



# Brooke Joyce

PM2.5

for piano

toydogmusic



### Program Note

"Particle pollution, also called particulate matter or PM, consists of solid particles or liquid droplets suspended in the air. Fine particles (PM2.5, which have an aerodynamic diameter of 2.5 microns or less) may be emitted directly into the atmosphere but are more commonly created by reactions of other pollutants, such as nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), organic carbon and ammonia. Sources of fine particle emissions include forest fires and wood stoves. Sources of the precursor pollutants that chemically react to form fine particles include power plants, industries and automobiles. Wind can carry these particles hundreds of miles from their sources. Fine particle levels typically peak in winter but concentrations can also be high in summer." (dnr.wisconsin.gov)

This composition uses 30 data points gathered during the month of June in 2023 when smoke from Canadian wildfires drifted into the northern US. Each data point, representing the average measurement of PM2.5 in the atmosphere of Madison, WI on a particular day in June, were scaled and then mapped onto the pitches and dynamic range of the piano. Lower and louder pitches were derived from the higher PM2.5 values.

PM2.5 was commissioned by the Wisconsin Music Teachers Association in 2023 and is available, free of charge, to WMTA members and their students.

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Please inform the composer of all performances, [brookejoyce.com/about/contact/]

# PM2.5

Commissioned by the Wisconsin Music Teachers Association, 2023

Brooke Joyce (2023)

Precisely  $\text{♩} = 52$

Musical score for measures 1-3. Treble and bass staves. Measure 1: 8 measures of quarter notes. Dynamics:  $pp$ ,  $mf$ ,  $mp$ ,  $pp$ . Measure 2: 8 measures of quarter notes. Dynamics:  $ppp$ . Measure 3: Pedal ad lib.

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Musical score for measures 4-6. Treble and bass staves. Measure 4: 8 measures of quarter notes. Dynamics:  $pp$ ,  $p$ ,  $mp$ ,  $p$ ,  $mp$ . Measure 5: 8 measures of quarter notes. Dynamics:  $p$ ,  $mp$ .

Musical score for measures 7-9. Treble and bass staves. Measure 7: 8 measures of quarter notes. Dynamics:  $p$ ,  $mf$ ,  $fff$ ,  $f$ ,  $pp$ . Measure 8: 8 measures of quarter notes. Dynamics:  $pp$ .

Musical score for measures 10-12. Treble and bass staves. Measure 10: 8 measures of quarter notes. Dynamics:  $mf$ ,  $mp$ ,  $pp$ ,  $ppp$ ,  $pp$ ,  $p$ . Measure 11: 8 measures of quarter notes.

13

*mp*      *p*      *mp*      *p*      *mf*      *pp*

*f*

*ffff*

17

*pp*      3      4      *pp*

5      5      5      5

*pp*

19

*mf*      5      5      *mp*      *pp*

5      5      5      5      5      5      5

*ppp*

(8)- - - - -

21

*pp*      *p*      5      5

5      5      5      5      5

Musical score for piano, page 10, measures 23-31.

Measure 23: Treble clef, 2/4 time. Dynamics: *p*, *mp*, *p*, *mf*, *pp*. Fingerings: 5, 5, 5, 5, 5, 5, 5, 5. Measure 24: Bass clef, 2/4 time. Dynamics: *ff*. Fingerings: 5, 5, 5, 5, 5, 5, 5, 5. Measure 25: Treble clef, 2/4 time. Dynamics: *f*. Fingerings: 5, 5, 6, 6, 6. Measure 26: Bass clef, 6/8 time. Dynamics: *pp*. Fingerings: 3, 3, 3, 3. Measure 27: Treble clef, 5/8 time. Fingerings: 3, 3, 3, 3, 3, 3, 3, 3. Measure 28: Bass clef, 5/8 time. Fingerings: >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz. Measure 29: Treble clef, 4/8 time. Fingerings: 3, 3, 3, 3, 3, 3, 3, 3. Measure 30: Bass clef, 4/8 time. Fingerings: >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz. Measure 31: Treble clef, 2/4 time. Fingerings: 3, 3, 3, 3, 3, 3, 3, 3. Measure 32: Bass clef, 2/4 time. Fingerings: >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz, >sfz.

4  $\text{♪} = \text{♪}$

35

**ff**

37

39  $\text{♪} = \text{♪}$

9 8

8-  
Ped.

8-  
A  
^  
~

42

p

( $\text{♪}$ ) \*  
\* depress silently and hold with sostenuto pedal through m. 56

both treble clef parts 8va

espr.

3

47

Musical score for piano, two staves. Treble staff: Measure 51 starts with a forte dynamic. Measures 51-52 show a melodic line with eighth-note patterns and sixteenth-note figures. Bass staff: Measures 51-52 show sustained notes with grace notes and slurs.

Musical score for piano, two staves. Treble staff: Measures 55-56 show eighth-note patterns with a measure of 3 over 4. Bass staff: Measures 55-56 show sustained notes with grace notes and slurs. Dynamic: *pp* (pianissimo) at the beginning of measure 56.

Musical score for piano, two staves. Treble staff: Measures 60-61 show eighth-note patterns. Bass staff: Measures 60-61 show sustained notes with grace notes and slurs.

Musical score for piano, two staves. Treble staff: Measures 63-64 show eighth-note patterns. Bass staff: Measures 63-64 show sustained notes with grace notes and slurs. Dynamic: *ppp* (pianississimo) at the end of measure 64. Pedal: Ped. (pedal) indicated by a line under the bass staff.