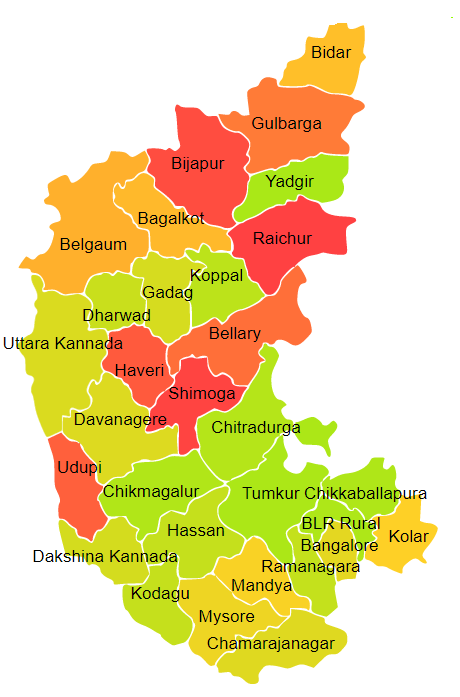
**Karnataka**

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Karnataka comprises of four Agro Ecological Regions (AER) 3,6,8 & 19.

**Agro-Eco Region 3:** AER 3 in Karnataka comprises of Bagalkot, Ballari, Chitradurga and Koppal districts of Deccan Plateau under Agro Ecological Sub Region (AESR)3.

**Agro-Eco Region 6:** AER 6 in Karnataka comprises of Belagavi, Bidar, Davangere, Dharwad, Gadag, Kalaburagi, Raichur, Uttar Kannada, Vijayapura and Yadgir districts of Deccan Plateau under Agro Ecological Sub Regions (AESR) 6.1, 6.2 & 6.4.

**Agro-Eco Region 8:** AER 8 in Karnataka comprises of Bengaluru Rural, Bengaluru Urban, Chamarajanagar, Chikkamagaluru, Chikballapur, Chitradurga, Haveri, Hassan, Kolar, Mandhya, Mysuru and Ramnagar districts of Eastern Ghats under Agro Ecological Sub Regions (AESR) 8.2.

**Agro-Eco Region 19:** AER 19 in Karnataka comprises of Chikkamagaluru, Dakshin Kannada, Kodagu, Shivamogga, Udupi and Uttar Kannada districts of Western Ghats & Coastal Plain under Agro Ecological Sub Regions (AESR) 19.2 & 19.3.

**Major NRM issues :**

**AESR 3:** The region is hot arid ESR with deep loamy and clayey mixed Red and Black soils, low to medium AWC and LGP 60-90 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bagalkot | Exclusively water erosion | Soil deficient in P, Zn, Fe & B | Rainfed (~50%) , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to drought & flood |
| Ballari | Exclusively water erosion | Soil deficient in N | Rainfed (~50%) , GW Saline, Contaminated with F, NO3 & Fe | - |
| Chitradurga | Exclusively water erosion & Exclusively sodic soils | Low in OC & Soil deficient in N | GW Saline, Contaminated with F, NO3 & Fe | Highly prone to flood |
| Koppal | Exclusively water erosion | Low in OC& Soil deficient in N | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to drought & flood |

**AESR 6.1:** The region is hot dry semi-arid ESR with shallow and medium loamy Black soils (deep clayey Black soils as inclusion), medium to high AWC and LGP 90-120 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Raichur | Exclusively water erosion | Soil deficient in N, Fe, P &K | Rainfed (~50%) , GW Saline, Contaminated with F, As, NO3 & Fe | Moderately prone to drought & flood |
| Vijayapura | Exclusively water erosion | **-** | - | - |

**AESR 6.2:** The region is hot moist semi-arid ESR with shallow and medium loamy to clayey Black soils (medium land deep clayey Black soils as inclusion), medium to high AWC and LGP 120-150 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bidar | Exclusively water erosion | Soil deficient in P, Fe, B & S | Mostly Rainfed , GW Contaminated with F, NO3 & Fe | Highly prone to drought |
| Kalaburagi | Exclusively water erosion | **-** | - | **-** |
| Yadgir | Exclusively water erosion | Low in OC & Soil deficient in N & Fe | Rainfed (~50%) , GW Saline, Contaminated with F, NO3 & As | Highly prone to drought |

**AESR 6.4:** The region is hot dry subhumid ESR.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Belagavi | Exclusively water erosion | Soil deficient in P & K | Rainfed (~50%) | Moderately prone to Drought |
| Davangere | Exclusively water erosion | Soil deficient in N, Zn & B | Rainfed (~50%) , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Dharwad | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Fe & B | Mostly Rainfed , GW Saline, Contaminated with F & NO3 | Highly prone to flood to Drought |
| Gadag | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Fe & S | Mostly Rainfed , GW Saline, Contaminated with F & NO3 | Highly prone to flood to Drought |
| Haveri | Exclusively water erosion | Low in OC, Soil deficient in N, Zn, B & S | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | Moderately prone to Drought |
| Uttar Kannada | Exclusively water erosion | Soil deficient in N, P, B & K | GW Saline, Contaminated with F, NO3 & Fe | **-** |

**AESR 8.2:** The region is hot moist semi-arid ESR with medium to deep Red loamy soils, low AWC and LGP 120-150 days in a year.

**Major NRM issues :**

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bengaluru Rural | Exclusively water erosion | Low in OC, Soil deficient in N, B & S | GW Saline, Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Bengaluru Urban | Exclusively water erosion | Low in OC , Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with F | **-** |
| Chamarajanagar | Exclusively water erosion | Low in OC, Soil deficient in Zn & Fe | Mostly Rainfed , GW Saline, Contaminated with F & NO3 | Highly prone to Drought |
| Chikballapur | Exclusively water erosion & Water erosion under open forest | Low in OC , Soil deficient in N, Zn & Fe | Mostly Rainfed , GW Saline, Contaminated with F | Moderately prone to Drought |
| Chikkamagaluru | Exclusively water erosion | Low in OC, Soil deficient in N, Zn & B | Mostly Rainfed , GW Saline, Contaminated with F , NO3 & Fe | - |
| Chitradurga | Exclusively water erosion & Exclusively sodic soils | Low in OC , Soil deficient in N & Fe | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Hassan | Exclusively water erosion | Low in OC, Soil deficient in Zn & Fe | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Kolar | Exclusively water erosion | Low in OC, Soil deficient in N | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Mandhya | Exclusively water erosion | Low in OC , Soil deficient in N & B | GW Saline, Contaminated with F & NO3 | Moderately prone to Drought |
| Mysuru | Exclusively water erosion | Soil deficient in N | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Ramnagar | Exclusively water erosion | Low in OC, Soil deficient in N, K, Zn, B & S | Mostly Rainfed , GW Saline, Contaminated with F & NO3 | Highly prone to Drought |

**AESR 19.2:**  The region is hot moist subhumid to humid transitional ESR with deep, loamy to clayey Red and Lateritic soils, low to medium AWC and LGP 210-270 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Chikkamagaluru | Exclusively water erosion | Low in OC, Soil deficient in N, Zn & B | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Dakshin Kannada | Exclusively water erosion | Soil deficient in N, P, Zn &K | Rainfed (~50%) GW Saline, Contaminated with F& Fe | Moderately prone to Flood, Drought & Cyclone |
| Kodagu | Exclusively water erosion | Soil deficient in P | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Shivamogga | Exclusively water erosion | Soil deficient in N & K | GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Udupi | Exclusively water erosion | Soil deficient in N, K, B & S | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Uttar Kannada | Exclusively water erosion | Soil deficient in N, P, B & K | Mostly Rainfed , GW Saline, Contaminated with F, NO3 & Fe | **-** |

**AESR 19.3:** The region is hot humid to per humid transitional ESR with deep, clayey to loamy acidic coastal alluvium-derived soils, low AWC and LGP 240-270 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Dakshin Kannada | Exclusively water erosion | Soil deficient in N,P, K & Zn | Rainfed (~50%) , GW Saline, Contaminated with F& Fe | Moderately prone to drought , flood & cyclone |
| Udupi | Exclusively water erosion | Soil deficient in N, K, B & S | GW Saline, Contaminated with F, NO3 & Fe | **-** |
| Uttar Kannada | Exclusively water erosion | Soil deficient in N, P, B & K | GW Saline, Contaminated with F, NO3 & Fe | **-** |

**Organization and Establishments for Technology Backstopping**

***ICAR Research Institutes/KVKs:***

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| Regional station of National Bureau of Soil Survey and Land Use Planning, Bangaluru, | <https://nbsslup.icar.gov.in/bangalore> |
| Indian Institute of Horticultural Research, Bangaluru | <https://www.iihr.res.in/> |
| KVK Portal | <https://kvk.icar.gov.in/> |

***SAUs/CAUs:***

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| [University of Agricultural Sciences, Bangalore](http://www.uasbangalore.edu.in/) | <https://uasbangalore.edu.in/index.php/kannada-uas> |
| [University of Agricultural Sciences, Raichur](http://www.uasraichur.edu.in/index.php/en/) | <http://mail.uasraichur.edu.in/index.php/en/> |
| [University of Agricultural Sciences, Dharwad](http://www.uasd.edu/) | <http://www.uasd.edu/> |
| [University of Agriculture & Horticulture Sciences, Shimoga](http://uahs.in/) | <https://uahs.edu.in/?lang=en> |
| [University of Horticulture Science, Bagalkot](http://www.uhsbagalkot.edu.in/) | <https://uhsbagalkot.karnataka.gov.in/english> |

***List of KVKs:*** <https://icar.org.in/content/karnataka>

***List of Soil testing Laboratories****:* <https://farmer.gov.in/STLDetails.aspx?State=29>