



Central Asia  
CLIMATE PORTAL

# Central Asia Climate Information Platform

## an innovative approach

27 September 2019 – Dushanbe, Tajikistan  
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# CACIP KEY POINTS

- is not only a container of data but mainly a collector of contents and tools
- provides knowledge, documents, data, tools
- aims to increase the **regional awareness and collaboration**
- aims to **keep in touch with users**
- is sustained from a **community** and supports the community
- CACIP was born today



# COLLECTOR OF CONTENTS <sup>1/2</sup>

the main contents come from multiple sources

## about KNOWLEDGE contents

### **Knowledge is**

news, events, calendar, forum, blog, social, training material, reports, scientific papers, ...

### **What we have done**

- inventoried existing sites/databases
- checked the suitability in terms of contents and interoperability



# Some knowledge portals suitable to be harvested

[OKR-WB \(Open Knowledge Repository of World Bank\)](#) database, ...

[Climate Technology Center & Network \(CTCN\)](#) database, ...

[CAN-EECCA \(Climate Action Network of Eastern Europe Caucasus Central Asia\)](#) Climate change-related news and publications.

[Kyrgyzstan \(MMR\) network Climatic](#) Climate change-related news and publications.

[Energy balance](#) National statistics.

and others ...





# COLLECTOR OF CONTENTS <sup>2/2</sup>

the main contents come from multiple sources

## about DATA & TOOLS contents

### Data are

maps and geographical layers,  
statistical data, measurements,  
indexes, ...

### Tools are

applications providing  
information derived from the  
analysis of processing of data

### What we have done

- inventoried existing sites
- checked the suitability in terms of contents and interoperability

# GEO-DATA portals suitable to be harvested

## [LPDAAC \(MODIS\)](#)

Land Processes Distributed Active Archive Center (NASA/USGS)

many

## [WMO \(World Weather\)](#)

World Meteorological Organization

temperature, precipitation, others

## [NASA \(Fire Information for Resource Management System\)](#)

fires

## [Protected Planet](#)

protected areas

## [NSIDC \(National Snow and Ice Data Center\)](#)

snow, glaciers, soil moisture, frozen ground, others

## [NASA \(Soil Moisture Active Passive\)](#)

soil moisture

## [FAO \(GeoNetwork\)](#)

drainage, basins, watersheds, major aquifers and others

## [ECMWF \(ERA5\)](#)

European Centre for Medium-Range Weather Forecasts

hourly estimates of a large number of atmospheric, land and oceanic climate variables

## [SPRINTARS Forecast](#)

Spectral Radiation-Transport Model for Aerosol Species model

condition of atmospheric pollution by atmospheric aerosols

## [Central Asia Water and Energy Portal](#)

re-index several data portals

and others ...

harvested data  
can be processed to create  
new and derived products



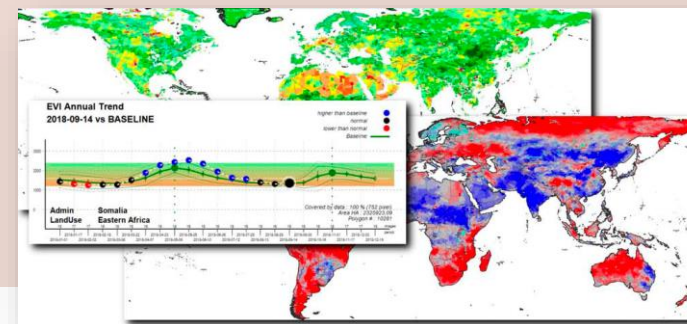
# MODIS DERIVED MAPS

a specific tool for CACIP

- data derived from [MODIS satellite images](#) (vegetation index and surface temperature)
- collected, processed, quality checked by NASA
- detail of the image: different resolution (approx pixel size **5600x5600**, 1000x1000, 250x250 m)
- length of time series: 2000-now
- temporal resolution: 8/16 days (also others)
- near real-time: 1 month processing time .

# CACIP POST-PROCESSING

- definition of reference “**map units**” based on a multi temporal classification to obtain polygons with an homogeneous behavior over the time
- **localized analysis:** calculation of statistics for each map unit
- analysis of characteristics (avg, min/max, variability, periods, ...)
- analysis of trend and calculation of future scenarios



# SOME SAMPLE MAPS

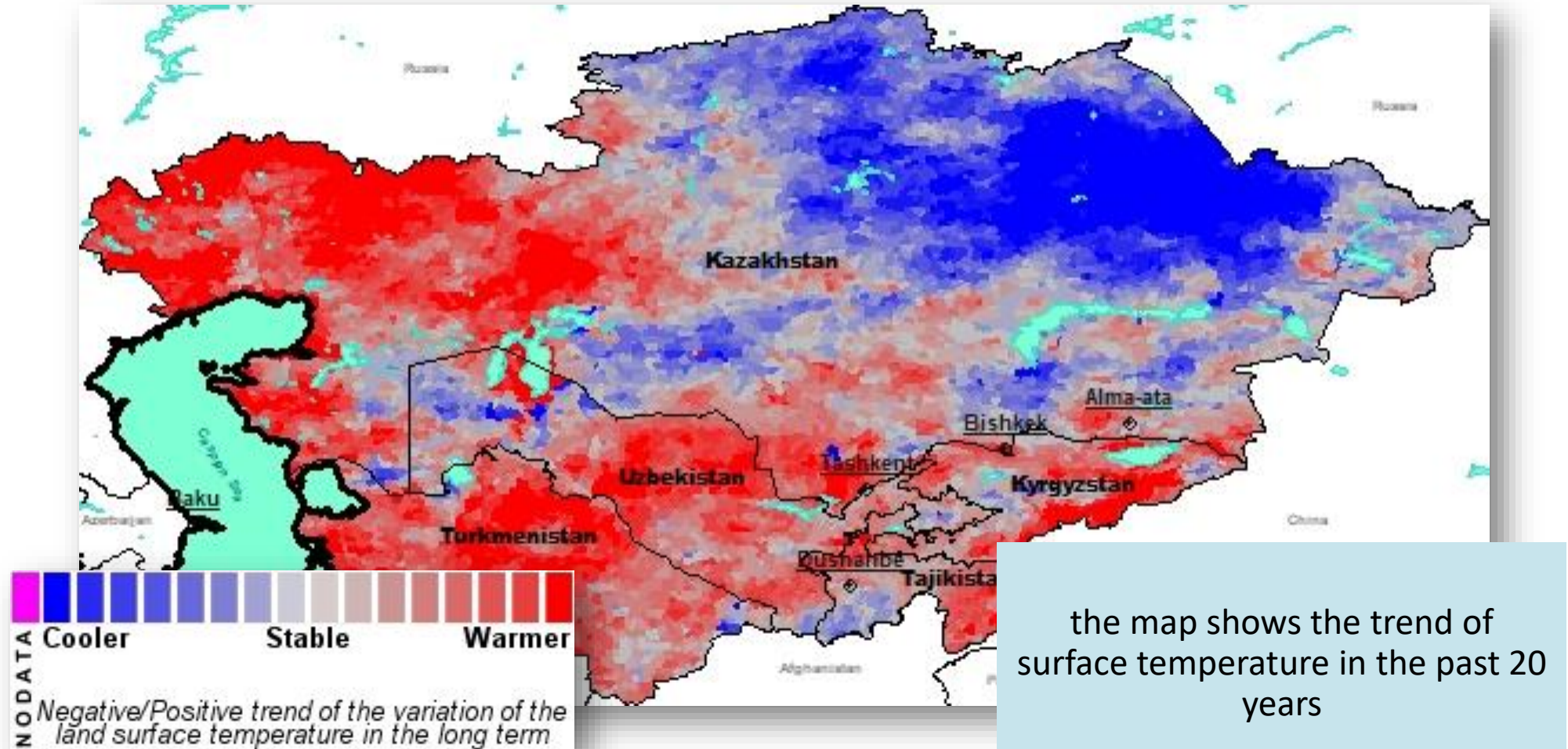
the following maps are calculated using the **LAND SURFACE DAILY TEMPERATURE** (5600m) derived from MODIS satellite images





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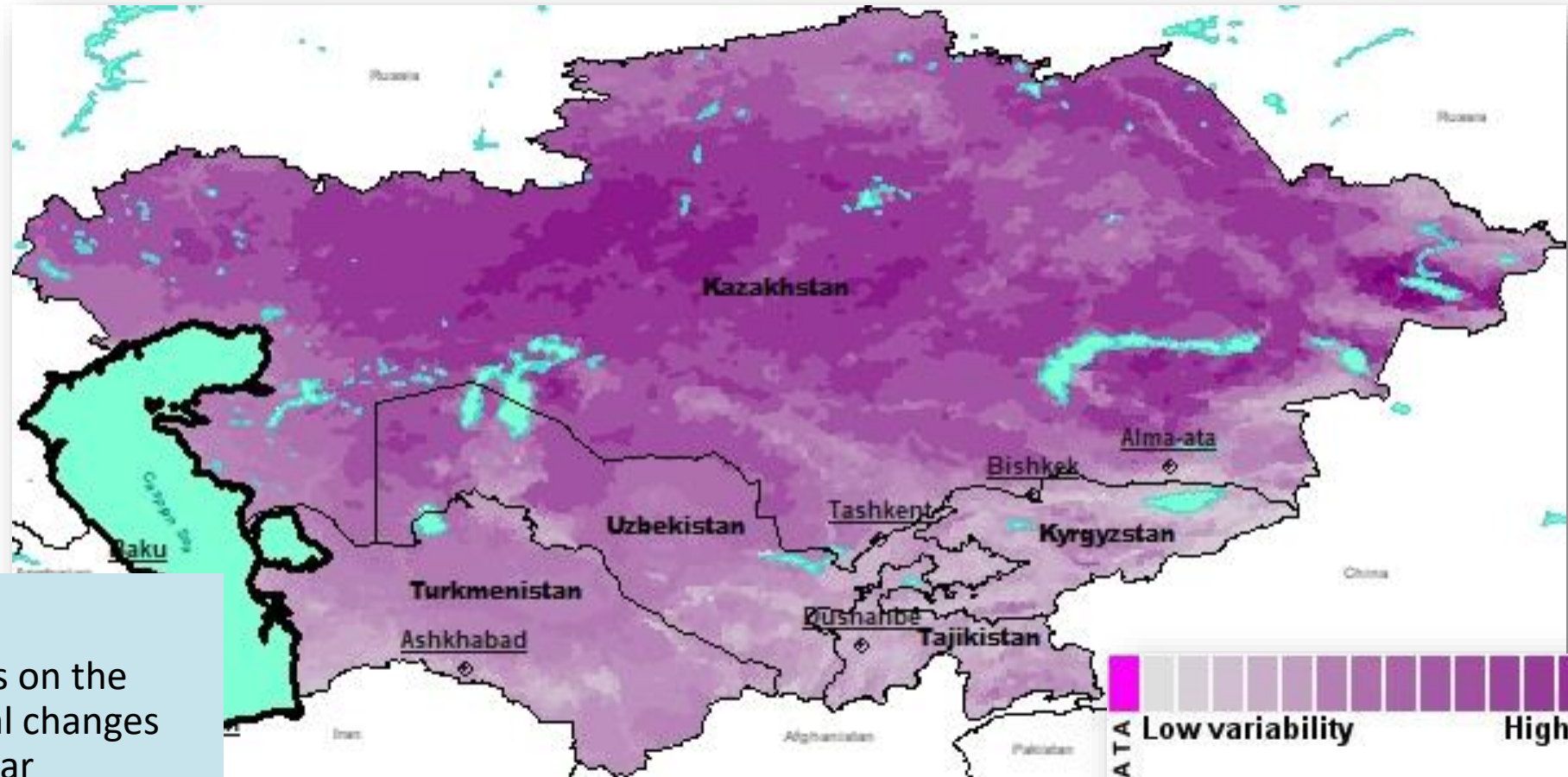
# SURFACE TEMPERATURE TREND



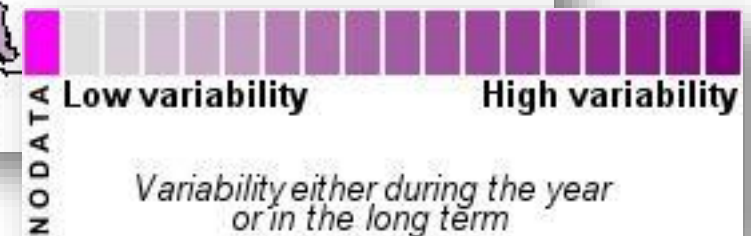


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# SURFACE TEMPERATURE VARIABILITY



**variability** depends on the  
relevance of seasonal changes  
during the year

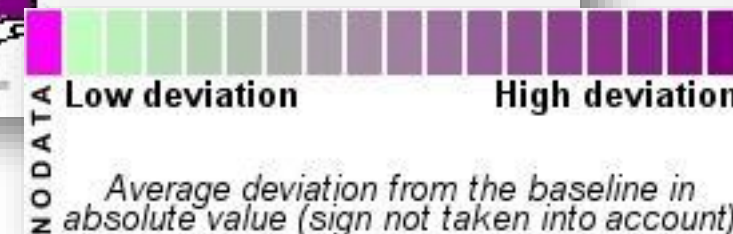
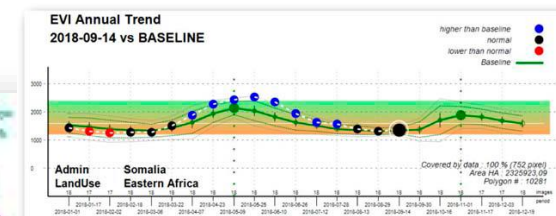
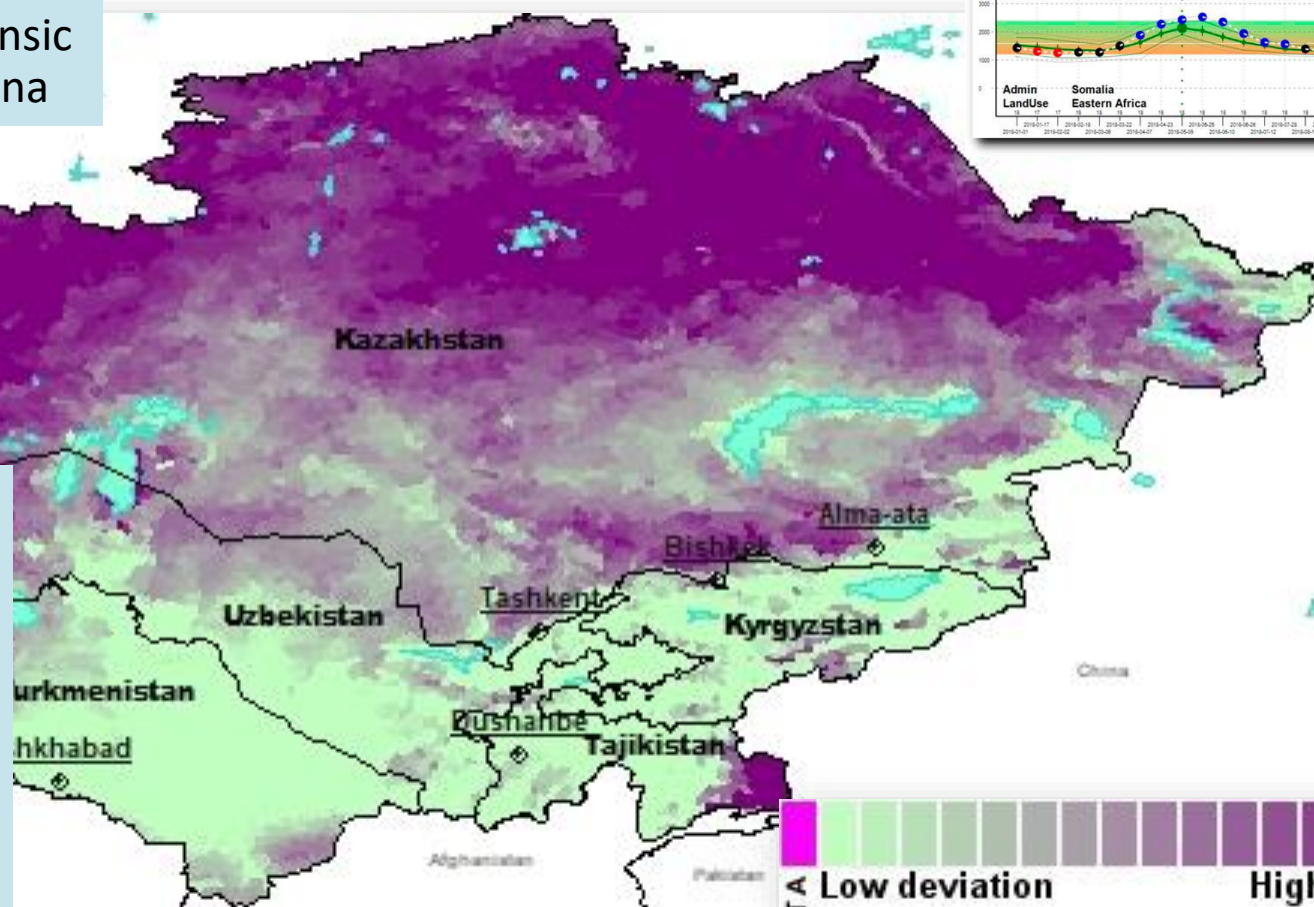




# SURFACE TEMPERATURE INSTABILITY

calculation of the **baseline** is used to summarize the intrinsic variability of the phenomena

**average instability** around the baseline (assumed to be constant in the long term). It is a measure of "instability", where instability does not mean heterogeneous values along the year (with very high and very low values), but a poor agreement of the observed values with the baseline. Greater values relate to areas with more and/or wider deviations of the index values from the baseline (less stable areas, with many unpredictable events)





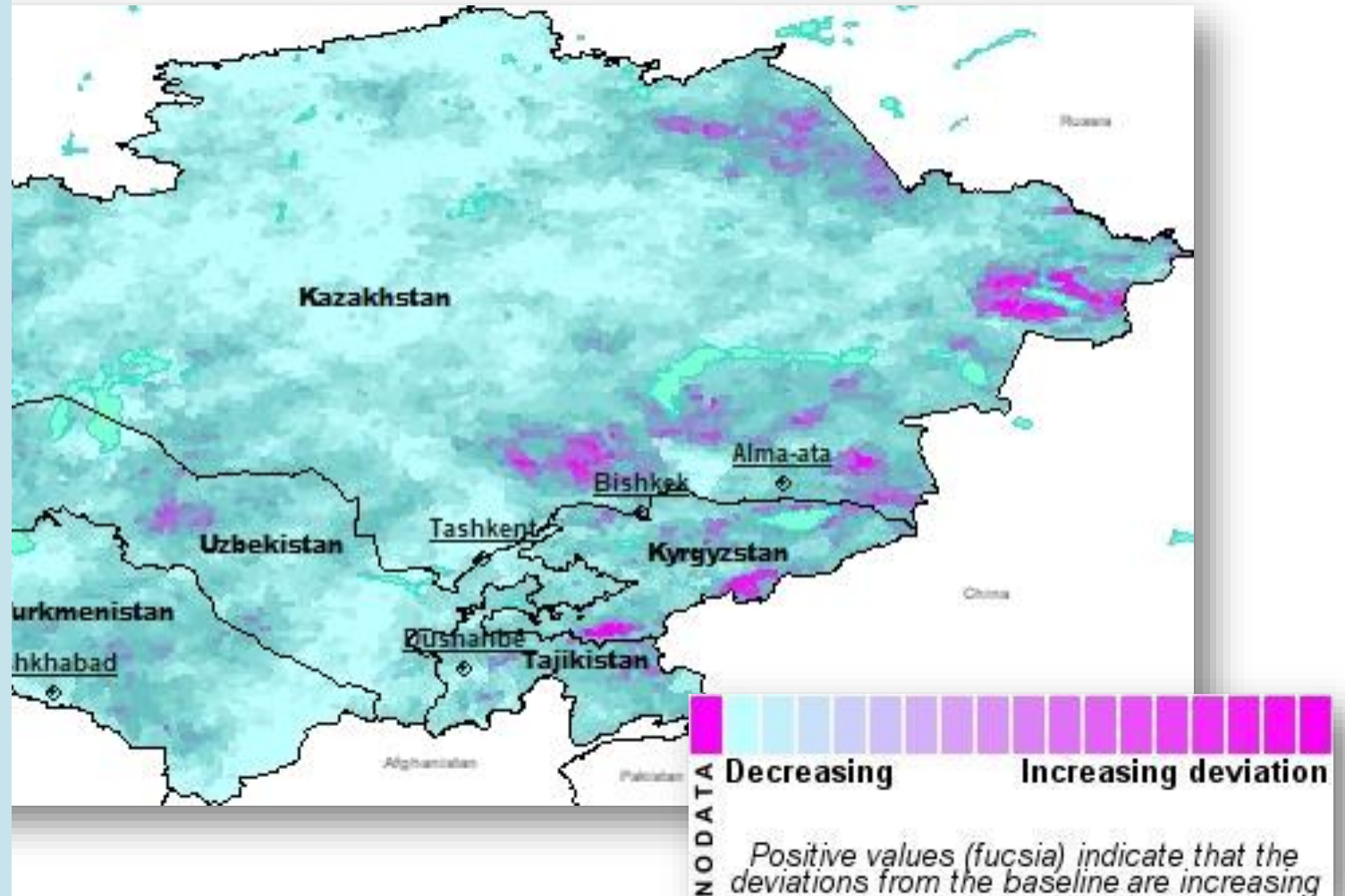
# SURFACE TEMPERATURE INSTABILITY TREND

the map focuses on the deviations of the observed values from the baseline, analyses these deviations along the whole time interval covered by the data, and highlights the areas where the deviations are globally increasing or decreasing over the time

high positive values means a tendency to an increase of the number and/or the size of exceptional events; or a "changing baseline", i.e. a change of the general conditions compared with the previous years

negative values denote a stabilization process toward the baseline (decreasing number and/or size of exceptional events)

**fuchsia areas are subject to a sharp increase in deviations from normal conditions; abnormal events could be more frequent in the future**



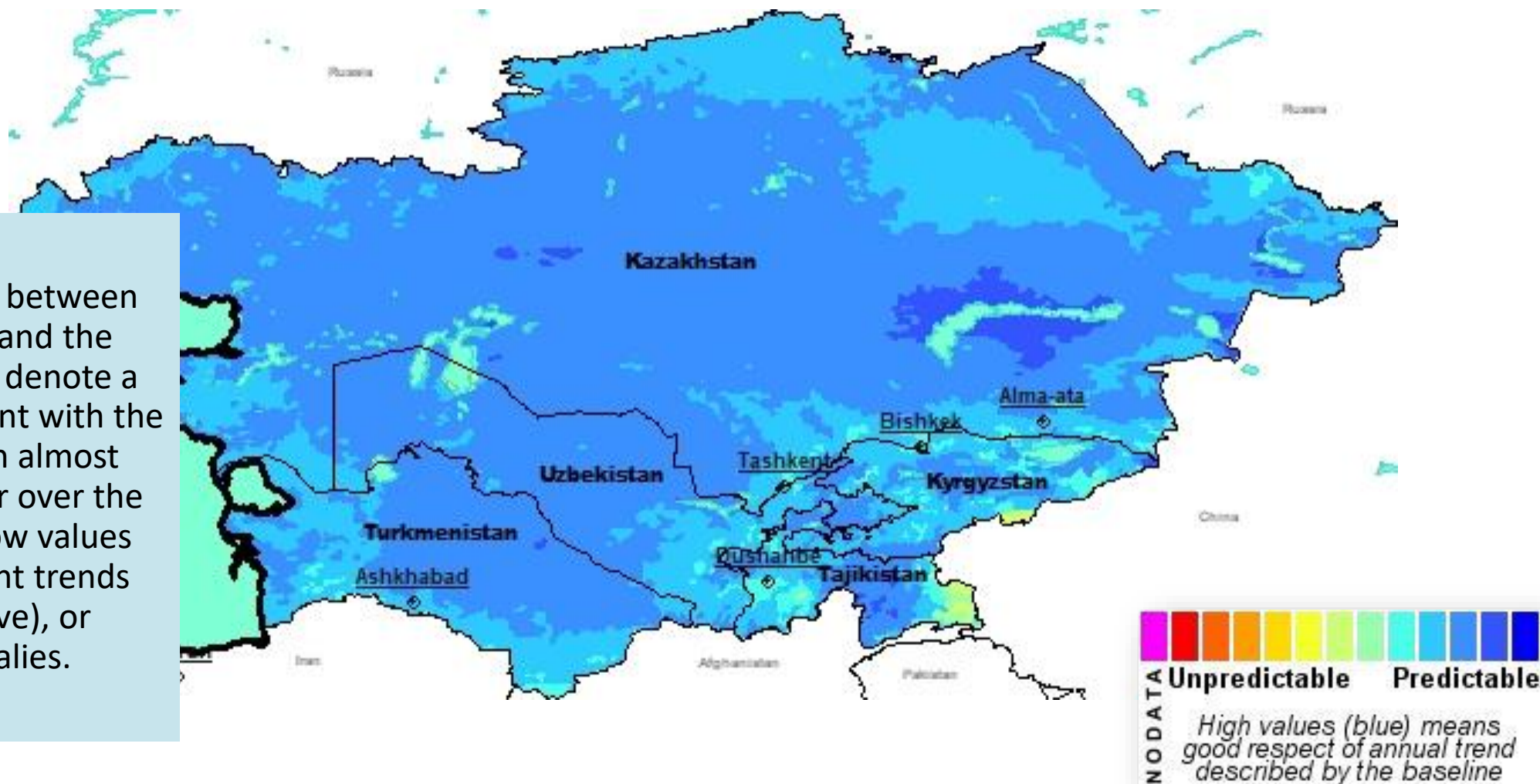




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# SURFACE TEMPERATURE «PREDICTABILITY»

**statistical correlation** between the observed value and the baseline: high values denote a good relation/agreement with the baseline, and also an almost homogenous behavior over the long term; instead, low values may denote significant trends (positive or negative), or occasional anomalies.





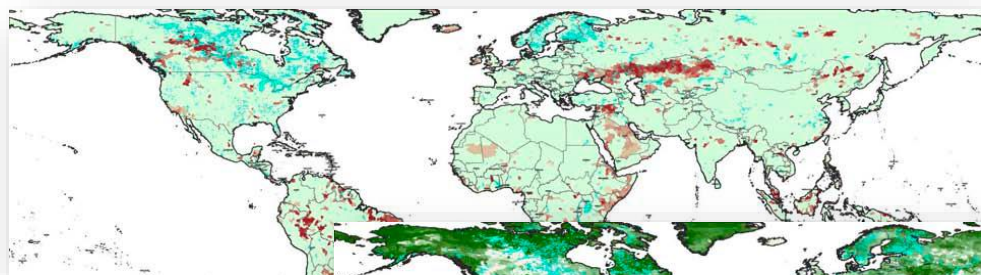
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# OTHER SAMPLE MAPS

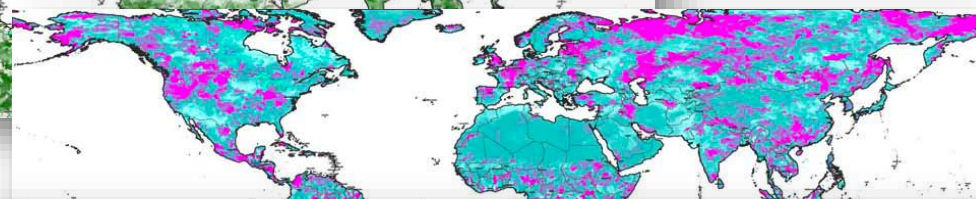
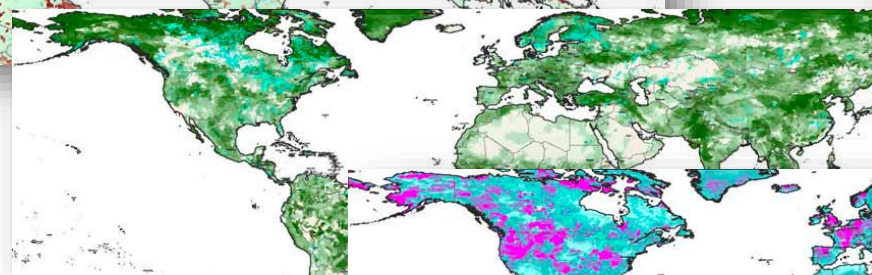
the following maps are calculated using the a **VEGETATION INDEX** (5600m) derived from MODIS satellite images



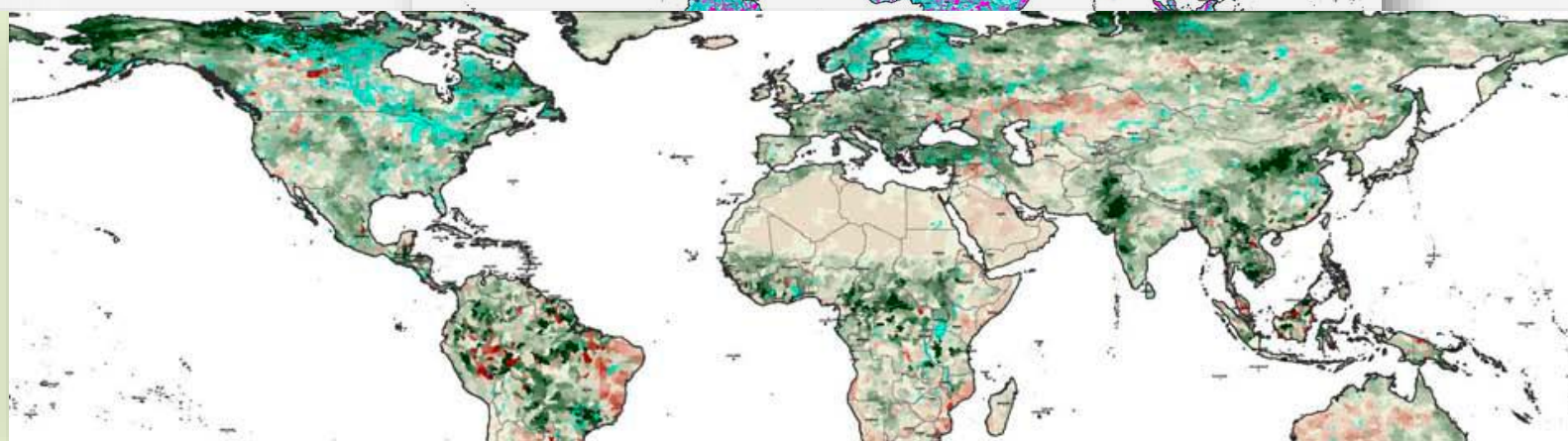
# VEGETATION INDEX BASED MAPS



with vegetation index can be calculated similar maps to the ones calculated with the surface temperature



**greenness trend** annual trend over the entire time series (approximately since 2000), and highlights areas where the EVI (Enhanced Vegetation Index) is globally decreasing or increasing over the time







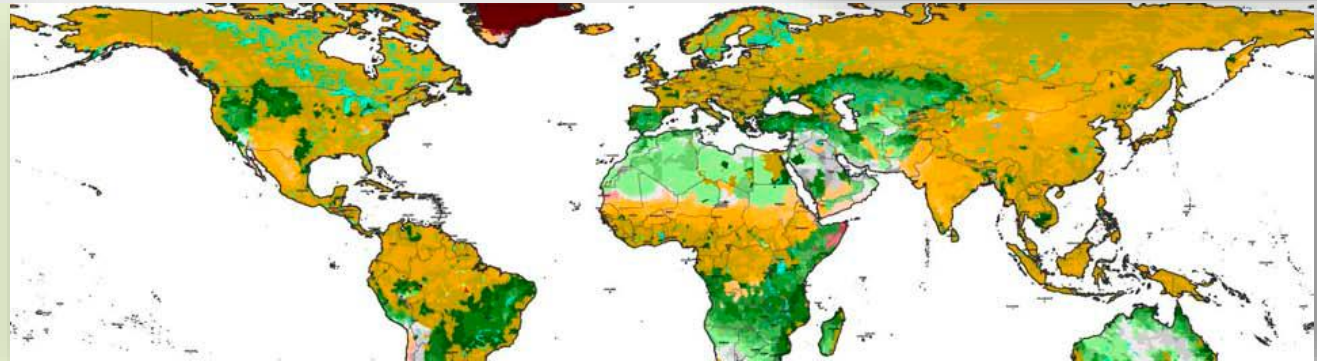
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# VEGETATION INDEX BASED MAPS

other maps derived from MODIS  
vegetation index

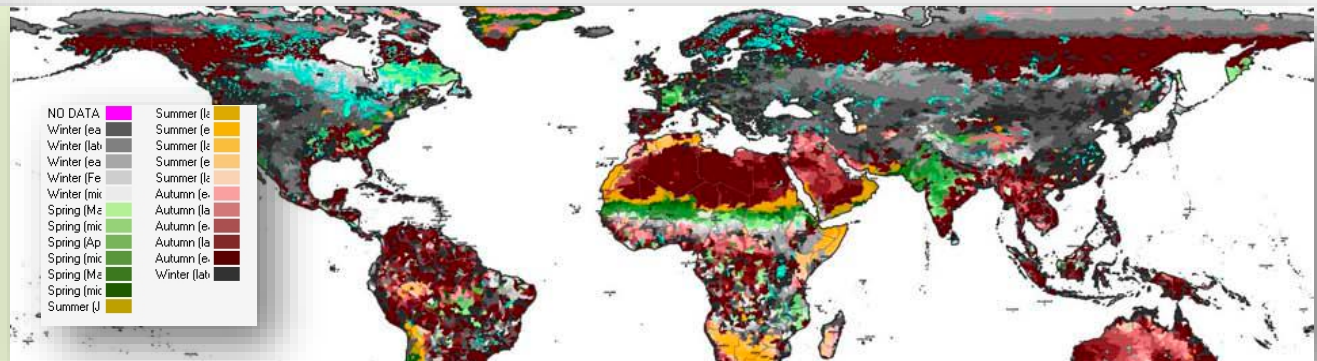
"local" period of the year, on average, the  
vegetation index reaches its **maximum**  
value

this is useful to identify the period of  
maximum vegetative growth



"local" period of the year, on average, the  
vegetation index reaches its **minimum**  
value

this is useful to identify the period of  
minimum vegetative growth





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# «MONITORING» VEGETATION CONDITIONS

MODIS derived data can be also used  
to **monitor** in **near real time**  
the vegetation index status and  
the related **vegetation conditions**





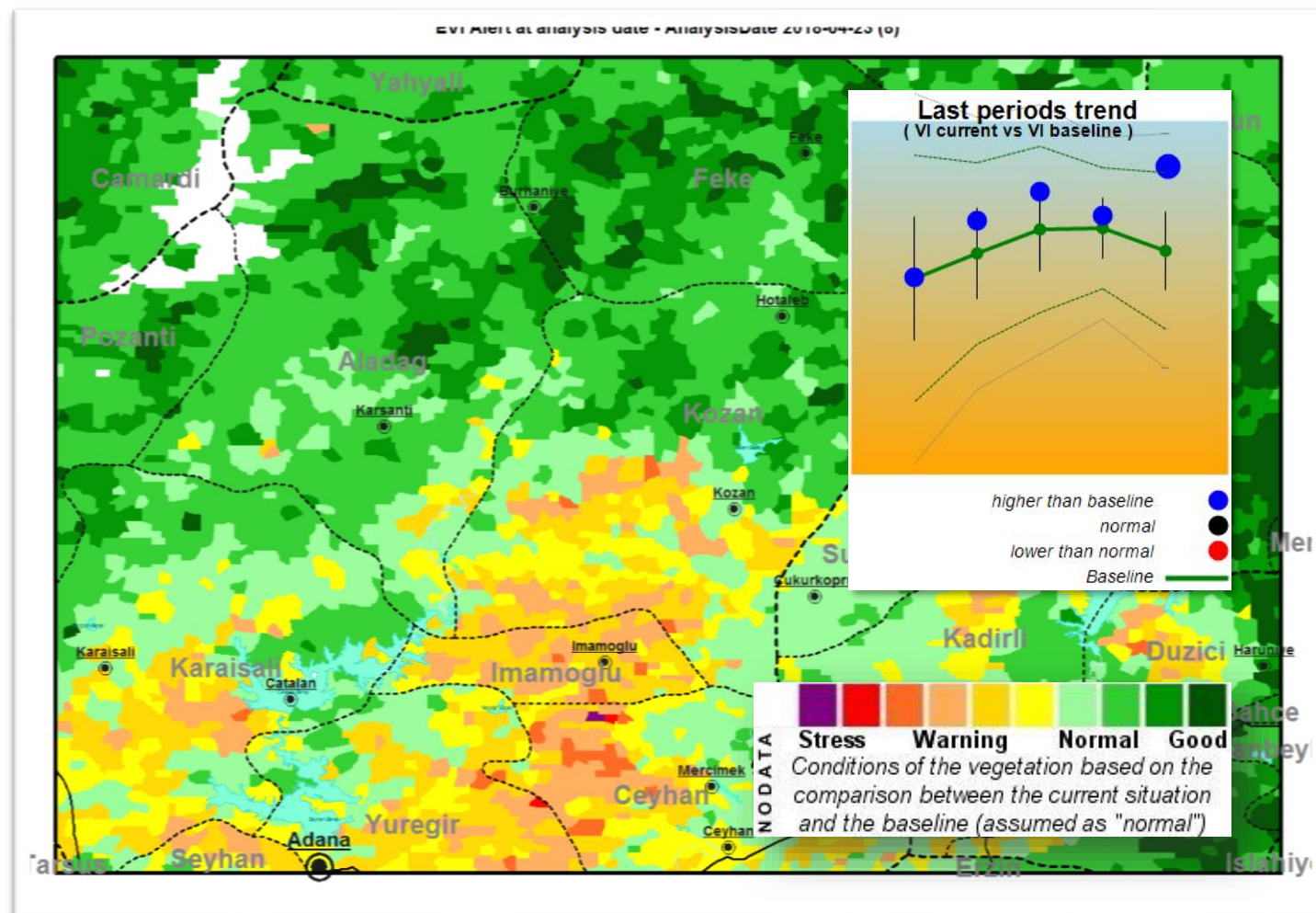
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# «MONITORING» VEGETATION CONDITIONS

this map shows the  
**conditions of the  
vegetation at a specific  
date**

red areas denote a  
stress, i.e. the current  
vegetation index is much  
lower than “normal”,  
where normal means  
consistent with the long  
term baseline

green areas denote  
good conditions



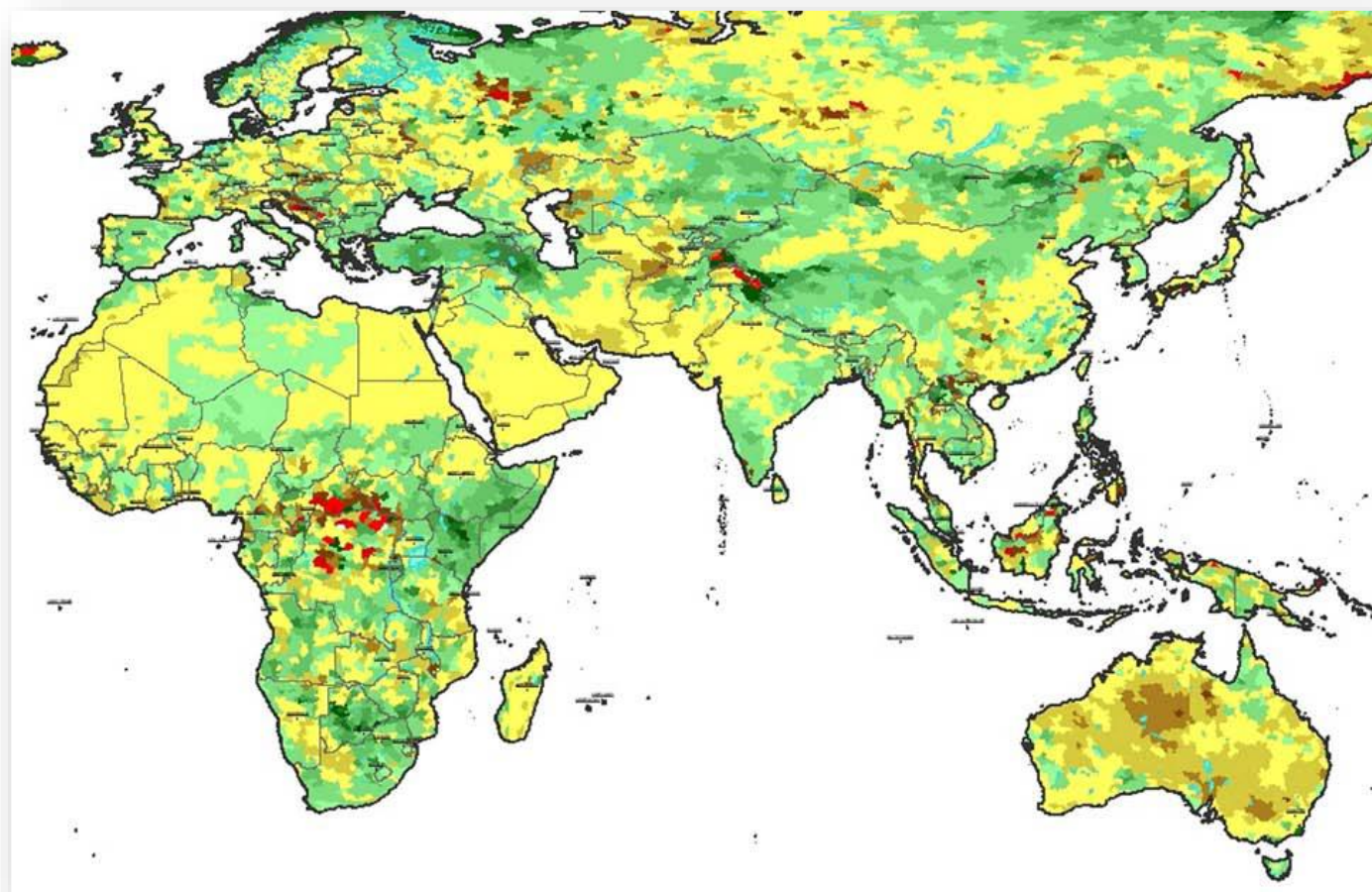




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# «MONITORING» VEGETATION CONDITIONS

shows the **localized cumulated seasonal differential** of the Vegetation Index at a specific date, by comparing the cumulated value from the beginning of the current season, with the same date interval of the previous year.





# THE REGIONAL VIEW

increase the regional awareness and collaboration

collaboration is not only matter of willingness but also **opportunities and instruments**

to provide an opportunity of collaboration CACIP embeds this tool

**COLLABORATIVE DATASETS**





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this tool allows to create “collaborative/inductive regional maps” or to derive “collaborative/inductive regional statistics” based on national data, where the information/data related to each single country are provided by different institutions and stakeholders: the information entered by different subjects are merged to produce a **regional output based on national contributes**



# a collaborative outcome

data to build an “inductive map” come from different national sources

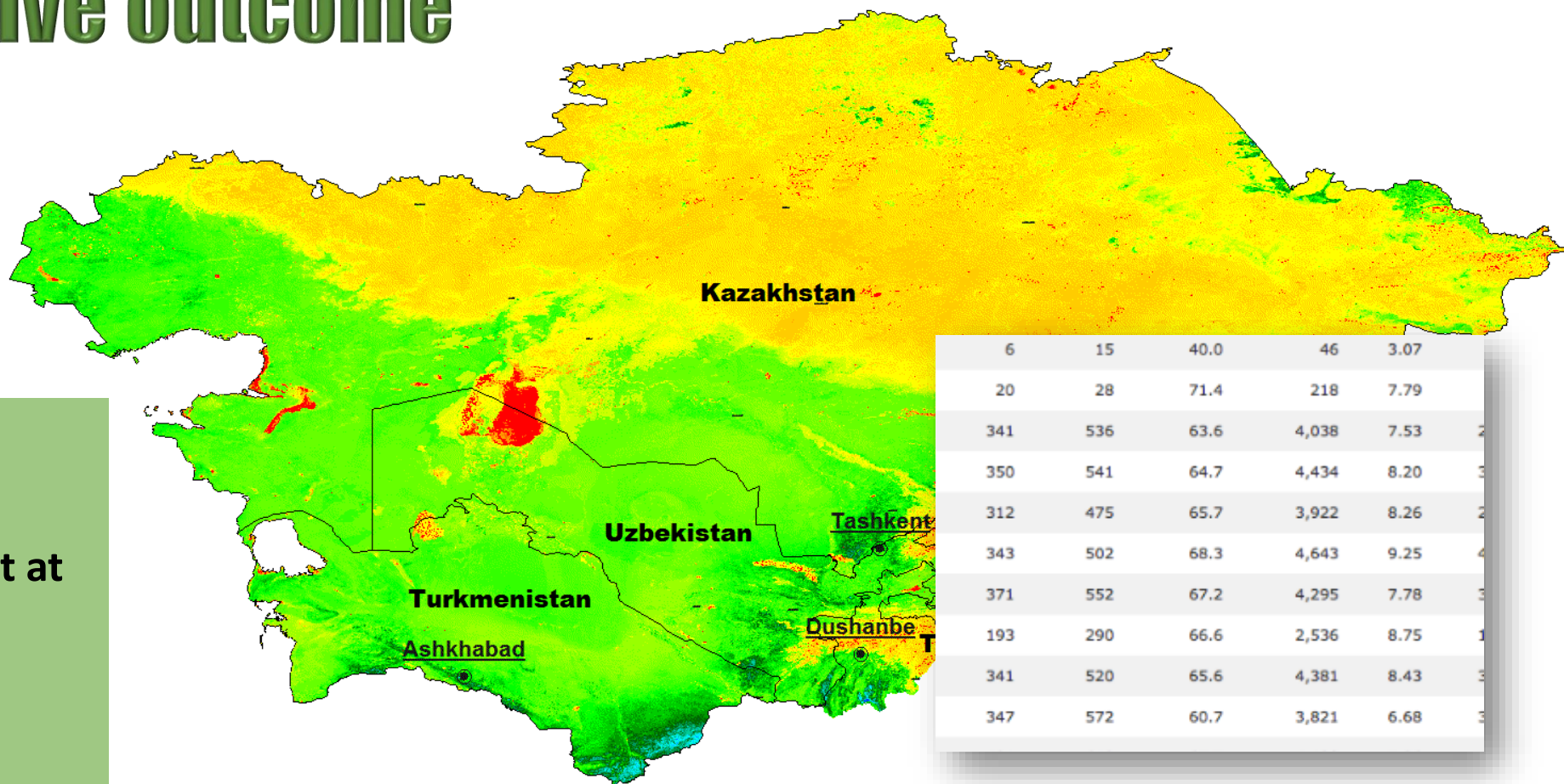






# a collaborative outcome

the results is a dataset at  
regional level

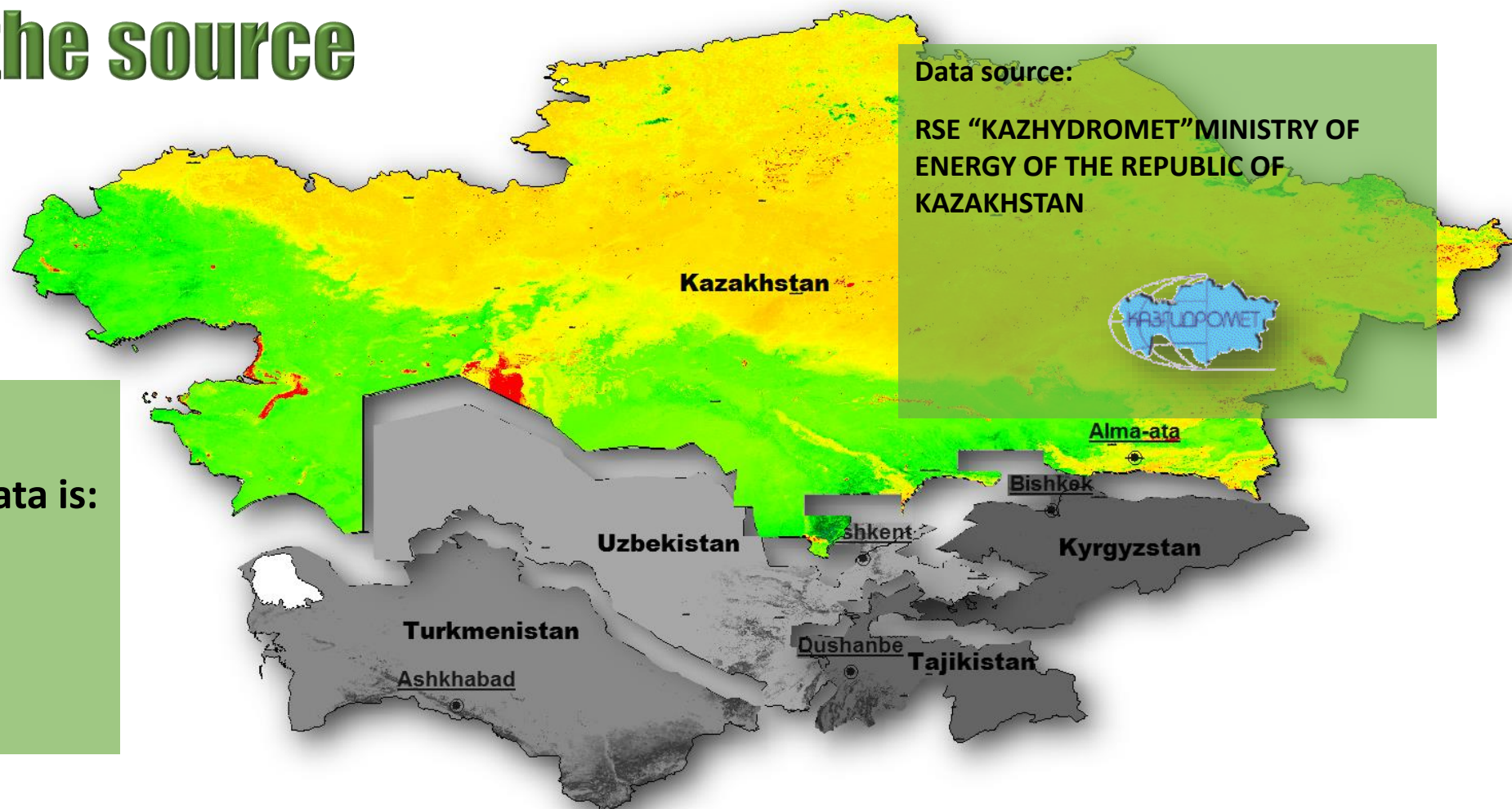




# citation of the source

the specific source of data is:

- cited in the interface
- included in metadata



# how does it work







# use case as accredited user

- obtain an account as accredited user
  - for specific datasets
  - for specific geographical extents (a country)

## MANUAL UPDATE

- access the platform as **accredited user**
- choose an **inductive dataset**  
(example monthly average temperature)
- enter the data using a specific form

## AUTOMATIC HARVESTING or UPLOADING

- definition of the **harvesting method** (the platform automatically “harvest” data from the user repository)
- or
- definition of **uploading procedure** (the user upload data to the platform with)





# a simple example ... average monthly temperature

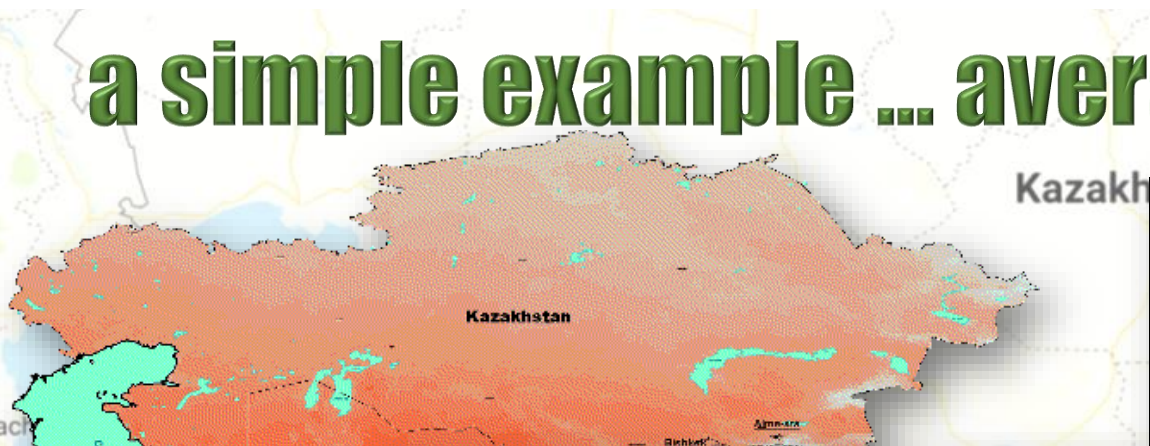
the dataset “average monthly temperature” :

- is based on **data at “district level”** (for each district and country, the average temperature for each month)
- contains **data for each month** (July 2019, August 2019, September 2019, etc.)

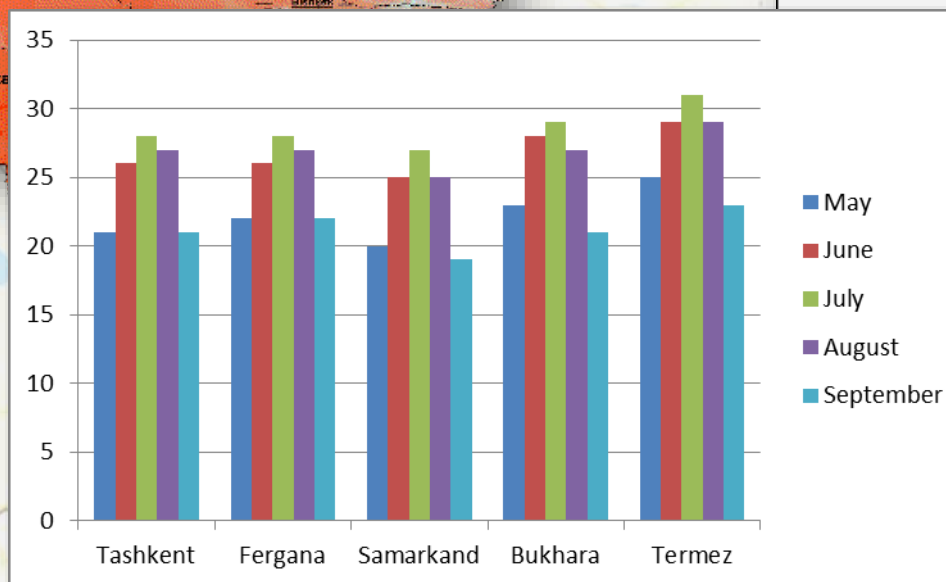
	May	June	July	August	September
<b>Tashkent</b>	21 °C	26 °C	28 °C	27 °C	
<b>Fergana</b>	22 °C	26 °C	28 °C	27 °C	
<b>Samarkand</b>	20 °C	25 °C	27 °C	25 °C	
<b>Bukhara</b>	23 °C	28 °C	29 °C	27 °C	
<b>Termez</b>	25 °C	29 °C	31 °C	29 °C	



# a simple example ... average monthly temperature



	May	June	July	August	September
Tashkent	21 °C	26 °C	28 °C	27 °C	
Fergana	22 °C	26 °C	28 °C	27 °C	
Samarkand	20 °C	25 °C	27 °C	25 °C	
Bukhara	23 °C	28 °C	29 °C	27 °C	
Termez	25 °C	29 °C	31 °C	29 °C	



data for each district of Central Asia, together with a map of the all districts, allow the creation of

- a map of average temperature for each month/year
- graphics with trend and comparison





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Password

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乌鲁木齐市

XINJIANG

Turkmenistan

Ashgabat

Dushanbe  
Душанбе

Tajikistan

Tehran  
تهران

**access the platform as accredited user**



## Filter

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Enter your text here ...



## Type

☒ Inductive maps

35

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Sort by: [Most recent](#) ▾

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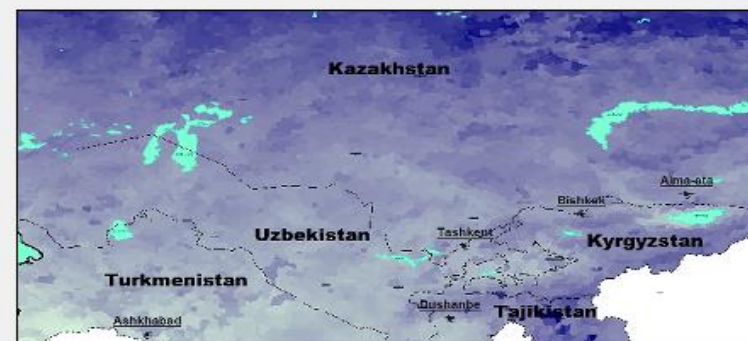
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[Upload Document](#)



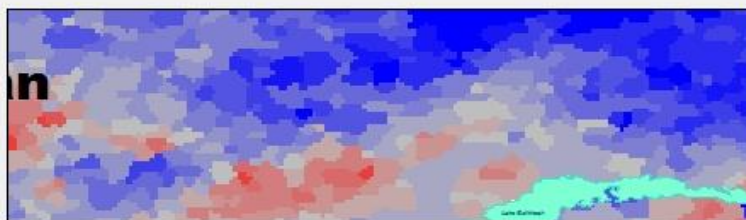
Monthly average precipitation

Select

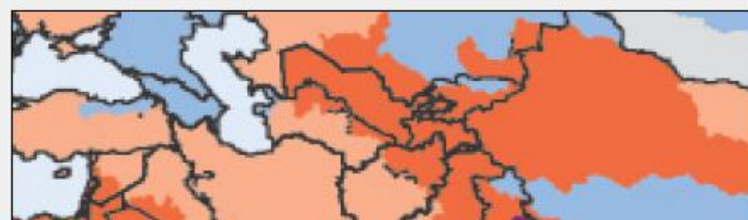


Monthly minimum temperature

Select



Monthly average temperature



Water scarcity

select  
a dataset

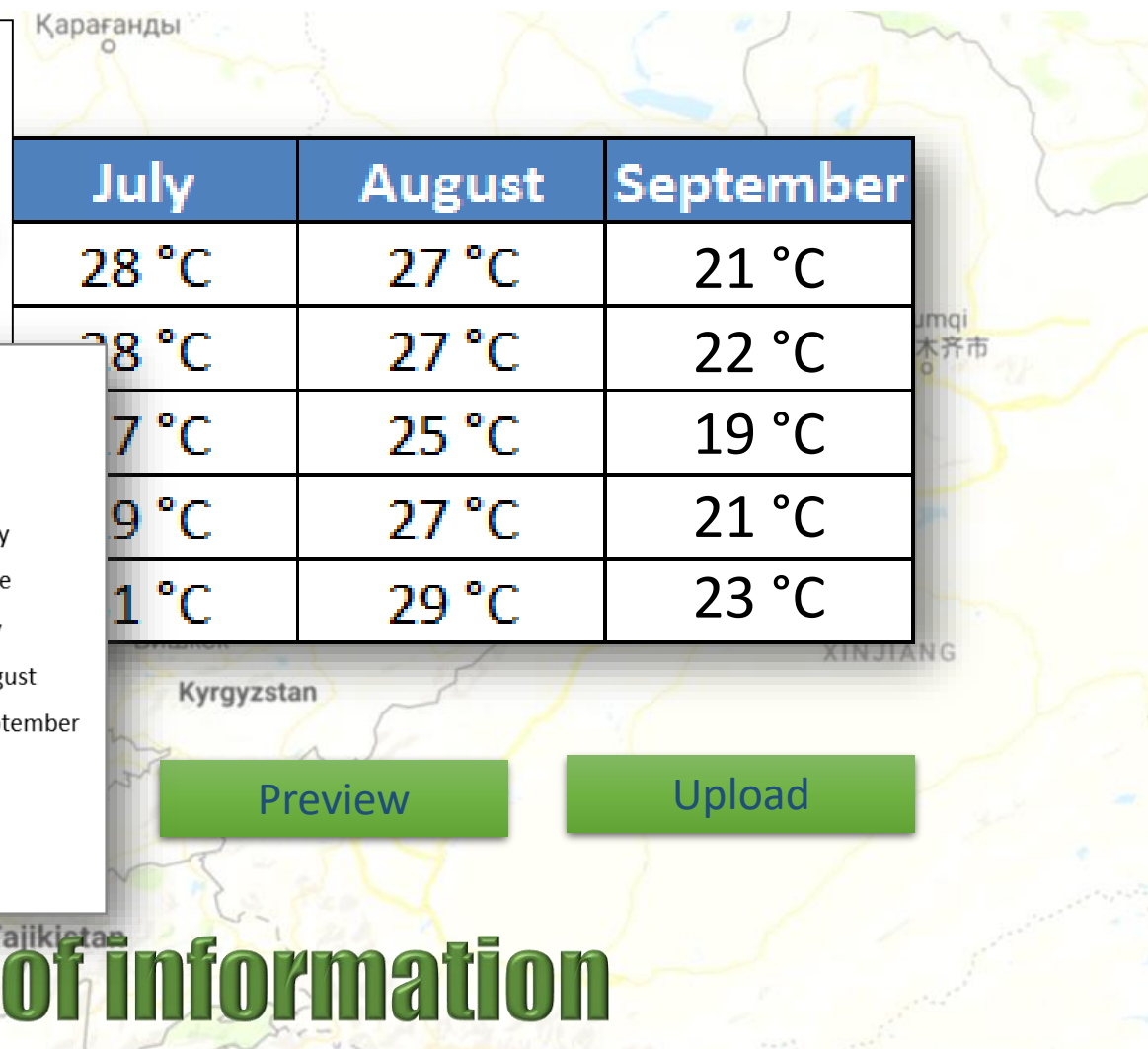
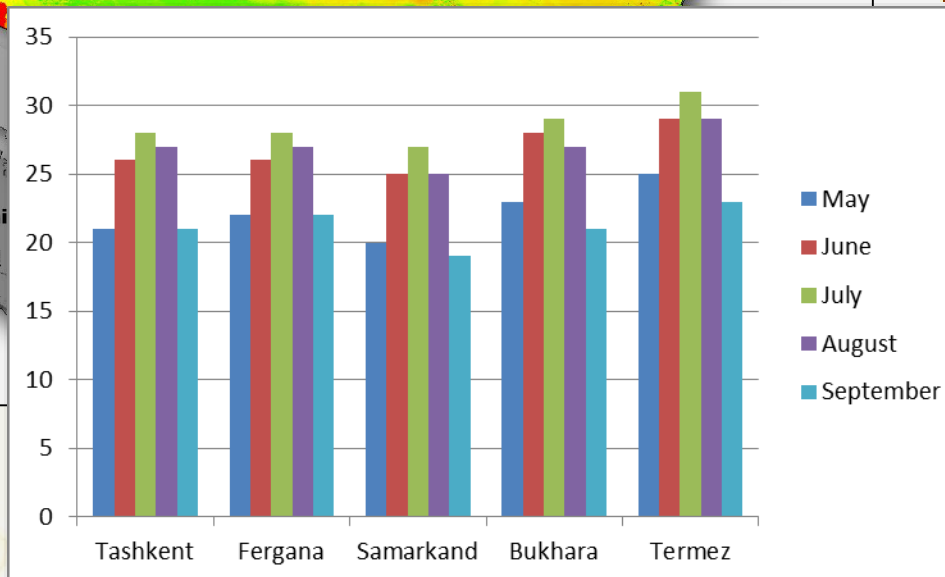
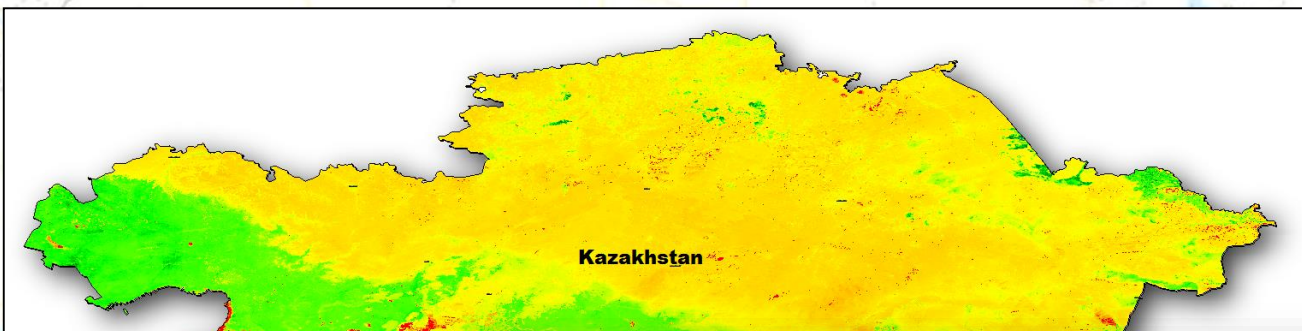


	May	June	July	August	September
<b>Tashkent</b>	21 °C	26 °C	28 °C	27 °C	21 °C
<b>Fergana</b>	22 °C	26 °C	28 °C	27 °C	22 °C
<b>Samarkand</b>	20 °C	25 °C	27 °C	25 °C	19 °C
<b>Bukhara</b>	23 °C	28 °C	29 °C	27 °C	21 °C
<b>Termez</b>	25 °C	29 °C	31 °C	29 °C	23 °C

[Preview](#)[Upload](#)

manual updating of information



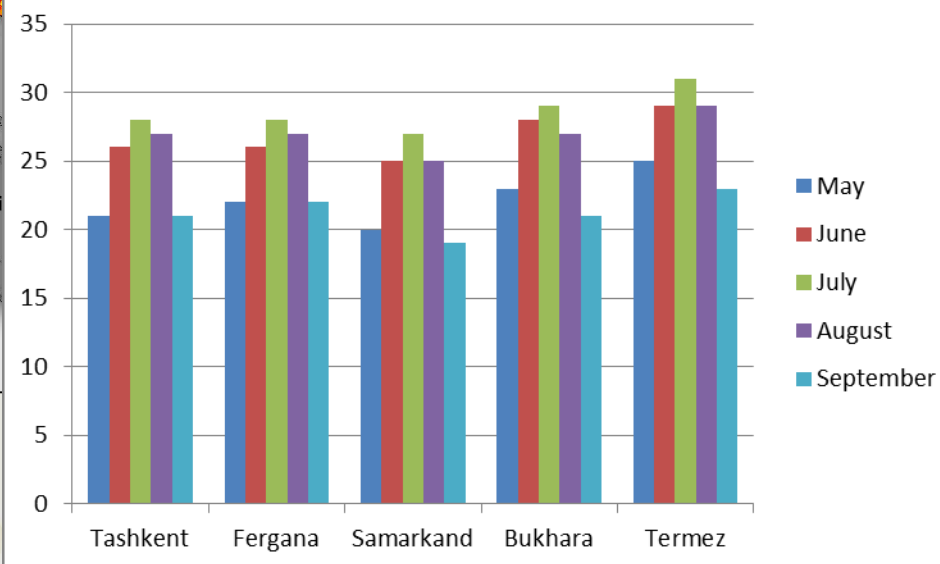
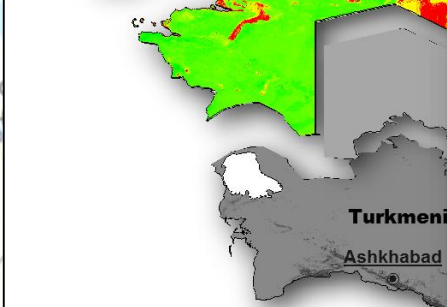
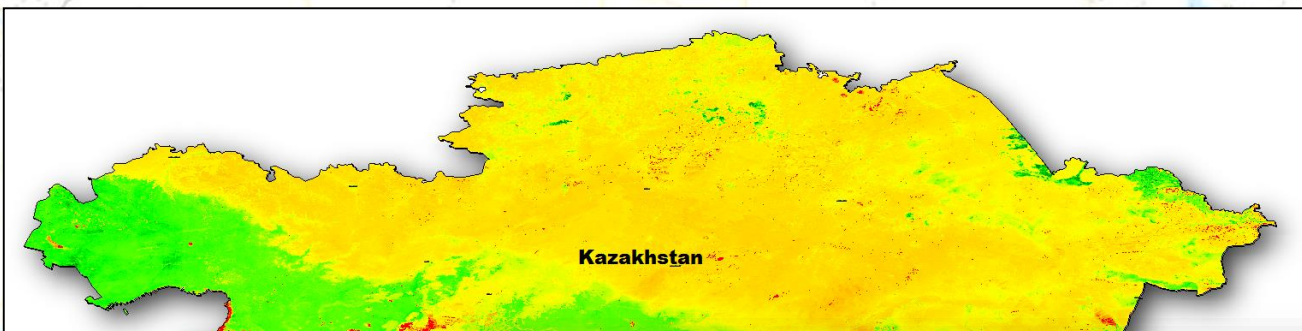


July	August	September
28 °C	27 °C	21 °C
28 °C	27 °C	22 °C
27 °C	25 °C	19 °C
29 °C	27 °C	21 °C
31 °C	29 °C	23 °C

Preview

Upload

manual updating of information



July	August	September
28 °C	27 °C	21 °C
28 °C	27 °C	22 °C
27 °C	25 °C	19 °C
29 °C	27 °C	21 °C
31 °C	29 °C	23 °C



Preview

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manual updating of information



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uploading of information

```
{ "coord": { "lon": 139, "lat": 35 },  
  "weather":  
    {  
      "id": 800,  
      "main": "clear",  
      "description": "clear sky",  
      "icon": "01n"  
    }  
  },  
  "base": "stations",  
  "main": {  
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    "pressure": 1009,  
    "humidity": 92,  
    "temp_min": 288.71,  
    "temp_max": 290.93  
  }  
}
```

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InductiveDatasets  
MonthlyAveragePrecipitation  
MonthlyAverageTemperature  
WaterScarsity

Nome	Ultima modifica	Tipo	Dimensione
201905_AvgTemp_KG.xml	29/03/2019 18:10	Documento XML	1 KB
201905_AvgTemp_KZ.xml	29/03/2019 18:10	Documento XML	1 KB
201905_AvgTemp_TJ.xml	29/03/2019 18:10	Documento XML	1 KB
201905_AvgTemp_TU.xml	29/03/2019 18:10	Documento XML	1 KB
201905_AvgTemp_UZ.xml	29/03/2019 18:10	Documento XML	1 KB
201906_AvgTemp_UZ.xml	29/03/2019 18:10	Documento XML	1 KB
201907_AvgTemp_UZ.xml	29/03/2019 18:10	Documento XML	1 KB
201908_AvgTemp_UZ.xml	29/03/2019 18:10	Documento XML	1 KB





- CentralAsia
- InductiveDatasets
- MonthlyAveragePrecipitation
- MonthlyAverageTemperatur
- WaterScarsity



Ultima modifica	Tipo	Dimensione
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB
29/03/2019 18:10	Documento XML	1 KB

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      "icon": "01n"  
    }  
  ],  
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  "main": {  
    "temp": 289.92,  
    "pressure": 1009,  
    "humidity": 92,  
    "temp_min": 288.71,  
    "temp_max": 290.93
```

CACIP server  
with a running  
daemon

USER API  
WebService  
File

harvesting



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## OUTCOMES OF THIS TOOL

promote joining the community

with shared national data, the platform create information at regional level

help to raise a regional awareness



# USERS ARE IMPORTANT

keep in touch with users

users coming regularly into CACIP keep the platform alive

to encourage people to use the platform CACIP embeds this tool

**WHAT'S CACIP**





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this tool is based on user preferences and is able to browse the platform (knowledge, documents, spatial data, etc.) and to produce a list/report about the **specific contents related to a specific location**

# how does it work







# use case

- **access** the platform
- define an **area of interest** (using descriptive tags, using coordinates)
- launch the search
- get a **list of information matching the filters**

- save the area of interest in your preferences
- activate a **notification channel** (email, facebook, twitter, ...)
- stay informed whenever something happens





### Quick Data Explorer

Country

District

Rectangle

Point

### Quick Data Explorer

- ☐ Kazakhstan
- ☐ Kyrgyzstan
- ☐ Tajikistan
- ☐ Turkmenistan
- ☐ Uzbekistan

**select the area of interest**



### Quick Data Explorer

Country

District

Rectangle

Point



click on the map  
to select a country

**select the area of interest**



### Quick Data Explorer

[Country](#)[District](#)[Rectangle](#)[Point](#)

### Quick Data Explorer

#### Country

- ☐ Kazakhstan
- ☐ Kyrgyzstan
- ☒ Tajikistan
- ☐ Turkmenistan
- ☐ Uzbekistan

#### District

- ☐ Tursunzoda
- ☐ Shahrinaw
- ☐ Hisor
- ☐ Rudaki
- ☒ Dushanbe
- ...

**select the area of interest**





draw a point,  
a rectangle or  
a polygon on the map

**select the area of interest**





### Quick Data Explorer

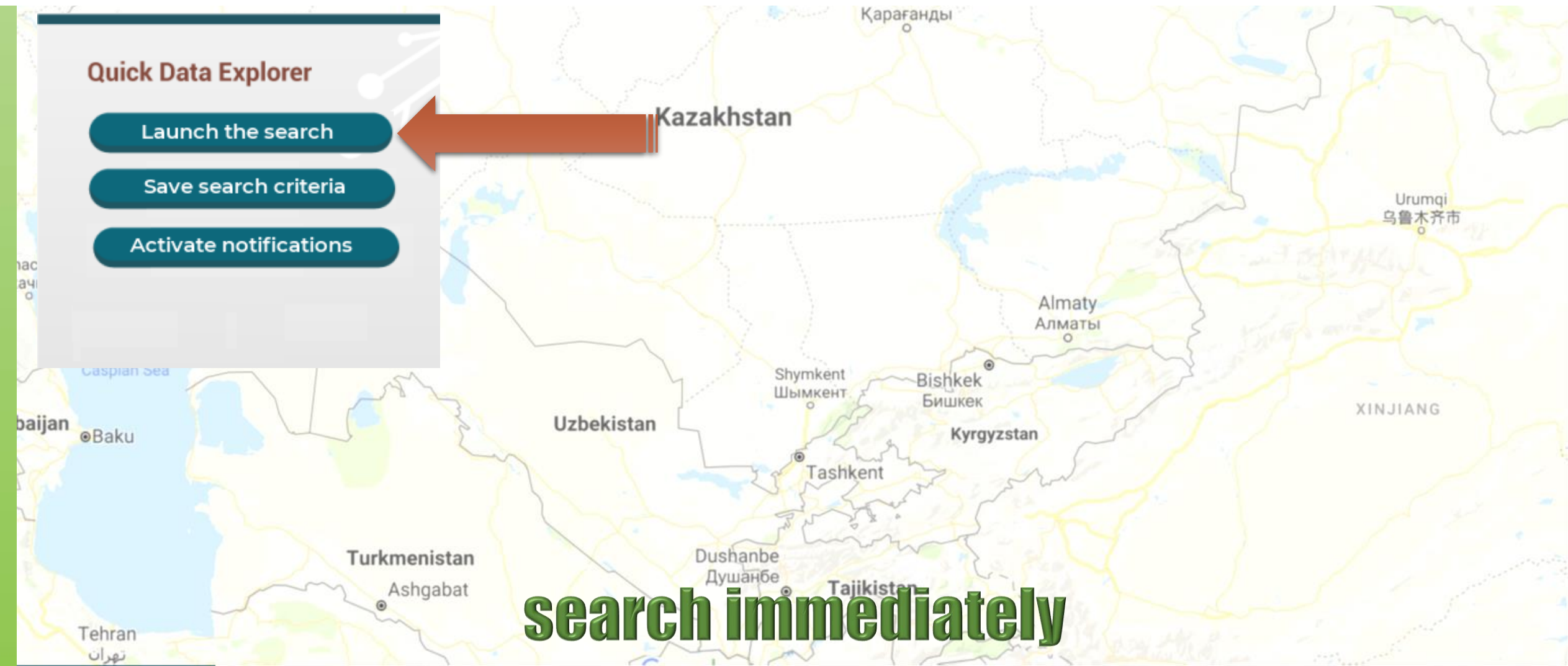
Launch the search

Save search criteria

Activate notifications




**search immediately**





## Publications

Keyword search... 

### Filter

#### Type

- ☐ Reports
- ☐ Papers
- ☐ Posters
- ☐ Training Materials
- ☐ Best Practices
- ☐ Conference Proceedings

#### Country

- ☐ Kazakhstan
- ☐ Kyrgyzstan
- ☐ Tajikistan
- ☐ Turkmenistan
- ☐ Uzbekistan

Prev 1 2 3 4 5 Next

Sort: Date  Title 



### Rural Competitiveness Development Water | Tajikistan | Report

ICARDA  
September 3, 2018



### Impacts of Temperature and Precipitation

ICARDA  
September 3, 2018



### Addressing *Climate Change* in Transport

ICARDA  
September 3, 2018



### Economics of Adaptation to *Climate Change* : Viet World Bank

ICARDA  
September 3, 2018



### Adapting to *Climate Change* in ECA Fay, Marianne; Block, Rachel; Carrington,

ICARDA  
September 3, 2018



### How *Climate Change* Impacts and Adaptation Responses

ICARDA  
September 3, 2018





## Filter

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## Type

☐ Maps & Infographics

2818

☐ Archive

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## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

17

☐ Turkmenistan

52

☐ Uzbekistan

8

## Provinces/District

☐ Badakhshan

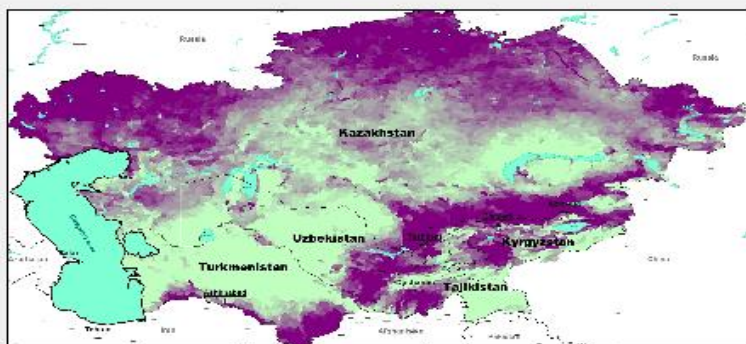
44

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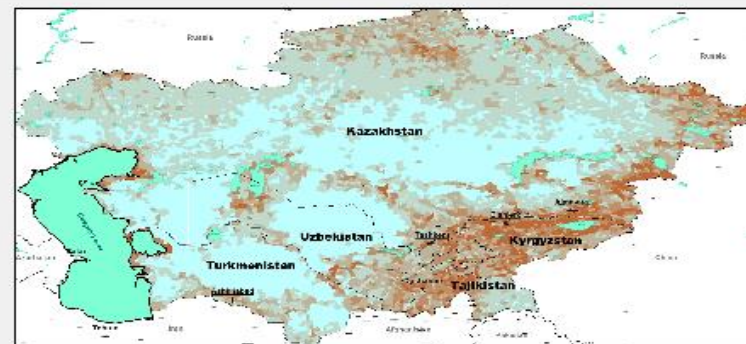
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Long term average instability  
of vegetation conditions in  
Central Asia

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Local omogeneity of the variability  
of the the vegetation index in  
Central Asia

[Download](#)[View](#)

search immediately

variability of the daily mean surface temperature in the period 2000-2019 in CA



Hillshading of Tajikistan



### Quick Data Explorer

Launch the search

Save search criteria

Activate notifications

Save search criteria in my preferences

Name

Description

Activate

**save search criteria**





### Quick Data Explorer

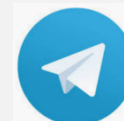
[Launch the search](#)[Save search criteria](#)[Activate notifications](#)

Enter an email address

Email

[Activate](#)

Social notifications

[Activate](#)

Set frequency

☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly

[Apply](#)

**activate notifications**



Central Asia  
CLIMATE PORTAL



CALENDAR

ABOUT

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Tonic

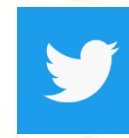
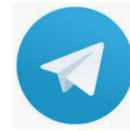
Country

Knowledge Hub

Welcome [ SETTINGS | LOGOUT ]

Share   

Search...



Kazakhstan

Uzbekistan

Tashkent

Tajikistan

Bishkek  
Бишкек

Kyrgyzstan

Almaty  
Алматы

XINJIANG

Ashgabat

Dushanbe  
Душанбе

Caspian Sea

Tehran  
تهران

Baku

Bakala



Central Asia  
CLIMATE PORTAL



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Share



Search...



## OUTCOMES OF THIS TOOL

find the more recent information  
about a location

bring the latest news on user desktop





# A COMMUNITY BEHIND

## with different and heterogeneous interests

the questionnaire survey done during the national consultations have been very interesting, and the aggregated results at **regional level** have been very useful during the design phase of the platform

to continue collecting feedbacks and suggestions from the users/community, CACIP embeds this tool

### ONLINE QUESTIONNAIRE





- a section of CACIP contains a form that users can fill with their own feedback
- the information entered through the form are **automatically collected and processed** by the system to **update statistical information** about the interests and suggestions of the users of the platform
- these information are **aggregated and shown in the dashboard** of the system



# a sample: the questionnaire of national consultations

## GEOGRAPHICAL DATA

### HISTORICAL DATA

Content	Included (temporarily)	Use	Provide	Hint
<i>Hydrological databases on river basins</i>		<input type="checkbox"/>	<input type="checkbox"/>	
<i>Climate induced natural disaster</i>		<input type="checkbox"/>	<input type="checkbox"/>	
<i>Historical climate variability</i>				
• Temperature (source <a href="https://modis.gsfc.nasa.gov/data/">https://modis.gsfc.nasa.gov/data/</a> )	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Precipitation (source <a href="https://pmm.nasa.gov/GPM/">https://pmm.nasa.gov/GPM/</a> )	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Lake/reservoir levels		<input type="checkbox"/>	<input type="checkbox"/>	
• Flows		<input type="checkbox"/>	<input type="checkbox"/>	
• Evapotranspiration (source <a href="https://modis.gsfc.nasa.gov/data/">https://modis.gsfc.nasa.gov/data/</a> )	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Glaciers (source <a href="https://nsidc.org/">https://nsidc.org/</a> )	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## YOUR INTEREST FOR "NEW" PRODUCTS

Are you interested on new products, not available now, with a set of information and numerical data related to the climate change in Central Asia?

In general

No needed ☐

Some interest ☐

Very interested ☐

## YOUR AVAILABILITY/INTEREST TO CONTRIBUTE TO CACIP

Are you available to contribute to CACIP in the following ways?

As a **basic user**

user of the platform

Not available ☐

Available ☐

I don't know ☐

Very interested ☐

Very interested ☐

Very interested ☐

Very interested ☐

Not available ☐

Available ☐

I don't know ☐

Not available ☐

Available ☐

I don't know ☐

Not available ☐

Available ☐

I don't know ☐





Central Asia  
CLIMATE PORTAL



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Share   

Search...



# regional results

all information entered in the  
online questionnaire are  
stored in a database to  
produce

## REGIONAL STATISTICS

Kazakhstan

Қарағанды



CACIP platform

Report of the stakeholders consultation workshop



Ashgabad, Turkmenistan  
September 13, 2019



CACIP platform

consultation workshop



Dushanbe, Tajikistan  
July 15, 2019



CACIP platform

consultation workshop



Bishkek, Kyrgyzstan  
July 11, 2019



CACIP platform

consultation workshop



Almaty, Kazakhstan  
June 14, 2019



CACIP platform

consultation workshop



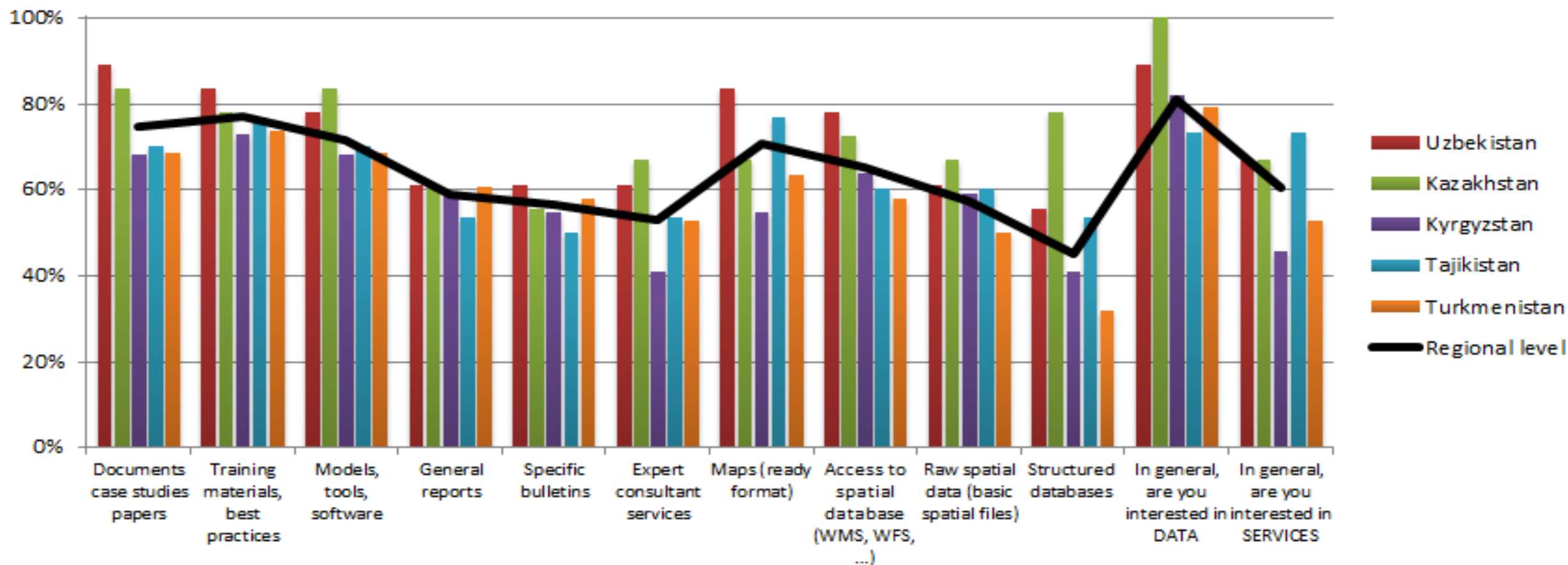
Tashkent, Uzbekistan  
June 11, 2019





# regional results

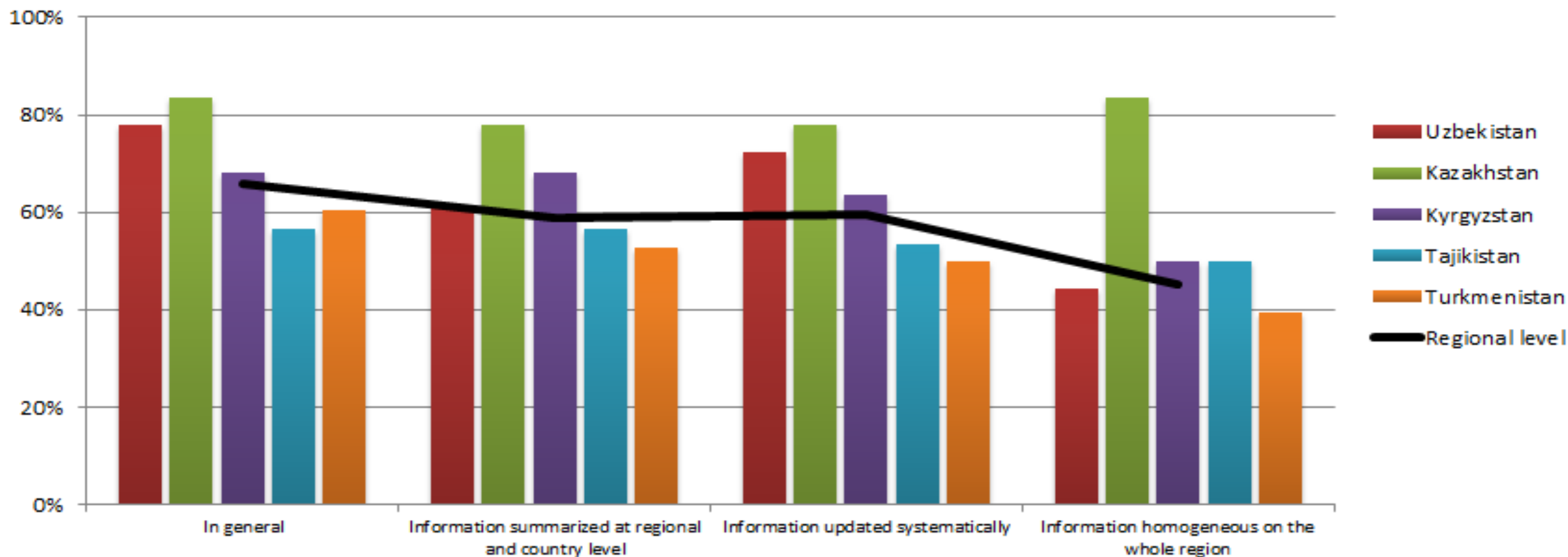
## Interest for CACIP platform





# regional results

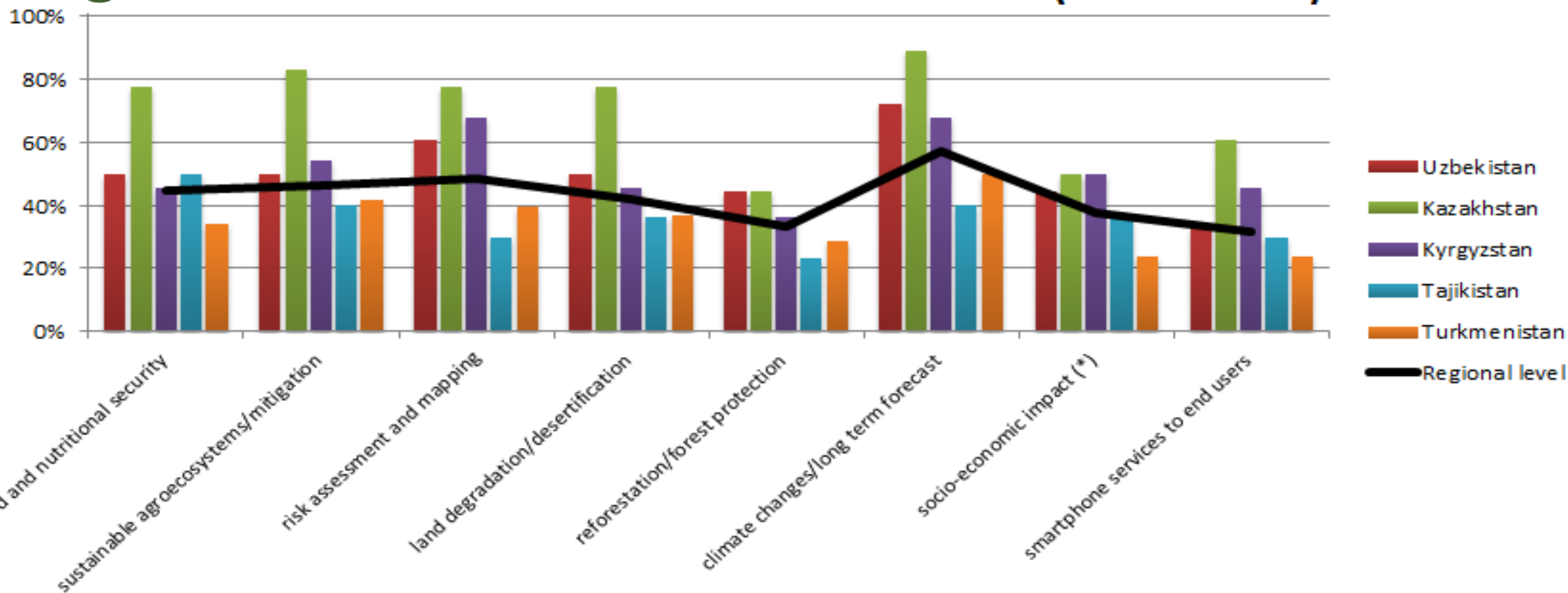
## Interest for new products





# regional results

## Focused areas (as basic user)







# A COMMUNITY BEHIND

## with different and heterogeneous interests

the users are **heterogeneous** and have different interests and needs

to provide to each user interesting and tailored information and tools, CACIP embeds

**TARGETED INTERFACES**





the platform provides different **predefined interfaces to access to the information, data and tools**, for different types of users: decision makers, trainers, farmers, citizens, etc.

users can select one of the predefined interface or is able to **customize her/his own home page** with selected contents

a sample preview







Central Asia  
CLIMATE PORTAL

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## a sample targeted interface

each targeted page is composed by a set of “contents blocks” with graphics, images, texts, maps, tools

each “content block” is usually also a link to more detailed information

The screenshot displays the Central Asia Climate Portal interface. At the top, there is a navigation bar with flags for the UK and Russia, and links for CALENDAR, ABOUT, and CONTACT. Below this, a secondary navigation bar features 'Topic', 'Country', and 'Knowledge Hub' tabs. A search bar and social media sharing icons (Share, YouTube, Twitter, Facebook, LinkedIn) are also present.

The main content area is divided into three columns:

- Today's Numbers:** Displays four key metrics: Surface Temperature (26.3), Air Pollution Level (90 US AQI), Humidity (45%), and Air Temperature (32.1).
- Latest News:** Features a news item titled 'Rural Competitiveness Development Programme' dated September 3, 2018, by ICARDA, accompanied by a photo of people with sheep.
- Latest Blogs:** Features a blog post titled 'Rural Competitiveness Development Programme' dated September 3, 2018, by ICARDA, accompanied by a photo of people working in a field.

At the bottom, there is a 'Quick Data Explorer' section with buttons for 'Country' and 'Topic', and links to 'Download Map and Layer Data' and 'Download Datasets'. To the right of this section is a map of Central Asia showing countries like Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Azerbaijan, Georgia, Turkey, Syria, Iraq, and Mongolia, with the Caspian Sea and Black Sea labeled.



Central Asia  
CLIMATE PORTAL



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Knowledge Hub

Share   

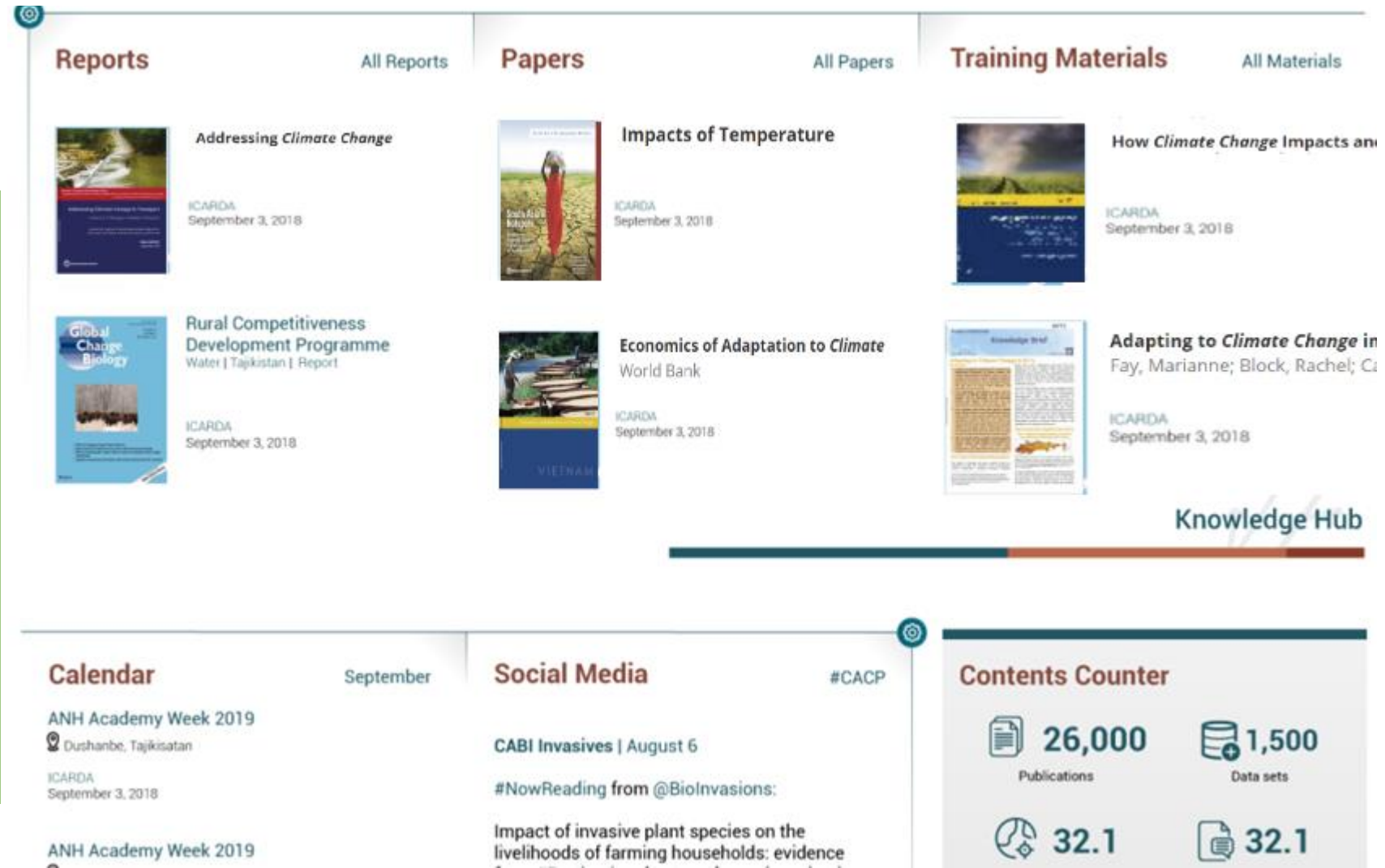
Search... 

## a sample targeted interface

some “contents block” show a list of documents or data

this lists “embed” contents filters derived from

- user preferences
- type of interface



The screenshot displays the Central Asia Climate Portal interface, which is organized into several sections:

- Reports** (All Reports):
  - Addressing Climate Change**: ICARDA, September 3, 2018.
  - Rural Competitiveness Development Programme**: Water | Tajikistan | Report, ICARDA, September 3, 2018.
- Papers** (All Papers):
  - Impacts of Temperature**: ICARDA, September 3, 2018.
  - Economics of Adaptation to Climate**: World Bank, ICARDA, September 3, 2018.
- Training Materials** (All Materials):
  - How Climate Change Impacts and**: ICARDA, September 3, 2018.
  - Adapting to Climate Change in**: Fay, Marianne; Block, Rachel; Ca, ICARDA, September 3, 2018.
- Calendar** (September):
  - ANH Academy Week 2019**: Dushanbe, Tajikistan, ICARDA, September 3, 2018.
  - ANH Academy Week 2019**: ICARDA, September 3, 2018.
- Social Media** (#CACP):
  - CABI Invasives**: August 6.
  - #NowReading from @BioInvasions:** Impact of invasive plant species on the livelihoods of farming households: evidence.
- Contents Counter**:
  - Publications**: 26,000.
  - Data sets**: 1,500.
  - 32.1** (with a globe icon).
  - 32.1** (with a document icon).

# some example maps and applications







## Type

☐ Maps & Infographics

2818

☐ Archive

35

## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

17

☐ Turkmenistan

52

☐ Uzbekistan

8

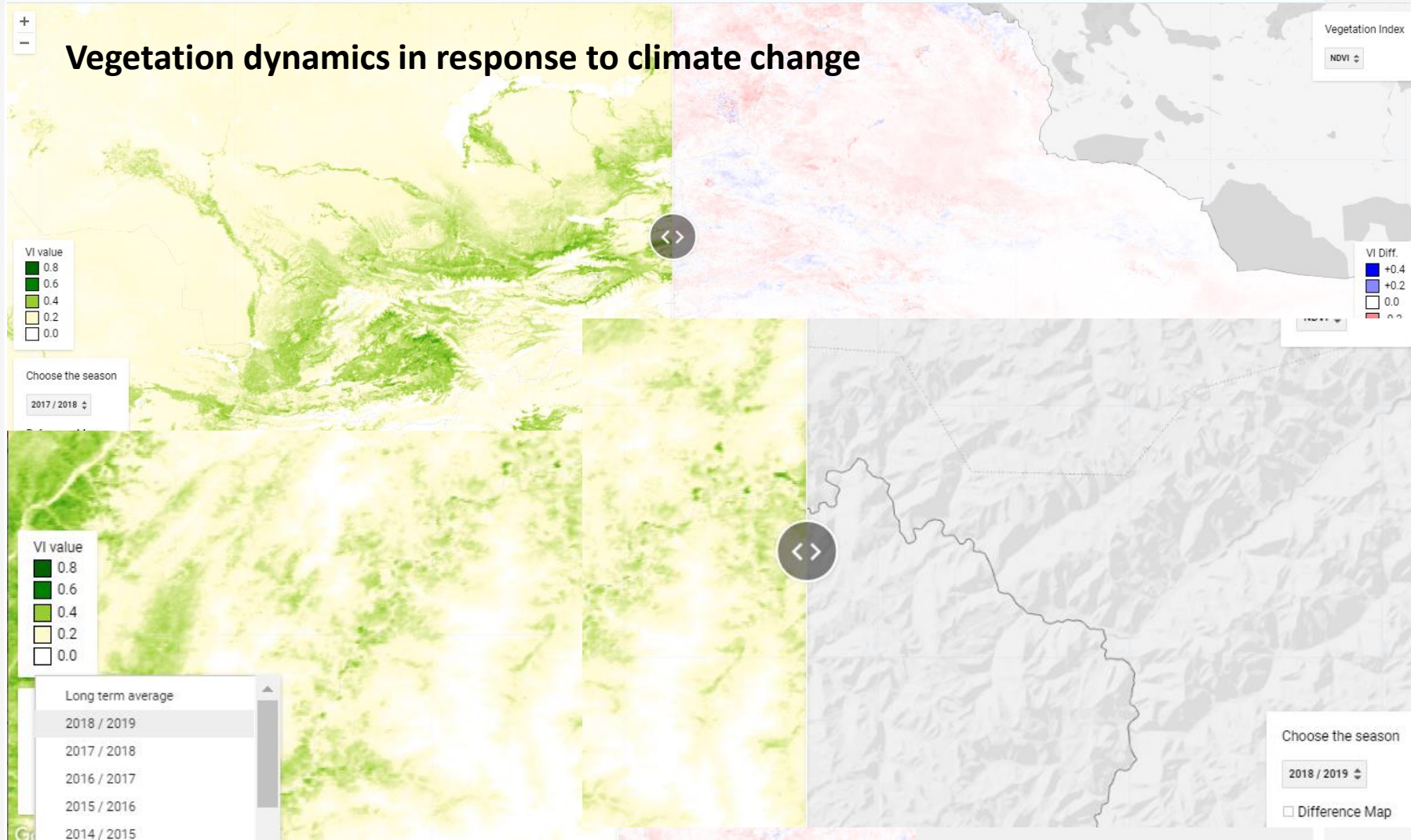
## Provinces/District

☐ Badakhshan

44



## Vegetation dynamics in response to climate change

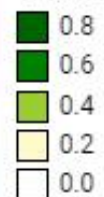






## Vegetation dynamics in response to climate change Decadal comparison between 2000-2019

VI value



Choose the season

2000 / 2001

Reference Map

vegetation index

NDVI

Choose the season

2018 / 2019

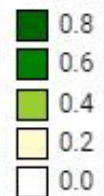
☐ Difference Map





## Hot spots for the targeting interventions Vegetation dynamics in response to climate change

VI value



Choose the season

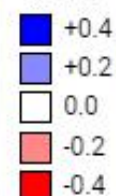
2000 / 2001

Reference Map

Vegetation Index

NDVI

VI Diff.



Choose the season

2018 / 2019

☒ Difference Map



## Filter

[Clear all](#)

Enter your text here ...



## Type

☐ Maps & Infographics

2818

☐ Archive

35

## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

17

☐ Turkmenistan

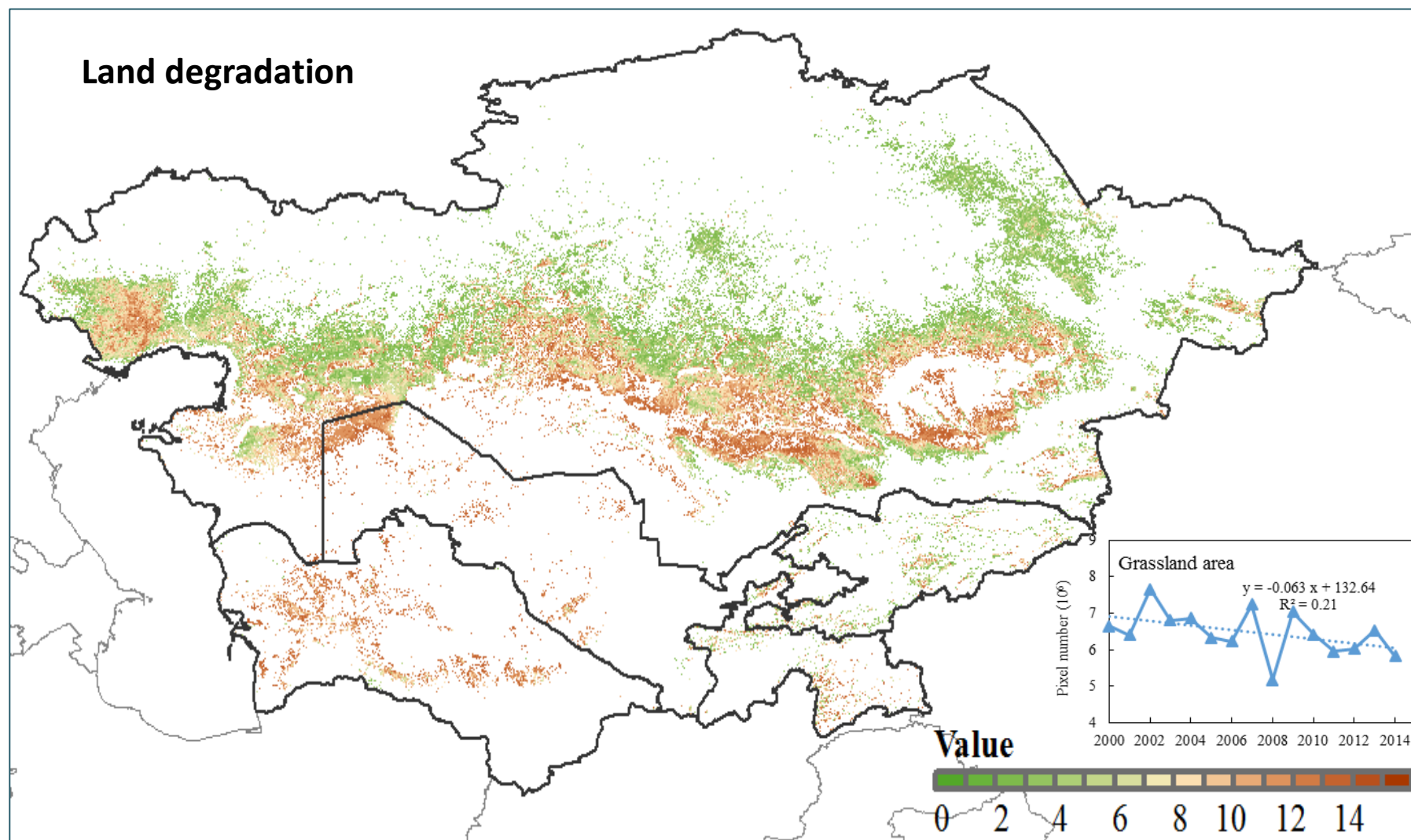
52

☐ Uzbekistan

8

## Provinces/District

## Land degradation







Enter your text here ...



## Type

☐ Maps & Infographics

2818

☐ Archive

35

## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

17

☐ Turkmenistan

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☐ Uzbekistan

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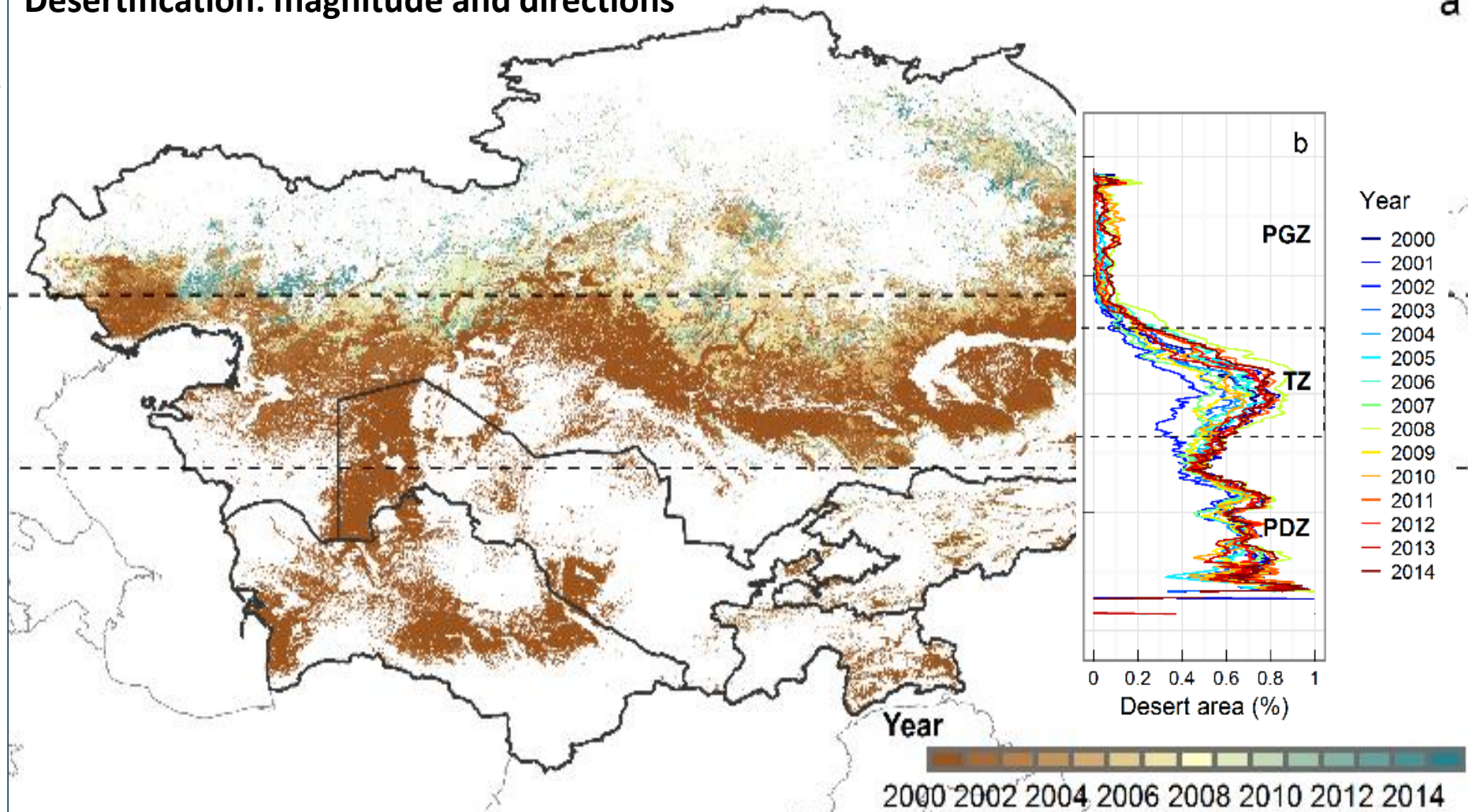
## Provinces/District

☐ Badakhshan

44



## Desertification: magnitude and directions





Enter your text here ...



## Type

☐ Maps & Infographics

2818

☐ Archive

35

## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

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☐ Turkmenistan

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☐ Uzbekistan

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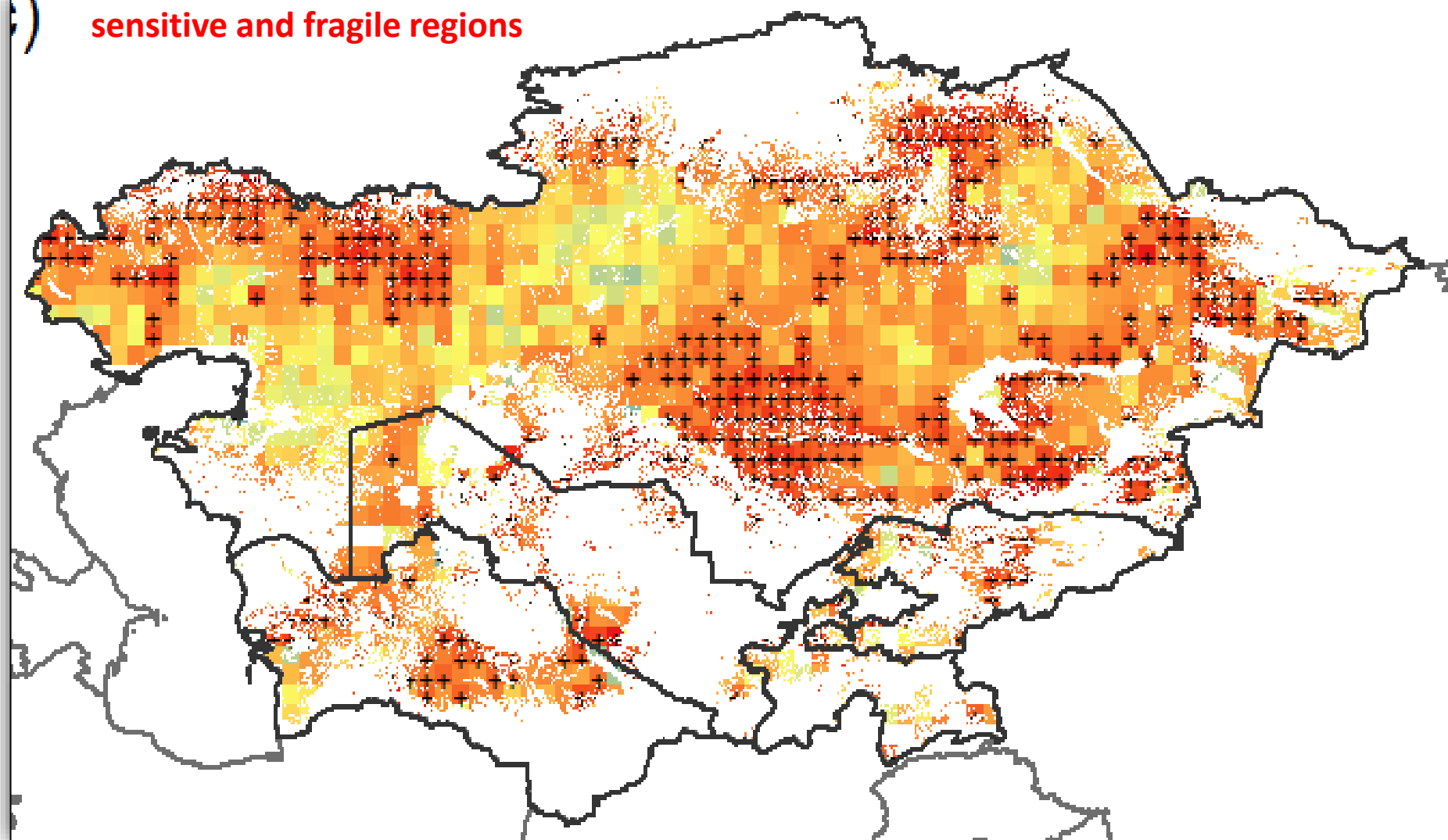
## Provinces/District

☐ Badakhshan

44



## sensitive and fragile regions







Enter your text here ...



## Type

☐ Maps & Infographics

2818

☐ Archive

35

## Regions

☐ Central Asia

568

☐ Kazakhstan

1

☐ Kyrgyzstan

23

☐ Tajikistan

17

☐ Turkmenistan

52

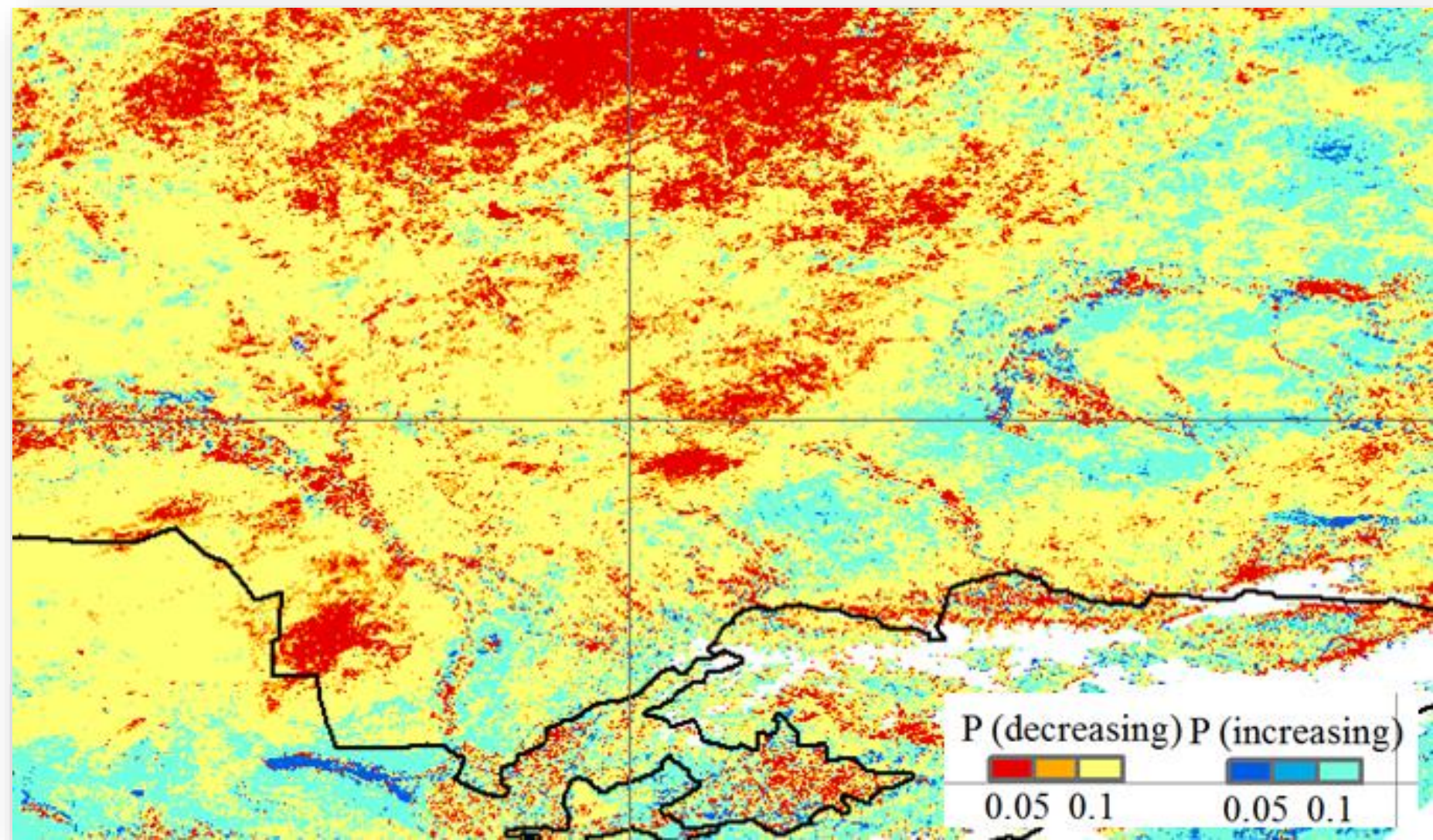
☐ Uzbekistan

8

## Provinces/District

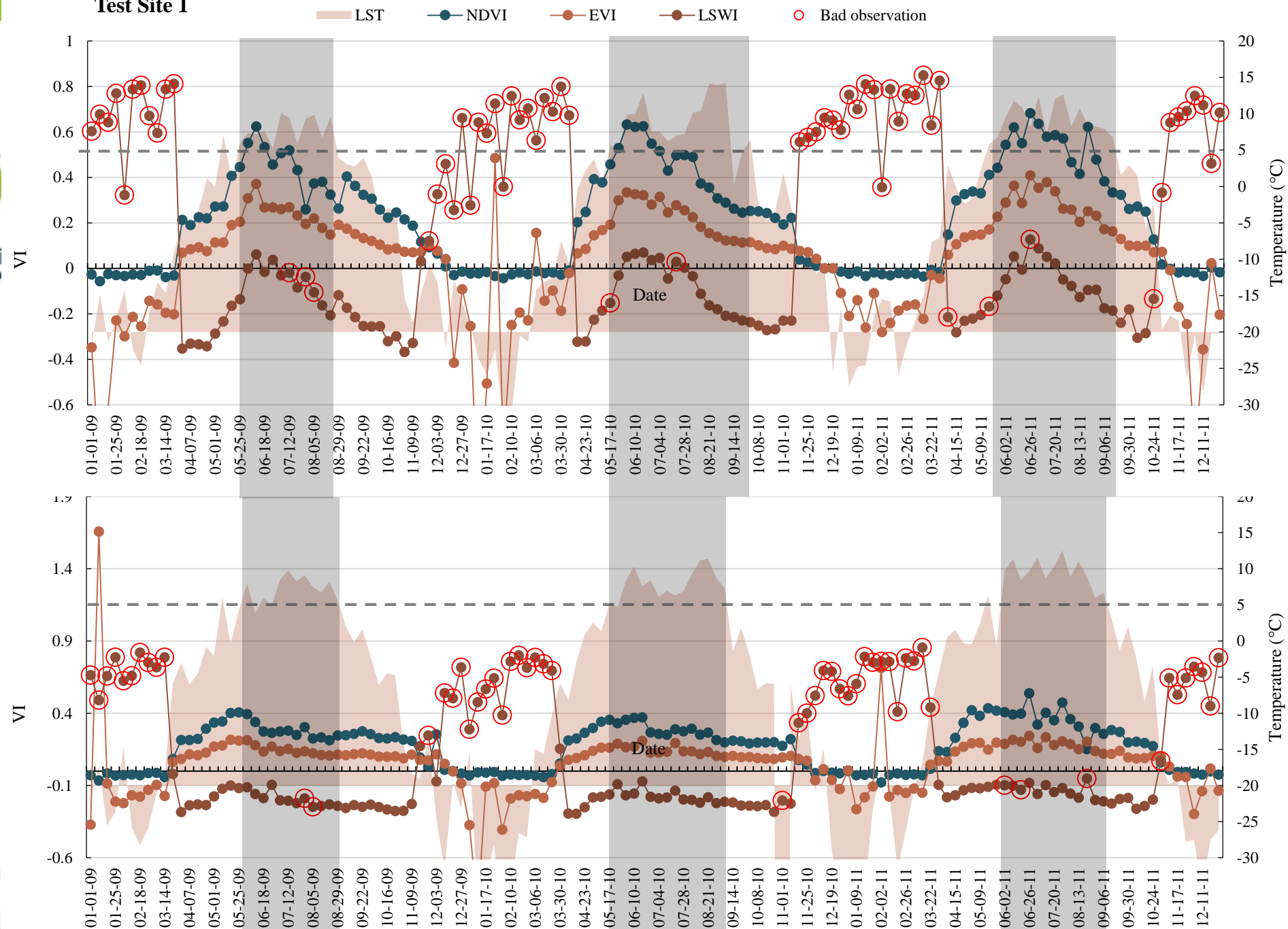
☐ Badakhshan

44





## Test Site 1



# CACIP WAS BORN

**Welcome CACIP**  
[centralasiacclimateportal.org](http://centralasiacclimateportal.org)



# centralasiacclimateportal.org



 22 °C  
Temperature

 10%  
Humidity

 13 km/h  
Wind

 90 AQI  
Air Pollution

 About

 Topics

 Countries

Water  
Management

Climate  
Change

Risk  
Assessment

Food  
Security

Sustainable  
Agroecosystems

Land  
Degradation



# Central Asia Information Platform



THANK YOU FOR YOUR ATTENTION  
and ...

**see you on CACIP**