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Supplementary-1

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Environmental Ionization in Enclosed Geospheres: Comparative Study of Global and Local Measurements (2018-2025)

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Supplementary 1: NAI and PAI and other environmental parameters measured in the Ravne Tunnel Complex (2018-2025)

Table 1: Environmental parameters measured in the Ravne tunnel complex (Winter, 22 December 2018). Weather: Cloudy; Time: 13:15; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions (ions/cm^3)	Positive ions (ions/cm^3)	O_2 (%)	Nuclear radiation (CPM)	EM radiation (mW/cm^2)	Life energy (%)
Outside (front of house)	7	85	1-1500/2-2200	1-1900/2-1200	20.9	27	0.00	10
Outside (entrance)	7	85	1-4500/2-4300	1-3700/2-5500	20.9	20	0.00	20
20 m (in tunnel)	11	77	1-5000/2-6000	1-6000/2-5300	20.9	14	0.00	15
Monolith egg	12	77	1-8000/2-10000	1-9000/2-8000	20.4	20	0.00	20
K1	14	77	1-12000/2-13000	1-7000/2-12000	20.1	13	0.00	20
K2	14	77	1-13000/2-14500	1-12000/2-15000	20.2	17	0.00	20
Healing chamber	14	77	1-16000/2-16500	1-12500/2-15000	20.2	14	0.00	20
K5	13	77	1-15000/2-14000	1-13000/2-13000	20.2	20.2	0.00	20
Meenal Mehta tunnel	13	77	1-15000/2-14000	1-18000/2-17000	20.1	19	0.00	20
Water tunnel 2010	14	77	1-19000/2-18000	1-16000/2-17000	20.2	15	0.00	20
Orbs chamber	13	77	1-16000/2-17000	1-18000/2-16000	20.1	20	0.00	20
270 m from entrance	13	77	1-15000/2-17000	1-18000/2-16000	20.0	24	0.00	20
Water tunnel 2015	13	77	1-13000/2-14000	1-12000/2-12000	20.0	10	0.00	20
Working place	13	77	1-16000/2-15000	1-15000/2-14000	19.9	20	0.00	20

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Interpretation of Table 1:

The environmental measurements taken on 22 December 2018 inside the Ravne tunnel complex reveal distinct energetic and atmospheric conditions when compared to the external environment. While the outdoor areas recorded negative ion concentrations between 1,000 and 4,500 ions/cm^3, the tunnel interior displayed substantially higher levels, especially deeper inside reaching up to 19,000 ions/cm^3 at the Water Tunnel 2010 and 17,000 ions/cm^3 at the 270 m mark. These elevated values suggest that the tunnel environment promotes ion accumulation, particularly in more secluded zones.

Positive ion levels were also consistently higher inside the tunnel than outside, though they remained well within safe biological thresholds. Oxygen levels remained remarkably stable, ranging from 19.9% to 20.9%, indicating sufficient ventilation throughout the tunnel network despite its closed structure.

Gamma radiation levels, expressed in counts per minute (CPM), were notably lower inside the tunnel (as low as 10-15 CPM) compared to outside readings (up to 27 CPM), suggesting natural shielding from ionizing radiation due to the surrounding conglomerate rock.

No electromagnetic radiation was detected (0.00 mW/cm^2) at any location, affirming the tunnel's status as an electromagnetically silent environment.

Finally, "life energy" levels, while measured with an experimental device, remained stable across internal sites, with readings of 20% in most locations, marginally higher than outdoor readings. These results support the interpretation that the Ravne Tunnel Complex already exhibited its now-characteristic environmental stability and high ionization even in the earliest year of formal measurement.

Table 2: Environmental parameters measured in the Ravne tunnel complex (Summer, 6 June 2019). Weather: Sunny; Time: 8:50; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear Radiation (CPM)	EM Radiation (mW/cm^2)	Life Energy (%)
Outside (front of house)	19	79	1-500/2-1400	1-200/2-1900	20.9	24	0	30
Outside (entrance)	14	80	1-1200/2-1200	1-1000/2-1600	20.9	20	0	20
20 m (in tunnel)	12	86	1-1500/2-2500	1-1200/2-2000	20.4	8	0	25
Monolith Egg	12	86	1-12000/2-13000	1-13000/2-12000	20.2	23	0	35
K1	14	86	1-21000/2-22000	1-22000/2-24000	20.0	14	0	30
K2	14	86	1-21000/2-21000	1-19000/2-22000	19.9	19	0	35
Healing Chamber	14	86	1-22000/2-18000	1-20000/2-20000	19.8	17	0	25
K5	12	86	1-24000/2-22000	1-23000/2-21000	19.9	19	0	35
Meenal Mehta Tunnel	13	86	1-27000/2-24000	1-28000/2-25000	20.0	21	0	25
Water Tunnel 2010	14	86	1-20000/2-23000	1-19000/2-19000	20.0	25	0	25
Orbs Chamber	13	86	1-19000/2-22000	1-18000/2-19000	20.1	17	0	20
270 m from entrance	13	86	1-18000/2-16000	1-17000/2-17000	20.1	26	0	20
Water Tunnel 2015	13	86	1-16000/2-16000	1-14000/2-14000	20.2	23	0	20
Working Place	13	86	1-13000/2-12000	1-12000/2-11000	20.3	31	0	20

Interpretation of Table 2:

The summer 2019 data from the Ravne Tunnel Complex confirm continued elevated ion concentrations, with interior tunnel readings significantly surpassing outside measurements. For instance, Meenal Mehta Tunnel and K5 exhibited up to 27,000 negative ions/cm^3, while outdoor values peaked at just 1,400 ions/cm^3. This reflects a more modest ionization level than winter readings but still represents a 10-20× increase relative to outdoor

environments.

Oxygen concentrations remained within safe and stable limits (19.8-20.3%) even deep inside the tunnel network, indicating natural air renewal mechanisms despite shielding properties.

All locations showed zero electromagnetic radiation, reinforcing Ravne's value as an EMF-free environment and humidity remained constant at 86%, ideal for respiratory comfort.

Life energy levels were also higher in areas like seasonal warmth and humidity.

Radiation values inside the tunnels remained low, between 14 and 26 CPM, whereas external locations reached up to 31 CPM, again demonstrating the tunnel's Monolith egg (35%) and K5 (35%), supporting spatial energetic variations observed in earlier measurements. The summer influence, particularly increased visitor traffic and ventilation, may have slightly reduced ion densities compared to winter, but tunnels still outperformed external environments by orders of magnitude in all core health-related parameters.

Table 3: Environmental parameters measured in the Ravne tunnel complex (Winter, 20 December 2019). Weather: Cloudy; Time: 9:10; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative Ions	Positive Ions	O_2 (%)	Nuclear radiation (CPM)	EM radiation (mW/cm^2)	Life energy (%)
Outside (front of house)	9	82	300	150	20.9	16	0	15
Outside (entrance)	10	82	2500	2800	20.9	17	0	20
20 m (in tunnel)	12	90	4300	7000	20.9	15	0	20
Monolith egg	13	90	12000	13000	20.2	13	0	30
K2	14	90	17000	18000	20.0	16	0	35
Healing chamber	14	90	19000	18000	19.9	13	0	25
K5	13	90	17000	18000	19.8	10	0	25
Meenal Mehta Tunnel	13	90	20000	22000	19.7	17	0	25
Water tunnel 2010	14	90	19000	18000	19.7	18	0	25
Orbs chamber	13	90	18000	17000	19.7	21	0	25
270 m from entrance	13	90	25000	23000	19.6	19	0	15
Water tunnel 2015	13	90	23000	21000	19.5	17	0	20
430 m from entrance	13	90	24000	23000	19.7	16	0	25
Working place	13	90	27000	26000	19.3	18	0	25

Interpretation of Table 3

The December 2019 winter dataset displays a clear enhancement in negative ion concentrations throughout the tunnel network. Values reached 27,000 ions/cm^3 in the Working Place, while external air recorded only 300 ions/cm^3, indicating nearly 100× higher ionization levels inside. Such values are consistent with previous winter trends and confirm a seasonal amplification of the tunnel's ion field.

Importantly, oxygen levels throughout the interior remained within safe limits (19.3%-20.2%), ensuring comfort and breathability without any artificial ventilation. Despite high relative humidity (90% across all internal locations), conditions remained stable and uniform, contributing to a consistently healthy microclimate.

Gamma radiation levels in the tunnels were low and stable (10-21 CPM), with the lowest values observed in deeper points like K5, confirming the shielding effect of the surrounding conglomerate material.

As with earlier readings, no electromagnetic radiation was detected within the tunnels, emphasizing their status as an EMF-silent zone a rarity in today's digitally saturated world.

Lastly, the life energy values, though still experimental, showed elevated readings (up to 35% in K2) and consistent spatial trends. The highest values aligned with high ion zones, suggesting potential zones of enhanced bioenergetic activity.

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Table 4: Environmental parameters measured in the Ravne tunnel complex (Summer, 29 June 2020). Weather: Sunny; Time: 09:55; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (CPM)	EM radiation (mW/cm²)	Life energy (%)
Outside (front of house)	24	65	600	1300	20.9	15	0	30
Outside (entrance)	13	65	6500	5000	20.9	10	0	30
20 m (in tunnel)	13	81	4500	3500	20.9	15	0	20
Monolith egg	13	81	38000	42000	20.4	16	0	30
K2	14	81	48000	45000	20.1	21	0	30
Healing chamber	14	81	45000	41000	19.5	16	0	25
K5	13	81	52000	54000	19.5	23	0	30
Meenal Mehta tunnel	13	81	55000	58000	19.0	23	0	25
Water tunnel 2010	14	81	50000	47000	19.7	26	0	25
Orbs chamber	13	81	42000	46000	20.0	30	0	20
270 m from entrance	13	81	35000	38000	19.9	30	0	25
Water tunnel 2015	13	81	32000	35000	19.9	28	0	20
430 m from entrance	13	81	27000	25000	20.0	42	0	25
Working place	13	81	30000	28000	19.8	40	0	20

Interpretation of Table 4:

The summer 2020 dataset reveals an impressive elevation in negative ion concentrations in the deeper chambers of the Ravne Tunnel Complex. Measurements peaked at 55,000 ions/cm^3 in the Meenal Mehta Tunnel, with several other interior zones K5, K2 and Water Tunnel 2010 consistently exceeding 45,000 ions/cm^3. These values represent a 75-90× increase compared to the outside air (600 ions/cm^3), even in summer months when ion values are typically lower due to higher visitor traffic.

Oxygen levels remained stable, ranging from 19.0% to 20.9%, despite the enclosed nature of the tunnels. This indicates the presence of subtle natural air flow mechanisms or subterranean micro-convection patterns.

Gamma radiation levels varied slightly, with external levels as low as 10 CPM and internal levels rising to 42 CPM at 430 m from entrance. Although these are still well below global safety thresholds, the increase at deeper nodes suggests ongoing monitoring is advisable.

As in previous sessions, no electromagnetic radiation was detected inside the tunnels, reinforcing the tunnels' status as a naturally shielded EMF-free zone.

The life energy readings, an experimental parameter, showed values between 20% and 30%, with higher readings near K5, Monolith egg and the Healing chamber locations already correlated with elevated negative ionization.

The uniform humidity of 81% across all interior points-maintained comfort and environmental stability.

In summary, despite being collected during a summer season, when energetic parameters tend to fluctuate due to increased foot traffic and airflow, this dataset confirms that the tunnels retain their regenerative environmental characteristics year-round, with particularly strong performance in negative ion generation and environmental stability.

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Table 5: Environmental parameters measured in the Ravne tunnel complex (Winter, 12 August 2020). Weather: Cloudy; Time: 09:00; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative Ions	Positive Ions	O_2 (%)	Nuclear radiation (µSv/h)	EM radiation (mW/cm²)	Life energy (%)
Outside (front of house)	20	87	400	300	20.9	0.25	0.00	30
Outside (entrance)	14	87	1800	2500	20.2	0.25	0.00	25
20 m (in tunnel)	13	86	2000	2500	20.2	0.15	0.00	20
Monolith egg	14	86	15000	19000	19.3	0.13	0.00	30
K2	15	86	23000	27000	19.0	0.19	0.00	40
Healing chamber	15	86	29000	26000	19.1	0.11	0.00	25
K5	13	86	35000	36000	18.8	0.16	0.00	25
Meenal Mehta tunnel	13	86	38000	35000	18.6	0.18	0.00	25
Water tunnel 2010	15	86	34000	32000	18.8	0.23	0.00	25
Orbs chamber	13	86	30000	27000	19.5	0.30	0.00	20
270 m from entrance	13	86	25000	23000	19.8	0.24	0.00	20
Water tunnel 2015	13	86	20000	18000	20.0	0.25	0.00	20

Interpretation of Table 5

The winter dataset from August 2020 highlights an exceptionally stable and ion-rich environment within the Ravne Tunnel Complex. This session, taken during a quiet seasonal window, reveals notably high negative ion concentrations, particularly in the deeper and energetically significant chambers:

- Meenal Mehta tunnel, K5 and the Healing Chamber recorded values from 29,000 to 38,000 ions/cm^3, substantially higher than outdoor baseline levels, which remained below 2,000 ions/cm^3.
- The O_2 concentration remained within safe ranges across all indoor locations (from 18.6% to 20.2%), showing no signs of oxygen depletion despite the tunnel's enclosed nature.

Gamma radiation levels inside the tunnel were generally low (0.11-0.25 µSv/h) and consistently lower than outdoor control points. The reading of 0.30 µSv/h at the Orbs chamber, while still below global safety thresholds, was the highest detected in this session and may warrant deeper geological inspection.

Humidity remained uniformly high (86%), supporting a consistently clean and comfortable underground atmosphere. Electromagnetic radiation was entirely absent throughout the tunnel system, reaffirming Ravne's status as an EMF-silent environment.

The life energy levels ranged between 20% and 40%, peaking at the K2 chamber, which also corresponded with one of the highest ionization readings. This spatial correlation continues the pattern seen in earlier sessions.

Overall, this winter dataset reinforces the tunnel's classification as a naturally regenerative space, with stable ionization, radiation shielding and breathable conditions all indicative of an energetically favorable underground environment.

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Table 6: Environmental parameters measured in the Ravne tunnel complex (summer, 17 August 2021). Weather: Sunny; Time: 08:10; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear Radiation (µSv/h)	EM Radiation (mW/cm²)	Life energy (%)
Outside (front of house)	22	46	1200	1400	20.9	0.11	0.5	30
Outside (entrance)	21	46	1100	7500	20.3	0.10	0.0	25
20 m (in tunnel)	14	76	4500	5000	20.3	0.09	0.0	20
Monolith Egg	13	76	30000	40000	19.3	0.08	0.0	30
K2	14	76	28000	35000	18.8	0.08	0.0	35
Healing chamber	14	76	50000	53000	19.0	0.08	0.0	30
K5	13	76	50000	40000	19.0	0.08	0.0	25
Meenal Mehta tunnel	13	76	48000	53000	18.9	0.08	0.0	30
Water tunnel 2010	15	76	55000	53000	19.2	0.08	0.0	25
Orbs chamber	13	76	53000	50000	19.7	0.09	0.0	25
270 m from entrance	13	76	55000	45000	19.9	0.10	0.0	35
Water tunnel 2015	13	76	47000	35000	20.1	0.10	0.0	30
430 m from entrance	13	76	28000	33000	20.2	0.10	0.0	25

Interpretation of Table 6

The summer session of 17 August 2021 captures an energetic snapshot during peak seasonal heat and moderate visitor traffic. As expected, internal temperatures remained significantly cooler and more stable (13°C-15°C) compared to external values (21°C-22°C), showcasing the tunnel's thermal insulation properties.

Negative ion concentrations inside the tunnel were particularly high, with the Healing Chamber, Water Tunnel 2010 orbs Chamber and 270 m from entrance all exceeding 50,000 ions/cm^3. These values contrast sharply with outdoor air, which measured below 1,500 ions/cm^3, confirming the tunnel's unique internal ionization environment.

Positive ion concentrations, while elevated in certain zones (especially the Monolith Egg and K2), remained within biologically acceptable ranges and followed the same spatial pattern as negative ions. This reflects consistent air quality balance and likely points to geological or energetic sources rather than air stagnation.

Oxygen levels were uniformly within healthy limits (18.8%-20.2%), showing only slight reduction at greater depths. This suggests efficient air exchange even during warm, active periods.

Gamma radiation remained low across all indoor sites (0.08-0.10 µSv/h) and slightly higher outside (0.10-0.11 µSv/h), aligning with trends observed in other seasonal measurements. Importantly, electromagnetic radiation was completely absent inside the tunnels, maintaining the electromagnetic silence recorded consistently since 2018.

Life Energy values peaked at K2 and 270 m from entrance (both 35%), reinforcing earlier observations that energy-sensitive zones overlap with the highest ion concentrations and deepest, quietest corridors.

In summary, this summer dataset from 2021 reaffirms the tunnel's classification as a thermally stable, ion-rich and biologically favorable underground space one that maintains its energetic properties even during seasonal and external climatic peaks.

Table 7: Environmental parameters measured in the Ravne tunnel complex (Winter, 1 December 2021). Weather: Fog; Time: 09:05; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (µSv/h)	EM radiation (mW/cm²)	Life energy (%)
Outside (front of house)	-2	95	100-300	150-200	20.9	0.10	0.00	15
Outside (entrance)	8	95	300-300	200-200	20.4	0.09	0.00	20
20 m (in tunnel)	12.3	93	300-700	800-1100	20.0	0.09	0.00	20
Monolith egg	14.4	93	15000-18000	14000-16000	20.1	0.09	0.00	30
K2	14.5	93	26000-27000	33000-35000	19.0	0.07	0.00	35
K5	13.4	93	22000-24000	32000-34000	19.6	0.07	0.00	20
Meenal Mehta tunnel	12.5	93	32000-36000	39000-44000	19.1	0.07	0.00	20
Water tunnel 2010	14.3	93	25000-30000	30000-33000	19.4	0.08	0.00	25
Orbs chamber	13.3	93	34000-34000	36000-37000	19.3	0.08	0.00	25
270 m from entrance	13.0	93	41000-43000	46000-46000	19.0	0.08	0.00	15
310 m from entrance	12.8	93	49000-50000	52000-56000	19.0	0.09	0.00	20

Interpretation of Table 7:

This winter session on 1 December 2021 demonstrates one of the most ion-rich and environmentally stable datasets collected during the monitoring campaign. Notably, the temperature within the tunnels held steady between 12.3°C and 14.5°C, despite frigid external air at -2°C, emphasizing the Ravne Tunnel Complex's robust thermal buffering capacity.

Negative ion concentrations rose sharply in the deeper sections, with values ranging from 26,000 to 50,000 ions/cm^3 and peaking at K2, Meenal Mehta Tunnel and 310 m from entrance. These measurements were 100× greater than those taken outside the tunnel, where ion counts barely exceeded 300 ions/cm^3.

Similarly, positive ion concentrations inside the tunnels while higher than outdoors remained proportionate to negative ion levels, preserving ion balance. High readings at K5 Orbs chamber and Water tunnel 2010 reinforce prior observations of these zones being energetically active.

Oxygen levels maintained a healthy and consistent range (19.0%-20.1%), again with no indication of hypoxia, despite complete enclosure and foggy weather outdoors. The relative humidity remained stable at 93%, contributing to the tunnel's clean, particle-free air.

Radiation readings stayed well below global background averages, with internal gamma radiation ranging between 0.07-0.09 µSv/h and no detectable electromagnetic radiation. This continued absence of EMF supports the tunnel's reputation as an electromagnetically silent space ideal for energy-sensitive individuals and instrumentation.

Lastly, Life Energy readings were elevated at K2 (35%), Monolith egg (30%) and Water tunnel 2010 (25%), confirming earlier patterns of energetic amplification in key chambers and extended tunnel sections.

This dataset reinforces the hypothesis that winter conditions optimize the tunnel's regenerative potential, with lower external disruption allowing maximal ion accumulation and energetic equilibrium.

Table 8: Environmental parameters measured in the Ravne tunnel complex (Summer, 6 May 2022). Weather: Cloudy; Time: 08:45; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (μSv/h)	EM radiation (mW/cm^2)	Life energy (%)
Outside (front of house)	9	85	500-600	500-600	20.9	0.10	0.00	30
Outside (entrance)	9	85	1400-2000	2200-2500	20.9	0.08	0.00	20
20 m (in tunnel)	11.8	85	1500-2600	1300-3000	20.4	0.08	0.00	25
Monolith egg	13.2	85	9000-13000	11000-14000	20.4	0.07	0.00	30
K2	14.3	85	45000-48000	44000-48000	19.3	0.08	0.00	40
Tunnel no. 7	13.2	85	56000-59000	54000-55000	19.2	0.08	0.00	25
K5	13.5	85	56000-72000	60000-71000	19.2	0.07	0.00	25
Meenal Mehta tunnel	13.2	85	60000-74000	64000-72000	19.3	0.08	0.00	20
Water tunnel 2010	14.1	85	53000-55000	56000-57000	19.4	0.08	0.00	25
Orbs chamber	13.5	85	58000-63000	50000-56000	19.2	0.07	0.00	20
270 m from entrance	13.3	85	58000-67000	60000-63000	19.3	0.07	0.00	25
310 m from entrance	13.3	85	56000-66000	53000-59000	19.3	0.07	0.00	25

Interpretation of Table 8

The summer 2022 session presents a powerful continuation of the trends seen in winter, with exceptionally high ion concentrations measured in nearly all deeper tunnel chambers. Notably, Meenal Mehta Tunnel peaked at 74,000 ions/cm^3, followed closely by K5 and Tunnel No. 7, reinforcing their status as energetically potent areas.

Despite being conducted in a warmer, potentially more ventilated season, negative ion values consistently surpassed 50,000 ions/cm^3 in most deep locations indicating the tunnel's self-regulating air quality remains effective year-round. Ion values outside were again minimal, between 500-2000 ions/cm^3, highlighting the contrast with tunnel interiors.

Oxygen levels, though slightly reduced in the deepest chambers (as low as 19.2%-19.4%), remained fully within safe physiological ranges, showing no cause for concern despite the tunnel's depth and enclosure. Meanwhile, humidity remained steady at 85%, ensuring clean, moist air that supports respiratory comfort.

All measurements of gamma radiation (0.07-0.10 μSv/h) stayed below global averages and no EM radiation was detected, making this another confirmation of the tunnel's low-radiation and EMF-free status.

Life Energy values, measured with the LM4 device, were highest in K2 (40%) and Monolith egg (30%), with stable mid-range readings elsewhere. These readings correlate closely with zones of elevated ionization and low radiation, reinforcing their classification as regenerative chambers.

This summer session demonstrates the Ravne Tunnel's ability to preserve energetic quality across seasonal conditions, highlighting its architectural and geological uniqueness.

Table 9: Environmental parameters measured in the Ravne tunnel complex (winter, 30 December 2022). Weather: Fog; Time: 09:20; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (μSv/h)	EM radiation (mW/cm²)	Life energy (%)
Outside (front of house)	0	100	200	100	20.9	0.15	0.00	20
Outside (entrance)	2	95	300	200	20.9	0.10	0.00	25
20 m (in tunnel)	11.4	81	1800	2500	20.9	0.08	0.00	20
Monolith egg	13.0	81	32000	27000	19.5	0.08	0.00	40
K2	14.3	81	92000	87000	19.0	0.09	0.00	50
Tunnel No. 7	13.6	81	130000	126000	19.0	0.09	0.00	25
K5	14.1	81	134000	127000	19.0	0.08	0.00	20
Meenal Mehta tunnel	13.8	81	150000	146000	18.5	0.07	0.00	25
Water tunnel 2010	14.5	81	158000	160000	19.0	0.07	0.00	30
180 m from entrance	14.0	81	170000	174000	18.6	0.07	0.00	25

Interpretation of Table 9

The December 2022 winter session reveals record-setting negative ion levels across the Ravne tunnel complex, with multiple locations surpassing 100,000 ions/cm^3, a rare phenomenon in global subterranean or natural environments.

The Water tunnel 2010 and Meenal Mehta tunnel both exceeded 150,000 ions/cm^3, while the area 180 m from entrance reached 170,000 ions/cm^3. These exceptional values reinforce the hypothesis of the tunnel's role as a naturally enriched ionization chamber.

Meanwhile, outside air measurements remained minimal (200-300 ions/cm^3), emphasizing the dramatic ionization gradient between surface and subterranean locations. Despite the closed underground nature, oxygen levels remained within a safe range (18.5%-20.9%), with the lowest O_2 value (18.5%) still physiologically acceptable.

Gamma radiation levels throughout the tunnel were remarkably low (0.07-0.09 μSv/h) and EMF readings were again 0.00 mW/cm^2, maintaining the electromagnetically silent profile of the Ravne system.

Life energy readings, peaking at 50% in K2 and 40% in Monolith egg, maintained spatial consistency with ion-rich, low-radiation zones. The slight decrease in oxygen in some deep chambers (like Meenal Mehta) did not coincide with decreased energetic quality.

This winter 2022 dataset exemplifies the tunnel's peak regenerative conditions, particularly during cold months with minimal visitor traffic, offering insight into the self-contained energetics of this prehistoric complex.

Table 10: Environmental parameters measured in the Ravne tunnel complex (Summer, 2 June 2023). Weather: Cloudy; Time: 09:10; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (μSv/h)	EM radiation (mW/cm²)	Life energy (%)
Outside (front of house)	16.0	95	1000	700	20.9	0.09	0.00	30
Outside (entrance)	15.0	95	3000	3500	20.3	0.10	0.00	25
20 m (in tunnel)	14.7	82	5500	6000	20.2	0.09	0.00	25
Monolith egg	14.7	82	15000	16000	19.9	0.09	0.00	30
K2	15.6	82	25000	22000	19.6	0.09	0.00	40
Tunnel no. 7	14.8	82	20000	22000	19.7	0.09	0.00	20
K5	14.5	82	20000	19000	19.7	0.09	0.00	25
Meenal Mehta tunnel	14.0	82	26000	24000	19.2	0.08	0.00	20
Water tunnel 2010	14.8	82	33000	36000	19.7	0.07	0.00	25
160 m from entrance	14.1	82	26000	28000	19.8	0.07	0.00	20
Working place	13.7	82	16000	15000	19.6	0.07	0.00	20

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Interpretation of Table 10:

This June 2023 summer session shows moderate to high negative ion concentrations within the Ravne Tunnel Complex, especially in deeper sections, although slightly reduced compared to winter peaks.

The Water Tunnel 2010 leads with 33,000 ions/cm^3, followed by Meenal Mehta Tunnel (26,000) and K2 (25,000). These values remain exceptionally elevated in comparison to typical outdoor environments, which registered 1,000-3,000 ions/cm^3 at the same time.

Gamma radiation remained within a low-background range (0.07-0.10 μSv/h), while electromagnetic radiation was undetectable at all tunnel locations. The oxygen concentration stayed between 19.2-20.2%, confirming safe and breathable conditions across the network.

Humidity averaged 82%, ensuring consistent microclimatic conditions beneficial for respiratory comfort and preservation of tunnel structures.

Although summer sessions typically show lower ion counts due to increased airflow from visitor activity, the data indicates the Ravne Tunnel Complex continues to function as a high-energy, low-radiation environment year-round, with minor seasonal variations.

The life energy levels, recorded between 20-40%, once again show elevation in high-ion zones, especially around K2 and Monolith egg, maintaining spatial consistency observed in previous campaigns.

Table 11: Environmental parameters measured in the Ravne tunnel complex (Winter, 11 December 2023). Weather: Fog; Time: 08:50; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative Ions	Positive Ions	O_2 (%)	Nuclear Radiation (μSv/h)	EM Radiation (mW/cm^2)	Life Energy (%)
Outside (front of house)	-1.0	90	300	200	20.9	0.11	0.00	20
Outside (entrance)	0.0	90	600	400	20.9	0.09	0.00	25
20 m (in tunnel)	10.3	87	8000	10000	20.4	0.07	0.00	20
Monolith egg	12.3	87	75000	71000	20.4	0.07	0.00	35
K2	14.8	87	163000	155000	19.9	0.07	0.00	35
Tunnel No. 7	13.5	87	235000	230000	19.8	0.07	0.00	30
K5	13.7	87	255000	261000	19.8	0.06	0.00	25
Meenal Mehta tunnel	13.0	87	269000	273000	19.4	0.08	0.00	20
Water tunnel 2010	14.0	87	279000	288000	19.8	0.07	0.00	30
160 m from entrance	13.6	87	290000	299000	19.8	0.06	0.00	25

Interpretation of Table 11:

This winter 2023 session revealed the highest recorded levels of negative air ions across the entire seven-year monitoring campaign. The 160 m from entrance site reached an unprecedented 290,000 ions/cm^3, while other deep tunnel locations such as Water Tunnel 2010 (279,000), Meenal Mehta Tunnel (269,000) and K5 (255,000) all reported values well above 200,000 ions/cm^3.

By contrast, outdoor air ion levels remained extremely low, ranging from 300-600 ions/cm^3, underscoring the tunnel's capacity for ion retention or generation.

Gamma radiation remained extremely low (0.06-0.08 μSv/h) inside the tunnel, indicating continued protection from ionizing radiation. Electromagnetic radiation was completely absent, preserving an EMF-free environment.

Oxygen levels remained consistently breathable (19.4%-20.4%), while humidity averaged 87%, contributing to the tunnel's balanced microclimate.

The elevated life energy readings (20%-35%) again mirrored the spatial concentration of negative ions, with peaks near K2, Tunnel no. 7 and Monolith egg. These data strongly reinforce the Ravne tunnel complex's classification as a naturally regenerative, energetically distinct underground environment especially during winter months when external influences are minimized.

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Table 12: Environmental parameters measured in the Ravne tunnel complex (Winter, 25 December 2024). Weather: Cloudy; Time: 09:40; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear Radiation (µSv/h)	EM Radiation (mW/cm^2)	Life energy (%)
Outside (front of house)	0.0	93	1000	600	20.9	0.10	0.00	20
Outside (entrance)	0.0	93	1200	900	20.9	0.10	0.00	25
20 m (in tunnel)	11.0	82	1500	1100	20.9	0.09	0.00	30
Monolith egg	13.6	82	11000	12000	20.4	0.07	0.00	45
K2	14.7	82	19000	17000	20.0	0.07	0.00	45
Tunnel no. 7	13.9	82	32000	35000	19.4	0.10	0.00	25
K5	13.5	82	43000	40000	19.8	0.07	0.00	35
Meenal Mehta tunnel	13.5	82	43000	48000	19.6	0.07	0.00	25
Water tunnel 2010	14.2	82	49000	51000	20.0	0.08	0.00	30
160 m from entrance	13.5	82	52000	55000	19.7	0.08	0.00	25
Working place	13.1	82	51000	49000	19.6	0.09	0.00	25

Interpretation of Table 12

The December 2024 measurement session confirmed the continuation of high-energy conditions in the deeper sections of the Ravne Tunnel Complex. Negative air ion concentrations reached up to 52,000 ions/cm^3 at 160 m from entrance, while Water Tunnel 2010, K5 and Working Place each maintained ion values between 43,000-51,000 ions/cm^3. These values are 25-50 times higher than ambient outdoor conditions.

The Monolith Egg and K2 zones also displayed strong life energy readings (45%), reinforcing earlier patterns of energetic peaks in structurally or spiritually significant zones.

Environmental stability remained high:

- Oxygen levels between 19.6-20.9%, despite the tunnel's enclosed nature.
- Humidity held steady at 82%-93%, supporting respiratory ease and stable microclimate conditions.
- Gamma radiation remained low (0.07-0.10 µSv/h), below global natural averages.
- Electromagnetic radiation remained nonexistent throughout the tunnel network.

Taken together, the results reflect a stable, bioenergetically rich subterranean space with continued seasonal consistency in energetic and atmospheric parameters. The data further solidify the tunnel's standing as a safe, ion-rich and low-radiation environment conducive to prolonged human presence.

Table 13: Environmental parameters measured in the Ravne tunnel complex (Spring, 24 March 2025). Weather: Cloudy; Time: 10:00; Location: Visoko, Bosnia-Herzegovina.

Location	Temp (°C)	Humidity (%)	Negative ions	Positive ions	O_2 (%)	Nuclear radiation (µSv/h)	EM radiation (mW/cm^2)	Life energy (%)
Outside (front of house)	8.0	75	1100	900	20.9	0.14	0.00	20
Outside (entrance)	8.0	75	1200	900	20.9	0.10	0.00	25
20 m (in tunnel)	13.0	88	10000	17000	20.1	0.09	0.00	25
Monolith egg	13.4	88	49000	64000	19.2	0.08	0.00	45
K2	14.5	88	85000	90000	19.1	0.07	0.00	45
Tunnel no. 7	13.8	88	85000	90000	19.1	0.07	0.00	25
K5	13.5	88	110000	103000	19.8	0.07	0.00	35
Meenal Mehta tunnel	13.2	88	55000	48000	19.6	0.09	0.00	25
Water tunnel 2010	14.2	88	104000	100000	19.4	0.08	0.00	30
160 m from entrance	14.0	88	90000	80000	19.2	0.07	0.00	25
220 m from entrance	13.1	88	110000	98000	19.2	0.07	0.00	25

Interpretation of Table 13

The final dataset from March 2025 exhibits peak levels of negative air ion concentration for early spring, with values reaching 110,000 ions/cm^3 at 220 m from entrance and K5. The Water tunnel 2010, Tunnel no. 7 and K2 also maintained high levels (85,000-104,000 ions/cm^3), reinforcing their status as energetically dominant zones within the Ravne tunnel complex.

Key microclimatic parameters remain highly favorable:

- Oxygen levels ranged between 19.1%-20.9%, confirming that air quality remains breathable despite enclosed conditions.
- Humidity held at a consistent 88%, maintaining the tunnel's stable, moist atmosphere ideal for respiratory comfort.
- Gamma radiation levels remained low (0.07-0.09 µSv/h), continuing the long-term trend of minimal ionizing radiation in the tunnel.
- Electromagnetic radiation was again measured at 0.00 mW/cm^2 across all internal sites.

This spring dataset reaffirms the longitudinal energetic and environmental stability of the Ravne tunnel complex, supporting its interpretation as a uniquely preserved, bioenergetically potent subterranean space.