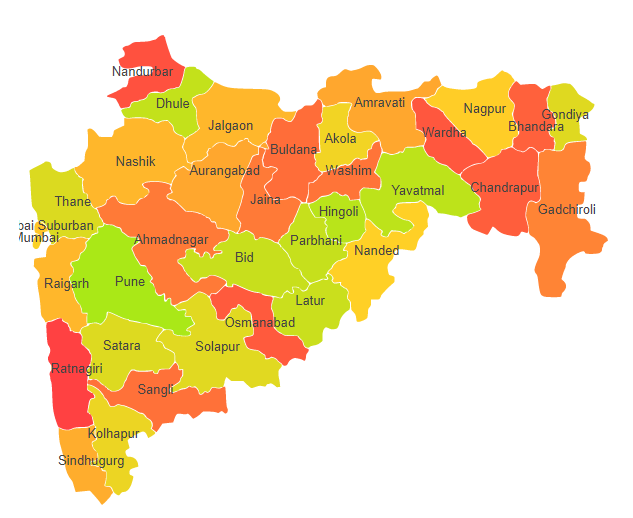
**Maharashtra**

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**Agro-Eco Region 5:** AER 5 in Maharashtra comprises of one Nandurbar district of Central (Malwa) Highlands under Agro Ecological Sub Region (AESR) 5.2.

**Agro-Eco Region 6:** AER 6 in Maharashtra comprises of Ahmadnagar, Akola, Amaravati, Aurangabad, Bid, Buldhana, Dhule, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Osmanabad, Parbhani, Pune, Sangli, Satara, Solapur, Nanded, Nandurbar, Nasik, Washim and Yavatmal districts of Deccan Plateau under Agro Ecological Sub Regions (AESR) 6.1, 6.2, 6.3 & 6.4.

**Agro-Eco Region 10:** AER 10 in Maharashtra comprises of Amaravati, Bhandara, Gondiya, Nagpur and Wardha districts of Central Highlands under Agro Ecological Sub Regions (AESR) 10.2 & 10.4.

**Agro-Eco Region 12:** AER 12 in Maharashtra comprises of Chandrapur and Gadchiroli districts of Eastern (Chhotanagpnr) Plateau under Agro Ecological Sub Region (AESR) 12.1.

**Agro-Eco Region 19:** AER 19 in Maharashtra comprises of Kolhapur, Raigarh, Ratnagiri, Sindhudurg, Suburban Mumbai, Thane and Mumbai City districts Thane of Western Ghats & Coastal Plain under Agro Ecological Sub Regions (AESR) 19.1,19.2 & 19.3.

**Major NRM issues :**

**AESR 5.2 :** The region is hot moist semi-arid ESR with medium and deep, clayey Black soils (shallow black soils as inclusions), 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*** |
| Nandurbar | Exclusively water erosion & Water erosion under open forest | Soil deficient in N , P, Zn, B & S | GW saline, Contaminated with NO3 & Fe | Highly prone to drought |

**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* |
| Ahmadnagar | Exclusively water erosion, Exclusively acid soils & Eroded sodic soils | Soil deficient in N & S | GW saline, Contaminated with F, NO3 & Fe | Highly prone to drought |
| Bid | Exclusively water erosion | Low In OC, Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with F, NO3, Fe & heavy metals | Highly prone to drought |
| Osmanabad | Exclusively water erosion | Low In OC, Soil deficient in N, Zn, Fe, B & S | GW Contaminated with NO3, Fe & heavy metals | Highly prone to drought |
| Pune | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with NO3 & heavy metals | Moderately prone to flood & drought |
| Sangli | Exclusively water erosion | Low In OC , Soil deficient in N, P, Zn & Fe | GW Saline, Contaminated with F, NO3 & heavy metals | Highly prone to drought |
| Satara | Exclusively water erosion | Soil deficient in Zn & Fe | GW Saline, Contaminated with F, NO3 & Fe | Highly prone to drought |
| Solapur | Exclusively water erosion | Low In OC , Soil deficient in N, P, Zn, Mn, B, S & Fe | GW Saline, Contaminated with F & NO3 | Highly prone to drought |

**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*** |
| Aurangabad | Exclusively water erosion | Soil deficient in B, S, Zn & Fe | GW Saline, Contaminated with NO3 & heavy metals | Highly prone to flood & drought |
| Dhule | Exclusively water erosion | Low in OC, Soil deficient in N, Fe & B | GW Saline, Contaminated with NO3, Fe & heavy metals | Highly prone to drought |
| Hingoli | **-** | Soil deficient in B, S & Zn | GW Saline, Contaminated with NO3 | Highly prone to drought |
| Jalgaon | Exclusively water erosion | Low in OC & Soil deficient in N | GW Saline, Contaminated with NO3 | Highly prone to flood & drought |
| Jalna | **-** | Soil deficient in B, S, Zn & Fe | GW Saline, Contaminated with F, NO3 & heavy metals | Moderately prone to drought |
| Latur | Exclusively water erosion | Soil deficient in N , B & Fe | GW Contaminated with NO3 , Fe & heavy metals | Moderately prone to drought |
| Nanded | **-** | Soil deficient in N , B, S, Zn & Fe | GW Contaminated with F, NO3 & heavy metals | Highly prone to drought |
| Nandurbar | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N, B, S, Zn & Fe | GW Saline, Contaminated with NO3 & Fe | Highly prone to drought |
| Parbhani | **-** | Low in OC, Soil deficient in N, B, S, Zn & Fe | GW Contaminated with NO3, Fe& heavy metals | Highly prone to drought |

**AESR 6.3 :** The region is hot moist semi-arid ESR with medium land deep clayey Black soils (shallow loamy to 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*** |
| Akola | Exclusively saline soils | Low in OC, Soil deficient in N, B, S, Zn & Fe | GW Saline, Contaminated with NO3 & heavy metals | Highly prone to drought |
| Amaravati | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N, B, S, Zn & Fe | GW Saline, Contaminated with NO3 & Fe | Moderately prone to flood & drought |
| Buldhana | **-** | Soil deficient in N, Zn, Fe & S | GW Saline, Contaminated with NO3, Fe & heavy metals | Highly prone to drought |
| Jalgaon | Exclusively water erosion | Low in OC, Soil deficient in N, B & S | GW Saline, Contaminated with NO3 | Highly prone to flood & drought |
| Nasik | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with NO3 | Moderately prone to flood & drought |
| Washim | **-** | Low in OC, Soil deficient in N, Zn, Fe & S | GW Contaminated with NO3, Fe & heavy metals | Moderately prone to drought |
| Yavatmal | Exclusively water erosion | Low in OC & Soil deficient in N | GW Saline, Contaminated with F, NO3, Fe & heavy metals | - |

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

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Kolhapur | Exclusively water erosion | Soil deficient in Zn, Fe, B & S | GW Contaminated with Fe | **-** |
| Pune | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with NO3  & heavy metals | Moderately prone to flood & drought |
| Sangli | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn & Fe | GW Saline, Contaminated with F, NO3  & heavy metals | Highly prone to Drought |
| Satara | Exclusively water erosion | Soil deficient in Zn & Fe | GW Saline, Contaminated with F, NO3 , Fe & heavy metals | Highly prone to Drought |

**AESR 10.2 :** The region is hot dry subhumid ESR with shallow and medium loamy to clayey Black soils (deep clayey Black soils as inclusion), medium to high AWC and LGP 150-180 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Amaravati | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with NO3 , Fe & heavy metals | Moderately prone to flood & drought |
| Nagpur | Exclusively water erosion | Low in OC, Soil deficient in N, K & Fe | GW Saline, Contaminated with F, NO3  & heavy metals | Highly prone to Drought |
| Wardha | Exclusively water erosion | Soil deficient in Zn, Fe, B & S | GW Saline, Contaminated with F, NO3 , Fe & heavy metals | **-** |

**AESR 10.4 :** The region is hot moist subhumid ESR with shallow to deep loamy to clayey mixed Red and Black soils, low to medium AWC and LGP 180-210 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bhandara | **-** | Low in OC, Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with F & NO3 | **-** |
| Gondiya | Exclusively water erosion | Low in OC, Soil deficient in N, Zn, Fe & S | GW Saline, Contaminated with F & NO3 | Moderately prone to drought |

**AESR 12.1 :** The region is hot moist subhumid ESR with deep loamy Red and Lateritic soils, low to medium AWC and LGP 180-210 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Chandrapur | Exclusively water erosion | Low in OC & Soil deficient in N, Zn, Fe, B & S | GW Saline, Contaminated with F & NO3 | Moderately prone to drought |
| Gadchiroli | Exclusively water erosion | Soil deficient in Zn, Fe & S | GW Contaminated with F, NO3 , Fe & heavy metals | Moderately prone to drought |

**AESR 19.1 :** The region is hot humid ESR with medium to deep loamy to clayey mixed Red and Black soils, medium to high AWC and LGP 210-240 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Raigarh | Exclusively water erosion | Soil deficient in P, B & S | Saline GW | **-** |
| Thane | Exclusively water erosion & Water erosion under open forest | Soil deficient in B & S | GW Contaminated with Fe | **-** |

**AESR 19.2 :** The region is hot humid ESR with medium to deep loamy to clayey mixed Red and Black soils, medium to high AWC and LGP 210-240 days in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Kolhapur | **-** | Soil deficient in Zn, Fe, B & S | GW Contaminated with NO3  & heavy metals | **-** |
| Ratnagiri | Exclusively water erosion | Soil deficient in P | GW Saline, Contaminated with F & Fe | Moderately prone to flood & cyclone |
| Sindhudurg | Exclusively water erosion & Acid soils under water erosion | Soil deficient in Zn, B & S | GW Contaminated with F | - |

**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*** |
| Mumbai City | Exclusively water erosion | **-** | - | **-** |
| Raigarh | Exclusively water erosion | Soil deficient in P, B & S | Saline GW | Moderately prone to drought |
| Ratnagiri | Exclusively water erosion & Acid soils under water erosion | Soil deficient in P | GW Saline, Contaminated with F & Fe | Moderately prone to flood & cyclone |
| Sindhudurg | Exclusively water erosion & Acid soils under water erosion | Soil deficient in Zn, B & S | GW Contaminated with F | **-** |
| Suburban Mumbai | Exclusively water erosion | **-** | - | **-** |
| Thane | Exclusively water erosion & Water erosion under open forest | Soil deficient in B & S | GW Saline, Contaminated with Fe | **-** |

**Organization and Establishments for Technology Backstopping**

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

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| --- | --- |
| National Bureau of Soil Survey and Land Use Planning, Nagpur, | <https://nbsslup.icar.gov.in/> |
| ICAR-National Institute of Abiotic Stress Management, Malegaon, Baramati. | <https://niasm.icar.gov.in/> |
| KVK Portal | <https://kvk.icar.gov.in/> |

***SAUs/CAUs:***

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| [Dr. Balaesahib Sawant Kokan KrishiVidyapeeth, Dapoli](http://www.dbskkv.org/) | <https://dbskkv.org/> |
| [Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani](http://www.vnmkv.ac.in/) | <https://www.vnmkv.ac.in/> |
| [Mahatma Phule Krishi Vidyapeeth, Rahuri](http://mpkv.ac.in/) | <http://mpkv.ac.in/> |
| [Dr. Punjabrao Deshmukh KrishiViswaVidyalaya, Akola](https://www.pdkv.ac.in) | <https://www.pdkv.ac.in/> |

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

***List of Soil testing Laboratories****:* <https://farmer.gov.in/STLDetails.aspx?State=27>