

UCDAVIS

Air Quality Research Center

IMPROVE

Interagency Monitoring of Protected Visual Environments

2024 CALENDAR

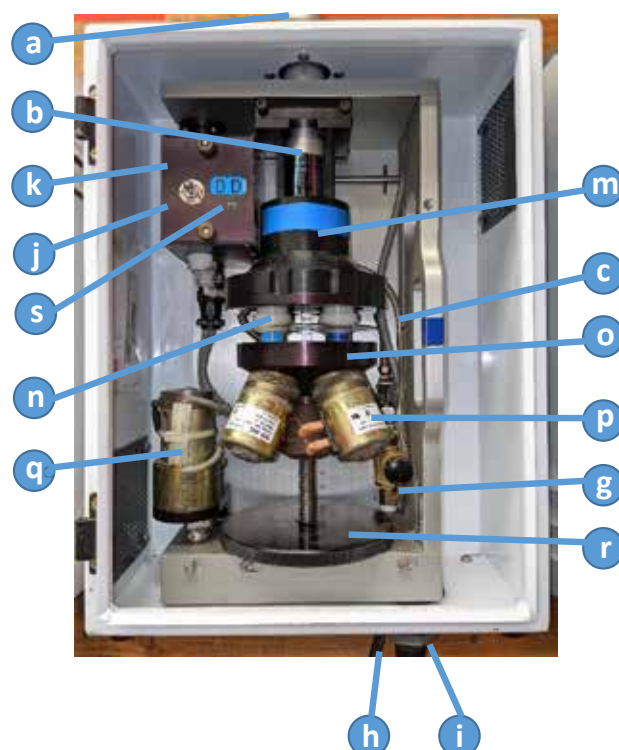
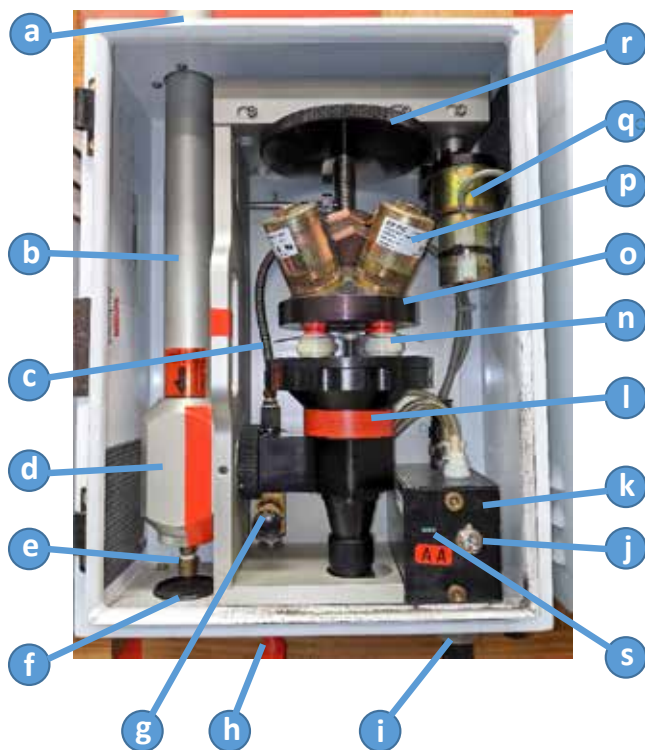
IMPROVE is a collaborative association of state, tribal, and federal agencies, and international partners. US Environmental Protection Agency is the primary funding source, with contracting and research support from the National Park Service. The Air Quality Research Center (AQRC) at the University of California, Davis provides field maintenance and operator support, sample handling, elemental analysis, and data processing; Research Triangle Institute (RTI) performs ions analysis; and Desert Research Institute (DRI) performs carbon analysis. IMPROVE data and documentation are available from the website

<http://vista.cira.colostate.edu/improve/> maintained by the Cooperative Institute for Research in the Atmosphere (CIRA).

For questions or problems with optical or scene monitoring equipment, contact Mark Tigges, Air Resource Specialists, Fort Collins, CO at 970-224-9300. For questions or problems with air sampler controllers, filters or flow checks, contact Air Quality Research Center, UC Davis at 530-752-1123, improvehelpdesk@ucdavis.edu, or visit <https://aqrc.ucdavis.edu/resources-for-operators>.



Organ Pipe Cactus National Monument (ORPI). *NPS Photo*



a. stack compression sleeve

b. inlet stack

c. braided hose

d. inlet tee

e. tee plug

f. black cap

g. flow control valve

h. pump hose connector

i. module cable connector

j. motor control toggle switch

k. electronics box (ebox)

l. cyclone

m. funnel

n. cartridge with 4 filter cassettes

o. solenoid manifold

p. solenoid valve (4)

q. motor assembly to raise solenoid manifold

r. handwheel (flywheel) to raise manifold

s. Ebox status LED lights

Disengaging Manifold Motor to Manually Raise/Lower the Manifold



Locate the motor assembly in the module.



Separate the motor assembly from the coupling sliding the assembly down. Then pivot it towards to the hand wheel.



A gentle wiggle may be required to slide the assembly up or down.



For the A, B, and C modules spin the hand wheel to the left to raise the manifold.



Spin the hand wheel to the right to lower the manifold.



The spinning direction to raise and lower the manifold is opposite for the D module.



If the motor starts to work again it can be reengaged with the hand wheel. Pivot the motor assembly back to its original location.



Rotate the hand wheel until the coupling snaps into alignment.

Electronics-Box Replacement



Replacing Plastic Motor Coupler



Locate the motor assembly in the module.



If the plastic motor coupler does not line up with the upper hub, use the hand wheel to put it into place.



Separate the motor assembly from the coupling sliding the assembly down. Then pivot it towards the hand wheel.

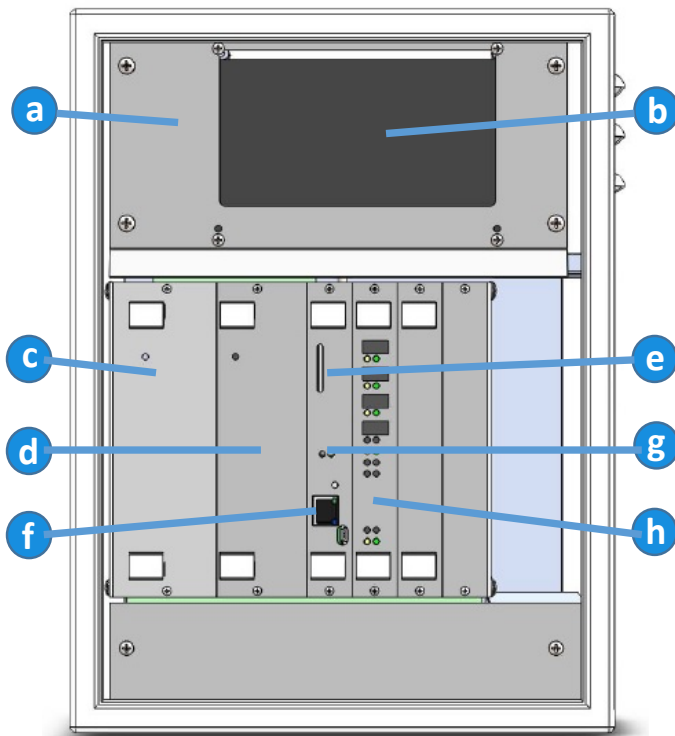


Remove the old plastic coupler and place the new one in. Make sure to center it on the metal hub.

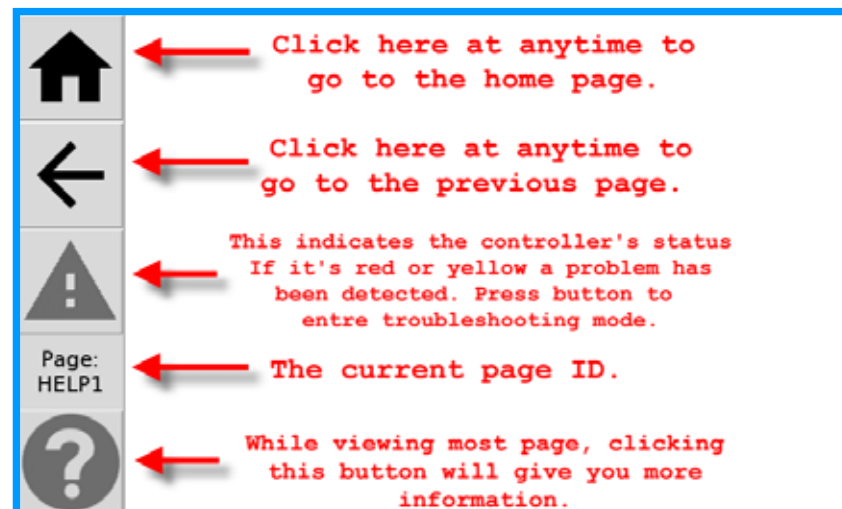
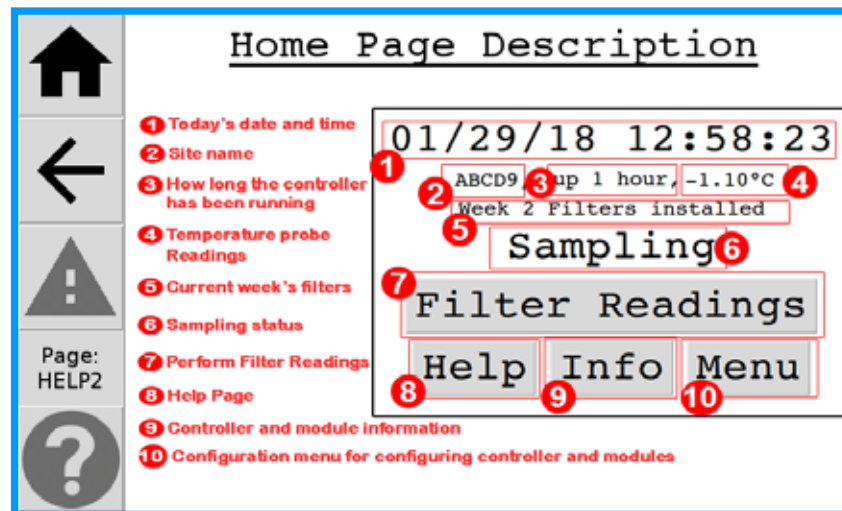


The motor should slide into place and the upper and lower hubs should fit securely into the plastic motor coupler.

Controller Schematic and Information

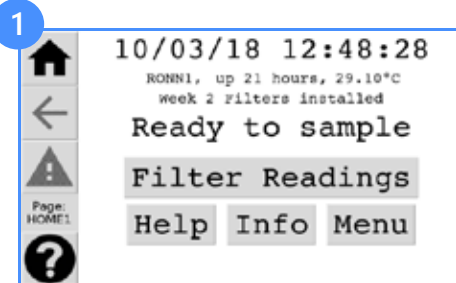


- | | |
|---------------------------|------------------|
| a. Display Faceplate | e. SD Card Slot |
| b. LCD Touch Screen | f. Ethernet Port |
| c. 5 V Power Supply Card | g. CPU Card |
| d. 24 V Power Supply Card | h. Hub Card |

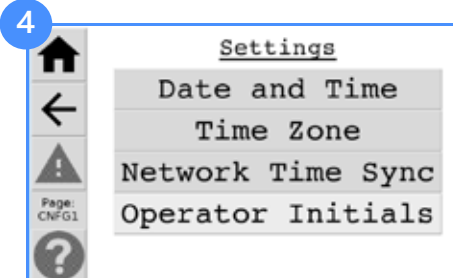


Change the Date/Time on Controller

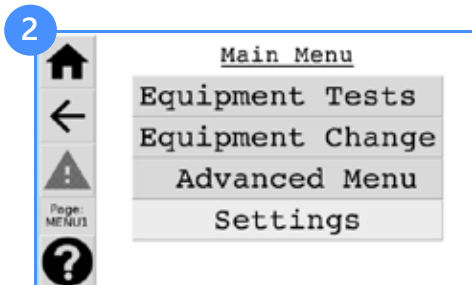
(If the controller is connected to the internet please only edit the time zone)



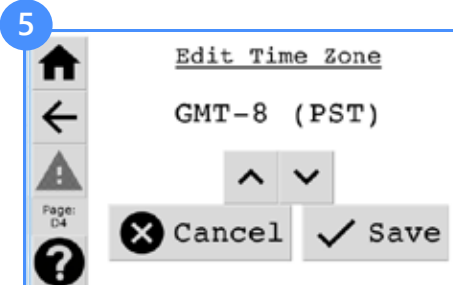
Press the '**Menu**' on the home screen.



Press '**Time Zone**'



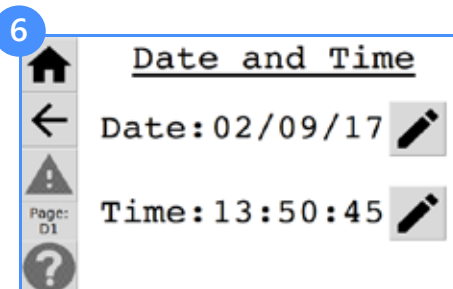
Press '**Settings**'



Use up/down arrows to select the time zone offset based on step 3



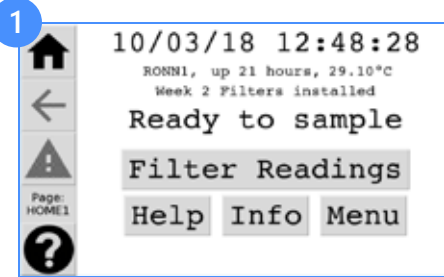
Look up your time zone on the reference map and note the corresponding GMT offset in **Bold**



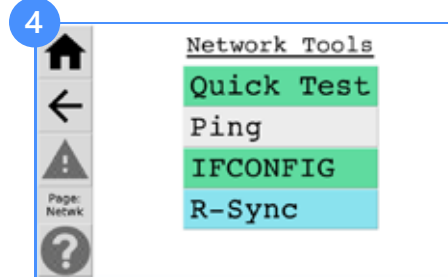
Only if your site is **not** connected to the internet do you select the "Date and Time" option in step 4 to manually edit the time.

Press the  icon to edit the time

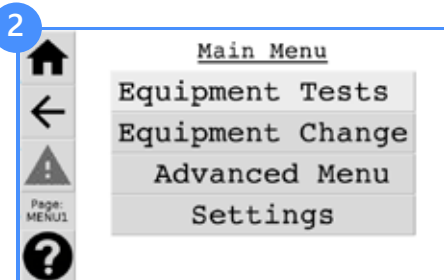
Test Network Connection and Send Data to Server



Press the 'Menu' on the home screen.



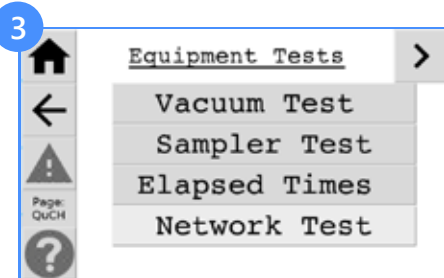
Press 'Ping'



Press 'Equipment Tests'




Read the output of the test. If the 2nd to last line reads '**5 packets transmitted, 5 received, 0% packet loss**' then the controller is successfully connected to the internet



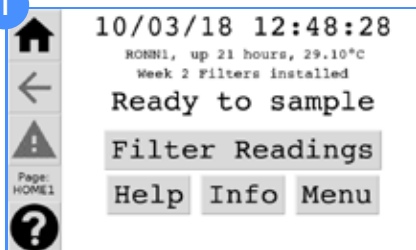
Press 'Network Test'



Press the  button to go back to 'Network Tools' then select the '**R-Sync**' option. This will send the controller data back to the UC Davis server.

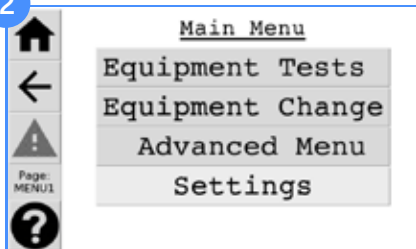
Manage Operator Initials on Controller

1



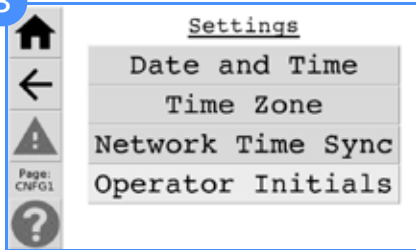
Press '**Menu**' on the home screen.

2



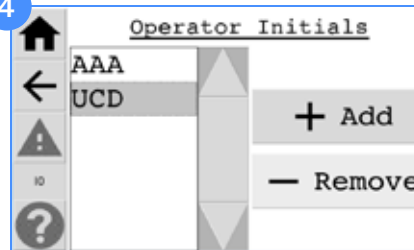
Press '**Settings**.'

3



Press '**Operator Initials**.'

4



Select the initials you wish to remove, then press '**Remove**.'

If you wish to add initials, press '**Add**.'

5



When adding initials, use the up/down arrows to edit a letter and left/right arrows to move the cursor.

Please use 3 letter initials for clarity.





View from Pack Monadnock Summit (PACK1). *Lara Hrobak*

JANUARY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	New Year's Day 1 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 2 Change IMPROVE Particle Cartridges	3 <i>Alternative Sample Change Day</i>	4 IMPROVE Particle Sampling Day	5	6
7 IMPROVE Particle Sampling Day	8 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 9 Change IMPROVE Particle Cartridges	10 IMPROVE Particle Sampling Day	11	12	13 IMPROVE Particle Sampling Day
14 <i>Alternative Sample Change Day</i>	Martin Luther King, Jr. Day 15 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 16 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	17 <i>Alternative Sample Change Day</i>	18 <i>Alternative Sample Change Day</i>	19 IMPROVE Particle Sampling Day	20
21	22 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 23 Change IMPROVE Particle Cartridges	24 <i>Alternative Sample Change Day</i>	25 IMPROVE Particle Sampling Day	26	27
28 IMPROVE Particle Sampling Day	29 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 30 Change IMPROVE Particle Cartridges	31 IMPROVE Particle Sampling Day		<div>DECEMBER 2023 S M T W T F S 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>	<div>FEBRUARY 2024 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29</div>



View from BOWA1, Boundary Waters Canoe Area Wilderness. *Darren Lilja*

FEBRUARY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																											
<p>JANUARY 2024</p> <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr> <tr><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr> <tr><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td></tr> </table>	S	M	T	W	T	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				<p>MARCH 2024</p> <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	T	F	S						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31									1	2	3
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11	12	<p>3-2-2 Week 3 2-3-2 Week 1</p> <p>Change IMPROVE Particle Cartridges</p>	14	15	16	17																																																																																											
18	19	<p>3-2-2 Week 1 2-3-2 Week 2</p> <p>Change IMPROVE Particle Cartridges</p>	21	22	23	24																																																																																											
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25	26	<p>3-2-2 Week 2 2-3-2 Week 3</p> <p>Special cartridge change: move cassette 3 from old cartridge to new.</p> <p>IMPROVE Particle Sampling Day</p>	28	29																																																																																													
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Coral Harbor, U.S. Virgin Islands (VIIS1). *Lawrence Tsai*

MARCH 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>FEBRUARY 2024</p> <p>S M T W T F S</p> <p>1 2 3</p> <p>4 5 6 7 8 9 10</p> <p>11 12 13 14 15 16 17</p> <p>18 19 20 21 22 23 24</p> <p>25 26 27 28 29</p>	<p>APRIL 2024</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30</p>				1	2
3	4	3-2-2 Week 3 2-3-2 Week 1	6	7	8	9
IMPROVE Particle Sampling Day	IMPROVE Particle Sampling Day	Change IMPROVE Particle Cartridges	Alternative Sample Change Day	IMPROVE Particle Sampling Day		
10	11	3-2-2 Week 1 2-3-2 Week 2	13	14	15	16
IMPROVE Particle Sampling Day	Alternative Sample Change Day	Change IMPROVE Particle Cartridges	IMPROVE Particle Sampling Day			IMPROVE Particle Sampling Day
17	18	3-2-2 Week 2 2-3-2 Week 3 Special cartridge change: move cassette 3 from old cartridge to new.	20	21	22	23
Alternative Sample Change Day	Alternative Sample Change Day	IMPROVE Particle Sampling Day	Alternative Sample Change Day	Alternative Sample Change Day	IMPROVE Particle Sampling Day	
24	25	3-2-2 Week 3 2-3-2 Week 1	27	28	29	30
	IMPROVE Particle Sampling Day	Change IMPROVE Particle Cartridges	Alternative Sample Change Day	IMPROVE Particle Sampling Day		
31						
IMPROVE Particle Sampling Day						



Sunrise at Haleakala Crater (HACR1). *Lawrence Tsai*

APRIL 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 2 Change IMPROVE Particle cartridges	3 IMPROVE Particle Sampling Day	4	5	6 IMPROVE Particle Sampling Day
7 <i>Alternative Sample Change Day</i>	8 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 9 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	10 <i>Alternative Sample Change Day</i>	11 <i>Alternative Sample Change Day</i>	12 IMPROVE Particle Sampling Day	13
14	15 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 16 Change IMPROVE Particle Cartridges	17 <i>Alternative Sample Change Day</i>	18 IMPROVE Particle Sampling Day	19	20
21 IMPROVE Particle Sampling Day	22 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 23 Change IMPROVE Particle Cartridges	24 IMPROVE Particle Sampling Day	25	26	27 IMPROVE Particle Sampling Day
28 <i>Alternative Sample Change Day</i>	29 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 30 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day			<div>MARCH 2024 S M T W T F S 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>	<div>MAY 2024 S M T W T F S 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>



Rio Grande at Big Bend National Park (BIBE1). Lawrence Tsai

MAY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<div>APRIL 2024</div> <div> <div>S M T W T F S</div> <div> <div>1 2 3 4 5 6</div> <div>7 8 9 10 11 12 13</div> <div>14 15 16 17 18 19 20</div> <div>21 22 23 24 25 26 27</div> <div>28 29 30</div> </div> </div>	<div>JUNE 2024</div> <div> <div>S M T W T F S</div> <div> <div>1</div> <div>2 3 4 5 6 7 8</div> <div>9 10 11 12 13 14 15</div> <div>16 17 18 19 20 21 22</div> <div>23 24 25 26 27 28 29</div> <div>30</div> </div> </div>		1	2	3	4
5	6 IMPROVE Particle Sampling Day	7 3-2-2 Week 3 2-3-2 Week 1 Change IMPROVE Particle Cartridges	8 Alternative Sample Change Day	9 IMPROVE Particle Sampling Day	10 IMPROVE Particle Sampling Day	11
12 IMPROVE Particle Sampling Day	13 Alternative Sample Change Day	14 3-2-2 Week 1 2-3-2 Week 2 Change IMPROVE Particle Cartridges	15 IMPROVE Particle Sampling Day	16	17	18 IMPROVE Particle Sampling Day
19 Alternative Sample Change Day	20 Alternative Sample Change Day	21 3-2-2 Week 2 2-3-2 Week 3 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	22 Alternative Sample Change Day	23 Alternative Sample Change Day	24 IMPROVE Particle Sampling Day	25
26	27 Memorial Day IMPROVE Particle Sampling Day	28 3-2-2 Week 3 2-3-2 Week 1 Change IMPROVE Particle Cartridges	29 Alternative Sample Change Day	30 IMPROVE Particle Sampling Day	31	



Emerald Lake near ROMO1. *Scott Copeland*

JUNE 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																				
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30 Alternative Sample Change Day																																																																																										



Southern Great Plains (SOGP1). *Ken Teske*

JULY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	3 <i>Alternative Sample Change Day</i>	Independence Day 4 <i>Alternative Sample Change Day</i>	5 IMPROVE Particle Sampling Day	6
7	8 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 Change IMPROVE Particle Cartridges	10 <i>Alternative Sample Change Day</i>	11 IMPROVE Particle Sampling Day	12	13
14 IMPROVE Particle Sampling Day	15 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 Change IMPROVE Particle Cartridges	17 IMPROVE Particle Sampling Day	18	19	20 IMPROVE Particle Sampling Day
21 <i>Alternative Sample Change Day</i>	22 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	24 <i>Alternative Sample Change Day</i>	25 <i>Alternative Sample Change Day</i>	26 IMPROVE Particle Sampling Day	27
28	29 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 Change IMPROVE Particle Cartridges	31 <i>Alternative Sample Change Day</i>		<div>JUNE 2024 S M T W T F S 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</div>	<div>AUGUST 2024 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>



View from Sentinel Dome (YOSE1), Lawrence Tsai

AUGUST 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																				
<div>JULY 2024</div> <div><table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr><tr><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr><tr><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td></tr></table></div>	S	M	T	W	T	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				<div>SEPTEMBER 2024</div> <div><table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr><tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr><tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr><tr><td>29</td><td>30</td><td></td><td></td><td></td><td></td><td></td></tr></table></div>	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30								1	2	3
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SEPTEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 <i>Alternative Sample Change Day</i>	Labor Day 2 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 3 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	4 <i>Alternative Sample Change Day</i>	5 <i>Alternative Sample Change Day</i>	6 IMPROVE Particle Sampling Day	7
8	9 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 10 Change IMPROVE Particle Cartridges	11 <i>Alternative Sample Change Day</i>	12 IMPROVE Particle Sampling Day	13	14
15 IMPROVE Particle Sampling Day	16 <i>Alternative Sample Change Day</i>	3-2-2 Week 1 2-3-2 Week 2 17 Change IMPROVE Particle Cartridges	18 IMPROVE Particle Sampling Day	19	20	21 IMPROVE Particle Sampling Day
22 <i>Alternative Sample Change Day</i>	23 <i>Alternative Sample Change Day</i>	3-2-2 Week 2 2-3-2 Week 3 24 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	25 <i>Alternative Sample Change Day</i>	26 <i>Alternative Sample Change Day</i>	27 IMPROVE Particle Sampling Day	28
29	30 IMPROVE Particle Sampling Day				<div>AUGUST 2024 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>	<div>OCTOBER 2024 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</div>



OCTOBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		3-2-2 Week 3 2-3-2 Week 11	2	3	4	5
		Change IMPROVE Particle Cartridges	Alternative Sample Change Day	IMPROVE Particle Sampling Day		
6	7	3-2-2 Week 1 2-3-2 Week 28	9	10	11	12
IMPROVE Particle Sampling Day	Alternative Sample Change Day	Change IMPROVE Particle Cartridges	IMPROVE Particle Sampling Day			IMPROVE Particle Sampling Day
13	14	3-2-2 Week 2 2-3-2 Week 315 Special cartridge change: move cassette 3 from old cartridge to new.	16	17	18	19
Alternative Sample Change Day	Alternative Sample Change Day	IMPROVE Particle Sampling Day	Alternative Sample Change Day	Alternative Sample Change Day	IMPROVE Particle Sampling Day	
20	21	3-2-2 Week 3 2-3-2 Week 122	23	24	25	26
	IMPROVE Particle Sampling Day	Change IMPROVE Particle Cartridges	Alternative Sample Change Day	IMPROVE Particle Sampling Day		
27	28	3-2-2 Week 1 2-3-2 Week 229	30	31	SEPTEMBER 2024 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	
IMPROVE Particle Sampling Day	Alternative Sample Change Day	Change IMPROVE Particle Cartridges	IMPROVE Particle Sampling Day		NOVEMBER 2024 S M T W T F S 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	



Desolation Wilderness, Pyramid Peak and the Crystal Range, near BLIS2. *Hal Brunette*

NOVEMBER 2024

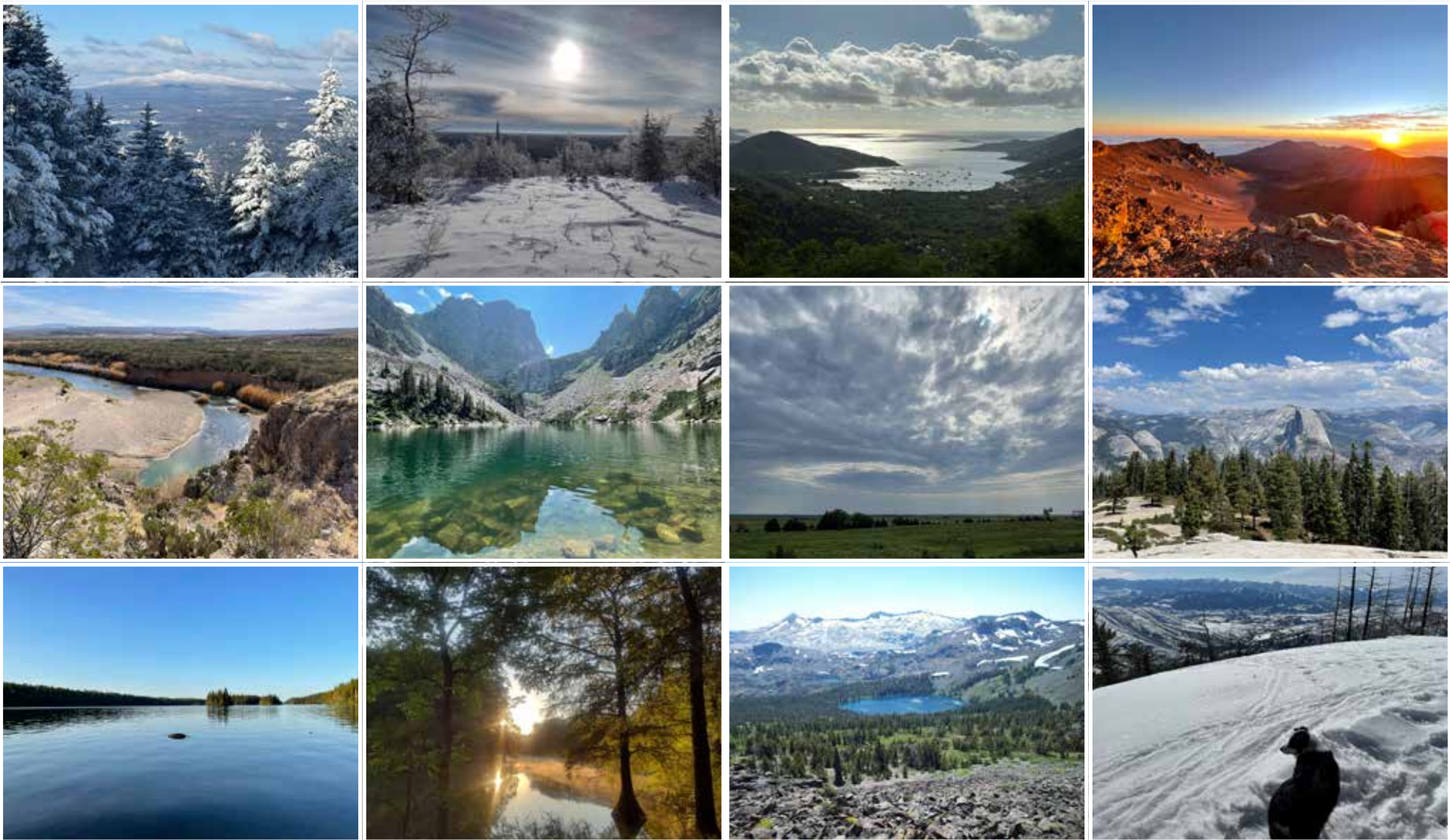
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10	11 IMPROVE Particle Sampling Day	12 3-2-2 Week 3 2-3-2 Week 1 Change IMPROVE Particle Cartridges	13 <i>Alternative Sample Change Day</i>	14 IMPROVE Particle Sampling Day	15	16																																																																																				
17 IMPROVE Particle Sampling Day	18 <i>Alternative Sample Change Day</i>	19 3-2-2 Week 1 2-3-2 Week 2 Change IMPROVE Particle Cartridges	20 IMPROVE Particle Sampling Day	21	22	23 IMPROVE Particle Sampling Day																																																																																				
24 <i>Alternative Sample Change Day</i>	25 <i>Alternative Sample Change Day</i>	26 3-2-2 Week 2 2-3-2 Week 3 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	27 <i>Alternative Sample Change Day</i>	28 Thanksgiving <i>Alternative Sample Change Day</i>	29 IMPROVE Particle Sampling Day	30																																																																																				



Elsa checking the view from PASA1, Pasayten Wilderness. *Ron Mackie*

DECEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 3 Change IMPROVE Particle cartridges	4 Alternative Sample Change Day	5 IMPROVE Particle Sampling Day	6	7
8 IMPROVE Particle Sampling Day	9 Alternative Sample Change Day	3-2-2 Week 1 2-3-2 Week 2 10 Change IMPROVE Particle cartridges	11 IMPROVE Particle Sampling Day	12	13	14 IMPROVE Particle Sampling Day
15 Alternative Sample Change Day	16 Alternative Sample Change Day	3-2-2 Week 2 2-3-2 Week 3 17 Special cartridge change: move cassette 3 from old cartridge to new. IMPROVE Particle Sampling Day	18 Alternative Sample Change Day	19 Alternative Sample Change Day	20 IMPROVE Particle Sampling Day	21
22	23 IMPROVE Particle Sampling Day	3-2-2 Week 3 2-3-2 Week 1 24 Change IMPROVE Particle cartridges	Winter Holiday 25 Alternative Sample Change Day	26 IMPROVE Particle Sampling Day	27	28
29 IMPROVE Particle Sampling Day	30 Alternative Sample Change Day	3-2-2 Week 1 2-3-2 Week 2 31 Change IMPROVE Particle cartridges			NOVEMBER 2024 S M T W T F S 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	JANUARY 2025 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



Photographs taken by *Hal Brunette, Quayle "Q" M. Chew, Scott Copeland, Lara Hrobak, Darren Lilja, Ron Mackie, Ami Pate, Brad Pendley, Ken Teske and Lawrence Tsai.*

Cover Photo: Bryce Canyon National Park (BRCA1), *Lawrence Tsai*

