

IIRR- GeoPortal Writeup

Rice is the world's most important food crop and a primary source of food for more than half of the world's population. In India, rice is the major cereal crop grown in about 44.6 million hectares. As population continues to grow and to achieve the targeted yield 120-130 million tonnes by 2025, increasing rice productivity is very important. India represents all kinds of diversity under which rice is grown across the globe. The new agricultural paradigm will have to be recast to take advantage of the wealth of knowledge available to achieve multiple goals of sustaining the food security, income, jobs, etc. In this changing scenario, Indian Council of Agricultural Research (ICAR) wishes to promote the use of Information and Communication Technologies (ICTs) in agriculture by developing national level knowledge portals. As agriculture is mainly based on spatial domain, use of geospatial technologies in agriculture has a big role in achieving the target production. With this background, IIRR GeoPortal has been developed to visualize GIS technologies developed at IIRR in the real world co-ordinates ICAR-IIRR has been applying geospatial technologies to improve rice production since 2000 and the institute conferred with Indian Geospatial Excellence Award 2012 for the project on "Spatial Rice Decision Support System".

IIRR GeoPortal was developed using open source technologies such as Geoserver , GeoExt, JavaScript , HTML, CSS and QGIS. The portal was successfully published online with the functionalities like visualising spatial data with real world co-ordinates and finding longitudes and latitudes of any location, area and length of selected region. The following geo-referenced layers of rice crop were published in IIRR GeoPortal.

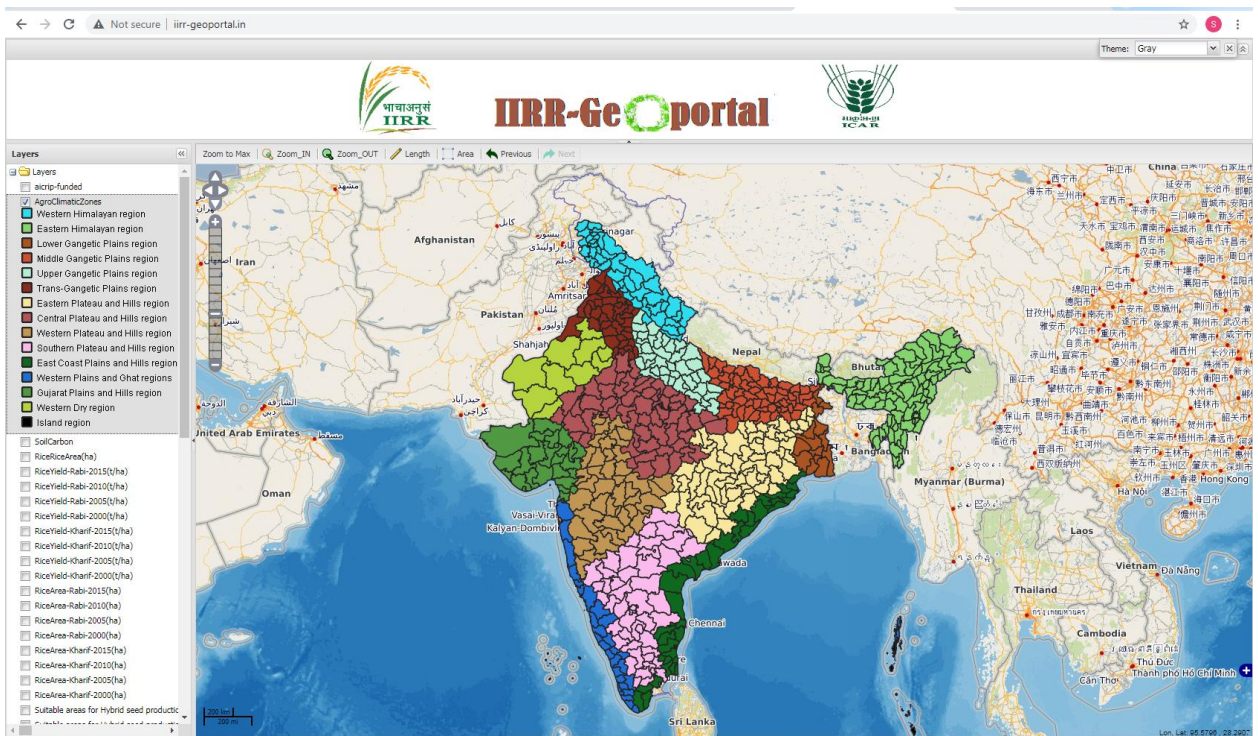
- Funded centers of All India Cordinated Rice Improvement Program(AICRIP)
- Agro Climatic Zones- 15(Planning Commission)
- District level Rice Area and Yield (2005, 2010, 2015)
- Rice based Cropping Systems- Rice- Rice and Rice Wheat
- Soil Quality Index- Nalgonda district, Telangana
- Rice yield estimated from Spatial Rice DSS- Miryalaguda Mandal, Nalgonda Dt, Telangana
- Vulnerable temperature Zones forecasted for 2018 and 2019 Kharif season
- Suitable Areas for Hybrid Seed Production- Favourable weeks during flowering time in Kharif and Rabi seasons
- Important Diseases of Rice crop over 3 decades - Distribution and Severity (10 diseases)

This portal is very useful for researchers and planners for analysing the rice productivity over decades at district level This interface is very useful for researchers, planners for micro level decision making by accessing the year wise decrease and increase in the rice productivity over decades. This portal be customised to any other crop and further will be upgraded with spatial query modules to extract the interesting area of interest, spatial analysis and interoperability services .

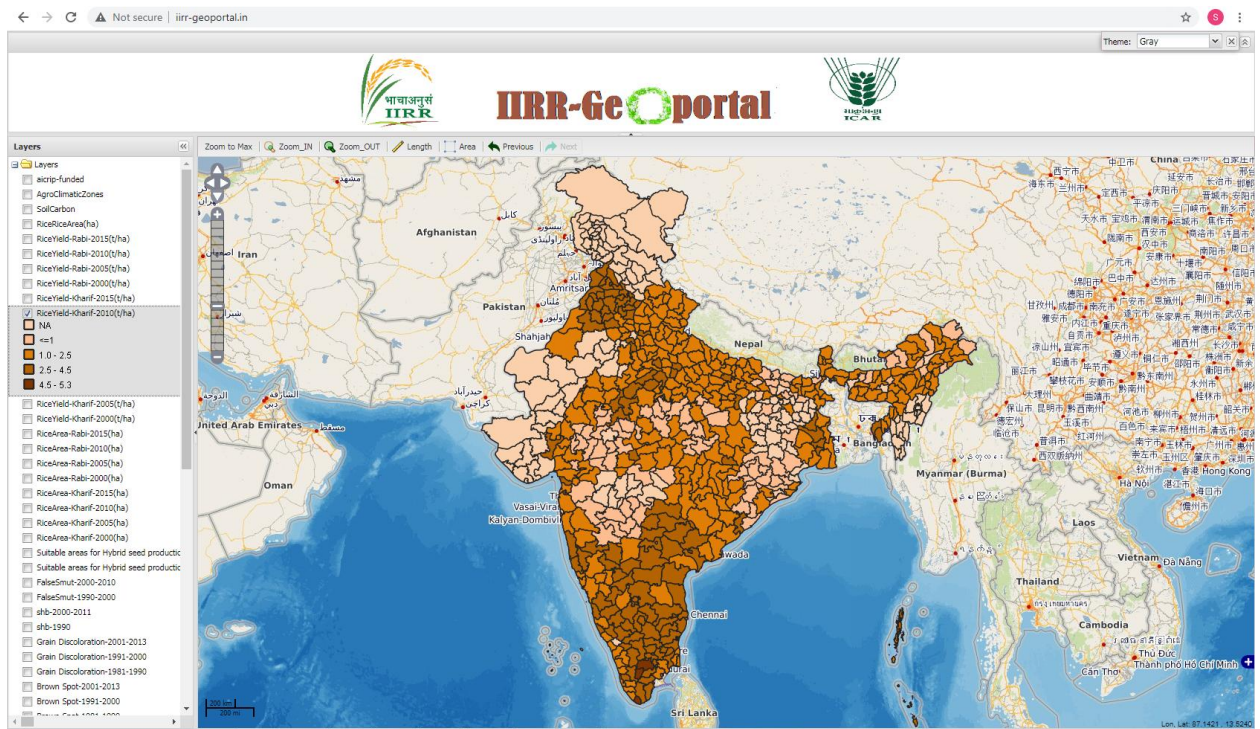
Home Page



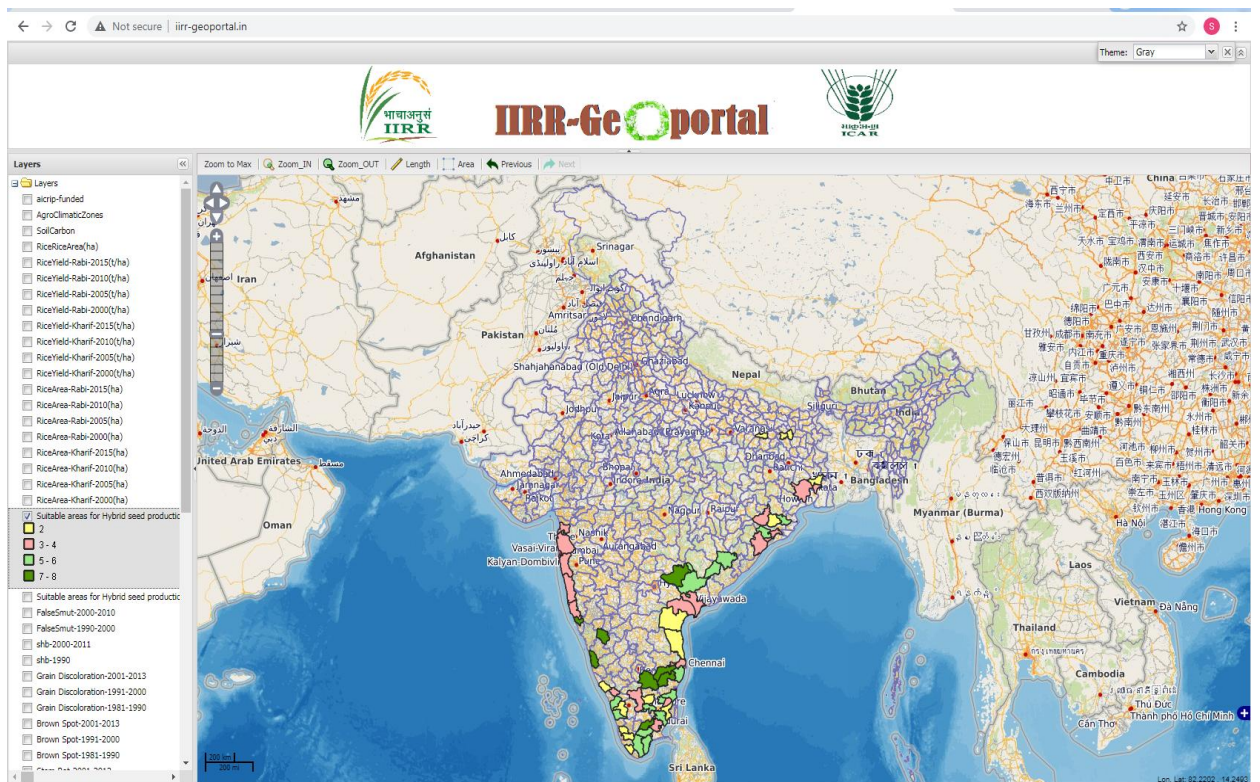
Agro Climatic Zones- 15(Planning Commission)



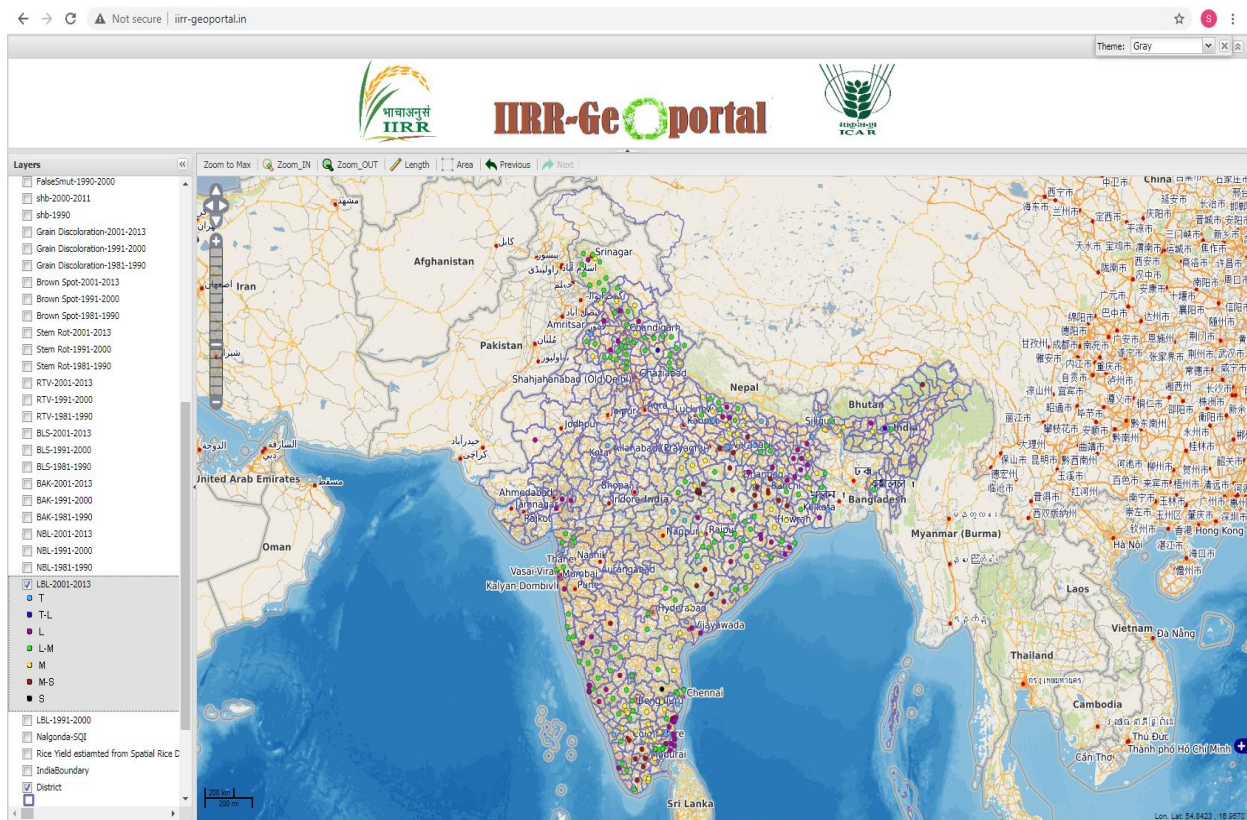
Rice Yield (t/ha) during 2010 map – Kharif



Suitable areas for Hybrid Seed Production (Favourable Weeks)



Leaf Blast Distribution 2001-2013



Soil Quality Index for Rice Crop-Miryalaguda Mandal, Nalgonda (Dt.), Telangana

