Using IMPROVE Monitoring Data to "Tell the Story" at Class I Areas

WRAP Regional Haze Informational Webinar – Part 1

March 20, 2019

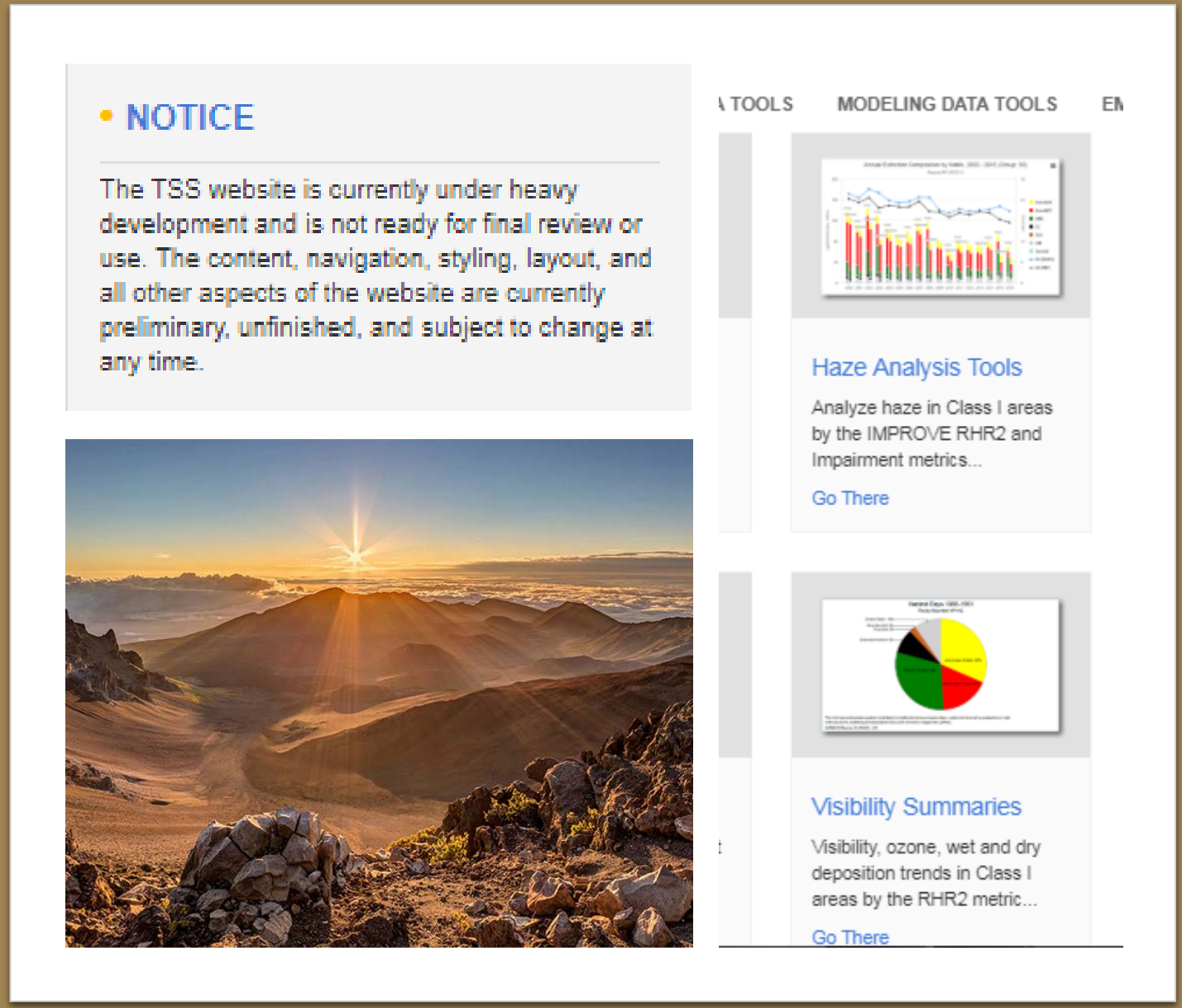
Agenda

- Technical Support System (TSS) v.2
- Basic Requirements – How do we show progress?
  - Baseline
  - Natural conditions and 2064 endpoint
  - Current conditions
  - URP “Glide path”
- Round 1 vs. Round 2 of RH planning
  - Did the C1A make enough progress?
  - What’s the difference between haziest and most impaired days?
  - Does the new metric “work?”
  - What can “seasonality” tell us?
- Linking emissions, controls and monitoring data
  - What pollutants drive haze at C1As?
  - What sources contribute to those species?

This webinar is being recorded and will be available soon at https://www.wrapair2.org/RHPWG.aspx.

Technical Support System (TSS) v.2

- http://views.cira.colostate.edu/tssv2/
- Registration required at http://views.cira.colostate.edu/tssv2/Auth/Register.aspx



Basic Requirements – How do we show progress?

§51.308 (f) – *Requirements for periodic comprehensive revisions of implementation plans for regional haze.*

For each mandatory Class I Federal area located within the State, the State must determine the following:

(i) Baseline visibility conditions for the most impaired and clearest days.

(ii) Natural visibility conditions for the most impaired and clearest days.

(iii) Current visibility conditions for the most impaired and clearest days.

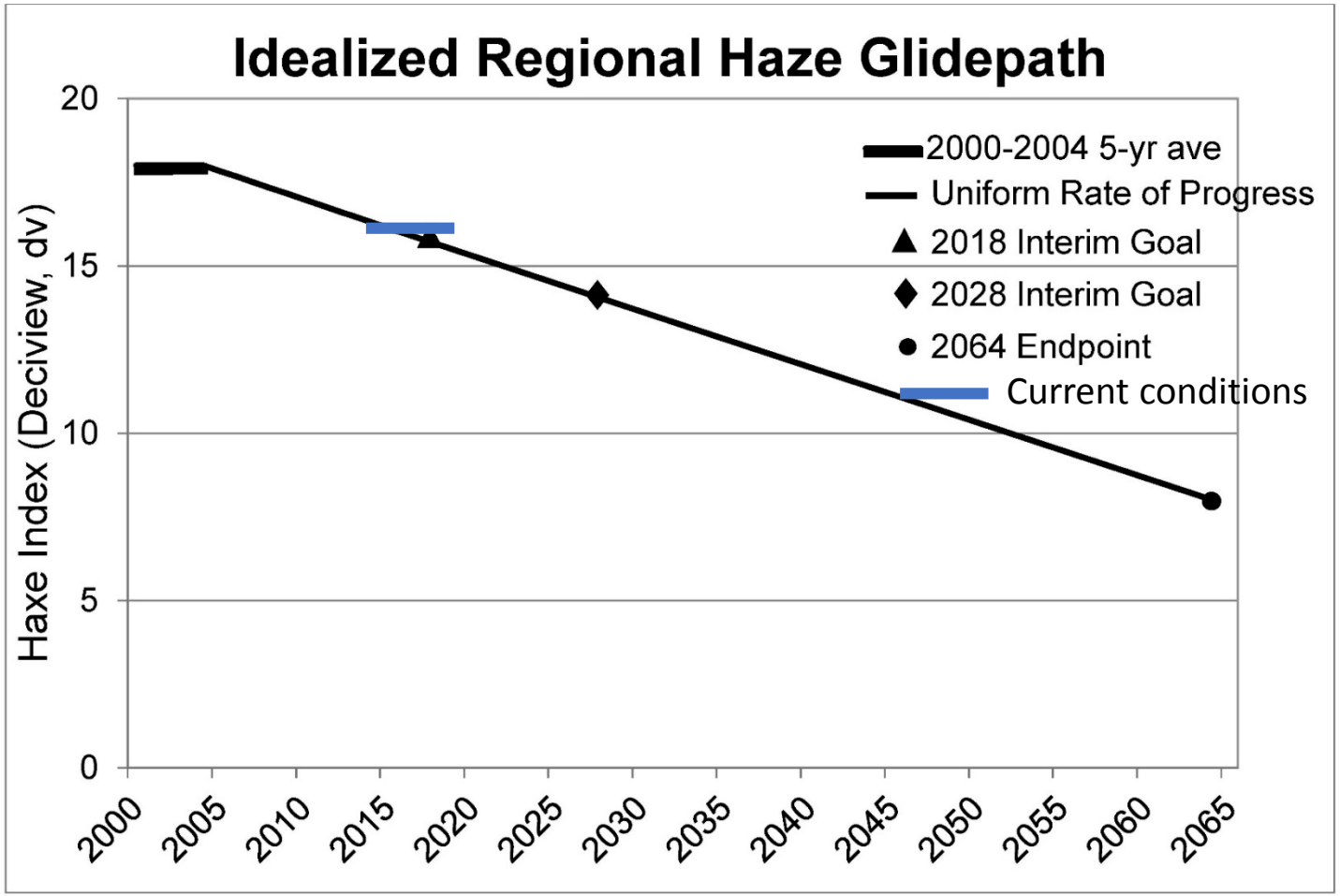
(iv) Progress to date for the most impaired and clearest days.

(v) Differences between current visibility condition and natural visibility condition.

(vi) Uniform rate of progress.

Regional Haze Regulatory Construct

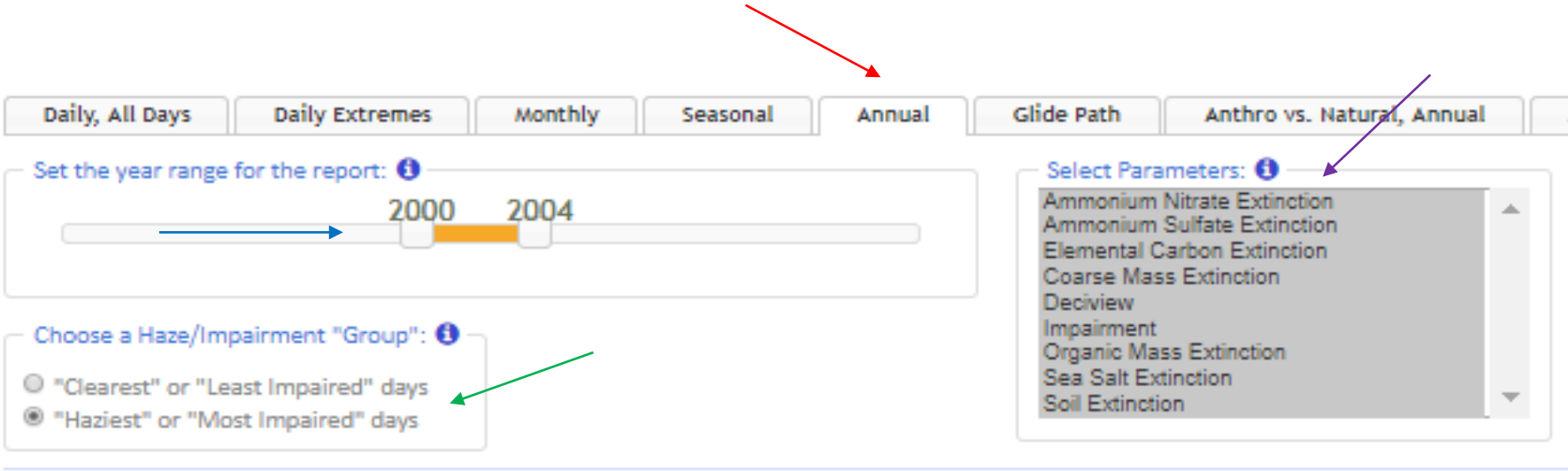
States are to compare visibility improvement to a Uniform Rate of Progress (URP) glide path using IMPROVE monitoring data and assumed natural conditions in 2064.



(i) Baseline visibility conditions and (iii) Current Visibility Conditions – Haze Analysis Tools

What to do:

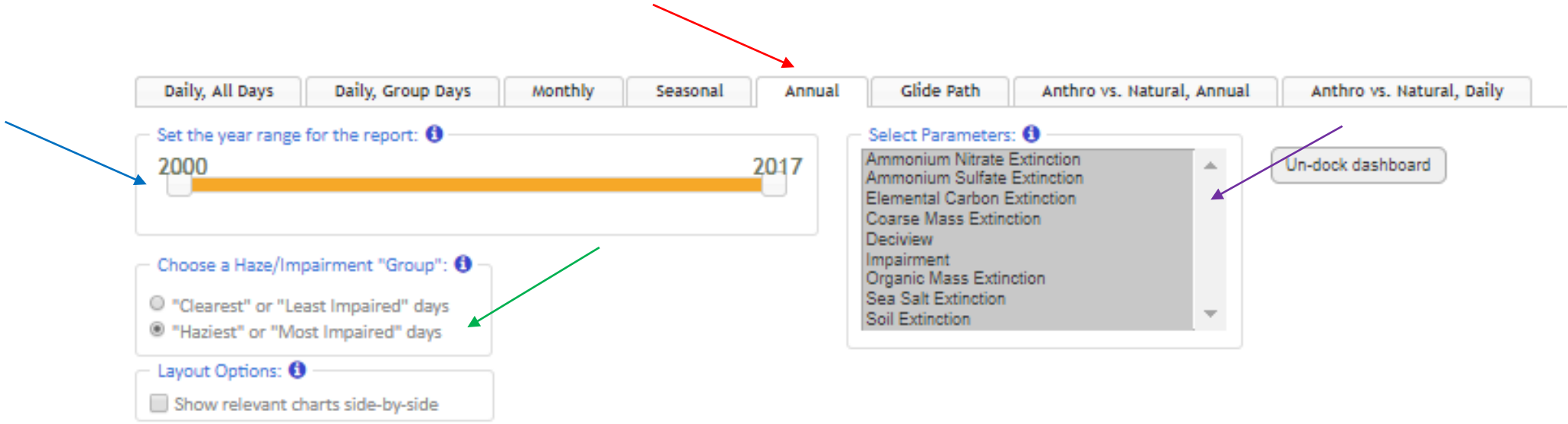
- Choose “Annual” tab
- Choose 2000 – 2004 or 2013 - 2017
- Choose “clearest” or “Most Impaired” option
- Select parameters to show



(ii) Natural visibility conditions and (iv) Progress to Date – Haze Analysis Tools

What to do:

- Choose “Annual” tab (again)
- Choose year range of 2000 - 2017
- Choose “clearest” or “Most Impaired” option
- Select parameters to show



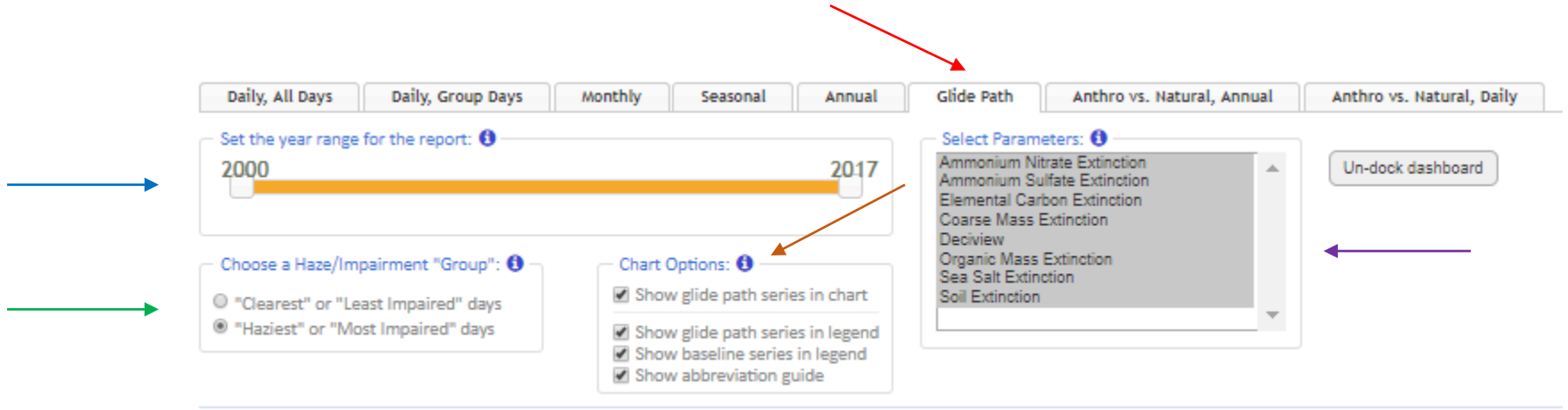
(v) Differences between current and natural conditions

- Again, looking at the “Annual” tab on the Haze Analysis Tools, **with the date range slider on the most recent 5 years**, look at the bottom chart.
- Focus on the “Impairment metric” and the “Endpoint conditions” bars*. You can find the values by scrolling over the metric of interest. You can also download the data used to create the chart.

*The “Endpoint conditions” bar represents “natural conditions” calculated by EPA for ***most impaired*** days and uses 2000-2014 data. The “Natural conditions” bar represents assumptions for ***haziest*** days in 2064 – These values represent the “NC-II” values.

(vi) Uniform Rate of Progress (URP) – Haze Analysis Tools

- Choose “Glide Path” tab
- Set the date range as 2000 - 2017
- Choose haze group
- Select parameters
- Choose chart options (to reduce visual noise)



What's the difference between haziest and most impaired days?

In the most basic terms:

- "Haziest" days (the old metric) is the set of days for each year that monitors register the most light extinction, regardless of the assumed source. Many of these days may include such things as wildfire smoke, high wind-caused dust events, and other "natural" contributors to haze (such as biogenic emissions).
- "Most impaired" days (the new metric) aims to focus on the set of days for each year that has the greatest anthropogenic contribution to light extinction. EPA guidance uses statistical methods to take out "extreme episodic events" (or e3) and "routine natural" contributions to haze. Once these amounts are excluded, what is left over is assumed to be anthropogenic.
- To see the difference for any set of years, go to the Haze Analysis Tools, annual tab (as shown previously).

Did the C1A make enough progress?

- Two ways to look at progress:
  - Compare RPGs to haziest days in the current period
    - Current period = most recent 5 years average
    - could have uncontrollable / natural contributions to haze)
    - Use the “Annual” tab on the Haze Analysis Tool
  - May be better to compare the glidepath for MID to the current period
    - Overall deciviews
    - Individual species – especially sulfate and nitrate
    - Use the “Glidepath” tab on the Haze Analysis Tool