

Appendix 2. Algorithmic statements for Guyana (South America), Cuba (America), Democratic Republic of the Congo (Africa), Georgia (Southern Europe), Guinea (Africa) and Macedonia (Southern Europe)

2. E2 (S-R)

Example Guyana

E2 Temp is high – high

E2 P is 0.75low - med 0.25 low – med-high

E2 GFF ≥ 0 low - low

E2 A is low – med-high

IF $A1_{(5)} \leq A1_{(5)}$ AND $0.75A2_{(1)} - A2_{(3)}, 0.25A2_{(1)} - A2_{(4)}$ AND $A3_{(1)} IS \leq A3_{(1)}$ AND $A4_{(1)}$ to $A4_{(4)}$ THEN $B_{(51847)}=E2$

IF Variables A =

- Temperature = 80-100 % to 80-100 %

- Precipitation = $0.75 \times 0-100 \text{ Kg m}^2$ to $200-300 \text{ Kg m}^2$, $0.25 \times 0-100 \text{ Kg m}^2$ to $300-400 \text{ Kg m}^2$

- Ground Frost frequency = 0-6 days to 0-6 days

- Altitude = -30-1366 m to 4098-5464 m

THEN Environment 2 (B) = 50700-51847

3. E2/3 (S-R – C-R)

Example Cuba

E3 Temp is 0.25med-high – high 0.75high-high

E3 P is 0.5low – low 0.25low - med 0.25low-med – med

E3 GFF ≥ 0 low-low

E3 A is low – low-med

IF $0.25A1_{(4)} - A1_{(5)}, 0.75A1_{(5)} IS \leq A1_{(5)}$ AND $0.5A2_{(1)} \leq A2_{(1)}, 0.25A2_{(1)} - A2_{(3)}, 0.25A2_{(2)} - A2_{(3)}$ AND $A3_{(1)} IS \leq A3_{(1)}$ AND $A4_{(1)} - A4_{(2)}$ THEN $B_{(50700)}=E3$

IF Variables (A) =

Temperature = $0.25 \times 60-80 \%$ to $80-100 \%$, $0.75 \times 80-100 \%$ - $80-100 \%$

Precipitation = $0.5 \times 0-100 \text{ Kg m}^2$ to $0-100 \text{ Kg m}^2$, $0.25 \times 0-100 \text{ Kg m}^2$ to $200-300 \text{ Kg m}^2$, $0.25 \times 100-200 \text{ Kg m}^2$ to $200-300 \text{ Kg m}^2$

Ground Frost frequency = 0-6 days to 0-6 days

Altitude = -30-1366 m to 1366-2732 m

THEN Environment (B) = 33356-50700

4. E3/4 (C-R - C)

Example Congo (DRC)

E4 Temp is med-high – high

E4 P is 0.5low – med-high 0.5low – med

E4 GFF is 0.5low – low-med 0.5low – low

E4 A is low – med-high

IF $A1_{(4)} - A1_{(5)}$ AND $0.5A2_{(1)} - A2_{(4)}$, $0.5A2_{(1)} - A2_{(3)}$ AND $0.5A3_{(1)} - A3_{(2)}$, $0.5A3_{(1)}$
IS $\leq A3_{(1)}$ AND $A4_{(1)} - A4_{(4)}$ THEN $B_{(33356)}=E4$

IF Variables (A) =

Temperature = 60-80 % to 80-100 %

Precipitation = $0.5 \times 0-100 \text{ Kg m}^2$ to $300-400 \text{ Kg m}^2$, $0.5 \times 0-100 \text{ Kg m}^2$ to $200-300 \text{ Kg m}^2$

Ground Frost frequency = $0.5 \times 0-6$ days to $6-12$ days, $0.5 \times 0-6$ days to $0-6$ days

Altitude = $-30-1366 \text{ m}$ to $4098-5464 \text{ m}$

THEN Environment (B) = 113555-33356

5. E5/6 (C-S-R – C-S)

Examples Georgia, Azerbaijan

E5 Temp is $0.75_{\text{med}} - \text{med-high } 0.25_{\text{med-high}} - \text{high}$

E5 P is $0.75_{\text{low}} - \text{low-med } 0.25_{\text{low}} - \text{med}$

E5 GFF is $0.25_{\text{low-med}} - \text{high } 0.5_{\text{low}} - \text{med-high } 0.25_{\text{low}} - \text{low-med}$

E5 A is $\text{low} - \text{med-high}$

IF $0.75A1_{(3)} - A1_{(4)}$, $0.25A1_{(4)} - A1_{(5)}$ AND $0.75A2_{(1)} - A2_{(2)}$, $0.25A2_{(1)} - A2_{(3)}$ AND
 $0.25A3_{(2)} - A3_{(5)}$, $0.5A3_{(1)} - A3_{(4)}$, $0.25A3_{(1)} - A3_{(2)}$ AND $A4_{(1)} - A4_{(4)}$ THEN
 $B_{(11355)}=E5$

IF Variables (A) =

Temperature = $0.75 \times 40-60 \%$ to $60-80 \%$, $0.25 \times 60-80 \%$ to $80-100\%$

Precipitation = $0.75 \times 0-100 \text{ Kg m}^2$ to $100-200 \text{ Kg m}^2$, $0.25 \times 0-100 \text{ Kg m}^2$ to $200-300 \text{ Kg m}^2$

Ground Frost frequency = $0.25 \times 6-12$ days – $24-30$ days, $0.5 \times 0-6$ days to $18-24$ days, $0.25 \times 0-6$ days to $6-12$ days

Altitude = $-30-1366 \text{ m}$ to $4098-5464 \text{ m}$

THEN Environment (B) = 8805-11355

6. E6 (C-S)

Example Azerbaijan

E6 Temp is $0.25_{\text{med}} - \text{med-high } 0.5_{\text{med-high}} - \text{med-high } 0.25_{\text{med-high}} - \text{high}$

E6 P is $\text{low} - \text{low-med}$

E6 GFF is $0.25_{\text{med}} - \text{high } 0.5_{\text{low}} - \text{med } 0.25_{\text{low}} - \text{low-med}$

E6 A is $\text{low} - \text{med-high}$

IF $0.25A1_{(3)} - A1_{(4)}$, $0.5A1_{(4)}$ IS $\leq A1_{(4)}$, $0.25A1_{(4)} - A1_{(5)}$ AND $A2_{(1)} - A2_{(2)}$ AND
 $0.25A3_{(3)} - A3_{(5)}$, $0.5A3_{(1)} - A3_{(3)}$, $0.25A3_{(1)} - A3_{(2)}$ AND $A4_{(1)} - A4_{(4)}$ THEN
 $B_{(8805)}=E6$

IF Variables (A) =

Temperature = 0.25 x 40-60 % to 60-80 %, 0.5 60-80 % to 60-80%, 0.25 60-80 % to 80-100%
 Precipitation = 0-100 Kg m² to 100-200 Kg m²
 Ground Frost frequency = 0.25 x 12-18 days to 24-30 days, 0.5 0-6 days to 12-18 days, 0.25 x 0-6 days to 6-12 days
 Altitude = -30-1366 m to 4098-5464 m

THEN Environment (B) = 2023-8805

7. E7 (S)

Example data not available though E6 Macedonia as a potential candidate

E6 Temp is 0.75med-high – med-high 0.25med-high – high

E6 P is low – low-med

E6 GFF is 0.25low-med – high 0.5low - low-med 0.25low – low

E6 A is low – med

IF $0.75A1_{(4)} \text{ IS } \leq A1_{(4)}, 0.25A1_{(4)} - A1_{(5)} \text{ AND } A2_{(1)} - A2_{(2)} \text{ AND } 0.25A3_{(2)} - A3_{(5)}, 0.5A3_{(1)} - A3_{(2)}, 0.25A3_{(1)} \text{ IS } \leq A3_{(1)} \text{ AND } A4_{(1)} - A4_{(3)}$ THEN $B_{(2023)}=E7$

IF Variables (A) =

Temperature = 0.75 x 60-80 % to 60-80%, 0.25 60-80 % to 80-100%
 Precipitation = 0-100 Kg m² to 100-200 Kg m²
 Ground Frost frequency = 0.25 6-12 days to 24-30 days, 0.5 0-6 days to 6-12 days, 0.25 0-6 days to 0-6 days
 Altitude = -30-1366 m to 2732-4098 m

THEN Environment (B) = 0-2023