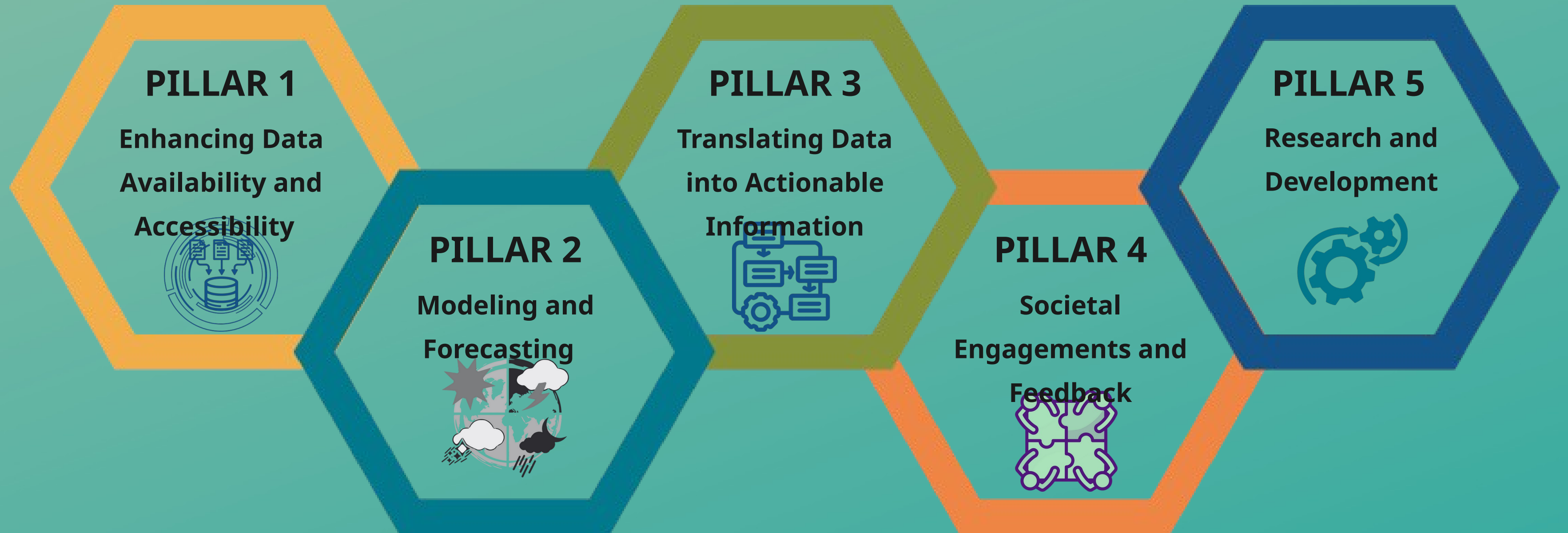


RDAS: CURRENT CAPACITIES AND WAY FORWARD

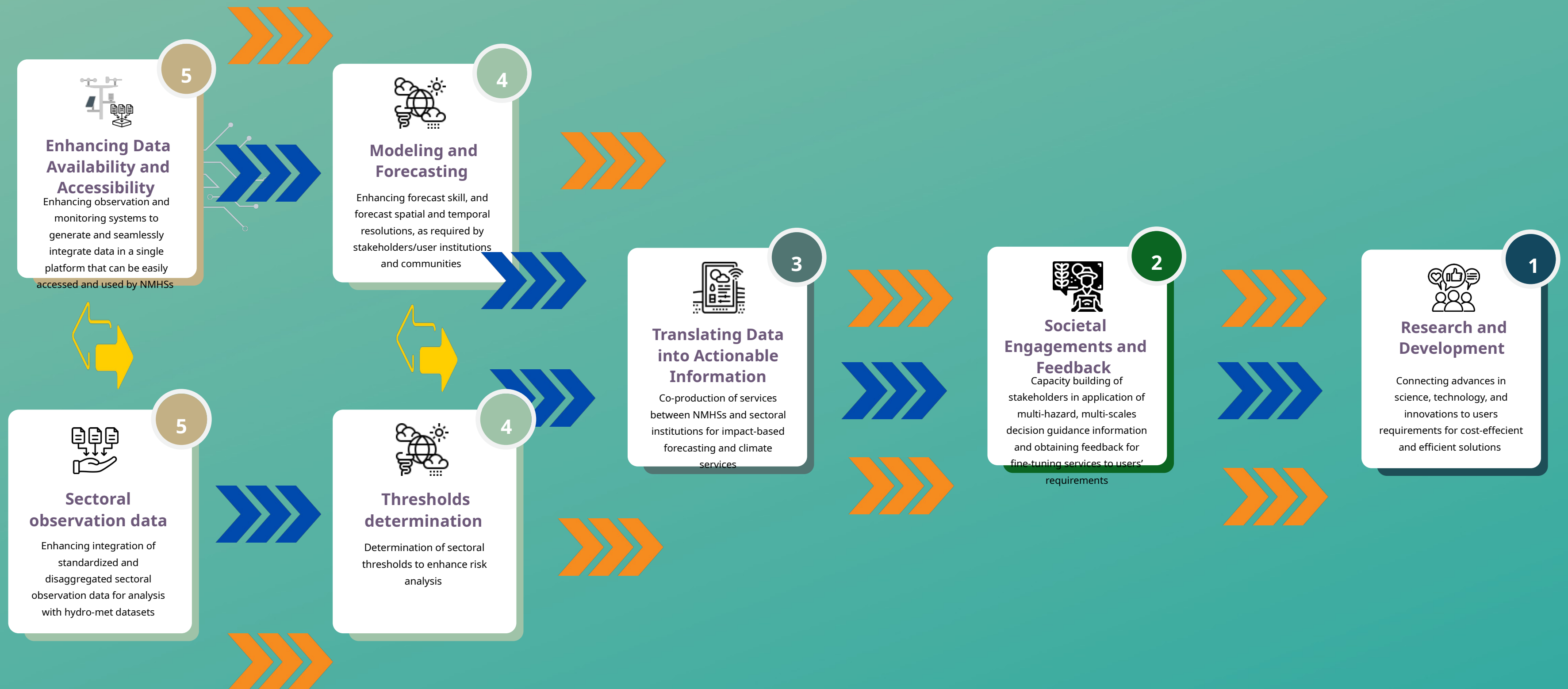


CARE Component 1 RIMES
CARE | SOUTH ASIA

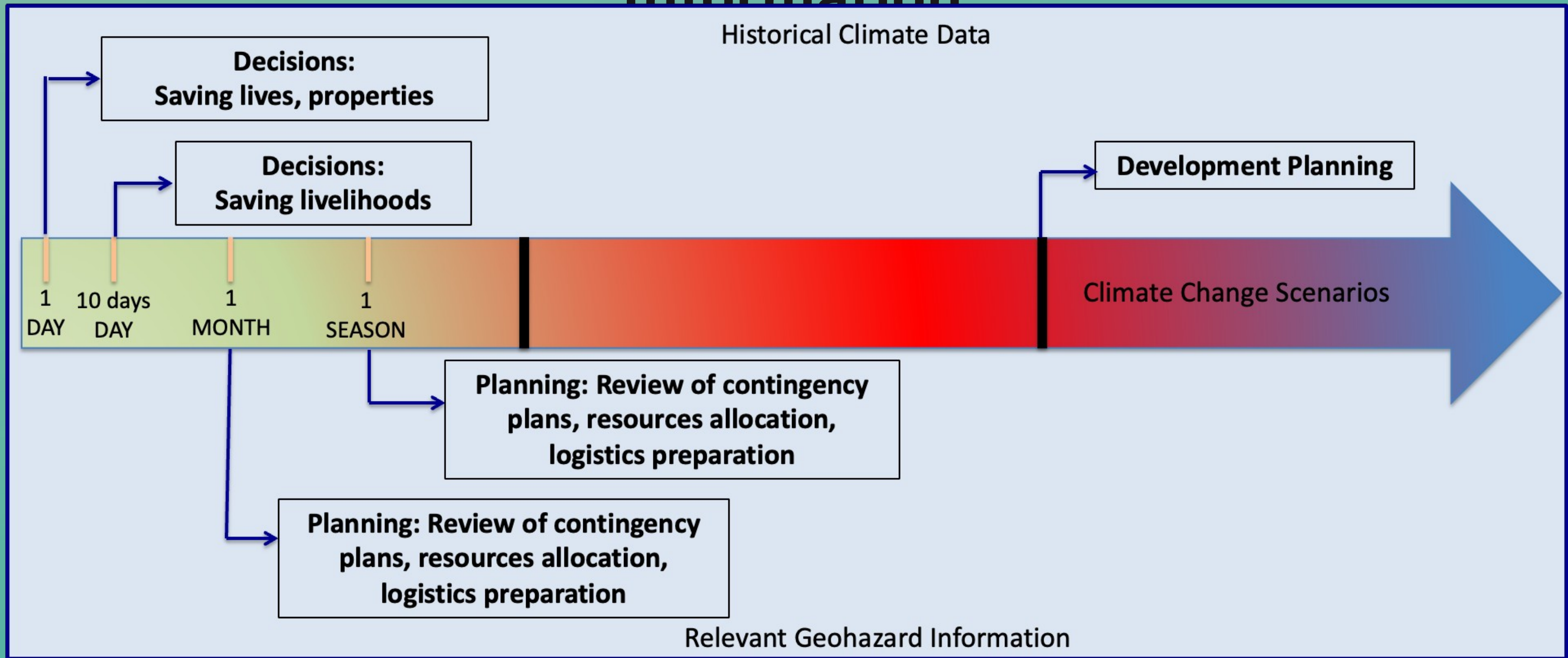
Five Pillars of the Early Warning/Climate Information Value Chain



Integration of hydro-meteorological and sectoral data: the core of impact-based forecasting and climate services



Multi-hazard, Multi-timescales Application of Climate Information



Global/regional data downscaled to national, provincial, and district levels and connected to DSSs, to readily support various DSSs analysis



Regional tools ready for national/sub-national customization

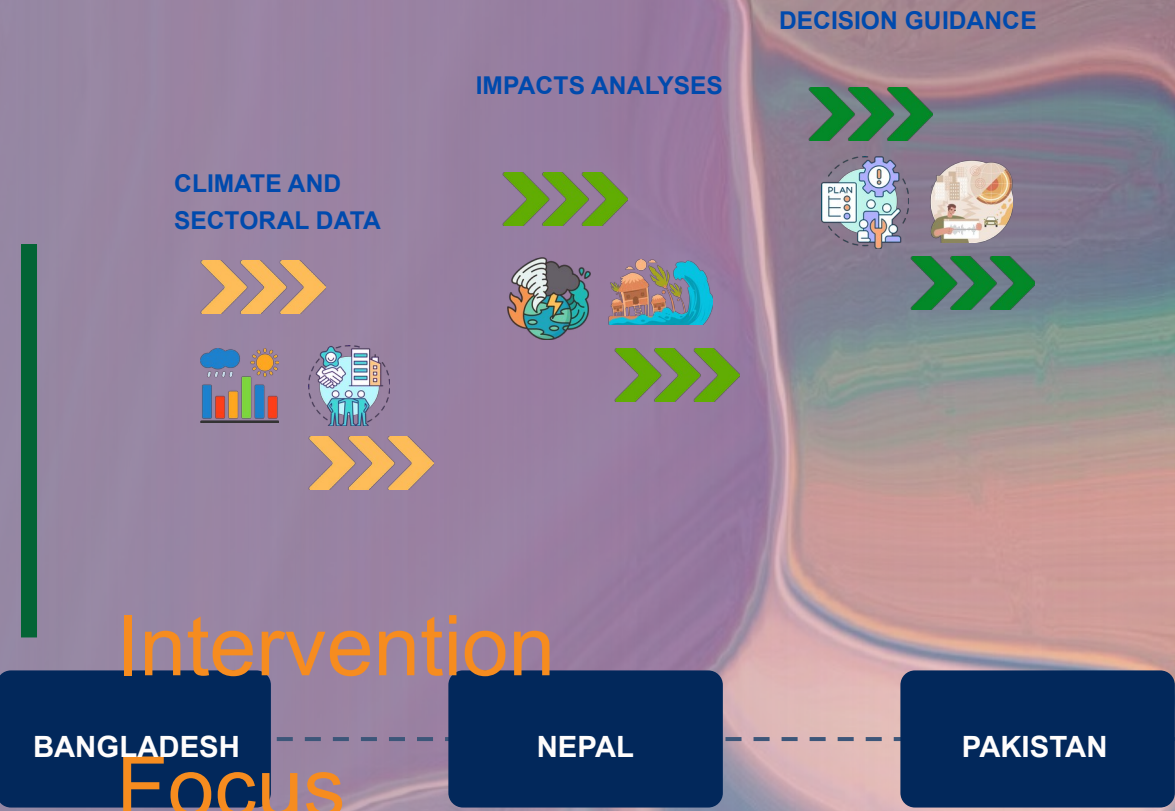


Customized tools provide innovation perspectives for regional tools

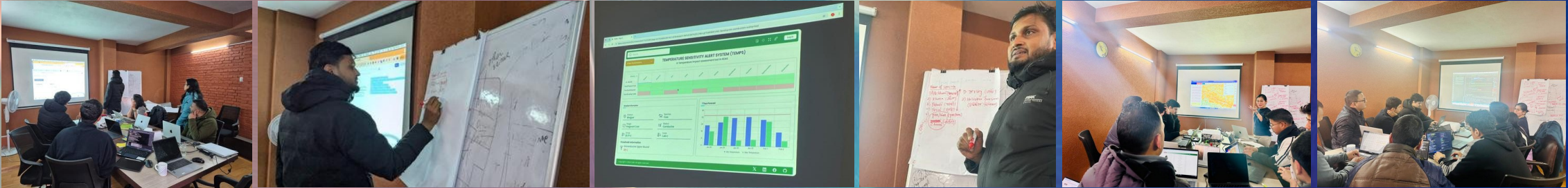


National/sub-national in-situ datasets assimilated in RDAS for customizing tools

DSSs



co-development process pursued with stakeholder institutions



Climate

Water

Agriculture

Livestock

Disaster Management

Planning and Development

Transport

Climate Drivers and Climate Behaviors

Climate and Crops

Climate and Livestock

Climate and Water

Severe Weather Impacts Analysis Tool

EL Nino Imoacts Analysis Tool

Stand-alone data that can be downloaded, and on which stakeholders can have a number of analysis either on its own or paired with other data.

In this panel, stakeholders can also upload their data, sector-wise, after quality checks.

Easy to understand analyses of time-series climate and sectoral datasets to identify behaviour patterns, and relationships between climate and sectoral parameters

Analyses of potential impacts of anticipated weather/climate phenomena per assessment of historical sectoral impacts, forecast data, and other prevailing conditions



DATA

Dynamic regional data repository for climate and sectors

- About 358 climate and sectoral datasets/library of datasets available in RDAS



ANALYTICS

Analyses of time-series climate and sectoral datasets

- 6 analytics tools developed and operational



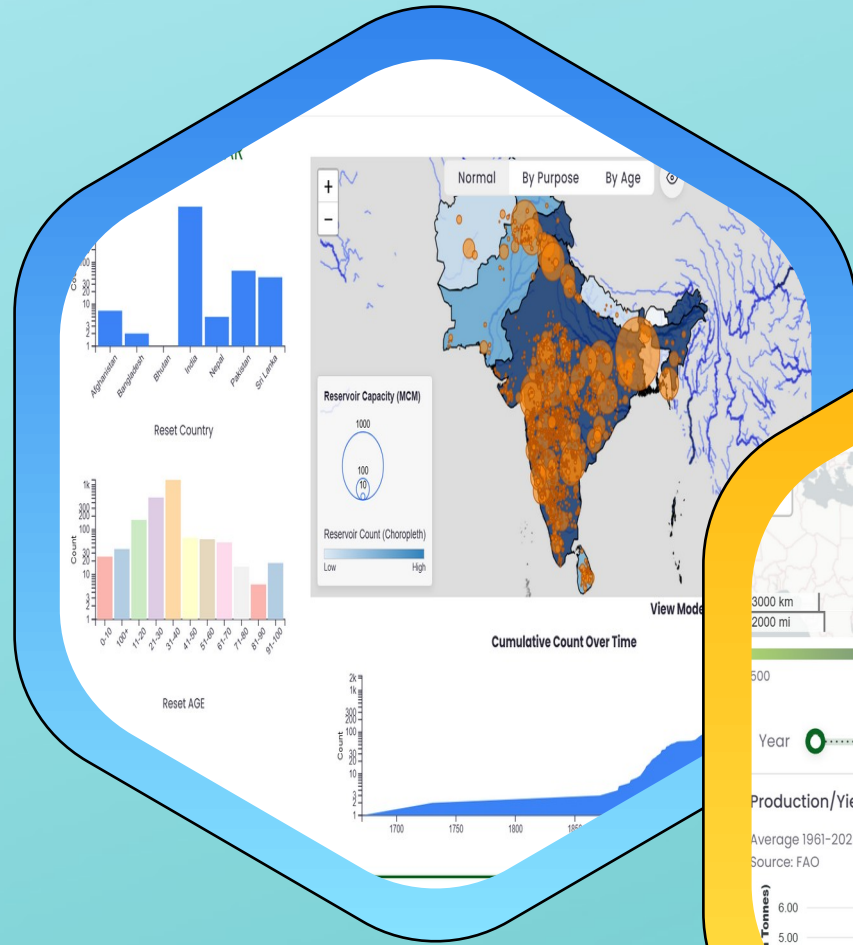
PREDICTIVE TOOLS

Predictive climate impacts tools

- 4 predictive tools developed and operational



Data Tools in RDAS



Water



Agriculture &
Livestock



Climate



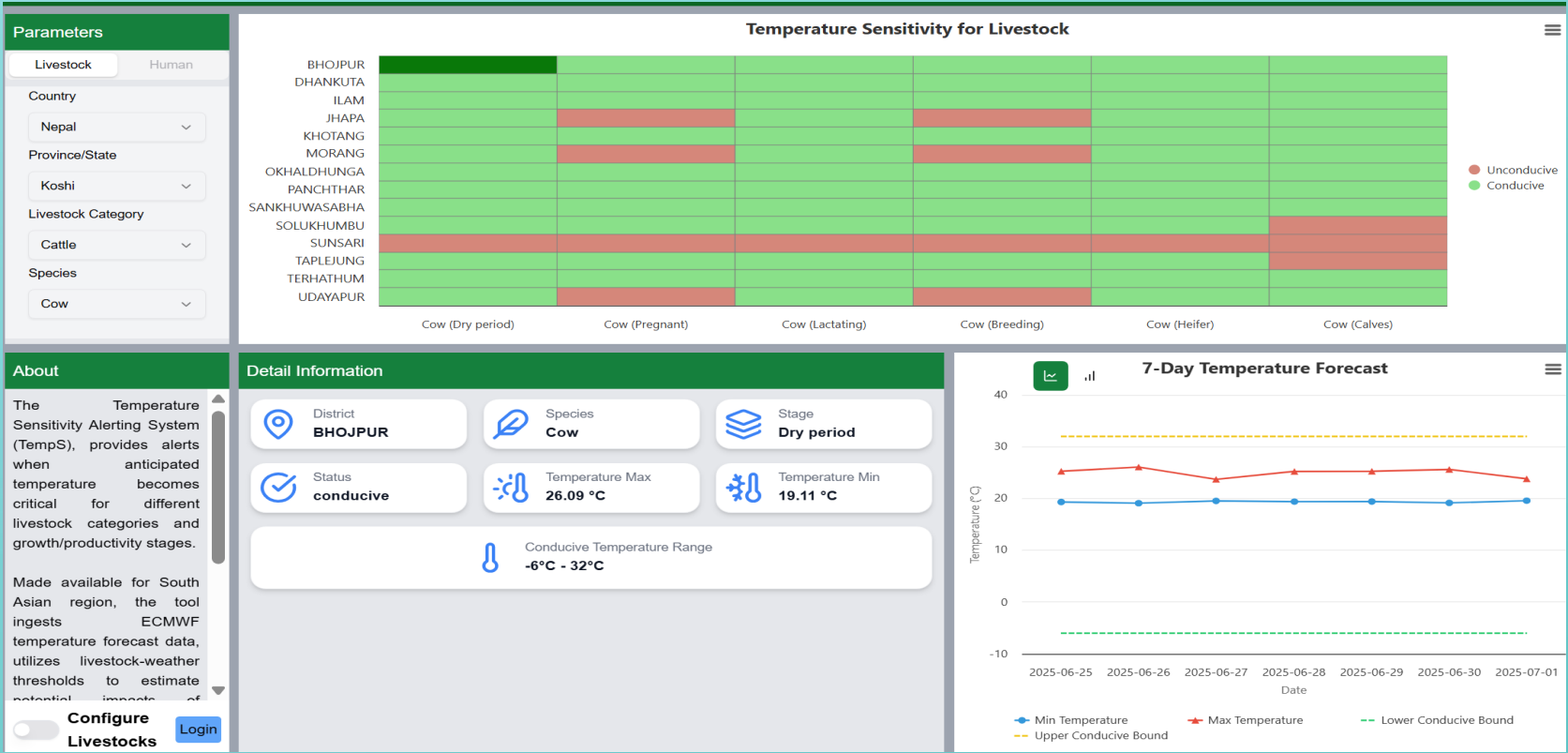
Disaster
Management



Planning

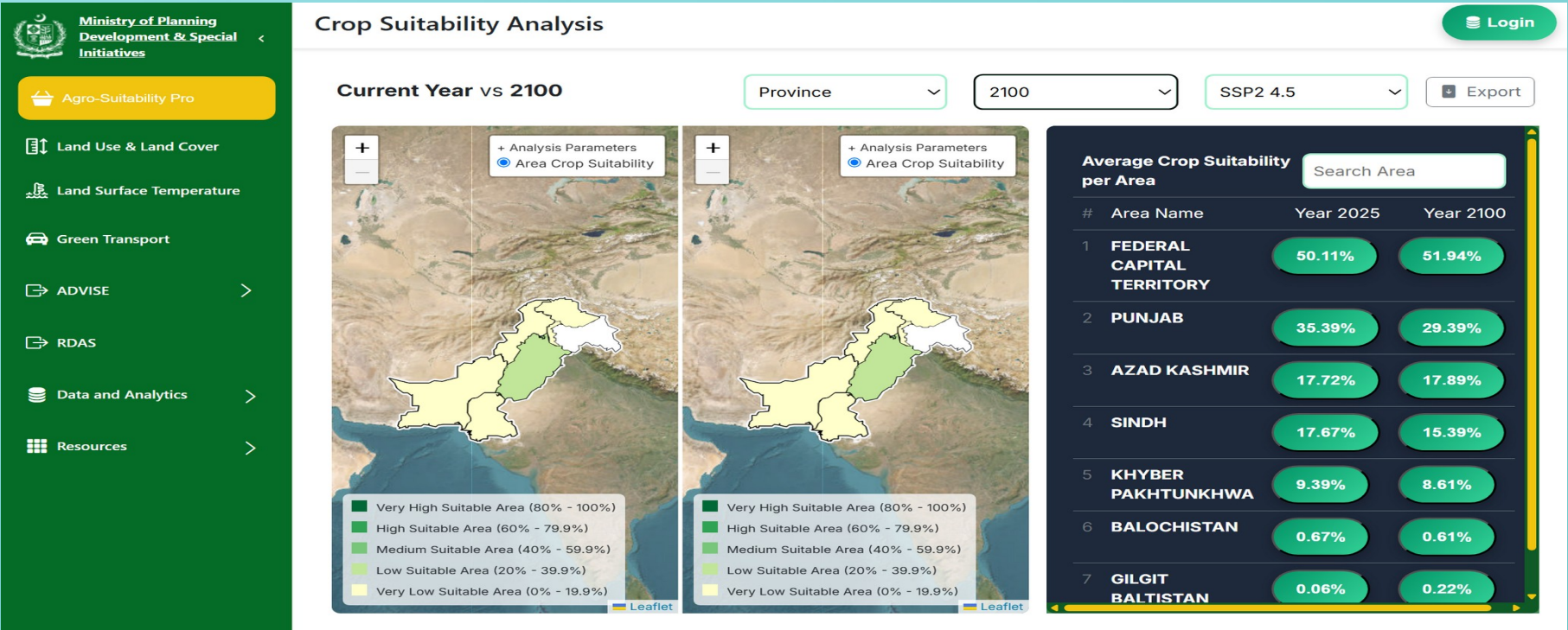


Historical Climate Data



Short-range/Medium-range Forecast Data

RDAS Climate Data

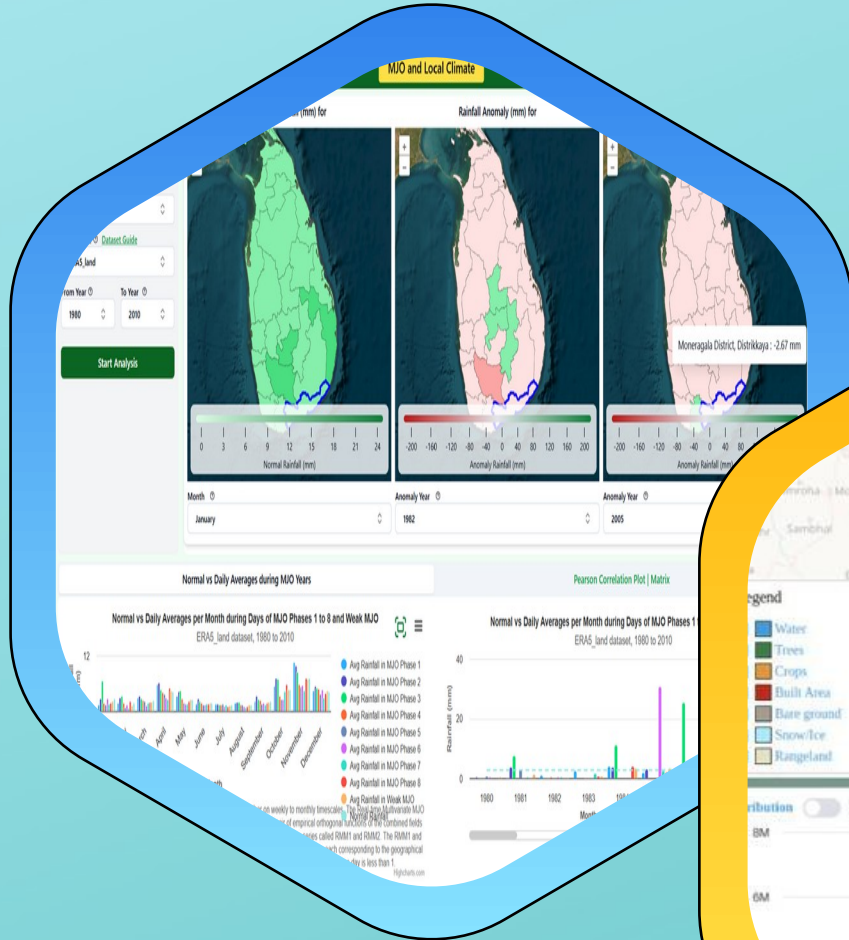


Climate Projection Data

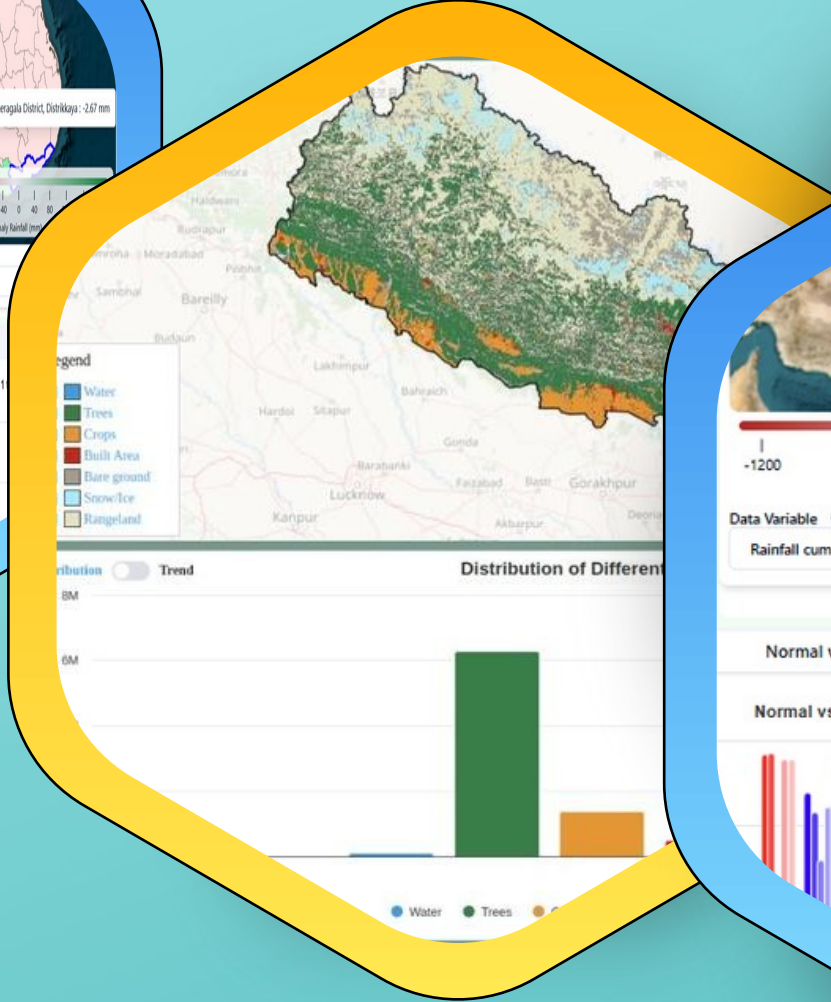


Climate Drivers

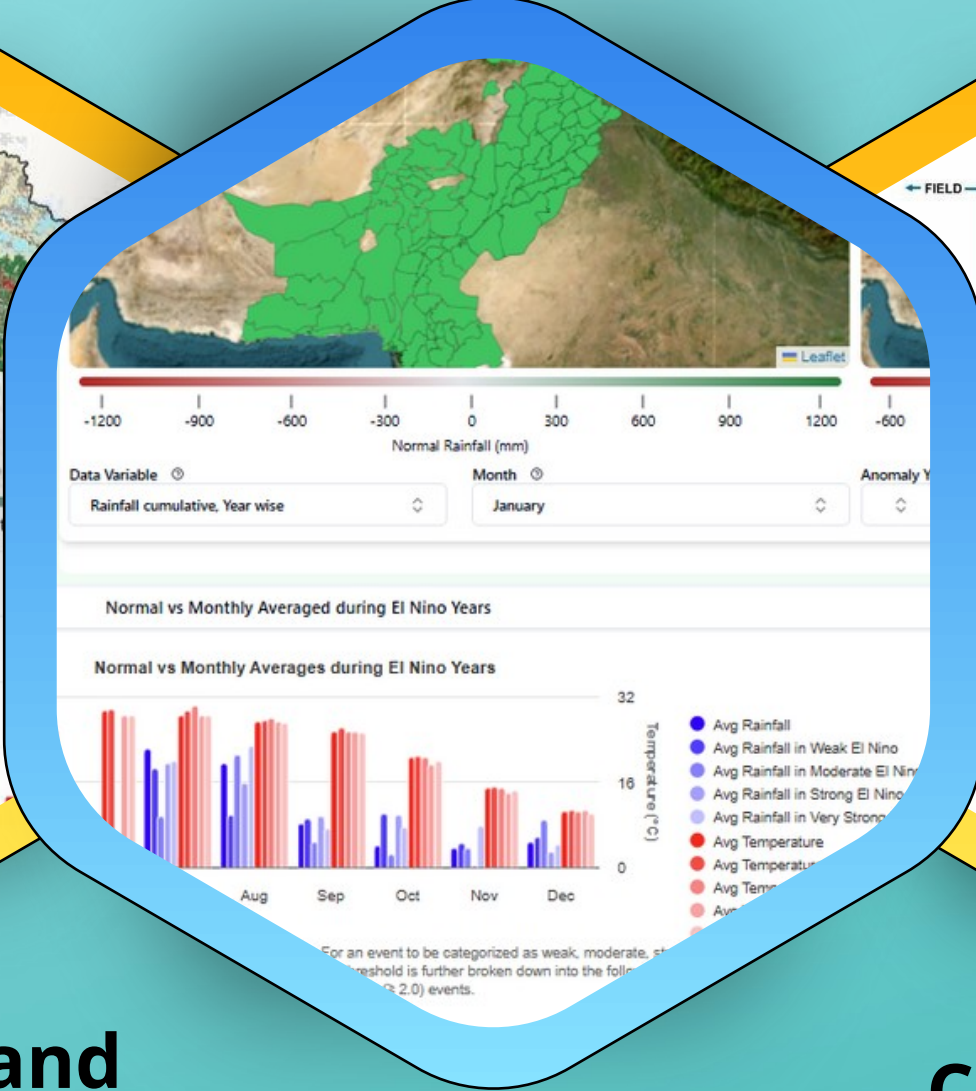
Analytics Tools in RDAS



MJO and Local Climate



Land Use and Land Cover Change



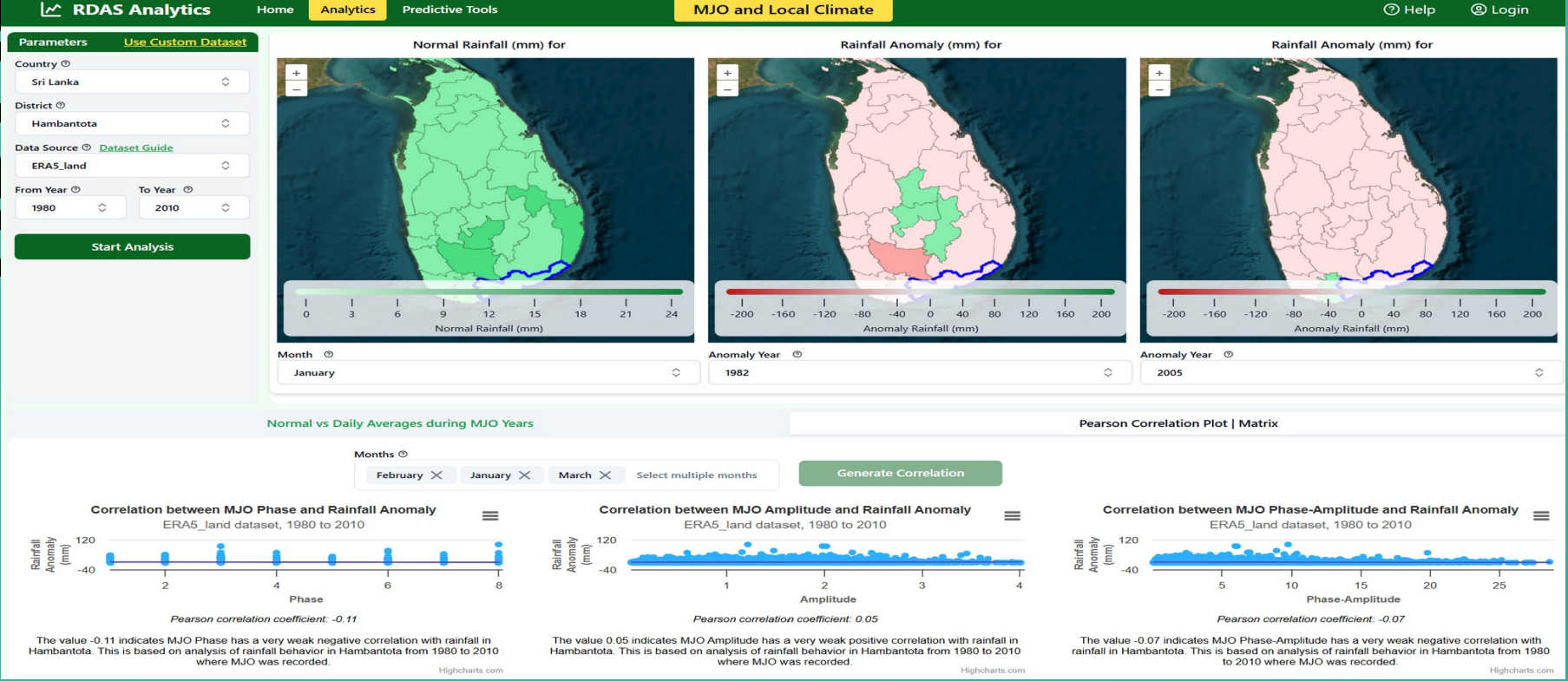
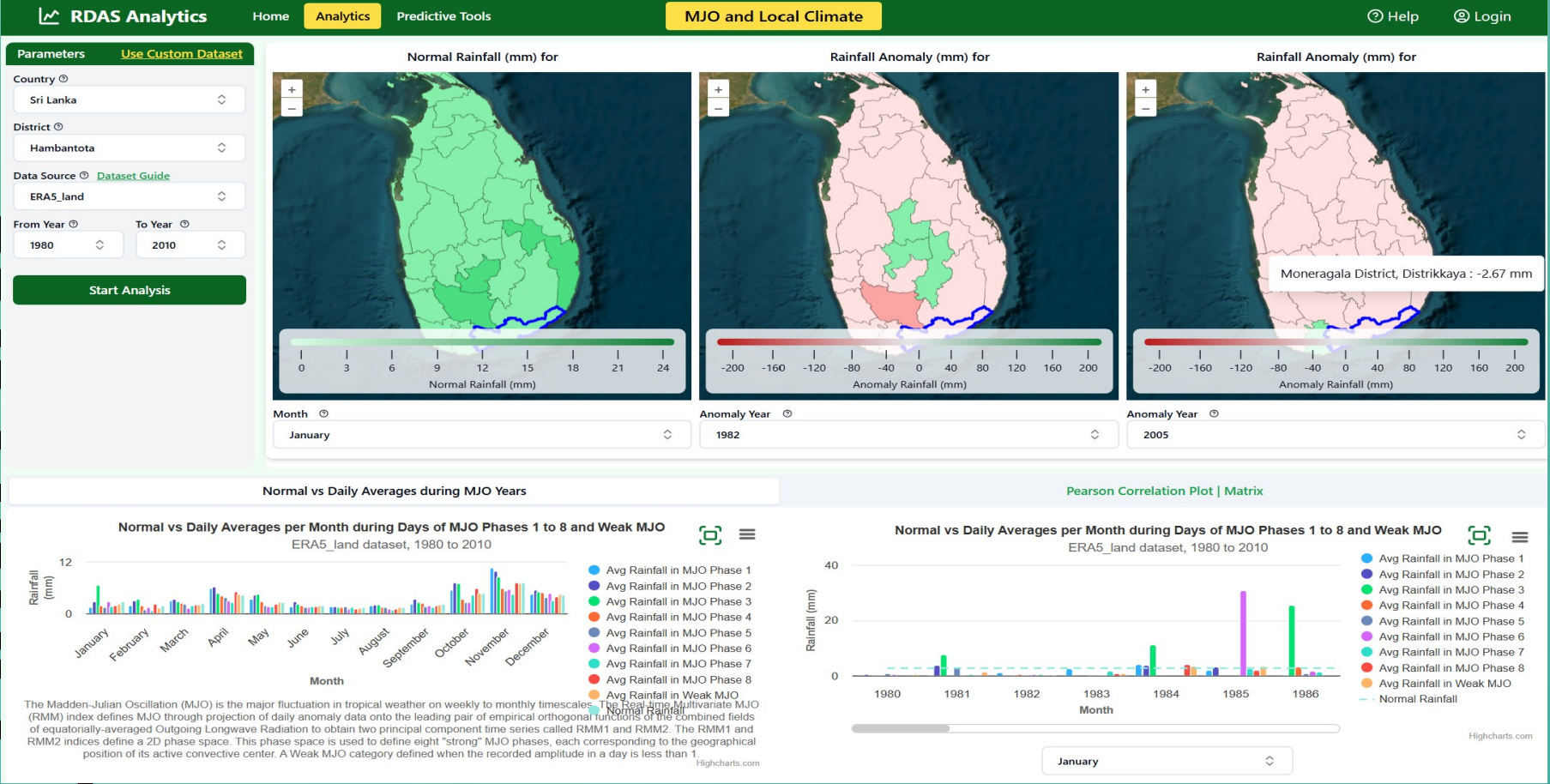
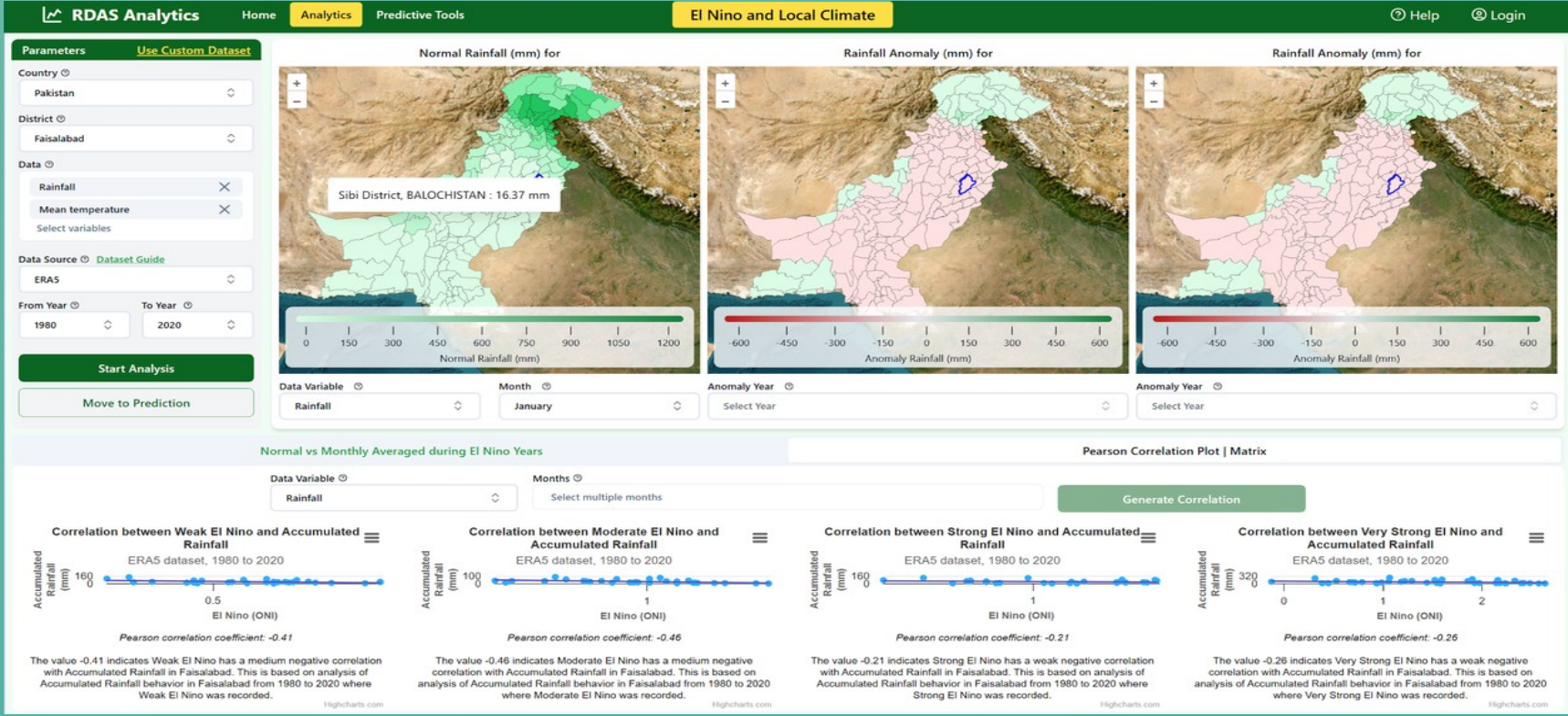
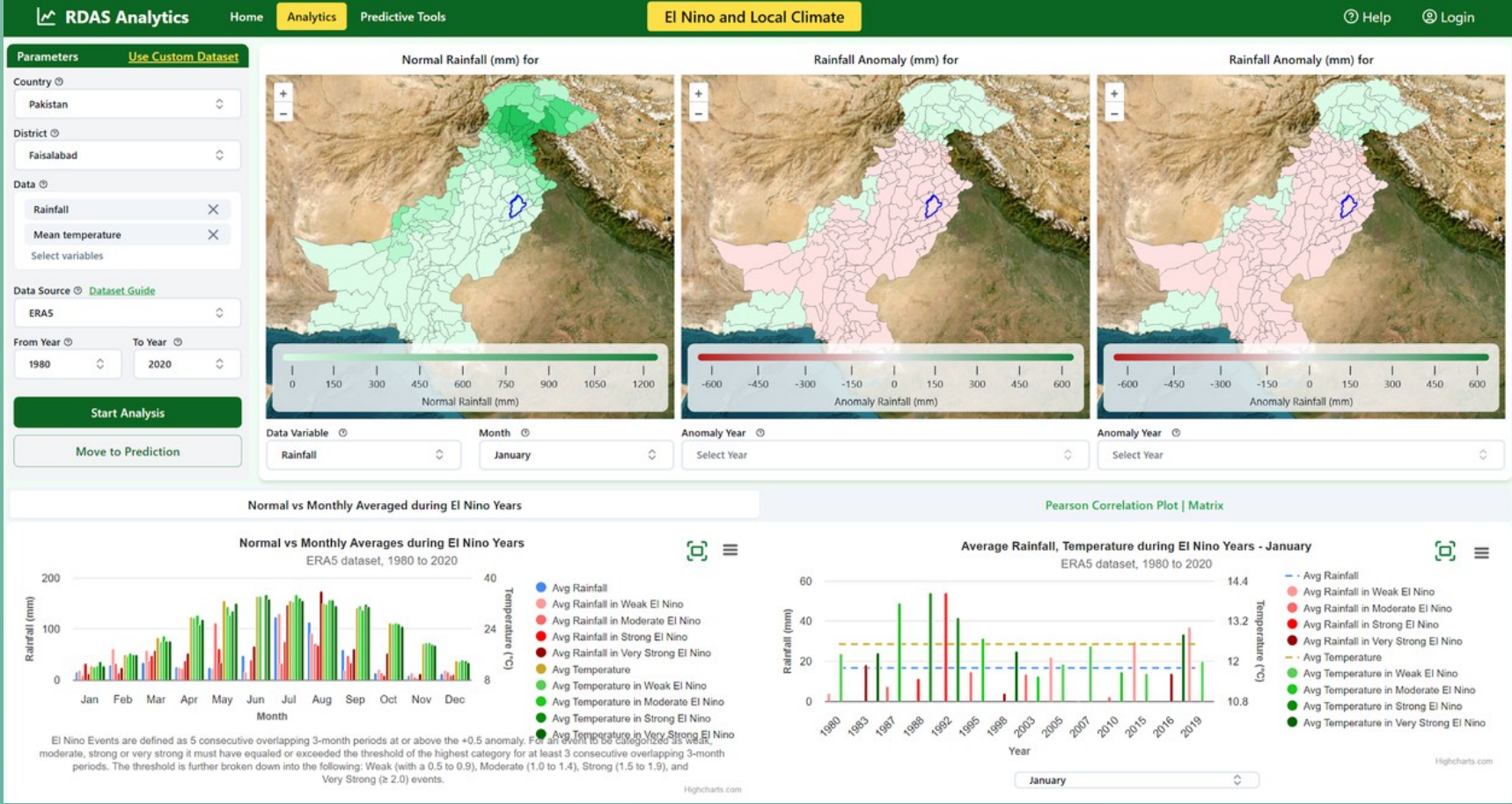
El Nino/La Nina and Local Climate

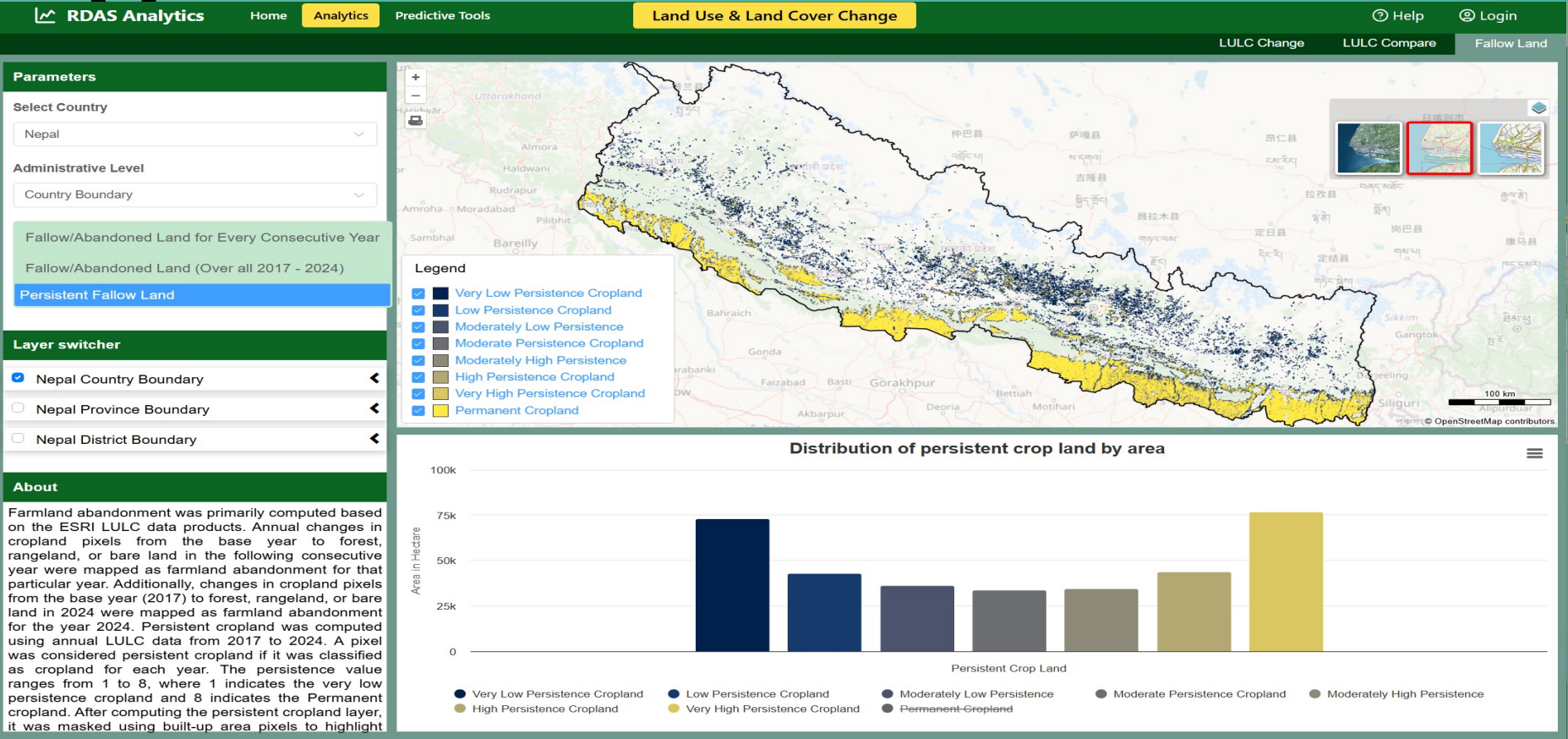
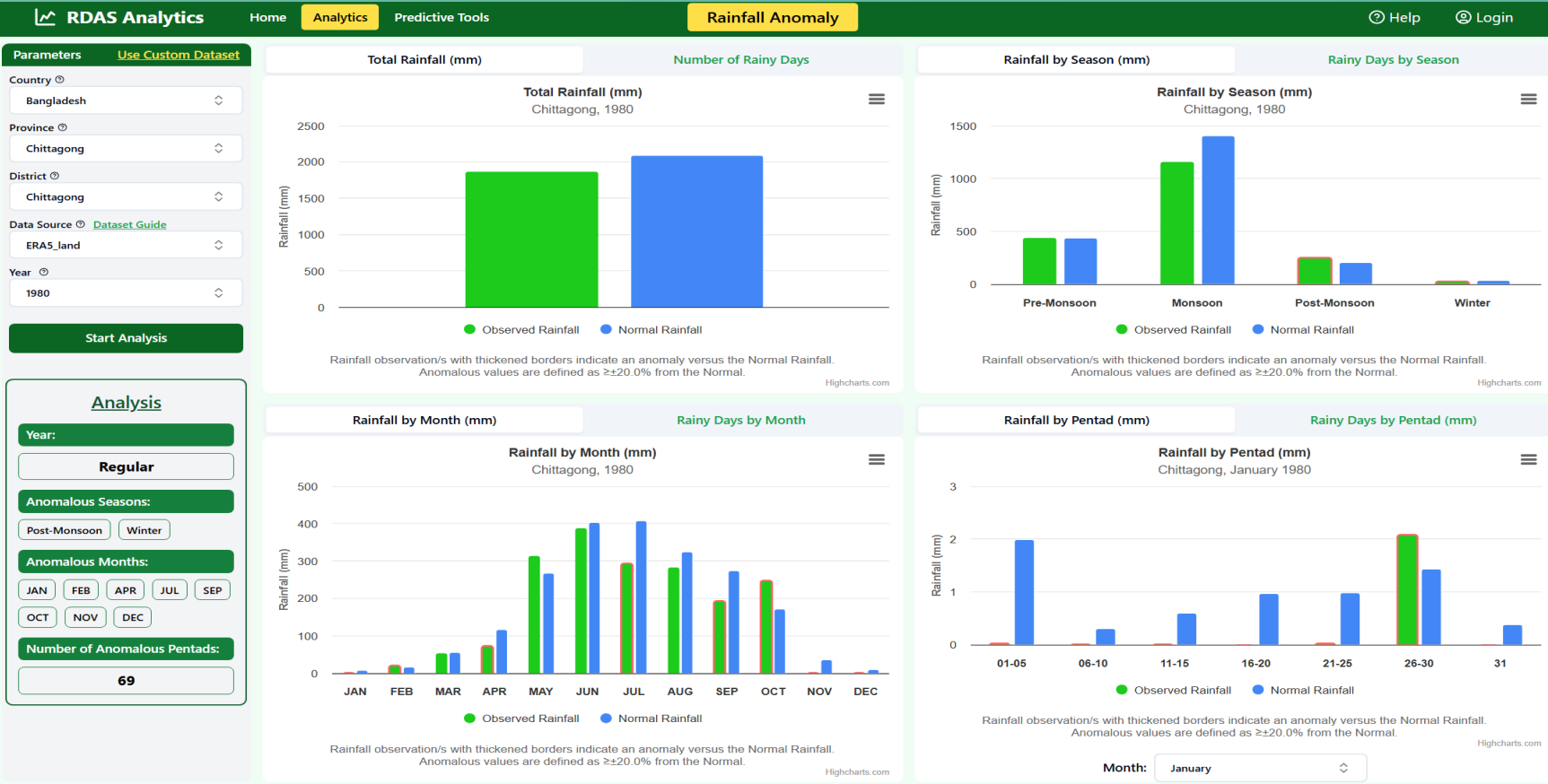
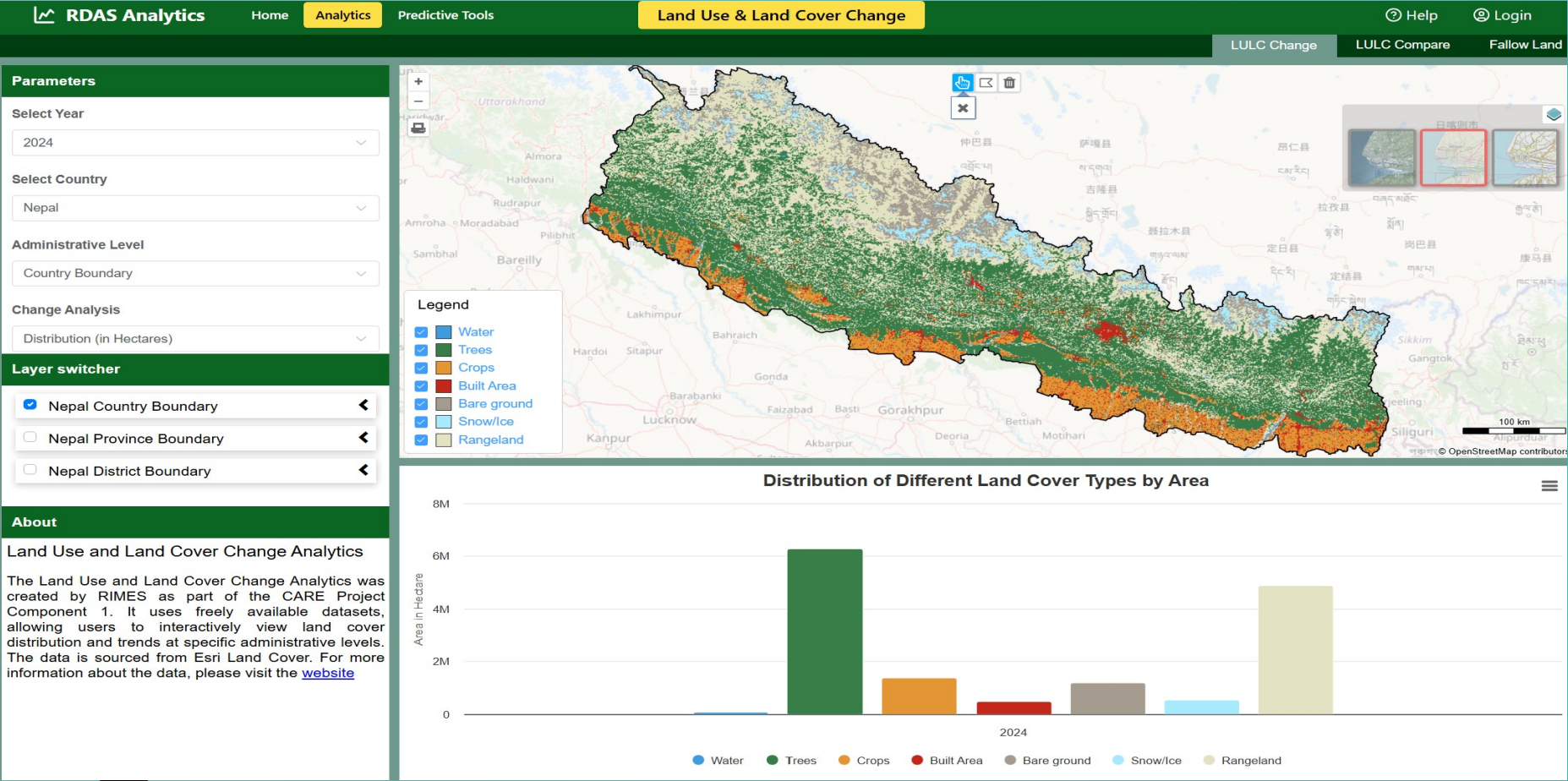
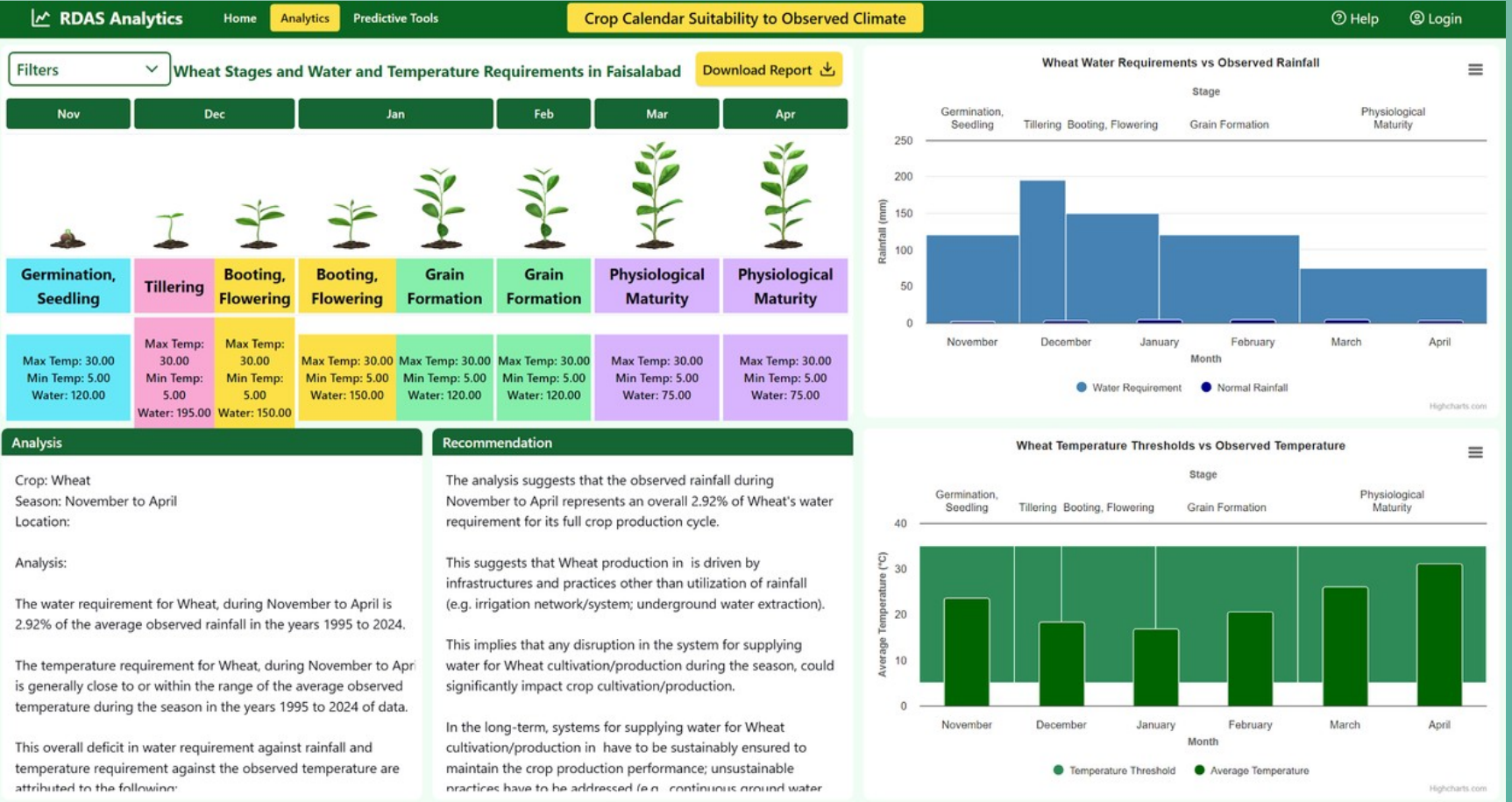


Cropping Calendar and Local Climate



Rainfall Anomaly

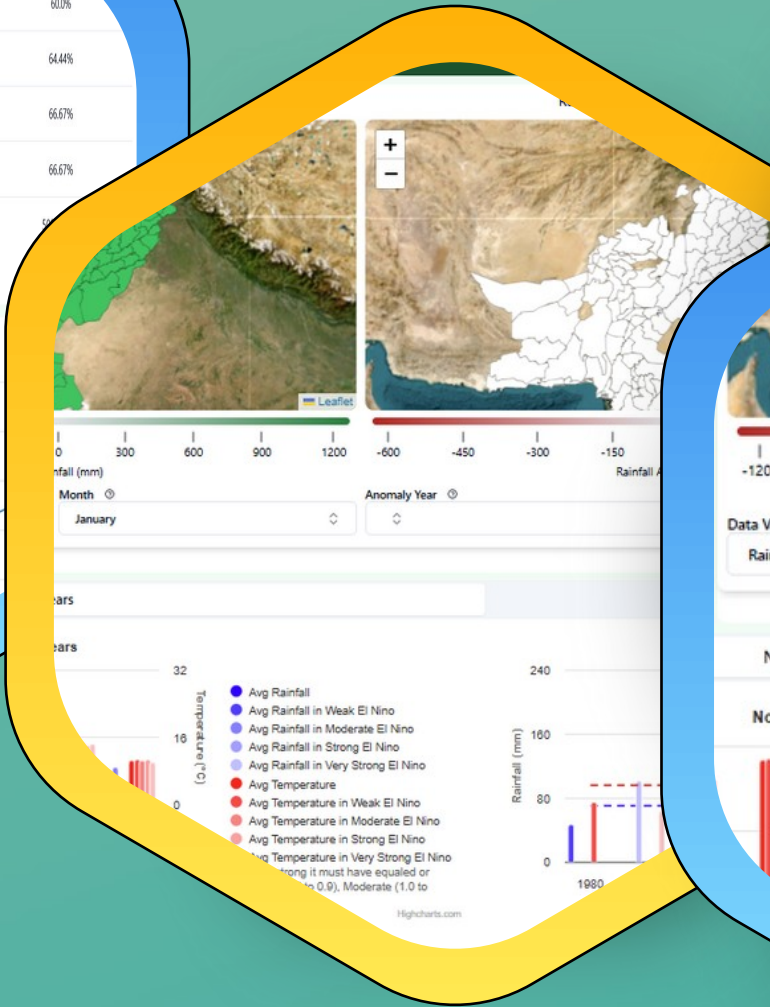




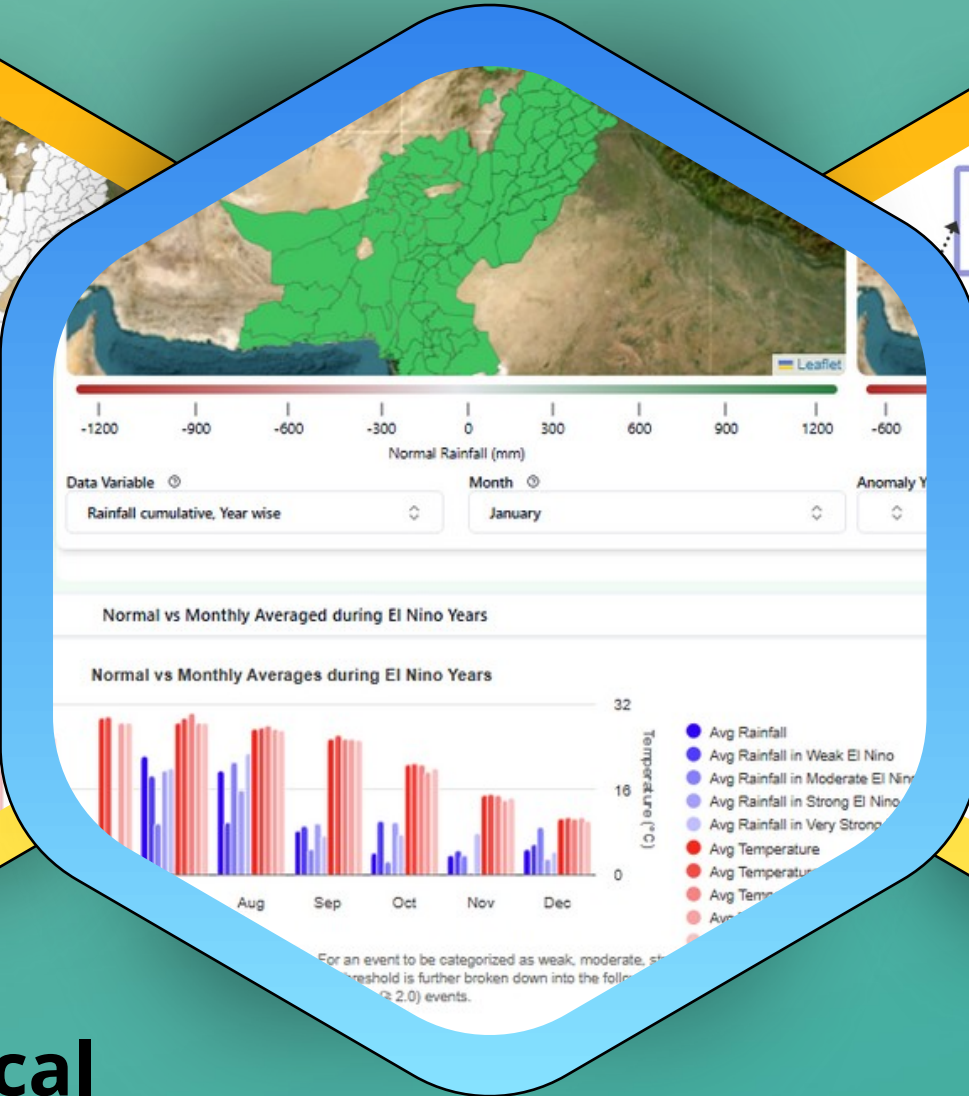
Predictive Tools in RDAS



Growing Degree Days



La Nina and Local Climate



El Nino and Local Climate



Temperature Sensitivity Alerting System

RDAS Analytics

HomeAnalyticsPredictive Tools

El Nino Impacts Prediction

HelpLogin

Parameters

Use Custom Dataset

Country

Pakistan

District

Faisalabad

Data

Rainfall

Mean temperature

Select variables

Data Source

Dataset Guide

ERAS

From Year

1980

To Year

2020

Months

June

July

August

Select Months

Event Status

Upcoming

Generate Predictive Model

Variable

Rainfall

Table of Prediction

Category	Minimum Accumulated Rainfall	Maximum Accumulated Rainfall
Weak	15.4	129.8
Moderate	32.89	84.31
Strong	27.46	115.95
Very Strong	37.53	239.97

Scatter Plot between Weak El Nino and Accumulated Rainfall

ERA5 dataset, 1980 to 2020

Analysis of historical rainfall observations associated with Weak El Nino events from 1980 to 2020 suggests potential minimum Accumulated Rainfall of 15.4 mm and potential maximum Accumulated Rainfall of 129.8 mm for the months of June, July, August.

The analysis of model confidence, however, implies that the potential range of Accumulated Rainfall associated with the upcoming Weak El Nino event may be highly variable, hence caution in applying the model is advised.

Scatter Plot between Moderate El Nino and Accumulated Rainfall

ERA5 dataset, 1980 to 2020

Analysis of historical rainfall observations associated with Moderate El Nino events from 1980 to 2020 suggests potential minimum Accumulated Rainfall of 32.89 mm and potential maximum Accumulated Rainfall of 84.31 mm for the months of June, July, August.

The analysis of model confidence implies that the potential range of Accumulated Rainfall associated with the upcoming Moderate El Nino event is likely to be within the predicted range. However, the occurrence of extreme events may impact on the overall performance of rainfall for the period.

Scatter Plot between Strong El Nino and Accumulated Rainfall

ERA5 dataset, 1980 to 2020

Analysis of historical rainfall observations associated with Strong El Nino events from 1980 to 2020 suggests potential minimum Accumulated Rainfall of 27.46 mm and potential maximum Accumulated Rainfall of 115.95 mm for the months of June, July, August.

The analysis of model confidence, however, implies that the potential range of Accumulated Rainfall associated with the upcoming Strong El Nino event may be highly variable, hence caution in applying the model is advised.

Scatter Plot between Very Strong El Nino and Accumulated Rainfall

ERA5 dataset, 1980 to 2020

Analysis of historical rainfall observations associated with Very Strong El Nino events from 1980 to 2020 suggests potential minimum Accumulated Rainfall of 37.53 mm and potential maximum Accumulated Rainfall of 239.97 mm for the months of June, July, August.

The analysis of model confidence, however, implies that the potential range of Accumulated Rainfall associated with the upcoming Very Strong El Nino event may be highly variable, hence caution in applying the model is advised.

Parameters

Use Custom Dataset

Livestock

Human

Country

Nepal

Province/State

Koshi

Livestock Category

Cattle

Species

Cow

Temperature Sensitivity for Livestock

	Cow (Dry period)	Cow (Lactating cow)	Cow (Pregnant Cow)	Cow (Breeding Cattle)	Cow (Calves)	Cow (Heifer)
BHOJPUR						
DHANKUTA						
ILAM						
JHAPA						
KHOTANG						
MORANG						
OKHALDHUNGA						
PANCHTHAR						
SANKHUWASABHA						
SOLUKHUMBU						
SUNSARI						
TAPLEJUNG						
TERHATHUM						
UDAYAPUR						

About

The Temperature Sensitivity Alerting System (TempS), provides alerts when anticipated temperature becomes critical for different livestock categories and growth/productivity stages.

Made available for South Asian region, the tool ingests ECMWF temperature forecast data, utilizes livestock-weather models to estimate potential impacts of temperature to livestock, and automates generation of alerts/recommendations up to district level.

Configure Livestocks

Login

Detail Information

District

SOLUKHUMBU

Species

Cow

Stage

Pregnant Cow

Status

unconductive

Temperature Max

6.96 °C

Temperature Min

-3.03 °C

Conductive Temperature Range

0°C - 29°C

Advisory

Provide adequate shelter, good bedding, and plenty of feed to help cattle maintain body temperature. Ensure they have access to windproof and waterproof shelter to protect them from the cold. Increased feed (especially energy-rich hay or silage) helps pregnant cows maintain their body temperature in colder weather. Adequate bedding is essential for warmth.

7-Day Temperature Forecast

RDAS Analytics

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La Niña Impacts Prediction

HelpLogin

Parameters

Use Custom Dataset

Country

India

District

Buxanpur

Data

Rainfall

Select variables

Data Source

Dataset Guide

ERAS

From Year

1980

To Year

2010

Months

January

February

March

Select Months

Event Status

Persisting

Generate Predictive Model

Variable

Rainfall

Table of Prediction

Category	Minimum Accumulated Rainfall	Maximum Accumulated Rainfall
Weak	No Rainfall	64.95
Moderate	2.55	4.2
Strong	No Rainfall	35.98

Scatter Plot between Weak La Niña and Accumulated Rainfall

ERA5 dataset, 1980 to 2010

Analysis of historical rainfall observations associated with Weak La Niña events from 1980 to 2010 suggests potential minimum Accumulated Rainfall of 0.0 mm and potential maximum Accumulated Rainfall of 64.95 mm for the months of January, February, March.

The analysis of model confidence implies that the potential range of Accumulated Rainfall associated with the persisting Weak La Niña event is likely to be within the predicted range. However, the occurrence of extreme events may impact on the overall performance of rainfall for the period.

Scatter Plot between Moderate La Niña and Accumulated Rainfall

ERA5 dataset, 1980 to 2010

Analysis of historical rainfall observations associated with Moderate La Niña events from 1980 to 2010 suggests potential minimum Accumulated Rainfall of 2.55 mm and potential maximum Accumulated Rainfall of 4.2 mm for the months of January, February, March.

The analysis of model confidence, however, implies that the potential range of Accumulated Rainfall associated with the persisting Moderate La Niña event is likely to be within the predicted range. However, the occurrence of extreme events may impact on the overall performance of rainfall for the period.

Scatter Plot between Strong La Niña and Accumulated Rainfall

ERA5 dataset, 1980 to 2010

Analysis of historical rainfall observations associated with Strong La Niña events from 1980 to 2010 suggests potential minimum Accumulated Rainfall of 0.0 mm and potential maximum Accumulated Rainfall of 35.98 mm for the months of January, February, March.

The analysis of model confidence implies that the potential range of Accumulated Rainfall associated with the persisting Strong La Niña event is likely to be within the predicted range. However, the occurrence of extreme events may impact on the overall performance of rainfall for the period.

RDAS Analytics

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Growing Degree Days

HelpLogin

Parameters

Use Custom Dataset

Country

Pakistan

Province

PUNJAB

District

Lower Dir

Crop

Wheat

Data Source

Dataset Guide

ERAS_land

Year

2026

Start Analysis

Booting	846.91	12 January	60.0%
Heading	989.79	30 January	68.89%
Flowering	1166.65	17 February	60.0%
Milk	1386.81	07 March	64.44%
Dough	1671.69	25 March	66.67%
Ripening	2018.23	12 April	66.67%
PREDICTED YIELD			5099 kg/ha

Predicted Wheat Growth Stages in 2026

Historical GDD Forecasts (1981 - 2025), CanESM5 SSP2 4.5 (2025 - 2026)



SCIENCE



INSTITUTIONS



SOCIETIES