

IMPROVE Steering Committee Charter and Appendices

Adopted by the IMPROVE Steering Committee

Date

(November 11, 2022)

Background

In 1985 Federal Land Managers (FLMs) joined the EPA in a collaborative monitoring program known as the Interagency Monitoring of Protected Visual Environments (IMPROVE) to help achieve visibility goals set forth in the 1977 Clean Air Act. IMPROVE was initially a science-oriented program designed to measure and understand visibility conditions in Class I areas (CIAs). CIAs are located primarily in national parks and wilderness areas, where visibility is deemed an important resource to be valued and preserved now and for future generations. The IMPROVE monitoring network (Appendix A) measures speciated fine particulate matter, i.e. particles less than 2.5 μm in diameter ($\text{PM}_{2.5}$) which are the cause of most anthropogenic haze, and coarse mass, using consistent methods capable of establishing long-term trends. With the enactment of the Regional Haze Rule (RHR) in 1999, IMPROVE became a regulatory monitoring network with the responsibility of providing regional haze monitoring representative of all visibility-protected CIAs, where practical, and tracking progress toward the goal of returning visibility to natural conditions by 2064.

The IMPROVE program and network operations are governed by a Steering Committee that guides the management and evolution of the monitoring network and the data's use in the RHR. This document sets forth the IMPROVE program mission, objectives and principles and the Steering Committee governance and procedures.

Mission and Objectives

The IMPROVE Program mission is to assess visibility conditions and the causes of impairment by measuring particulate mass and its chemical composition in rural settings using scientifically credible methods capable of tracking multi-decadal trends.

The following objectives are designed to carry out this mission:

- Provide regional haze monitoring representative of all visibility-protected CIAs, where practical;
- Establish current and baseline visibility and aerosol compositions in visibility-protected CIAs;
- Identify chemical species and emission sources responsible for human caused visibility impairment; and
- Document long-term trends in visibility and aerosol compositions to assess progress toward the national visibility goal.

Principles

- IMPROVE is an open and collaborative program that involves stakeholders in all decisions, and where consensus among stakeholders is sought but not required. Input from other organizations involved in IMPROVE and data users are also sought and taken into consideration.
- The IMPROVE Steering Committee provides guidance and recommendations to the Environmental Protection Agency and the contracting agency on how to best meet the program's mission and objectives.
- IMPROVE is a regulatory network, operated in support of the requirements of the Regional Haze Rule. IMPROVE data also support additional scientific and regulatory inquiries and the program is operated to foster these additional endeavors.
- Recommendations for changes in the monitoring program are based upon sound scientific justification within resource constraints. Changes are implemented in a manner that minimizes discontinuities in long term trends.

IMPROVE Organization

The IMPROVE program operates the particulate monitoring network to meet the monitoring requirements of the RHR on behalf of its stakeholders. The primary stakeholders are states that have CIAs; FLMs responsible for management of CIAs; the EPA, who oversees the implementation of the RHR; NOAA and sponsors of protocol sites (Figure 1). The IMPROVE Steering Committee is comprised of representatives from these stakeholder organizations. Tribal Nations operate number of IMPROVE sites. They have not had formal membership on the Steering Committee, but such representation would be welcomed.

The Steering Committee oversees all program activities, develops guidance and procedures governing IMPROVE samples and data, and makes recommendations to EPA and NPS related to funding, expansion or reduction of the network, and all other technical and non-technical issues. It also coordinates subcommittee activities, and provides a forum for the interaction between stakeholders and other interested parties. These activities are conducted with direct interaction with the laboratories. In addition, input from the broader community of data users is sought and considered in decisions and recommendations.

The NPS and EPA serve additional functions in the IMPROVE program. As discussed in Appendix B, the NPS is responsible for issuing and administrating IMPROVE contracts, providing technical direction to IMPROVE and conducting additional data analysis and quality assurance/quality control (QA/QC). As the regulatory agency, EPA has additional authority and oversight to ensure that all decisions in the IMPROVE program meet the objectives of tracking progress under the RHR. EPA also funds the laboratory costs of the 110 IMPROVE sites on behalf of the states, while protocol sites are funded by various state, regional, tribal, and federal organizations as well as international organizations.

Every IMPROVE monitoring site has a sponsoring agency, who is responsible for providing and funding a site operator and providing and maintaining an IMPROVE shelter. The effort required to operate an IMPROVE site varies widely, but is typically about an hour a week. Remote sites with difficult access can require a full work day every week. The 110 IMPROVE sites are sponsored by the Federal

Land Manager whose CIA the site represents: Forest Service (FS), National Park Service (NPS), and Fish and Wildlife Service (FWS). The protocol sites are sponsored by the agency that funds them. Appendix B discusses additional responsibilities of the monitoring site sponsors.

As shown in Figure 1, four distinct activities are performed as part of the IMPROVE program: network operations including filter handling, shipping and site maintenance; laboratory activities including filter analyses; data compilation and QA/QC; and data analysis and reporting including higher level QA, data synthesis and generation of RHR metrics. The field and laboratory activities are contracted out through a competitive process. Currently, the Air Quality Research Center (AQRC) at the University of California, Davis (UC Davis) manages network operations and conducts all Teflon filter analyses, Desert Research Institute (DRI) conducts carbonaceous aerosol analysis on the quartz filters, and Research Triangle Institute (RTI) International conducts ion chromatography analysis on extracts from the Nylasorb filters. Many of the data compilations and analyses are conducted by researchers at the NPS, Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University and AQRC at UC Davis. The details of these activities are discussed in the IMPROVE quality management plan (QMP), quality assurance project plan (QAPP), <http://vista.cira.colostate.edu/Improve/quality-assurance/> and standard operating procedures (SOPs), <http://vista.cira.colostate.edu/Improve/sops/>.

These activities are supported by three subcommittees of the IMPROVE Steering Committee: Network Operations; Data Analysis and Reporting; and Communication/Outreach. These subcommittees provide the technical guidance needed to evaluate and adapt the IMPROVE monitoring program to ensure it meets its mission and objectives. Ad-hoc workgroups may also be formed to work on timely issues related to the IMPROVE Program.

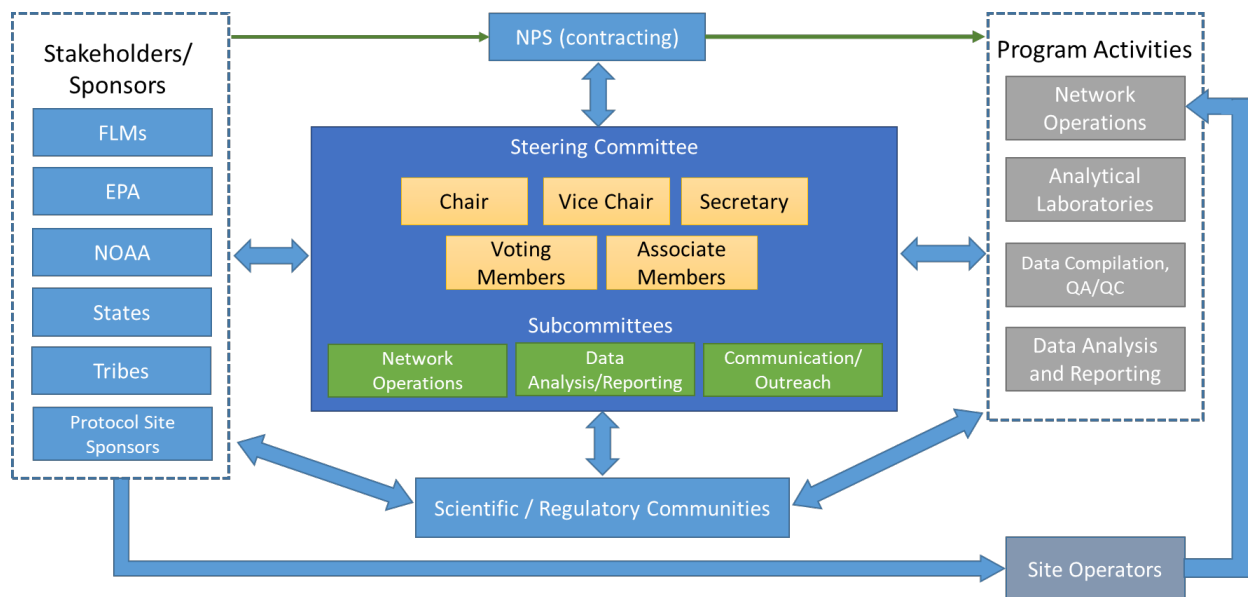


Figure 1. IMPROVE program organizational structure.

Governance and Procedures

IMPROVE Steering Committee

The IMPROVE Steering Committee consists of representatives from the ten voting member organizations. Members of the Steering Committee are appointed by their organizations and serve an indefinite term determined by their organization.

Steering Committee Member Organizations (updated 1_2025)
US Environmental Protection Agency (EPA)
National Park Service (NPS)
U.S. Forest Service (USFS)
U.S. Fish and Wildlife Service (FWS)
Bureau of Land Management (BLM)
National Oceanic and Atmospheric Administration (NOAA)
Western States Air Resources Council (WESTAR)
Northeast States for Coordinated Air Use Management (NESCAUM)
Mid-Atlantic Regional Air Management Association (MARAMA)
National Association of Clean Air Agencies (NACAA)
Lake Michigan Air Directors Consortium (LADCO)

The committee also has non-voting associate members. There are currently three associate members: the State of Arizona, Environment and Climate Change Canada, and the Republic of Korea Ministry of Environment. New organizations can be added to the Steering Committee as associate members. These organizations must sponsor one or more IMPROVE sites and apply for associate member status by contacting the Steering Committee chair who brings the nomination to a vote by the full Steering Committee. Associate members may withdraw their membership at any time and will be considered inactive after missing 3 consecutive years' worth of meetings. Virtual attendance is considered attendance.

New voting members of the Steering Committee can be added. These members would represent a State, Federal or Tribal organization that is involved in visibility regulations and has one or more IMPROVE monitoring sites in their jurisdiction. The organization would apply for voting member status by contacting the Steering Committee chair who would bring the nomination to a vote by the full Steering Committee. Participation as voting members of the IMPROVE Steering Committee is voluntary. Member organizations may withdraw their membership at any time and will be considered inactive after missing 3 consecutive years' worth of meetings. Virtual attendance is considered attendance.

Steering Committee decisions and recommendations are made through votes on motions brought forth by committee members and associate members. Any motion brought forth is discussed. A vote requires a quorum of two-thirds of active members and the Steering Committee chair determines when to vote on a motion. The goal is to reach consensus among all voting committee members. If consensus cannot be reached after discussions and attempts at reconciliation, then a two-thirds vote of all voting

members (7 votes) is needed to pass the motion.

Additional activities that require a vote of the Steering Committee include, but are not limited to:

- All motions raised by a Steering Committee member;
- Selection of the IMPROVE vice chair, subcommittee chairs;
- Changes to network operations and sample analysis that can impact data quality and tracking of long-term trends;
- Expansion or contraction of the 110 IMPROVE sites;
- Changes to QA/QC procedures;
- Changes to IMPROVE documents including the QAPP, QMP and Charter; and
- Distribution of 10 or more filters and/or extracts from the 110 IMPROVE sites to third parties for additional analyses. These analyses may or may not be destructive. Approval for more than 10 filters from protocol sites requires approval from the site sponsor.

Officers

The Steering Committee is led by a chair, who is assisted by a vice chair and a secretary. The chair serves a three-year term; at the conclusion of the chair's term, the chair becomes the past chair, the vice chair assumes the chair role and a new vice chair is elected. The new vice chair is elected from nominated candidates by a vote from Steering Committee members during the annual Steering Committee meeting, described below. Only voting Steering Committee members can be nominated for the vice chair position. In the event of a tie vote between two or more nominees, the outgoing chair selects the new vice chair from the nominees. If a current chair leaves the Steering Committee or steps down from the position, the vice chair assumes the chair role. If a vice chair leaves the Steering Committee or becomes chair, a new vice chair is selected at the next Steering Committee meeting.

The Secretary is a non-elected position, does not need to be a member of the Steering Committee, and can serve indefinitely. Paid consultants can also be used to fulfill these responsibilities. The chair consults with the contracting agency (currently NPS) to select a Secretary.

Officer Duties

The duties of the chair are to:

- Prepare meeting agendas and preside over the fall and spring Steering Committee meetings;
- Manage filter sample requests;
- Establish and dissolve ad-hoc workgroups as necessary;
- Appoint chairs of ad hoc workgroups, make recommendations for workgroup members, and establish a timeline for workgroups; and
- Keep the broader IMPROVE community informed of important network changes, events and data updates.

The duties of the vice chair are to:

- Assist the chair in all duties related to IMPROVE;
- Perform other duties as delegated by the chair;
- In the event the chair is unable to perform his or her duties, the vice chair assumes the duties of the chair.

The secretary works with the chair and vice chair to help organize meetings and take minutes at all meetings and conference calls. The secretary performs other duties as delegated by the chair and vice chair.

The past chair serves as an advisor to the chair. If neither the chair nor the vice chair is able to complete the term of the chair, then the past chair assumes duties until the Steering Committee chooses a chair to complete the term.

Member Responsibilities

There is no term limit for a Steering Committee member. The only difference between associate and full members is that associate members cannot be nominated for vice chair and vote on motions and elections. The chief role and responsibility of the committee members is to serve as a liaison between their member organizations and IMPROVE. In so doing they represent the member's organization and provide feedback to the Steering Committee on behalf of the organizations. In turn, they communicate outcomes from meetings and actions of the Steering Committee to their organizations. Other responsibilities of the Steering Committee members are to:

- Attend all Steering Committee meetings;
- Participate in one or more subcommittee while on the Steering Committee;
- Inform the Steering Committee of their agency's activities associated with IMPROVE or air quality by giving a presentation on this topic at the annual Steering Committee meeting on a schedule of at least every other year;
- Review and approve reports generated for the IMPROVE Steering Committee;
- Review QA reports and provide comments and recommendations on the QA programs; and
- Vote on technical and non-technical items brought forth by the Steering Committee chair.

Subcommittees

Three subcommittees support the Steering Committee and provide guidance needed to evaluate and advance the IMPROVE monitoring program. Each subcommittee is composed of members from the Steering Committee and the broader IMPROVE community and has a specific mission and objectives defined by the subcommittee. The subcommittee elects a chair for a three-year term. The existing chair can be reelected. The specific duties of the subcommittee chair are determined by the subcommittee and include preparation of the agenda for its subcommittee meetings and the Steering Committee meetings. The chair also keeps track of progress on routine and special activities of the subcommittee. Subcommittee chairs should seek consensus on issues. When consensus can't be reached, decisions are made by simple majority vote with a two-thirds quorum within each subcommittee. Subcommittee decisions that impact the IMPROVE program are brought before the IMPROVE Steering Committee for vote and final approval. Standing subcommittees include (1) network operations; (2) data analysis and reporting; and (3) communication and outreach. Ad-hoc workgroups may also be formed to work on timely issues related to IMPROVE.

Following is a description of the purpose of each subcommittee. Specific subcommittee activities are described in Appendix C.

Network Operations

Network operations and sample analysis are dictated by the Standard Operating Procedures (<http://vista.cira.colostate.edu/Improve/sops/>) which are consistent with the QAPP. The primary purpose of this subcommittee is to ensure that these procedures are being followed and to help resolve any related issues. This subcommittee oversees the data QA/QC procedures and the process for adapting network operations and analyses to changing needs, requirements and constraints, such as changes in funding levels and alternative filter analysis methods. It reviews and oversees all quality control assessments as defined in the QAPP.

Data Analysis and Reporting

The principal products of the IMPROVE monitoring program are the speciated data and related visibility metrics. Routine and novel data analyses and products are regularly generated, such as the RHR metrics generated for each complete calendar year of data and the IMPROVE report. These data and all associated metadata and reports are made available through the IMPROVE (<https://vista.cira.colostate.edu/Improve/>) and FED (<https://views.cira.colostate.edu/fed/>) websites. Data are also available from EPA's AQS system (<https://www.epa.gov/aqs>)

This subcommittee is responsible for developing the policies for generating and distributing the IMPROVE data, metadata, and data products. The subcommittee oversees the generation of the routine reports and data products and helps with novel IMPROVE data analyses and assessments. Each year it reviews irregular/suspect data and makes recommendations for its disposition. This is done in close collaboration with the communications subcommittee for the distribution of the IMPROVE data, metadata, data analyses and reports via the IMPROVE FED, and AQS websites.

Outreach and Communication

The purpose of this subcommittee is to keep the broader IMPROVE community informed about IMPROVE activities and monitoring data analyses. This includes site operators, scientists, federal and state regulators, and the public. The activities including the generation and publication of various reports and outreach materials and organization of meetings to provide updates to interested parties.

Ad-hoc workgroups

Ad-hoc workgroups are short-term and provide input to the Steering Committee on matters relevant to their designated charge. The IMPROVE Steering Committee chair has the authority to establish and dissolve ad-hoc workgroups as necessary. Upon establishment of an ad-hoc group, the chair will provide a timeframe for the group to operate. The Steering Committee chair will appoint a chair of the ad hoc group and assist in the selection of members.

Meetings

At least five reoccurring meetings take place each year, two Steering Committee meetings and three subcommittee meetings. These meetings are open to the public, and Steering Committee members are encouraged to attend all five meetings. Closed sessions of the Steering Committee are

occasionally held when discussing sensitive issues. Ad-hoc meetings and presentations on specialized topics are scheduled on an as-needed basis.

Annual fall Steering Committee meeting

A two-day meeting that takes place in the fall near an IMPROVE site. The primary purpose is to update the Steering Committee on all activities in the IMPROVE program, including status reports from all contractors and subcommittees, Steering Committee member presentations, and presentations from invited guests. During this meeting, current issues are discussed and voted on, as needed, and the annual budget is reviewed. All Steering Committee members and all IMPROVE contractors are expected to attend or be represented.

Annual spring Steering Committee meeting

The purpose of this half-day virtual meeting is to update the Steering Committee on IMPROVE activities since the fall meeting. This includes the status of action items from the fall meeting, updates on network operations and data availability, and Steering Committee member presentations on issues related to IMPROVE and the agencies they represent. Subcommittee activities are also reviewed.

Subcommittee meetings

Each subcommittee has at least one virtual meeting per year. The meeting agendas are determined by the subcommittee chair and members. Additional meetings are scheduled on an as needed basis. All subcommittee members are expected to attend or be represented.

IMPROVE Program Documents

The IMPROVE program generates a number of reports and documents that are regularly maintained. All documents are available from the IMPROVE website. Appendix D list the documents, the review period and the party responsible for maintaining them.

Appendices

Appendix A: IMPROVE Monitoring Network

IMPROVE began measurements in 1988 at 20 monitoring sites. The network expanded over time and since 2000 has operated between 150 and 170 monitoring sites, 110 of which conduct sampling representative of 155 of the 156 visibility-protected CIAs (Bering Sea Wilderness being the exception) that are used to track progress under the RHR. These 110 sites are referred to as IMPROVE sites. The remaining sites are referred to as IMPROVE protocol sites and provide expanded spatial coverage, primarily in rural settings. Protocol sites use the same instrumentation, monitoring, analysis and QA/QC protocols as IMPROVE sites.

Each monitoring site consists of four separate modules that collect 1 in 3 day, 24-hour samples of PM_{2.5} on Teflon, Nylasorb and quartz fiber filters as well as a PM₁₀ sample on a Teflon filter. The filters are analyzed using different methods following defined SOPs. The PM_{2.5} and PM₁₀ Teflon filters are analyzed for PM mass concentrations and the PM_{2.5} Teflon filters for elemental composition and filter absorption. The PM_{2.5} samples on the Nylasorb and quartz fiber filters are analyzed for ionic composition and organic and elemental carbon, respectively.

Appendix B: EPA, NPS and Site Sponsor Additional Responsibilities

Environmental Protection Agency (EPA) and National Park Service (NPS)

The EPA and NPS have additional responsibilities in the IMPROVE program beyond other Steering Committee member organizations. IMPROVE is a regulatory network that supports the RHR. As the regulating agency, EPA has additional authority and oversight to ensure that all decisions in the IMPROVE program meet the objectives of tracking progress under the RHR. As part of this responsibility, EPA provides additional technical consultation on monitoring and associated analytical procedures and an independent QA/QC of the network operations, see QAPP for details. EPA allocates funding from Congress under the State and Tribal Assistance Grants (STAG) for program costs, outside of monitoring site operations, for the 110 IMPROVE monitoring sites located on FLM lands. EPA also allocates STAG funds to fund sites on Tribal Lands as well as additional protocol sites.

The NPS administers all IMPROVE contracts for routine IMPROVE operations. These include the contract for network operations and analysis of PM samples collected on Teflon filters; the contract for the analysis of samples collected on quartz fiber filters for carbonaceous content; and the contract for the analysis of the samples collected on the Nylasorb filters for ionic composition. The NPS also provides additional technical direction to IMPROVE contractors, develops and manages two cooperative agreements for enhanced IMPROVE data QA/QC and IMPROVE data analysis, conducts independent data analyses and QA/QC assessments, and distributes the IMPROVE data, analyses, and all project information through the IMPROVE web site.

Monitoring site Sponsors

Every IMPROVE monitoring site has a sponsoring agency, with the 110 IMPROVE sites sponsored by the Federal Land Manager whose CIA the site represents: Forest Service (FS), National Park Service

(NPS), and Fish and Wildlife Service (FWS); the protocol sites are sponsored by the agency that funds them. Sponsoring organizations provide support for the monitoring location including a suitable location, shelter, power, and a site operator. The IMPROVE program provides criteria for infrastructure needs and site location parameters in the context of representing Class I areas. Sponsoring organizations are encouraged to participate in IMPROVE meetings to discuss the IMPROVE program, raise monitoring and data use issues and share data interpretations. They are also encouraged to review and provide quality control checks on the data. Sponsoring agency responsibilities include:

- Providing a shelter or stand for the IMPROVE samplers, which includes providing necessary power (two 20-Amp circuits) for the IMPROVE samplers;
- Maintaining the IMPROVE shelter or stand in working condition, as outlined in the IMPROVE Standard Operating Procedures 126;
- Providing a site operator to conduct routine operation of the IMPROVE sampler, which consists of changing IMPROVE filters once per week (typically Tuesdays) and shipping the exposed filters to the IMPROVE Operations Contractor (at the expense of the IMPROVE Operations Contractor);
- Providing a site operator who will serve as a point of contact for the IMPROVE Operations Contractor and network auditors; and
- Basic troubleshooting of the samplers, as needed, with support from the IMPROVE Operations Contractor.

The IMPROVE Program and the IMPROVE Operations contractor supports the site sponsors by:

- Providing IMPROVE samplers for each site;
- Training agency personnel to support routine site operations;
- Providing internet connections at all possible sites to allow for real time communication with IMPROVE sampler control module;
- Communicating with site personnel, sending clean filter media for all IMPROVE sampler channels, and receiving exposed filter media. The Contractor is responsible for all shipping costs to/from the field sites;
- Providing routine preventative service of instruments on a schedule of once every two years at all monitoring sites;
- Providing technical support to site operators, as needed;
- Conducting all filter analysis;
- Conducting all audits and QA/QC;
- Making the data publicly available.

Appendix C: Responsibilities and Activities of IMPROVE Subcommittees

The responsibilities and activities of the IMPROVE subcommittees are regularly updated and refined based on the needs of the IMPROVE monitoring program.

Network Operations

Network operations and sample analyses are dictated by the Standard Operating Procedures (<http://vista.cira.colostate.edu/Improve/sops/>) which are consistent with the QAPP. The primary purpose of this work group is to ensure that these procedures are met and to help resolve issues when

they are not. This subcommittee oversees the process for adapting the monitoring network operations and analyses to changing needs, requirements and constraints, and oversees the data QA/QC procedures. Specific activities include:

- Network operations
 - Oversee changes to the IMPROVE monitoring operations and sample analyses;
 - Conduct analyses to inform decisions on network changes in response to budgetary constraints; improve and modify filter sample analyses; evaluate changes to standard operating procedures;
 - Work with the monitoring site hosting agencies to help resolve issues that arise such as the loss of site operators, monitoring equipment and monitoring site relocations; and
 - Provide recommendations to the NPS contracting representatives to resolve issue that arise with the contractors and operations.
- QA/QC
 - Review all QA/QC documents including contractor QA reports and field and lab audits; and
 - Ensure that the requirements of the QAPP are being met. When deficiencies are found these should be brought to the attention of the Steering Committee with a list of potential remedies and recommendations.
- Contracting
 - Review and provide feedback to the NPS on the technical requirements of the Requests for Proposal on Network Operations and Sample Analyses.
- Documentation
 - Oversee the update of QA documents including the QAPP and QMP; and
 - Maintain policies concerning the network operations including site selection and relocation.

Data Compilation, Analysis and Reporting

The principal products of the IMPROVE monitoring program are the speciated data and related visibility metrics. Routine and novel data analyses and products are regularly generated, such as the RHR metrics generated for each complete calendar year of data and the IMPROVE report. These data and all associated metadata are made available through two online databases and websites.

This subcommittee is responsible for developing the policies for generating and distributing the IMPROVE data, metadata, and data products. The subcommittee oversees the generation of the routine reports and data products, e.g. the RHR metrics for tracking progress in visibility improvements, and helps with the unique IMPROVE data analyses and assessments. This is done in collaboration with the communications subcommittee for the distribution of the IMPROVE data, metadata, data analyses and reports via the IMPROVE website and FED and AQS online database and distribution systems.

The tasks for this subcommittee include:

- Oversee data availability to ensure timely submission to EPA AQS and CIRA FED;
- Produce and distribute RHR metrics via the FED and IMPROVE websites;
- Produce unique data analysis products, as needed; and
- Produce the IMPROVE Report on a schedule of every 5 years.

Outreach and Communication

The purpose of this subcommittee is to keep the broader IMPROVE community informed on IMPROVE activities and analyses. This community includes site operators, scientists, federal and state regulators and the public. The activities include the generation and publication of various reports and outreach material and organization of meetings to provide updates to interested parties.

The communication tools that are the responsibilities of this subcommittee include:

- IMPROVE website
 - Purpose: The primary tool for making IMPROVE-related information available. The website provides access to IMPROVE documents and activities. It is also the primary tool for sharing raw IMPROVE data, RHR metrics and refined data analyses.
 - Audience: All interested parties
- IMPROVE report
 - Purpose: Publish a technical summary of the measured IMPROVE data over the previous 3 to 5 years. The summary includes spatial and temporal analysis of the speciated PM data; analysis of the RHR metrics, and unique analyses of the data. This report is done in conjunction with the Data Analysis subcommittee.
 - Audience: Federal and state regulators, stakeholders and scientists
- Monitoring site summaries
 - Purpose: Keep the monitoring site sponsors and operators informed about the sites operational statistics and provide a summary of the data.
 - Audience: Site operators
- IMPROVE calendar
 - Purpose: Provide IMPROVE sample schedule and general information related to IMPROVE sampling.
 - Audience: Site operators, data users
- IMPROVE data users guide
 - Purpose: Provide guidance on how to retrieve and interpret IMPROVE data from the CIRA FED website. Inform data users of measurement limitations.
 - Audience: Data users
- IMPROVE Charter and Governance document
 - Purpose: Describe operating norms for IMPROVE Program and Steering Committee.

Audience: All interested parties

Appendix D: IMPROVE Program Publications

The IMPROVE program generates and maintains a series of publications and reports. Following is a list of some of these publications.

Document	Update Frequency	Responsible Organization
IMPROVE Charter and Governance	As needed	Steering Committee
IMPROVE QMP	5 years	Data subcommittee
IMPROVE QAPP	5-years	Data subcommittee
IMPROVE Report	5-years	Data subcommittee
Data Advisories	As needed	Contractors, data users, others
IMPROVE protocols	As needed	Steering Committee
Standard Operating Procedures	As needed	Laboratories
Annual RHR metrics	annual	Data subcommittee

Appendix E: IMPROVE Code of Conduct

The following code of conduct was added January of 2025 after a vote to adopt was approved by the Steering Committee at the October 2024 meeting.

IMPROVE Code of Conduct

IMPROVE is a welcoming, respectful, inclusive, and collaborative program. The IMPROVE Code of Conduct applies to all activities or spaces hosted by IMPROVE (in-person and virtual).

Participants in IMPROVE events are respectful of their colleagues.

Respectful Behavior

Respectful behavior includes being punctual, not interrupting speakers, avoiding side conversations, and being open-minded to new ideas and constructive suggestions.

Unacceptable Behavior

- Personal attacks, including insults, demeaning comments, or belittling another person, or use of derogatory language. Derogatory language includes hurtful or harmful language related to: ability, age, background, caste, ethnicity, family status, gender identity, geographic location, marital status, nationality, native language, physical appearance, political affiliation, race, religion, sex, sexual orientation, or socioeconomic status.
- Unwelcome sexual attention or sexual physical contact. This includes sexualized comments, jokes, or imagery in any context, as well as groping, or sexual advances.
- Intentionally touching a person without permission, including their hair, pregnant stomach, or mobility device (wheelchair, scooter, etc.). This also includes physically blocking or intimidating another person.
- Use or being under the influence of alcohol or recreational drugs.

Reporting Procedures

If you have experienced unacceptable behavior as described above, please speak to the Steering Committee Chair, or contact someone on the IMPROVE Steering Committee. Illegal behavior will be reported to the appropriate law enforcement agency. In the case of a threat to personal or public safety, call 911.

Contact information for the Steering Committee as of January 2025 is below.

Scott Copeland - Chair	USDA FS / CSU	scott.copeland@colostate.edu
Bret Anderson	BLM	baanderson@blm.gov
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Bret Schichtel	NPS	bret.schichtel@colostate.edu
Charles Turner	MARAMA	charles.turner@deq.virginia.gov

Consequences

Violators of the Code of Conduct will be asked to leave at the Chair's discretion. In the case of virtual participation, violators will be removed. Future participation or attendance at IMPROVE events for individuals who violate the Code will be at the discretion of the IMPROVE Steering Committee.

Accountability

If IMPROVE fails to meet these guidelines, the IMPROVE Steering Committee will identify problems and adjust policy and practice. IMPROVE will facilitate the use of inclusive technology when possible.