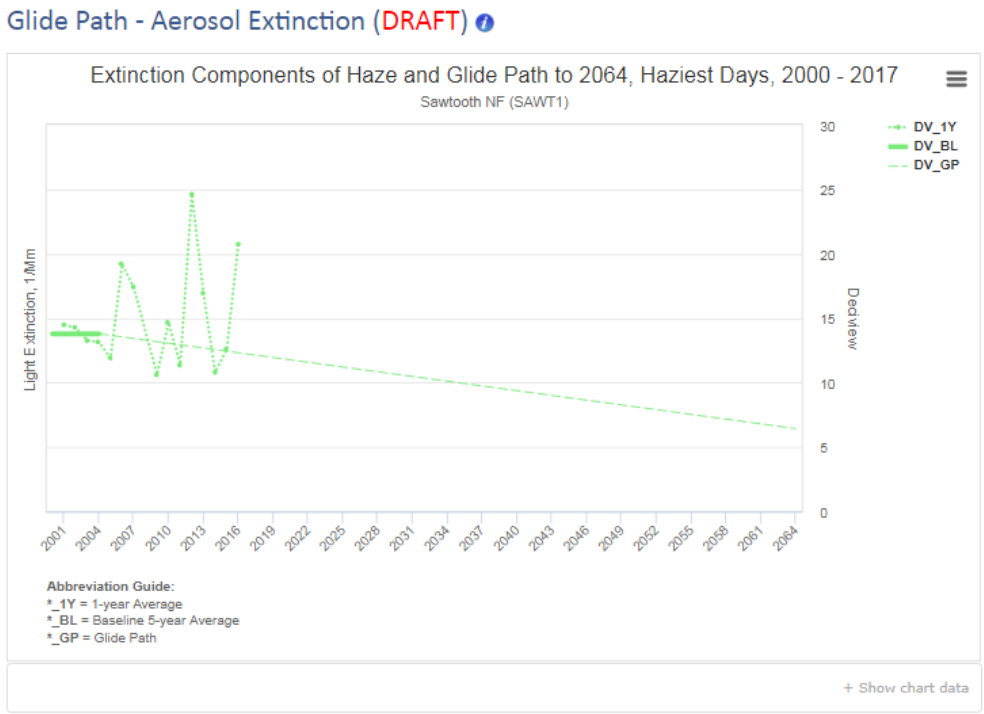
Haze vs. Impairment

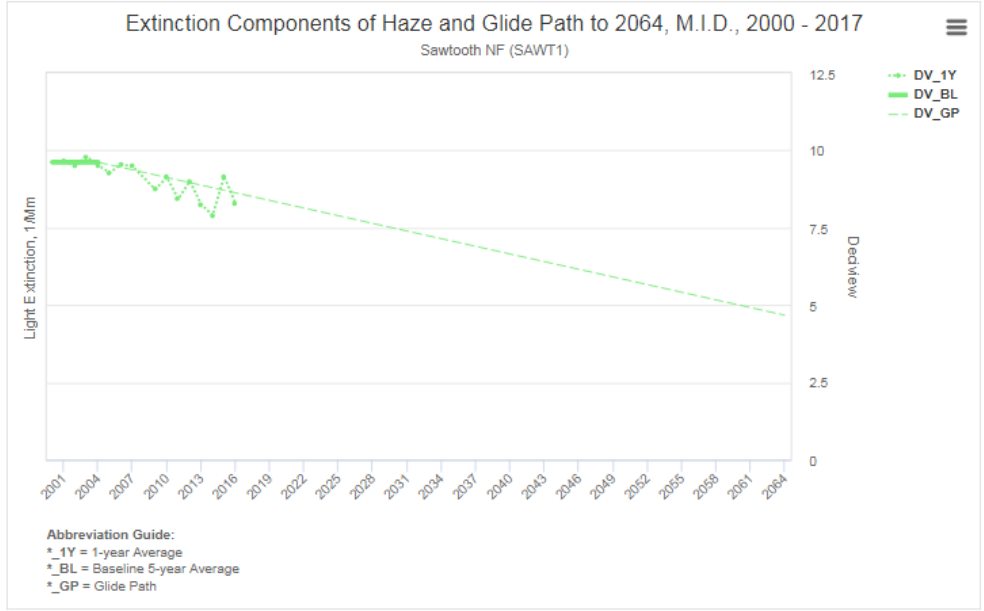
- Ways to analyze differences between haze and impairment
  - Glidepaths
  - Individual days within a year
  - Seasonal patterns
  - Monthly patterns
    - Species-specific contributions
    - Number of impaired/haziest days by season

Haze vs. Impairment

- New glidepaths
- Focus shifted to anthropogenic impairment
- Years with high episodic (wildfire/dust) do not dominate progress







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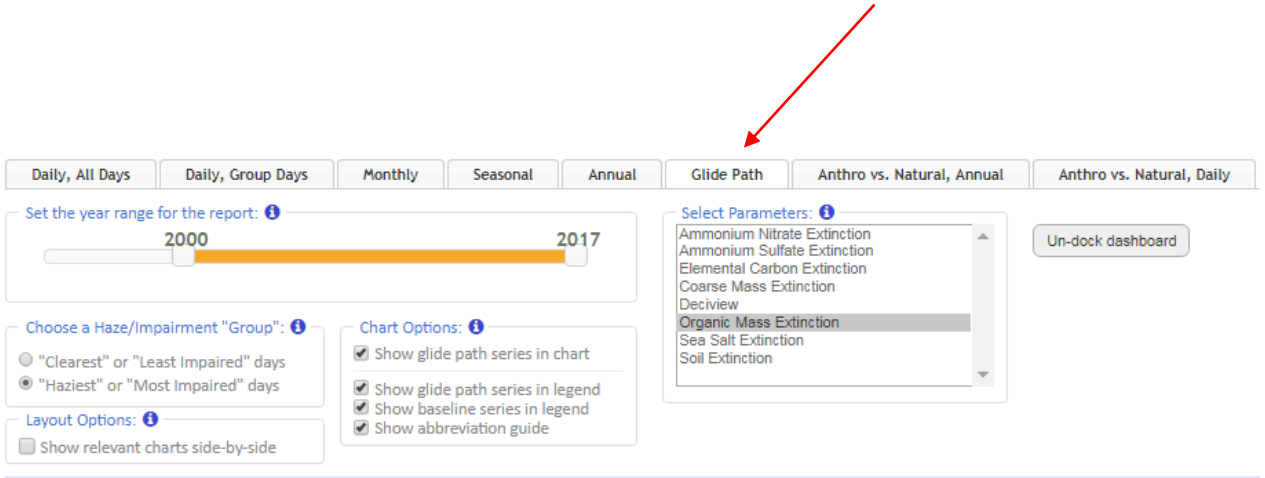

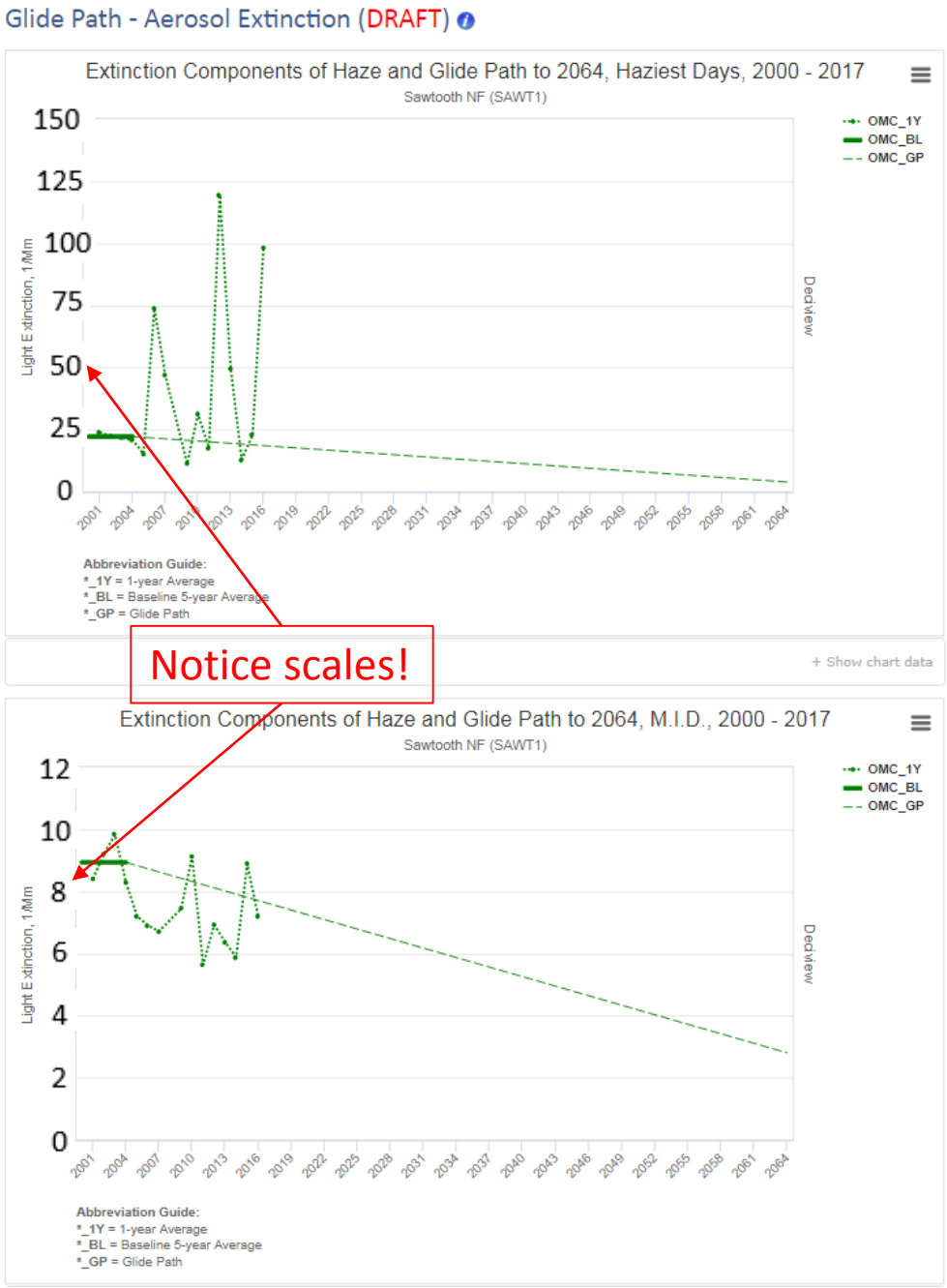

Haze vs. Impairment

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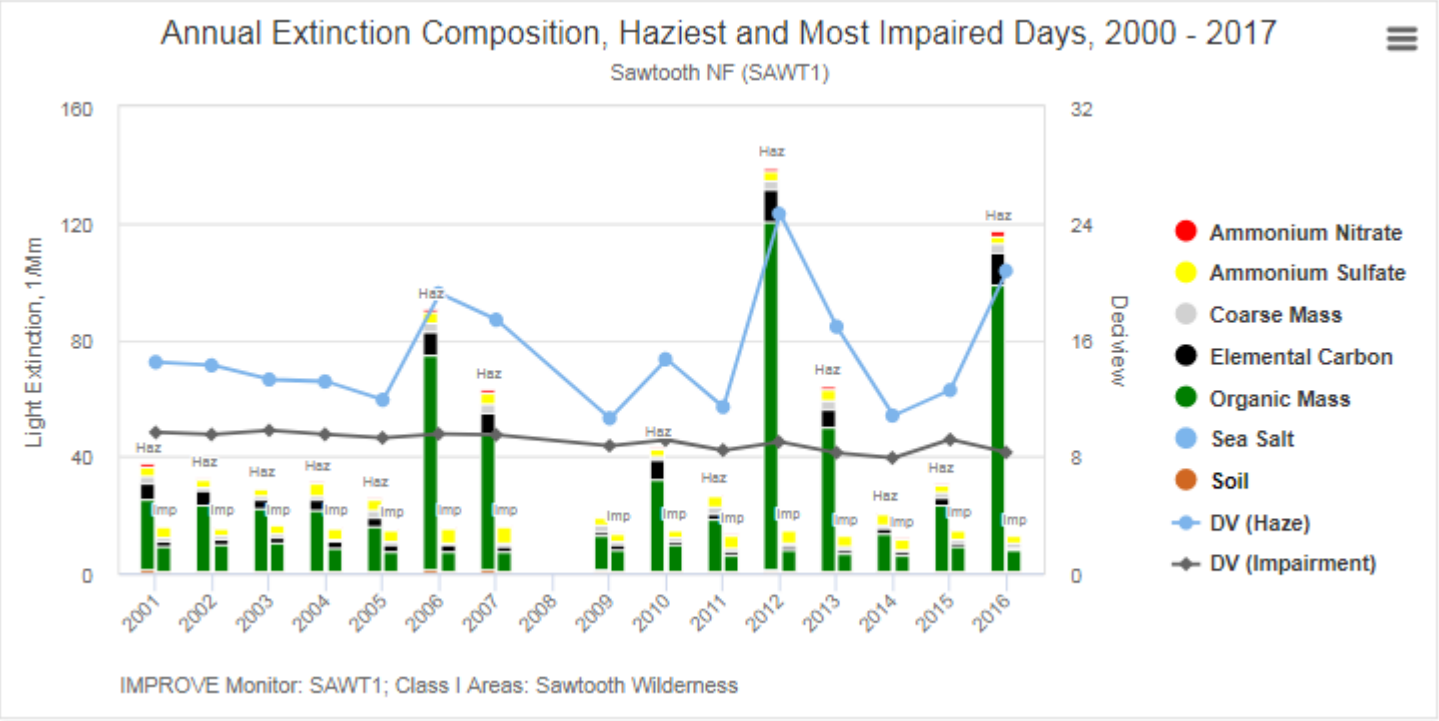
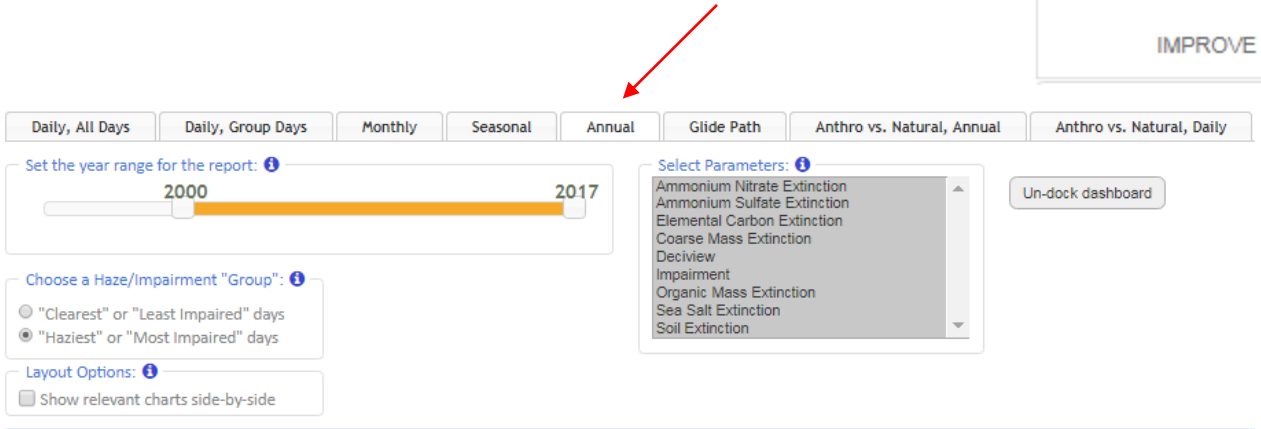
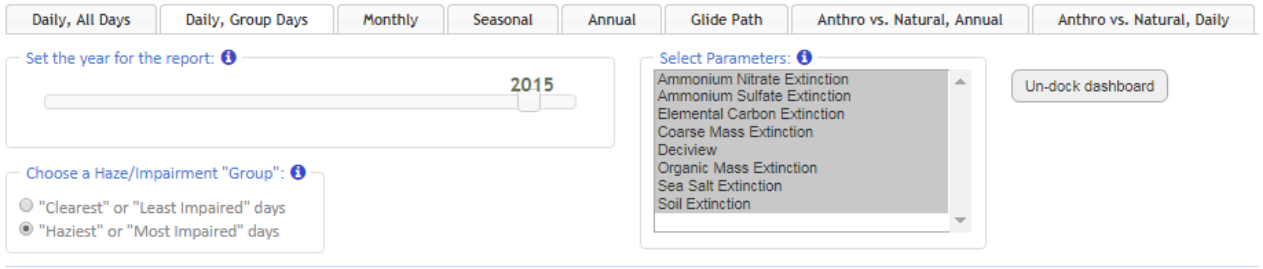
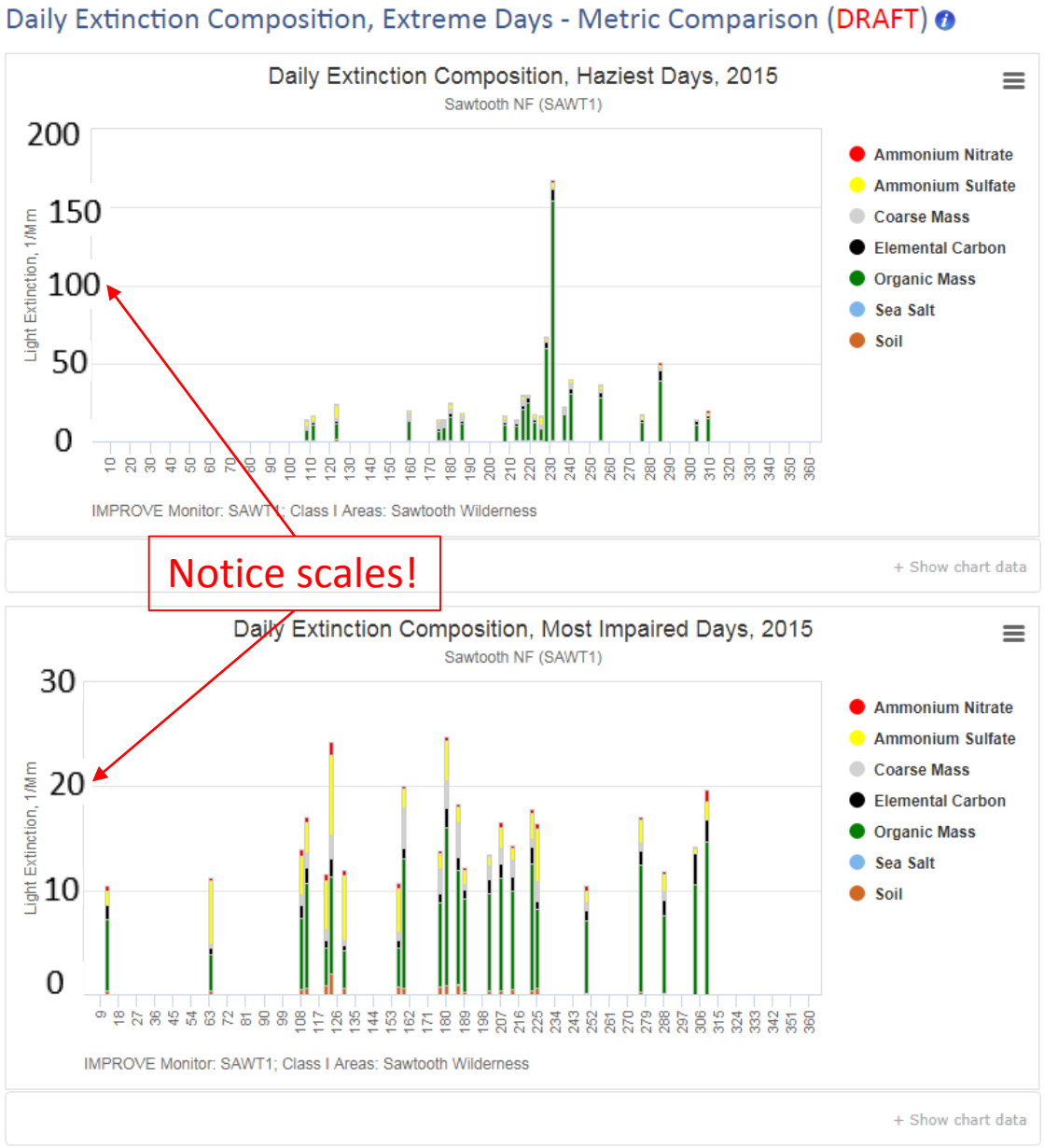




Haze vs. Impairment

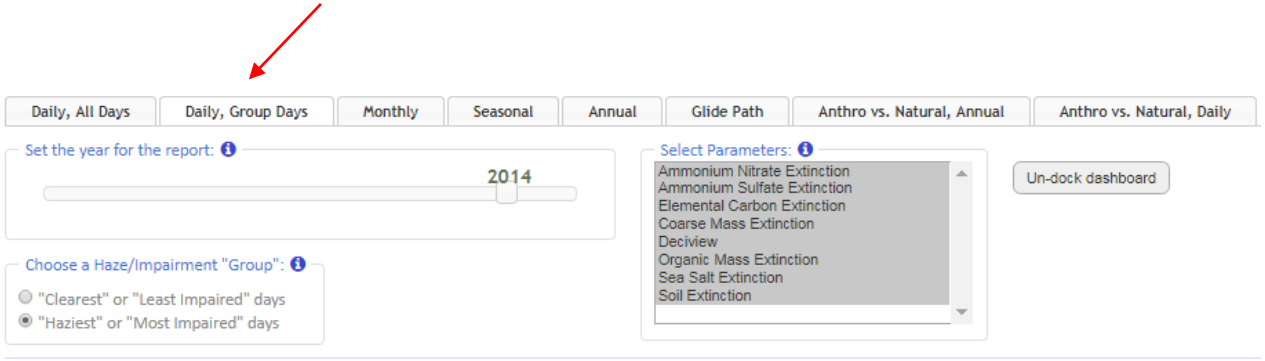
- Individual days
- Questions:
  - How chosen days change with new metric?
  - How species contributions change on those days?
  - Does the metric remove wildfire impacts?



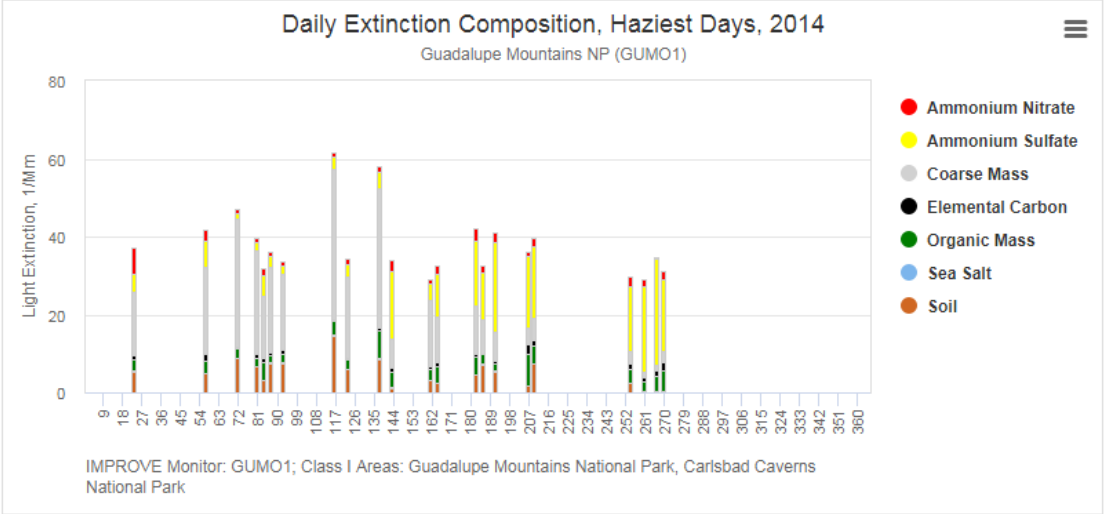


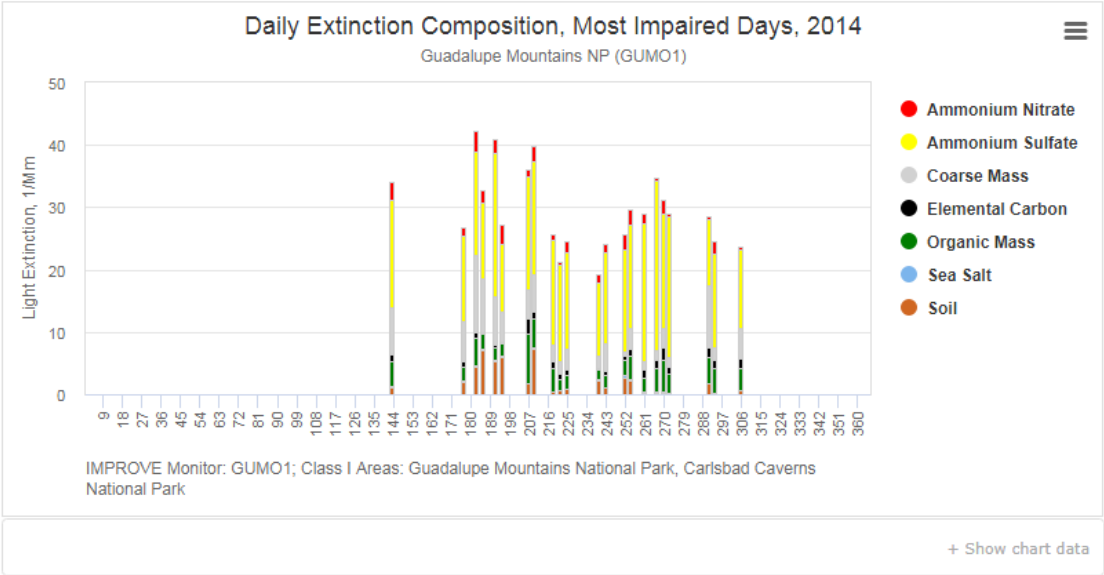
Haze vs. Impairment

- Individual days
- Questions:
  - How chosen days change with new metric?
  - How species contributions change on those days?
  - Does the metric remove dust impacts?



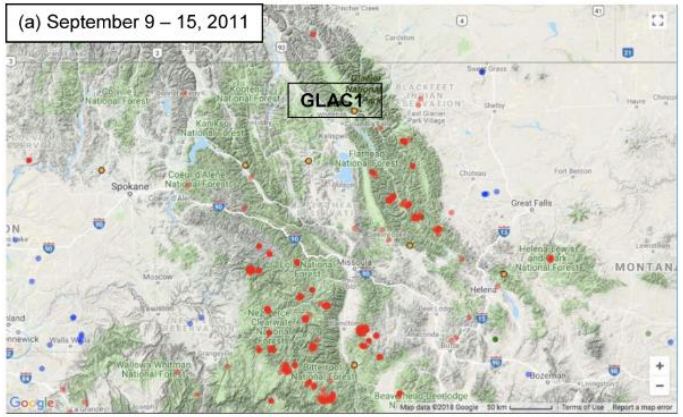
Daily Extinction Composition, Extreme Days - Metric Comparison (DRAFT)

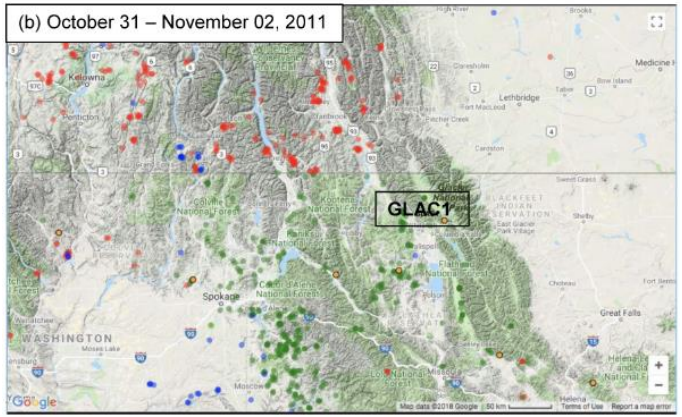




Haze vs. Impairment

- Individual days
- Questions: Do known fire-impacted days get removed?





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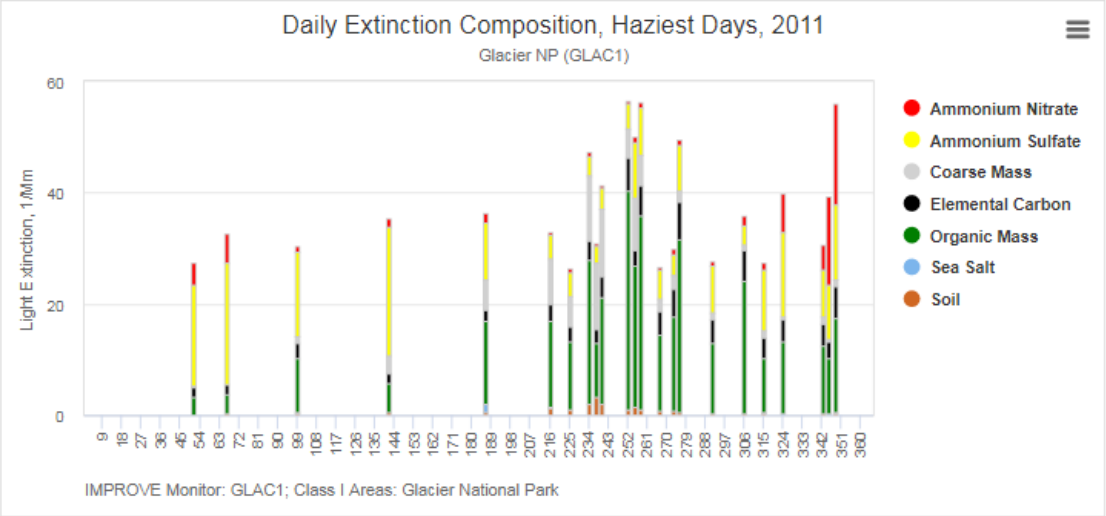
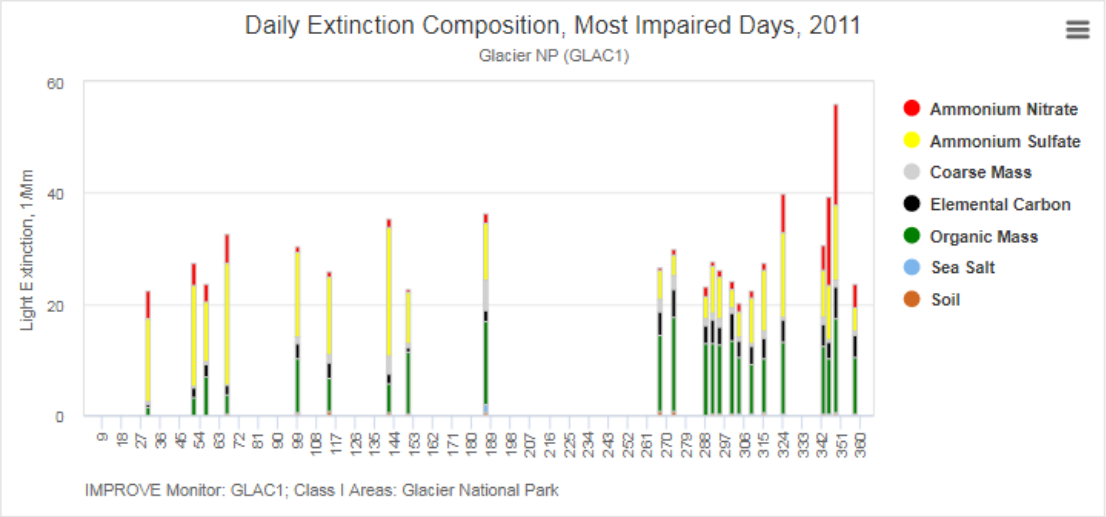
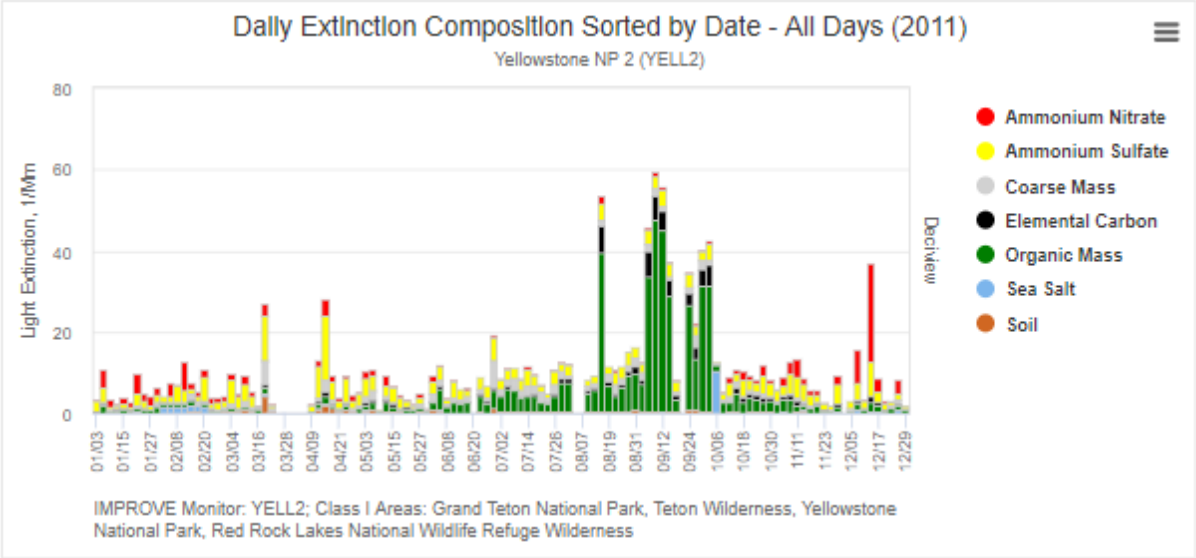
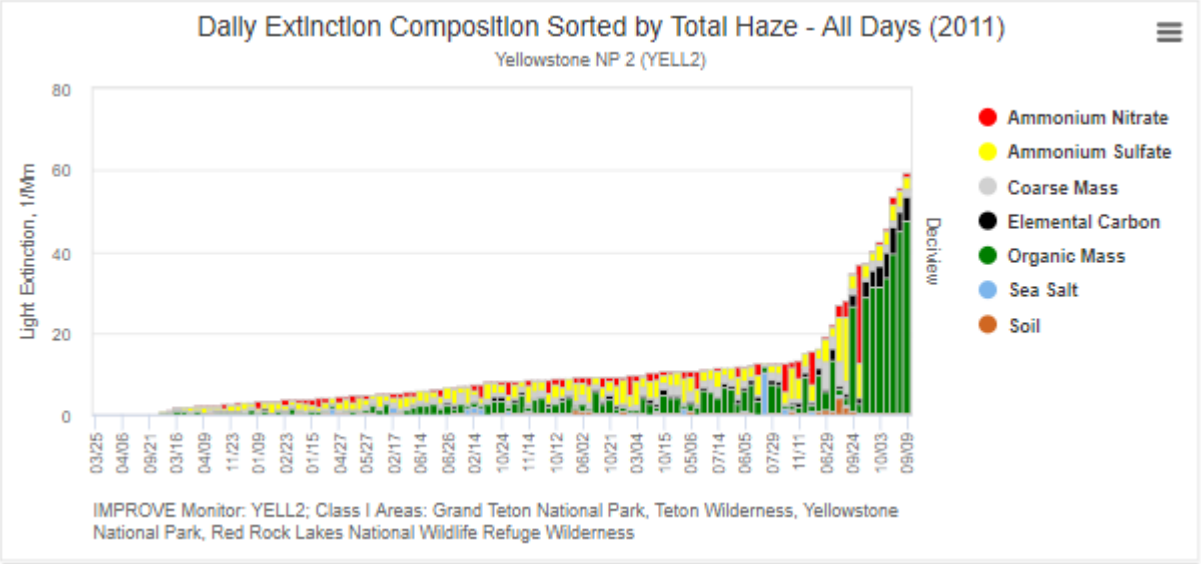


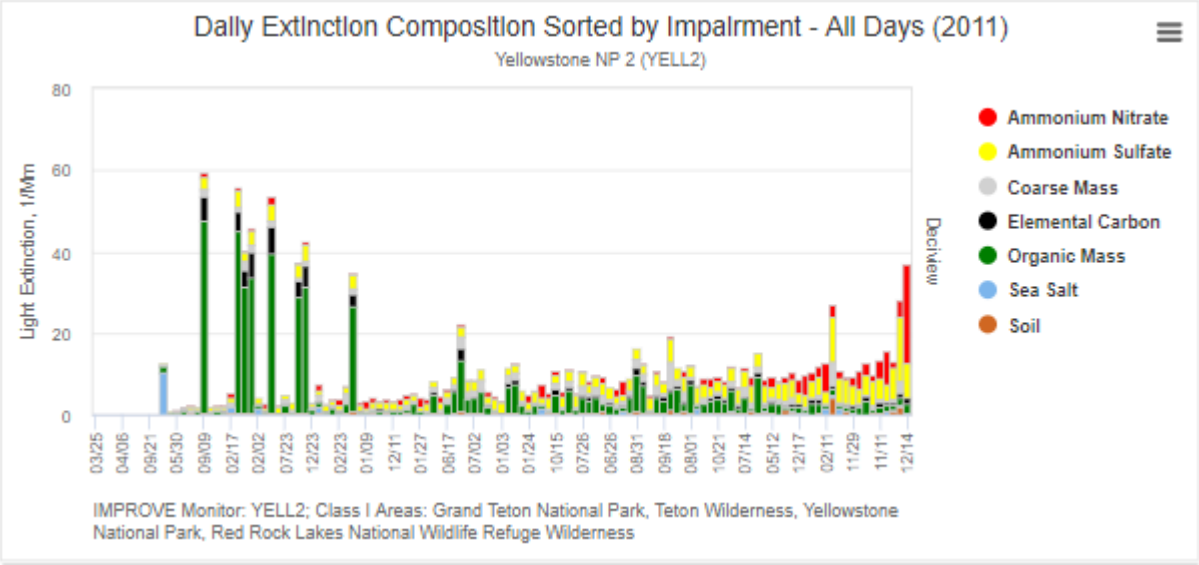


Haze vs. Impairment

- Individual days
- Sort days by date, total haze, or impairment to see differences in selected days



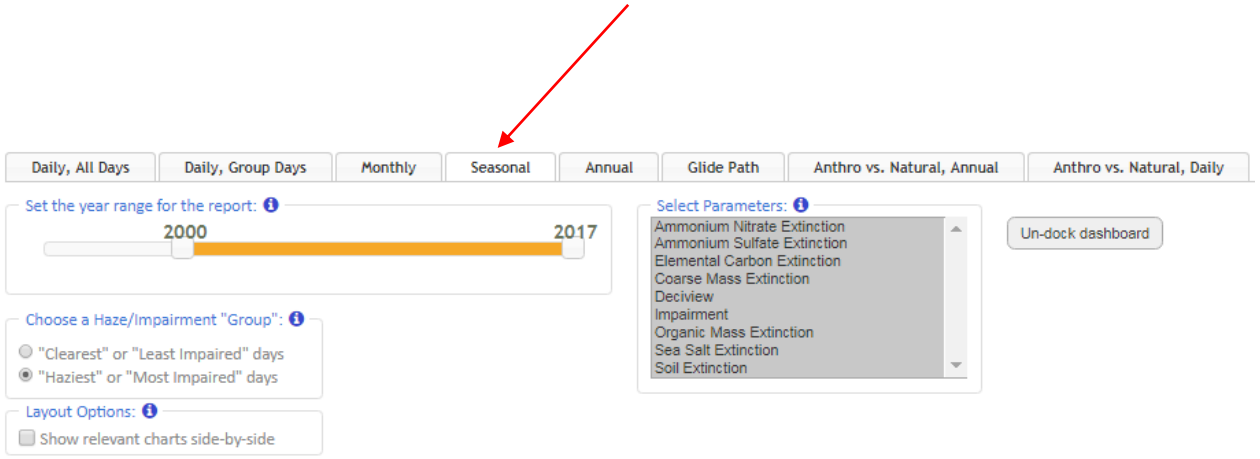


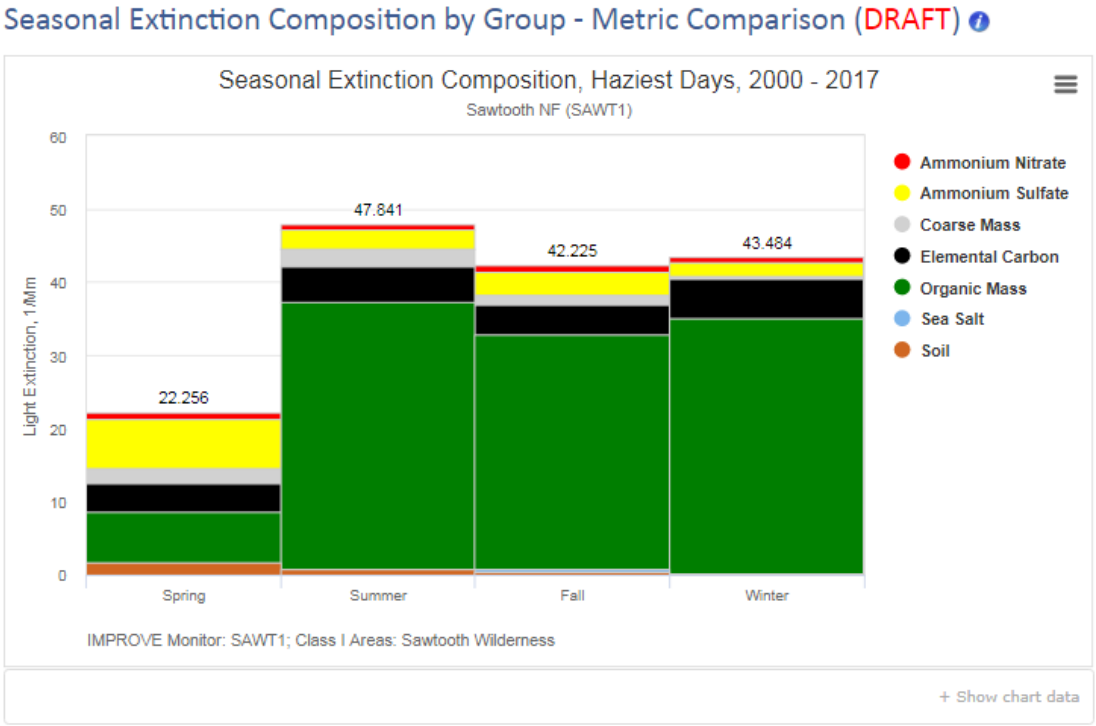


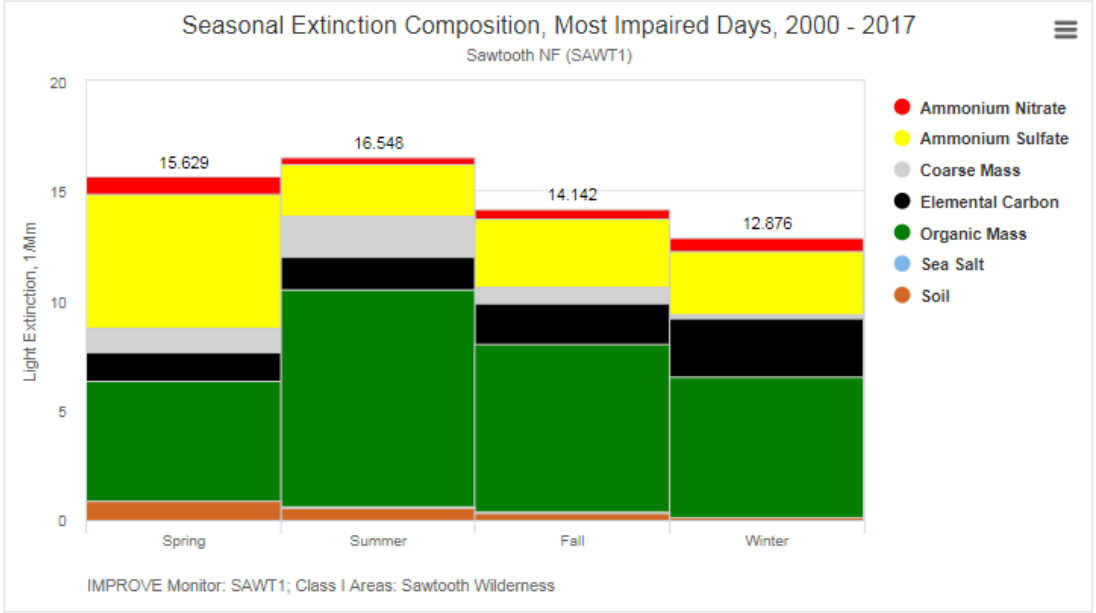
Daily, All Days | Daily, Group Days | Monthly | Seasonal | Annual | Glide Path | Anthro vs. Natural, Annual | Anthro vs. Natural, Daily

Haze vs. Impairment

- Seasonal patterns
- Questions:
  - Which seasons are targeted?
  - Which species dominate those seasons?







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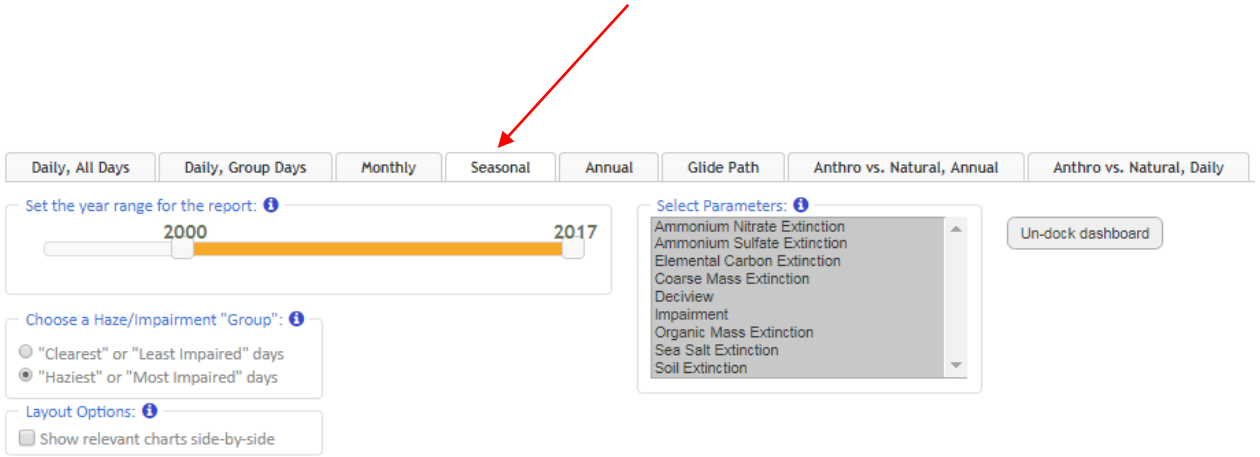
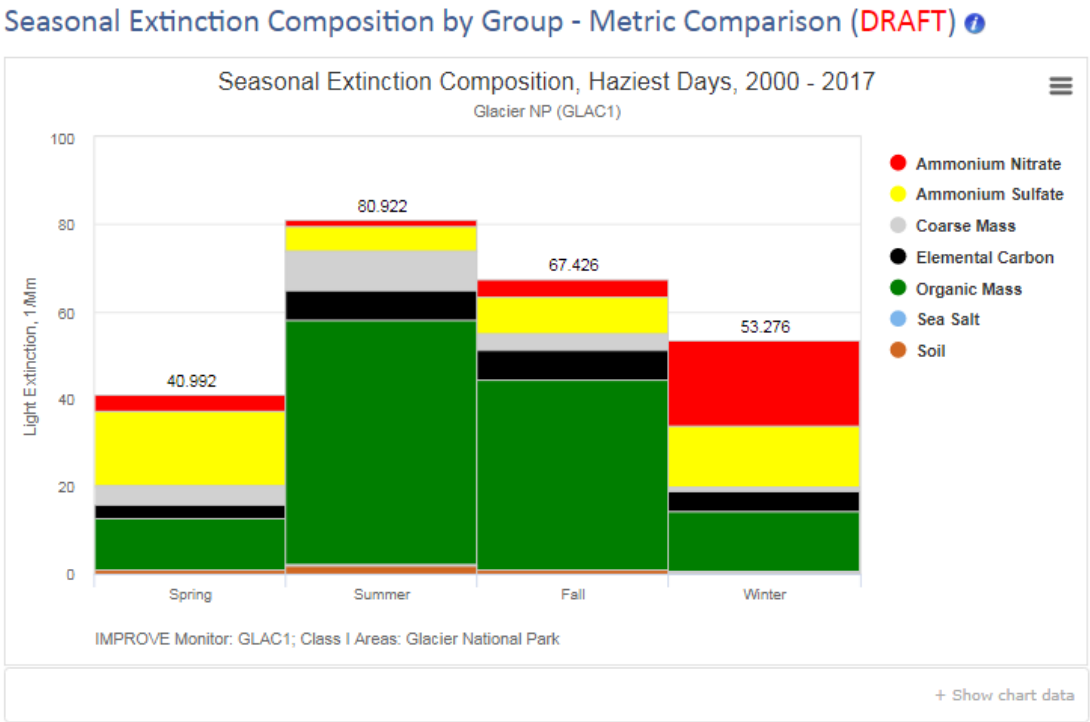
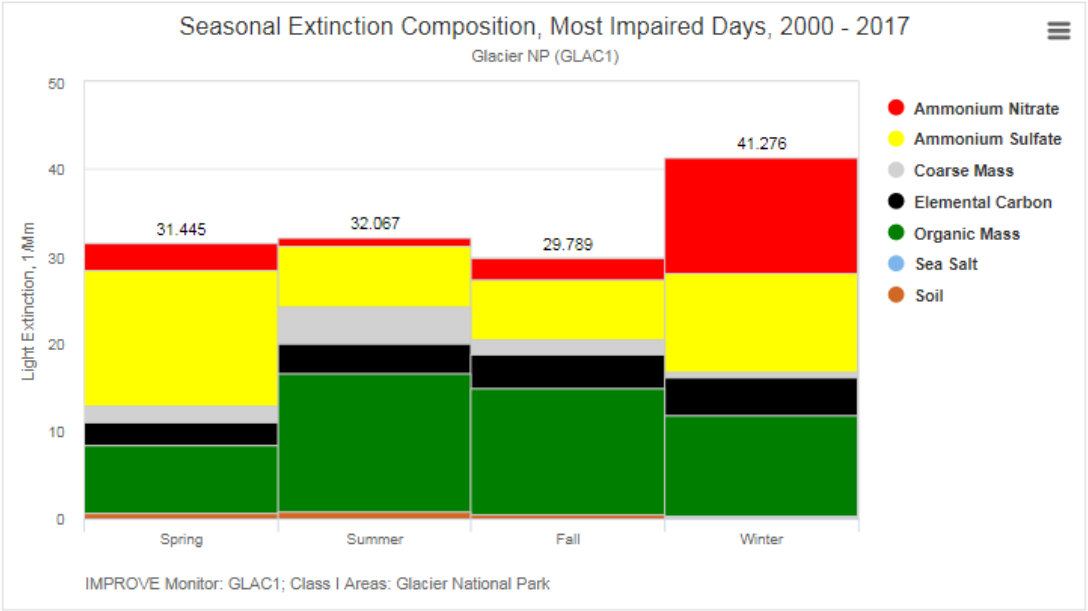
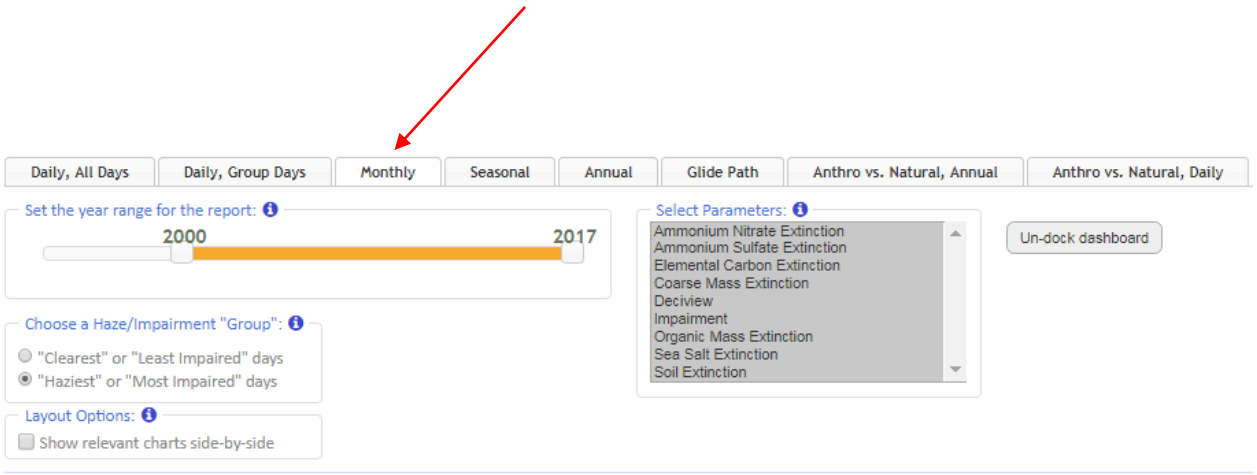


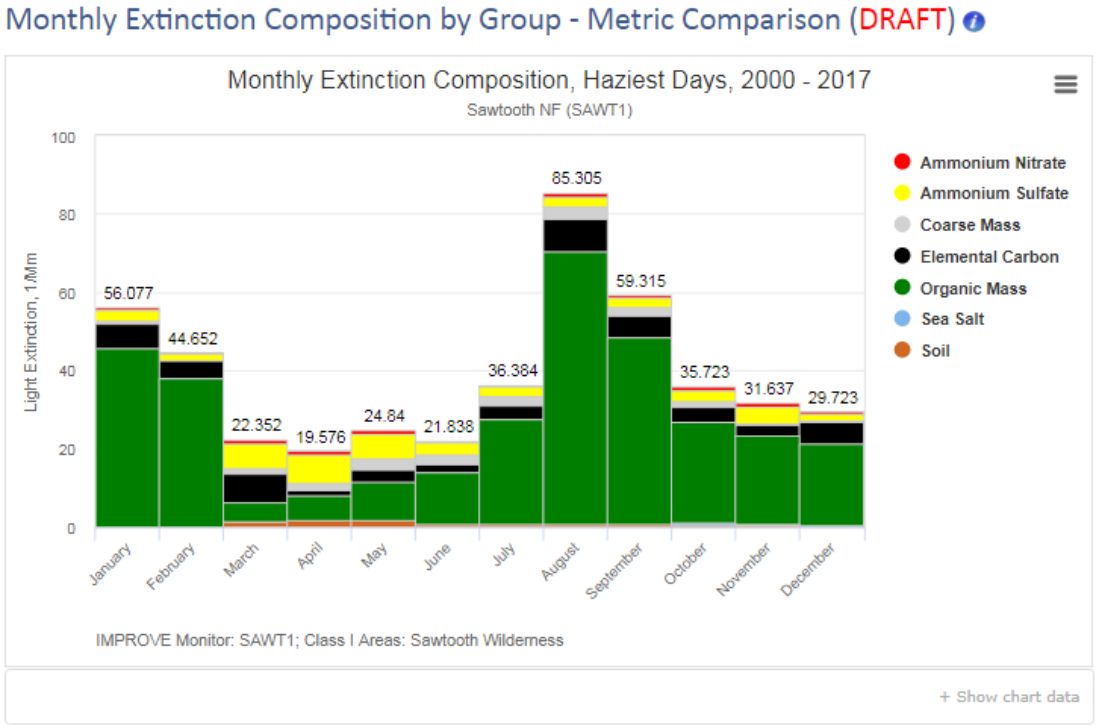


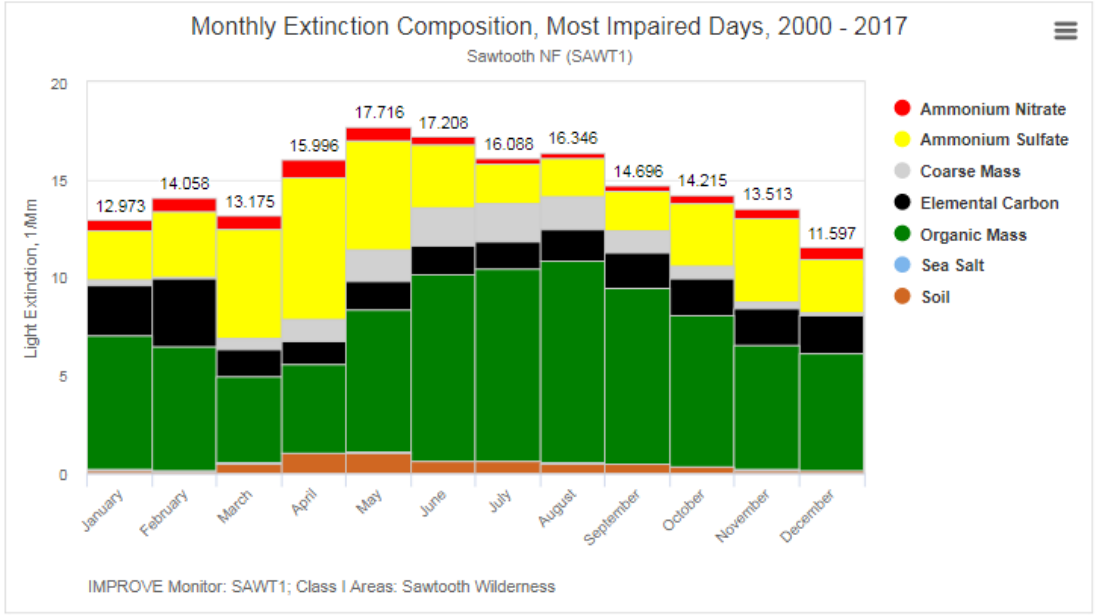


Haze vs. Impairment

- Monthly patterns
- Questions:
  - Which months are targeted?
  - Which species dominate those months?







Haze vs. Impairment

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- Questions:
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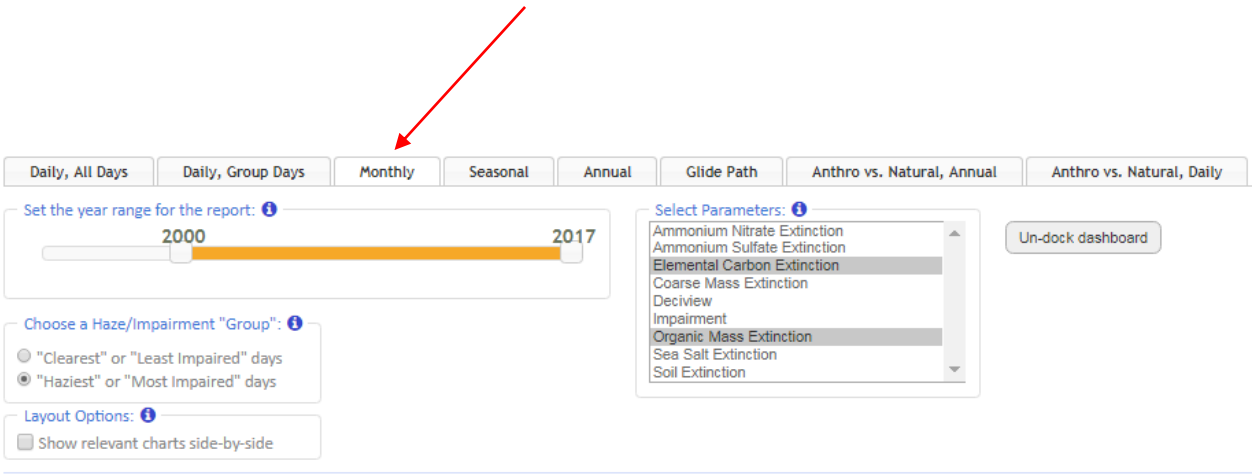

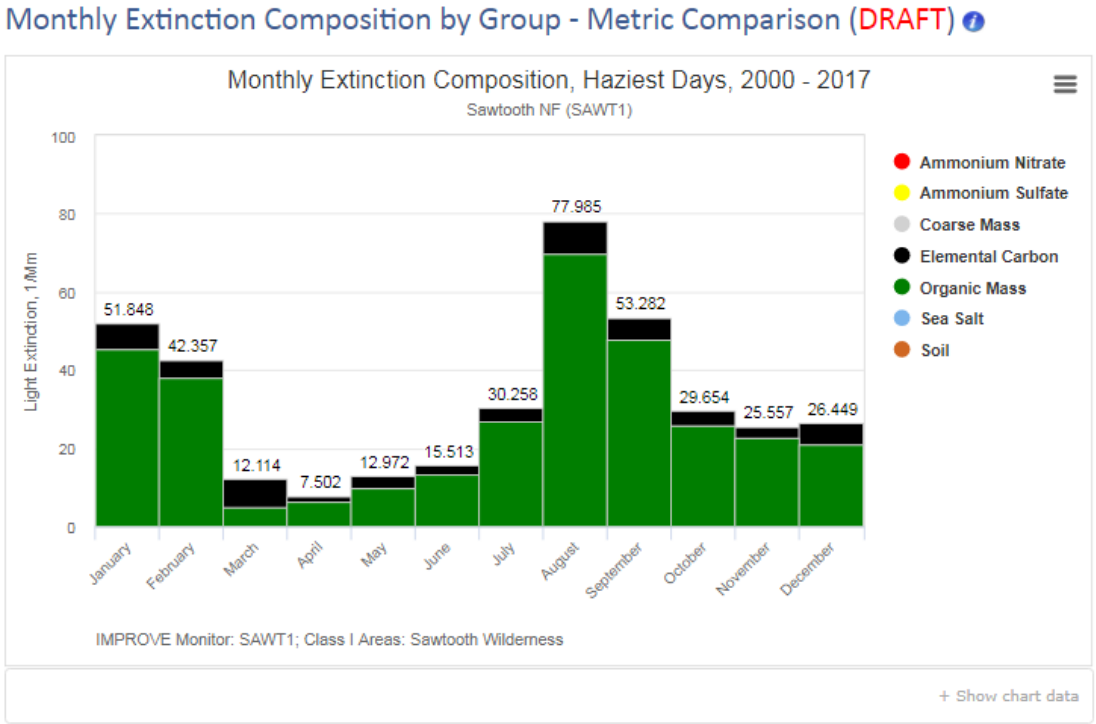

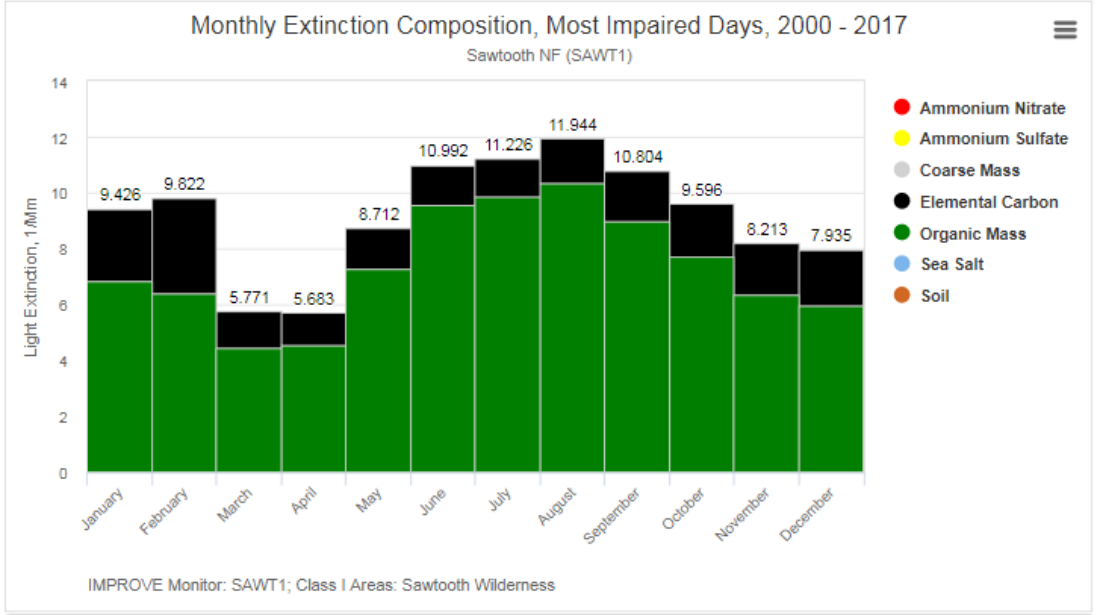

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- Questions:
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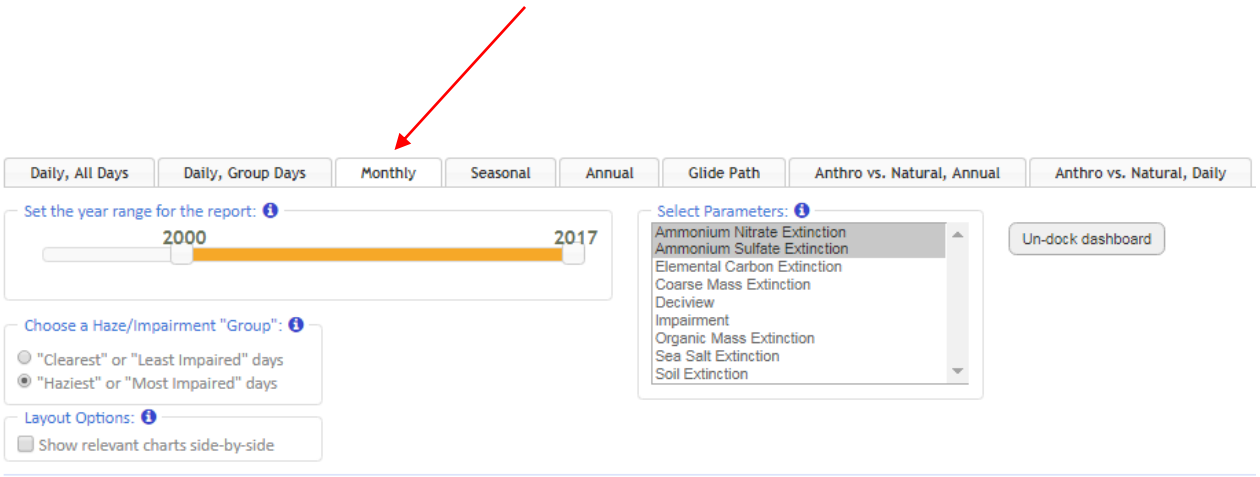
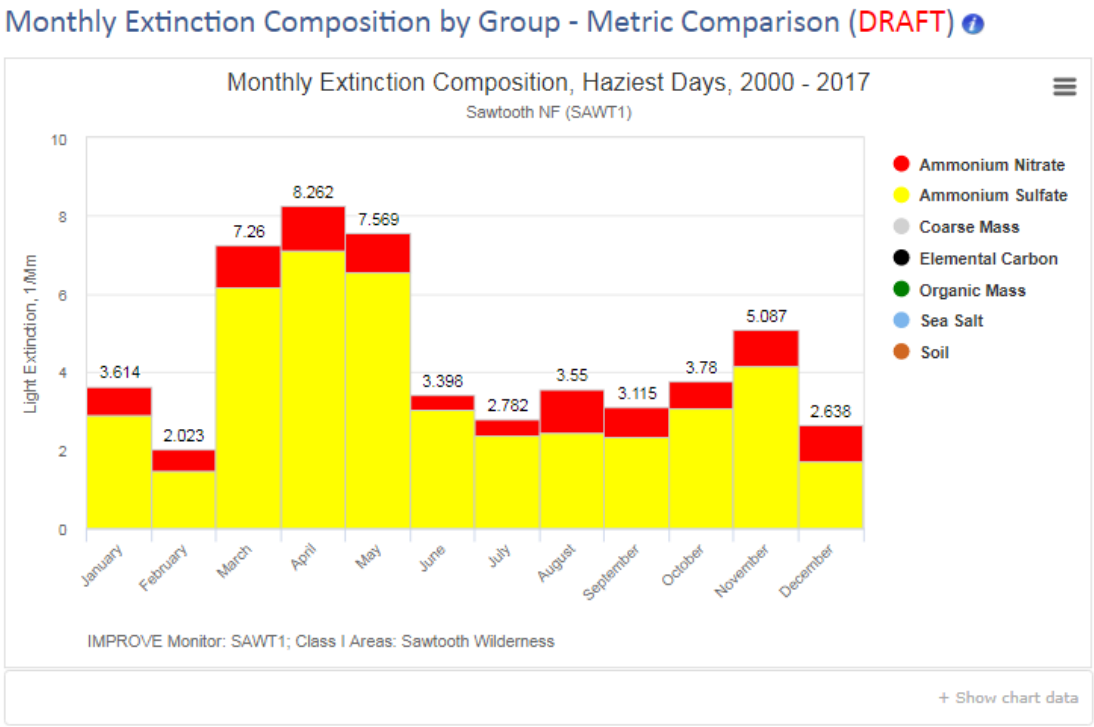
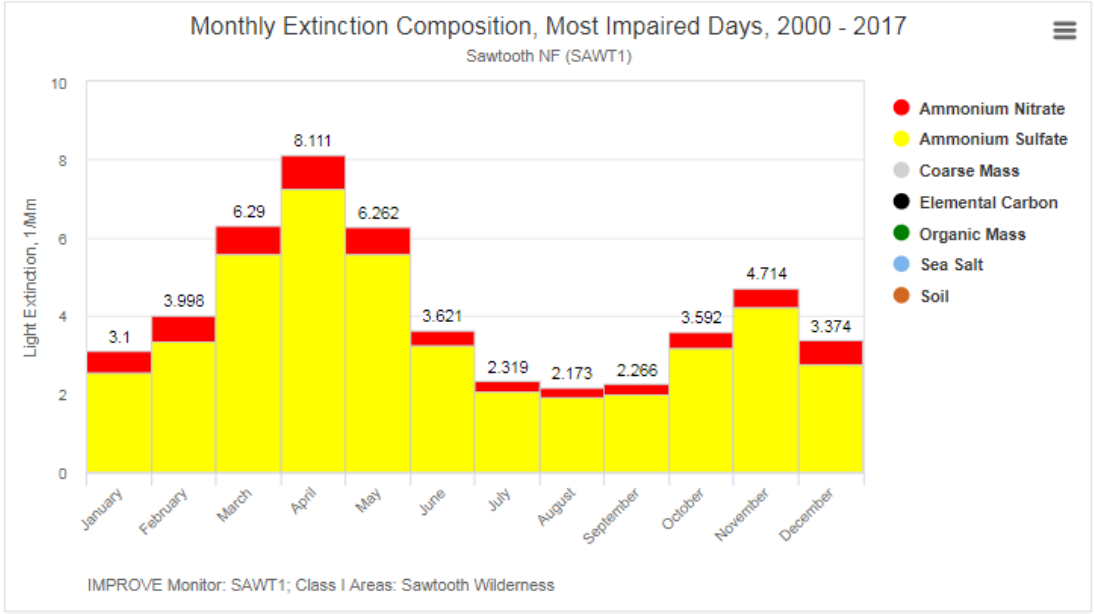
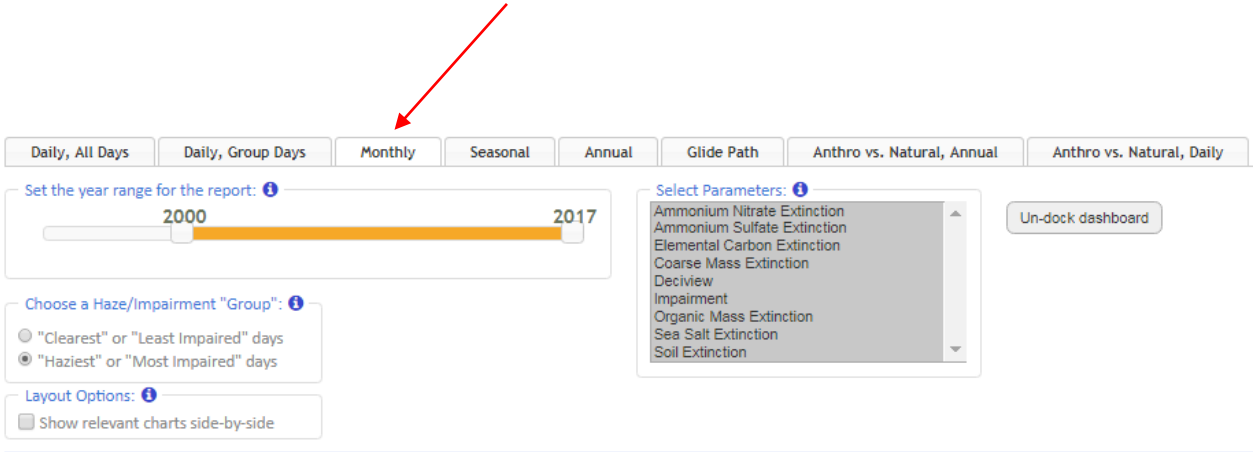


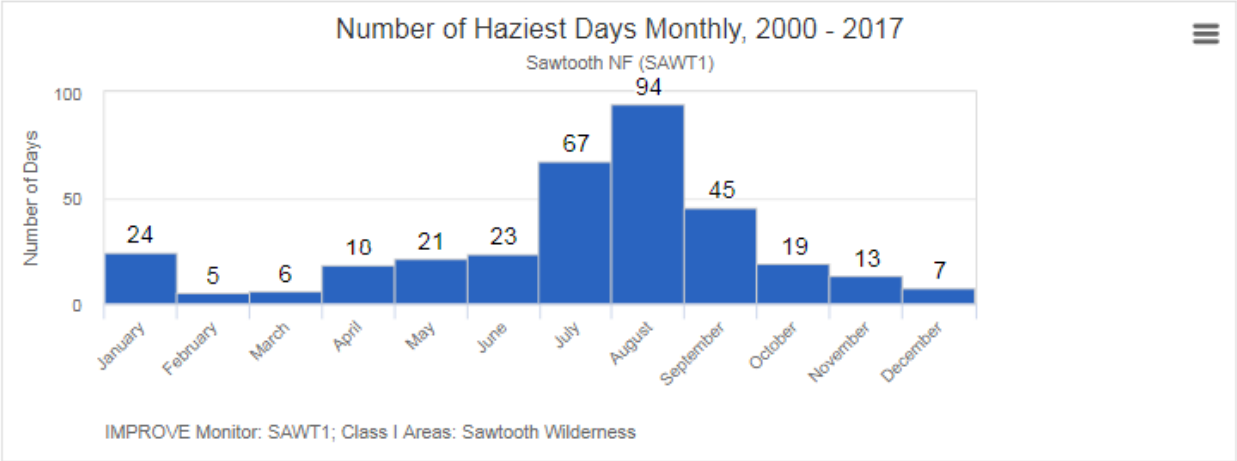


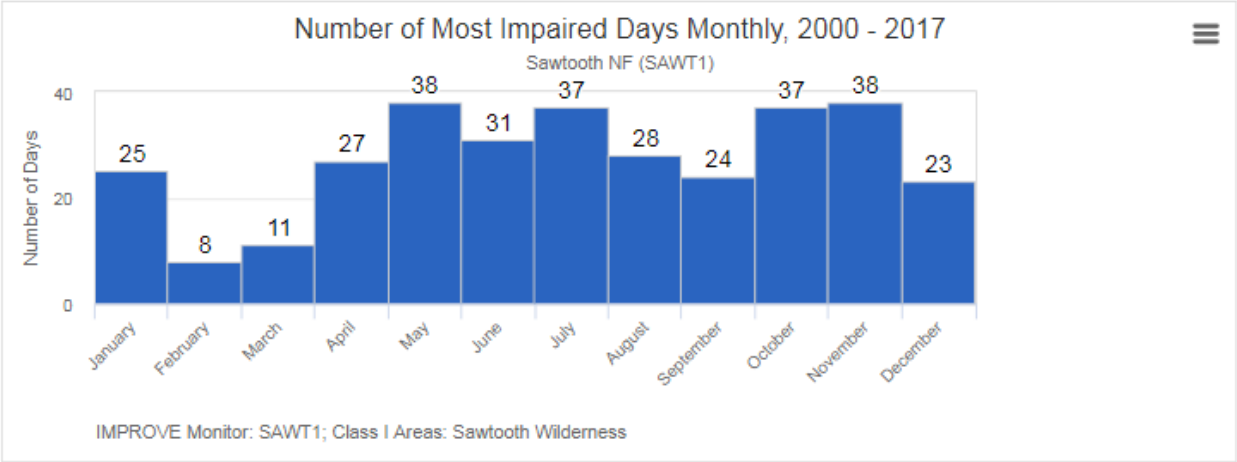


Haze vs. Impairment

- Monthly patterns
- Questions:
  - Which months are targeted?
  - Which species dominate those months?
  - How much does each month contribute to hazy/impaired days?

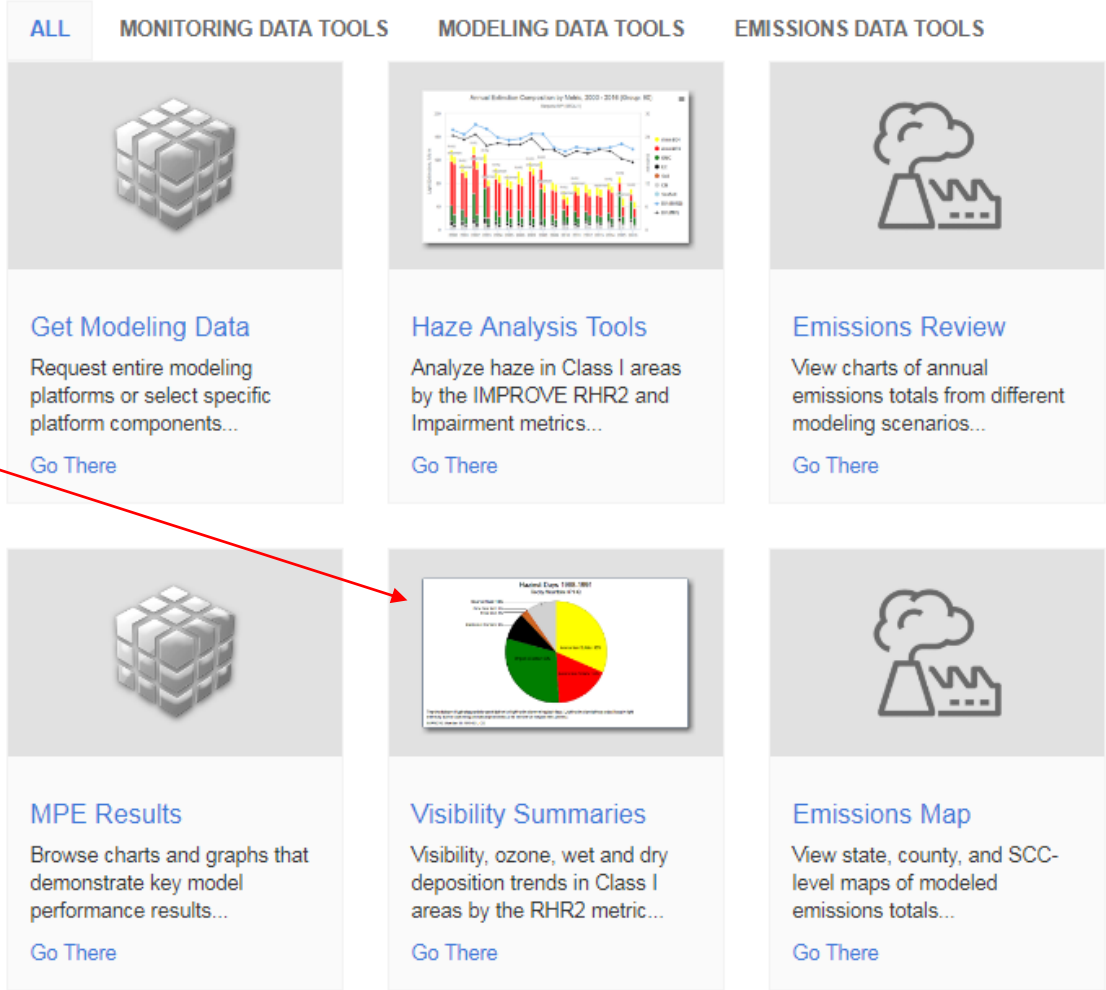






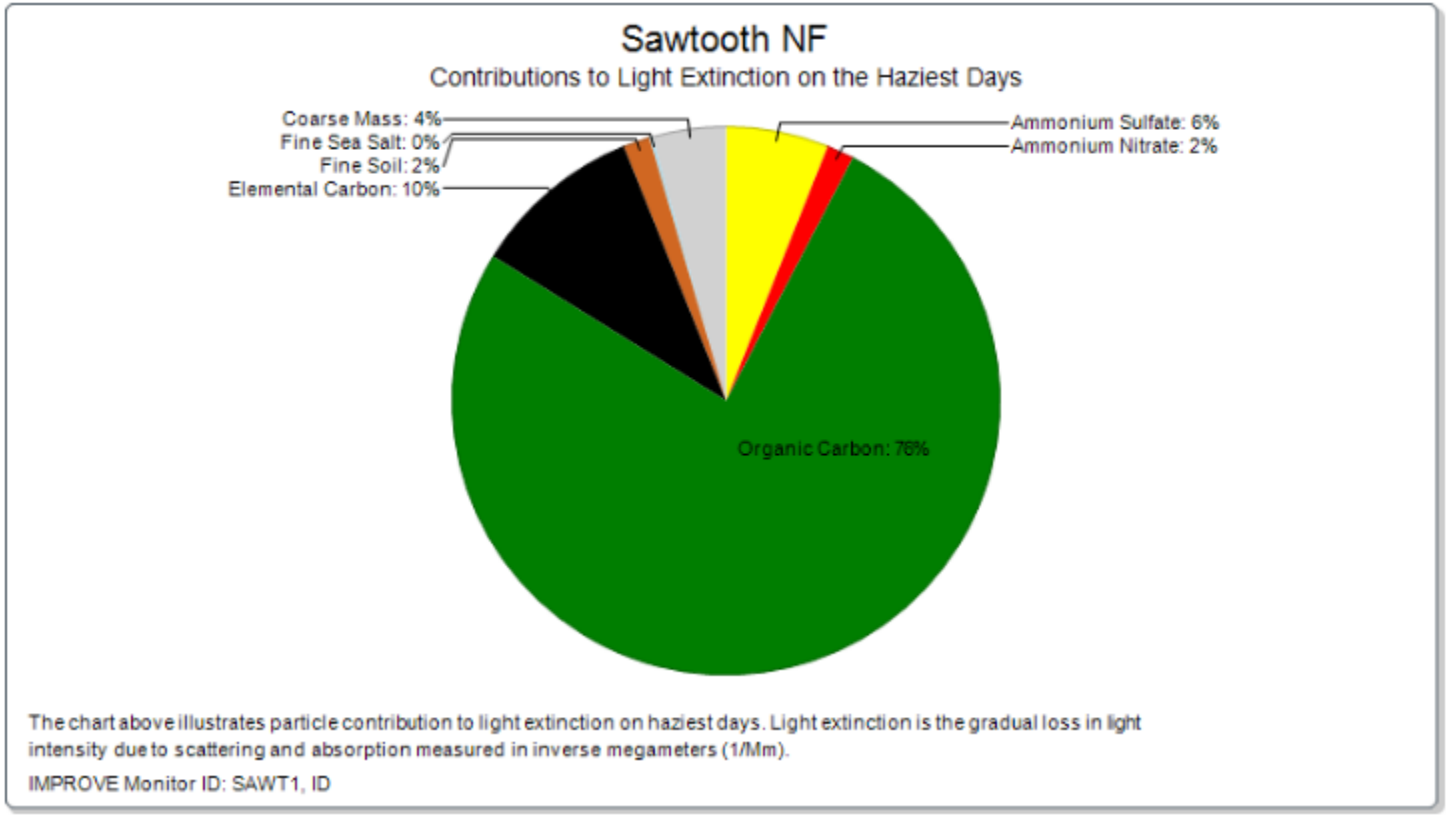
Haze vs. Impairment

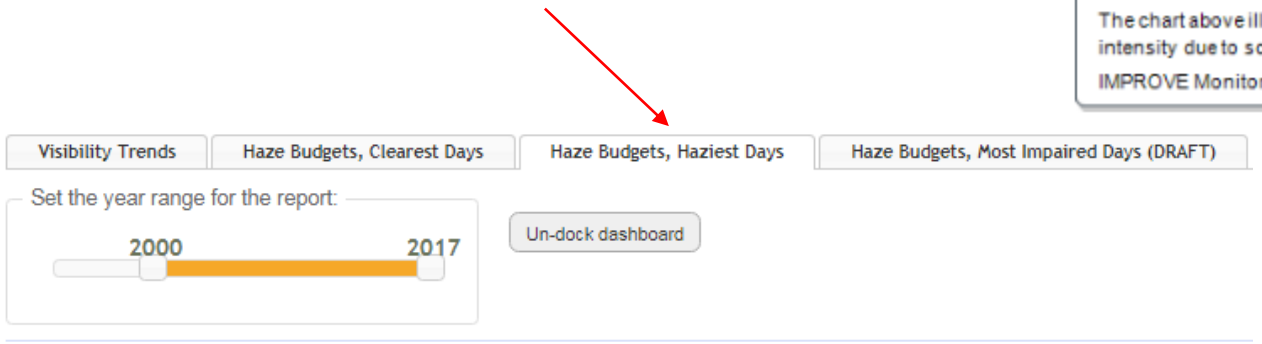
- Visibility Summaries



Haze vs. Impairment

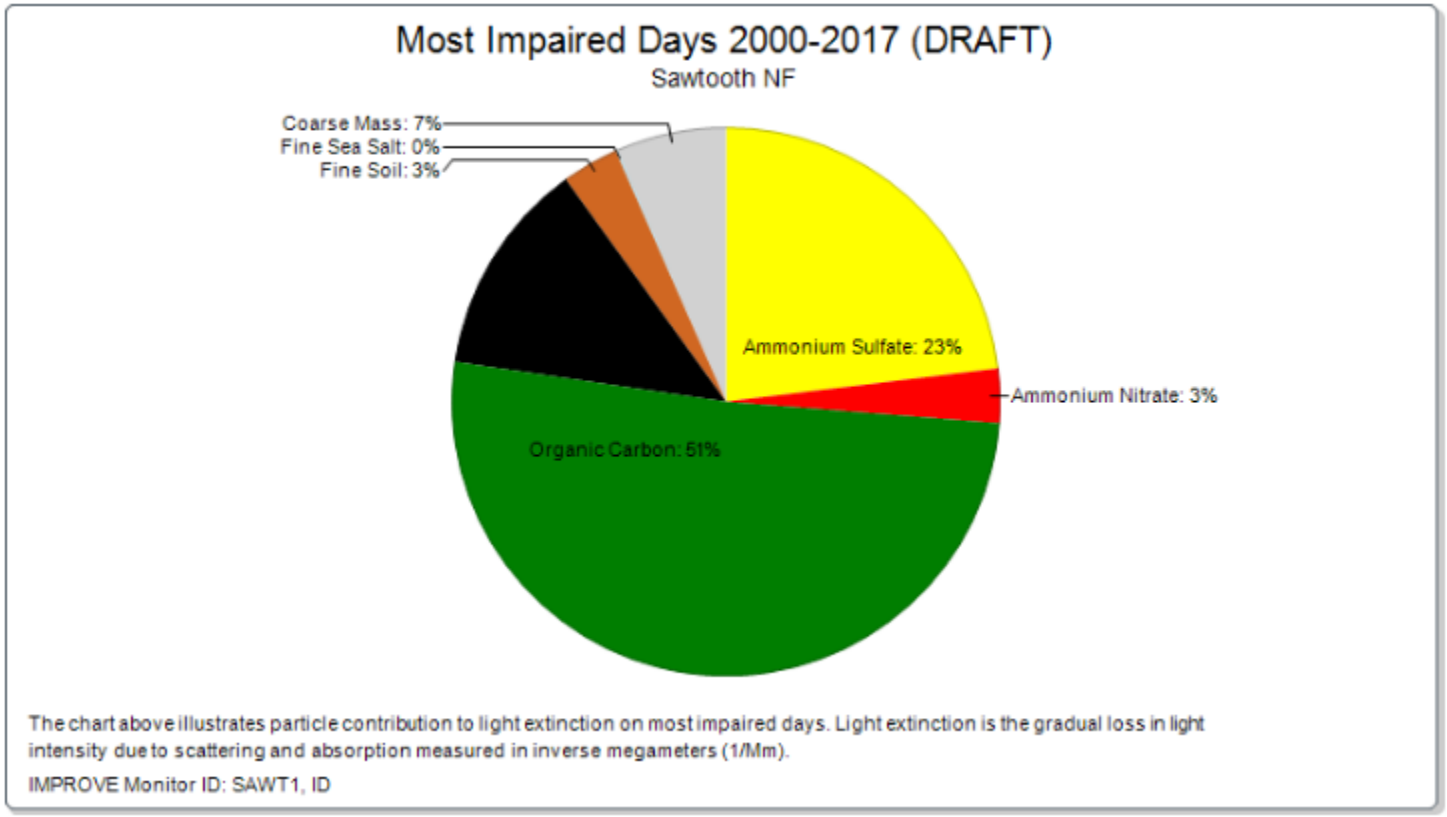
- Haziest
- Questions:
  - Which species contribute the most?

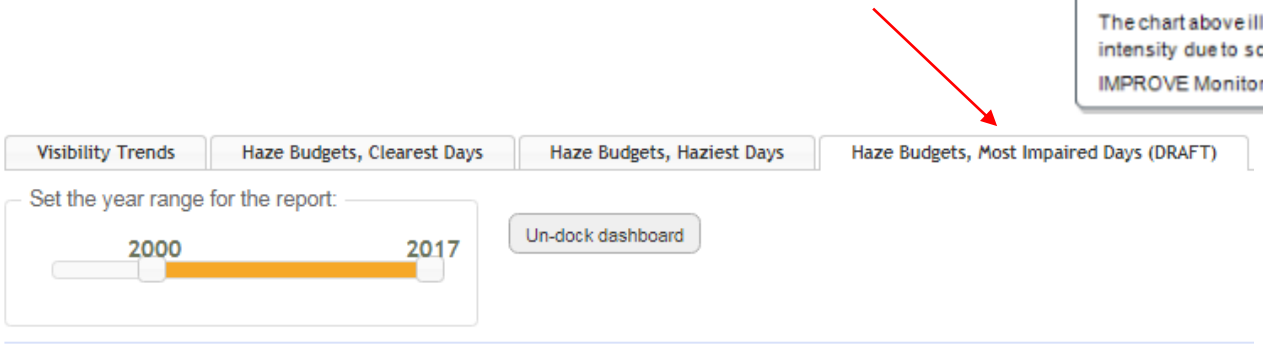




Haze vs. Impairment

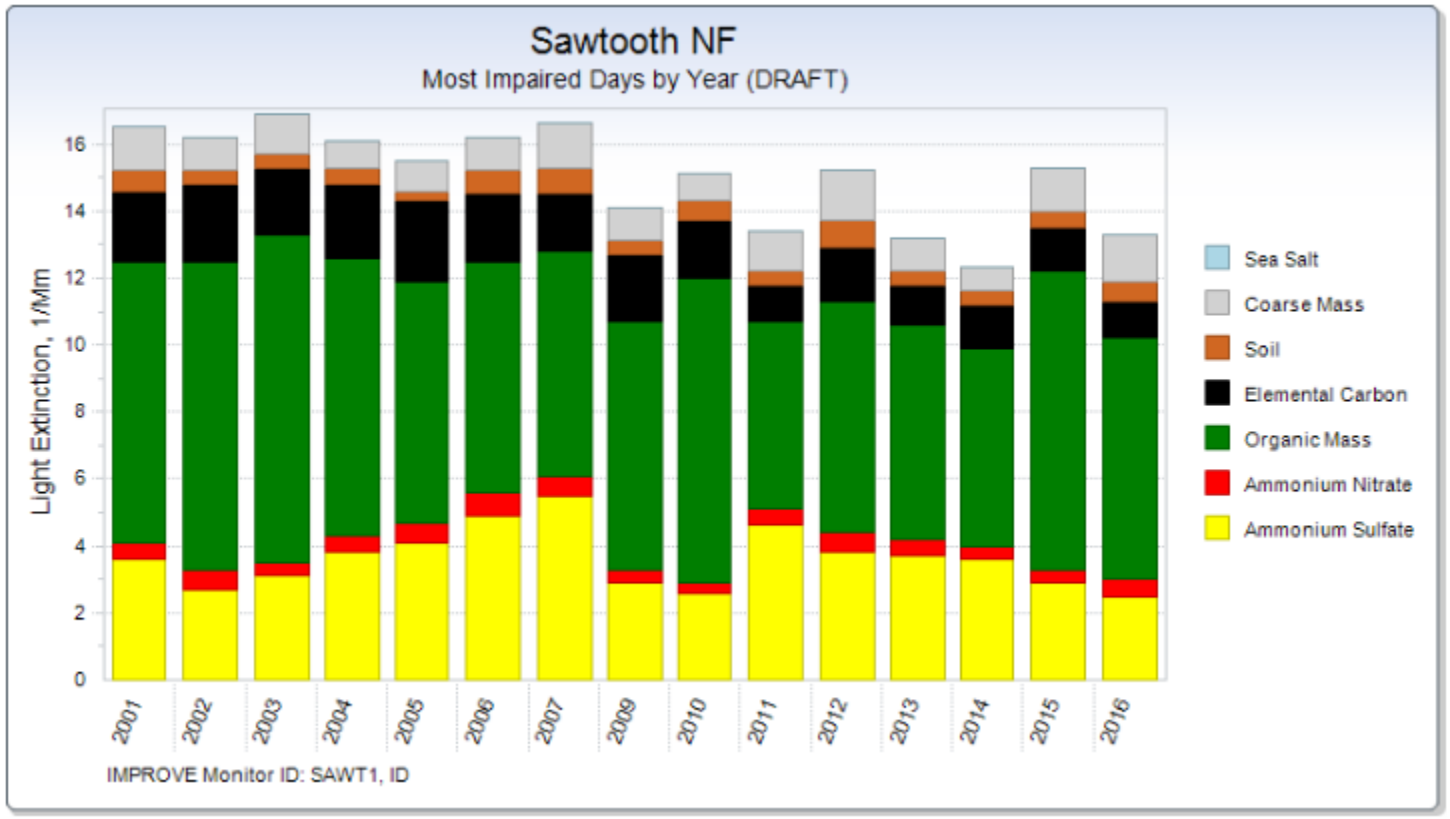
- Most Impaired
- Questions:
  - Which species contribute the most?

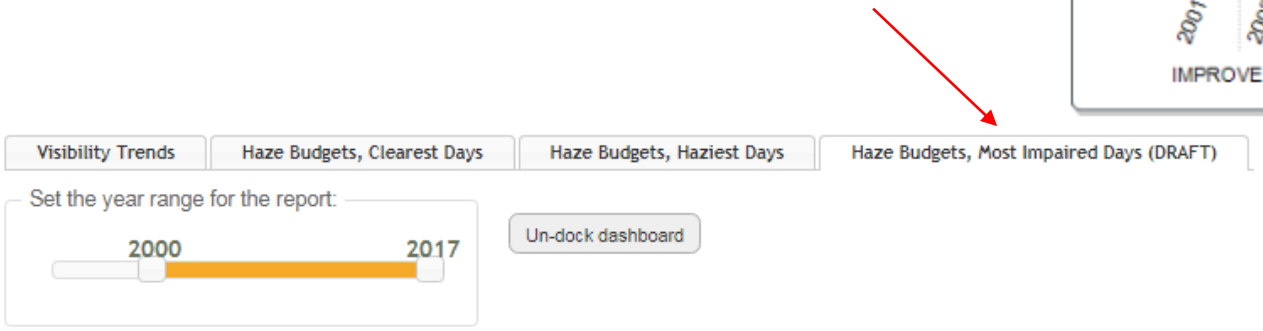




20% Most Impaired Days

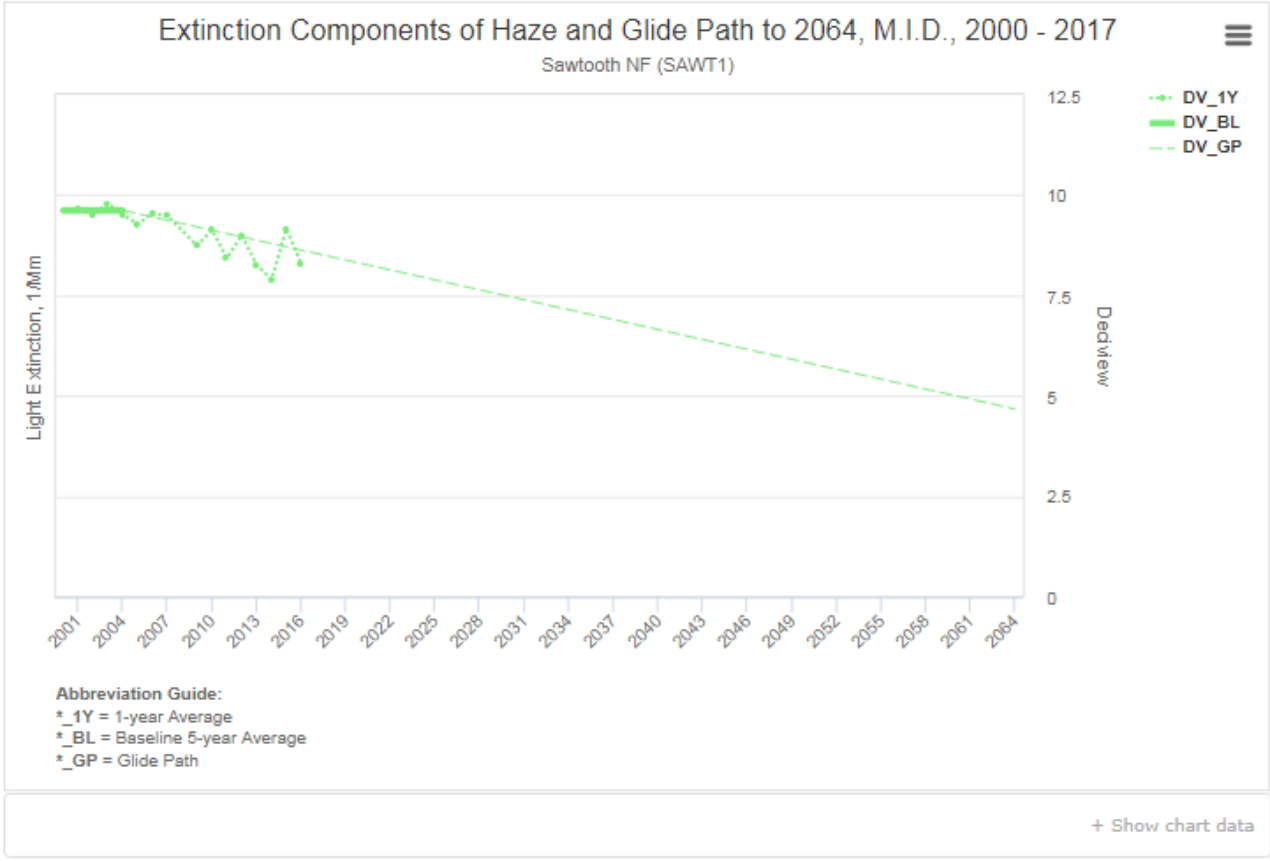
- Visibility trends
- Questions:
  - What are the impairment trends and what species require improvements?

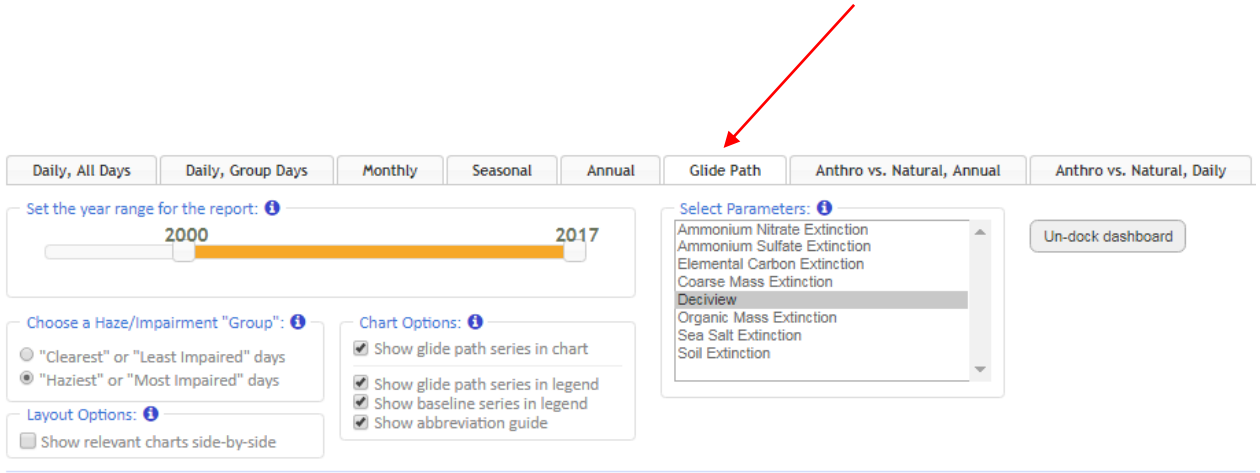




20% Most Impaired Days

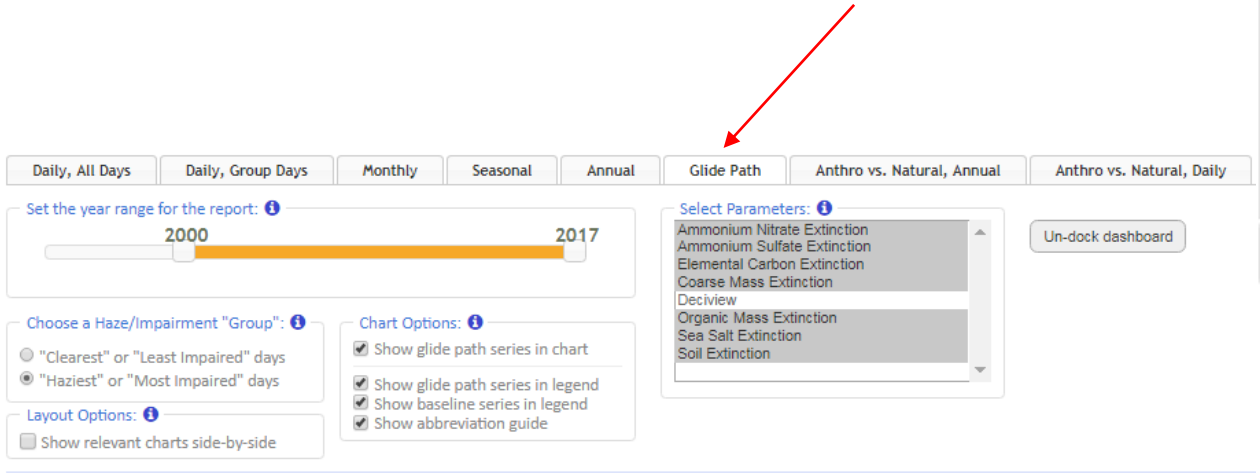
- Visibility trends
- Questions:
  - Does the deciview glidepath show progress?

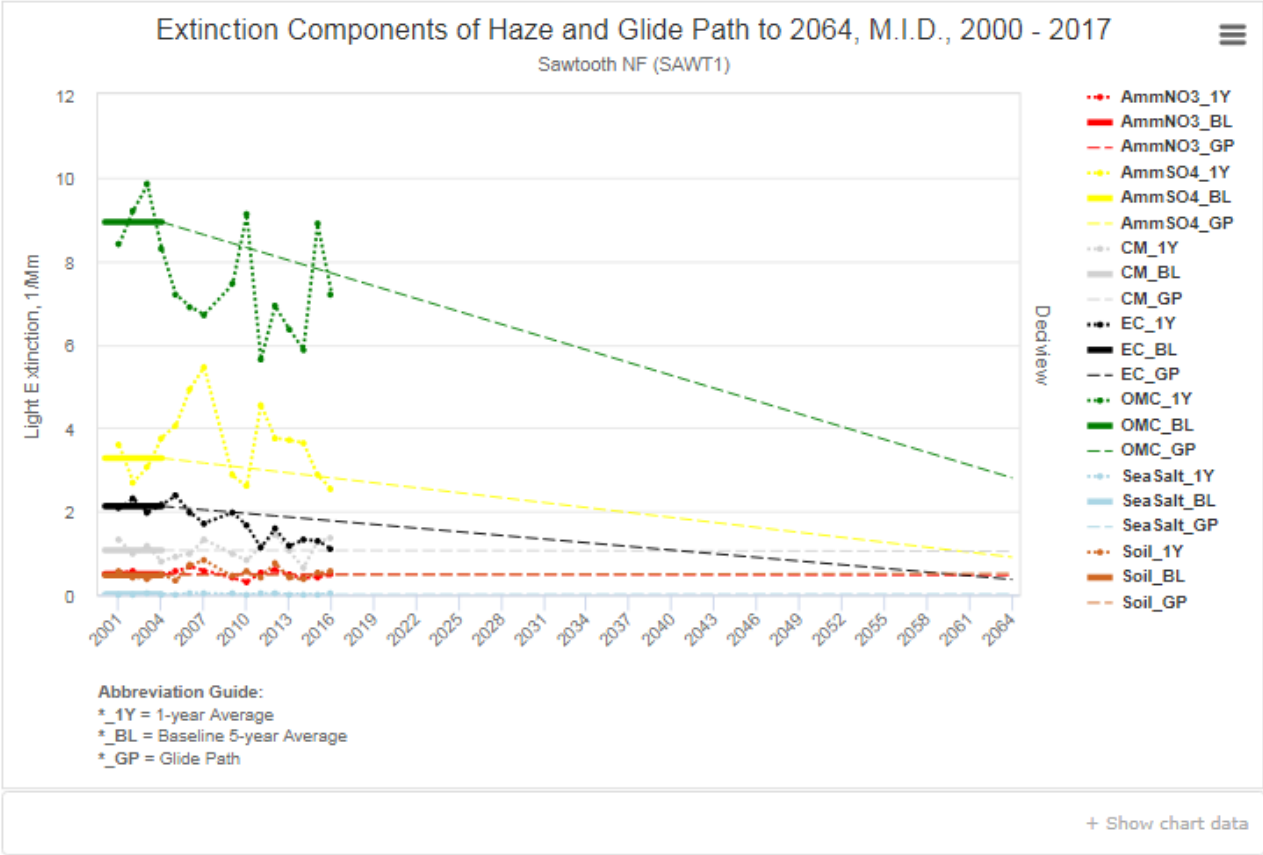




20% Most Impaired Days

- Visibility trends
- Questions:
  - What are the impairment trends and what species require improvements?
  - What sources contribute to those species?





Who to contact

With questions or comments on tool functionalities/SIP basic requirements

- Cindy Hollenberg (NMED)
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  - patricia_f_brewer@nps.gov
- Ryan Templeton (AZDEQ)
  - Templeton.ryan@azdeq.gov
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  - BMcGuire@mt.gov

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  - Shawn.McClure@colostate.edu
- Ted Friesner (CIRA)
  - Ted.Friesner@colostate.edu

With other technical questions

- Tom Moore (WRAP)
  - tmoore@westar.org
- Jaslyn Dobrahner (EPA)
  - Dobrahner.Jaslyn@epa.gov