

© Quentin BEAUGHÈNE

PARAMARIBO BIO-PLATEAUX CONFERENCE

TRANSBOUNDARY RIVER BASINS CONFERENCE IN THE GUIANAS

October 31 to November 2 – 2024



- MINISTRY OF PUBLIC WORKS
- Sub-Directorate of Research and Innovation
- Department of Hydro-Met

BHAGGOE DEW MBA B.Tech
Deputy Director Research
and Innovation

Dewdath Bhaggoe



Personalia

 Dewdath Bhaggoe

 dew_bhaggoe@yahoo.com

 +597-8535887

 Bergenshoopweg 29

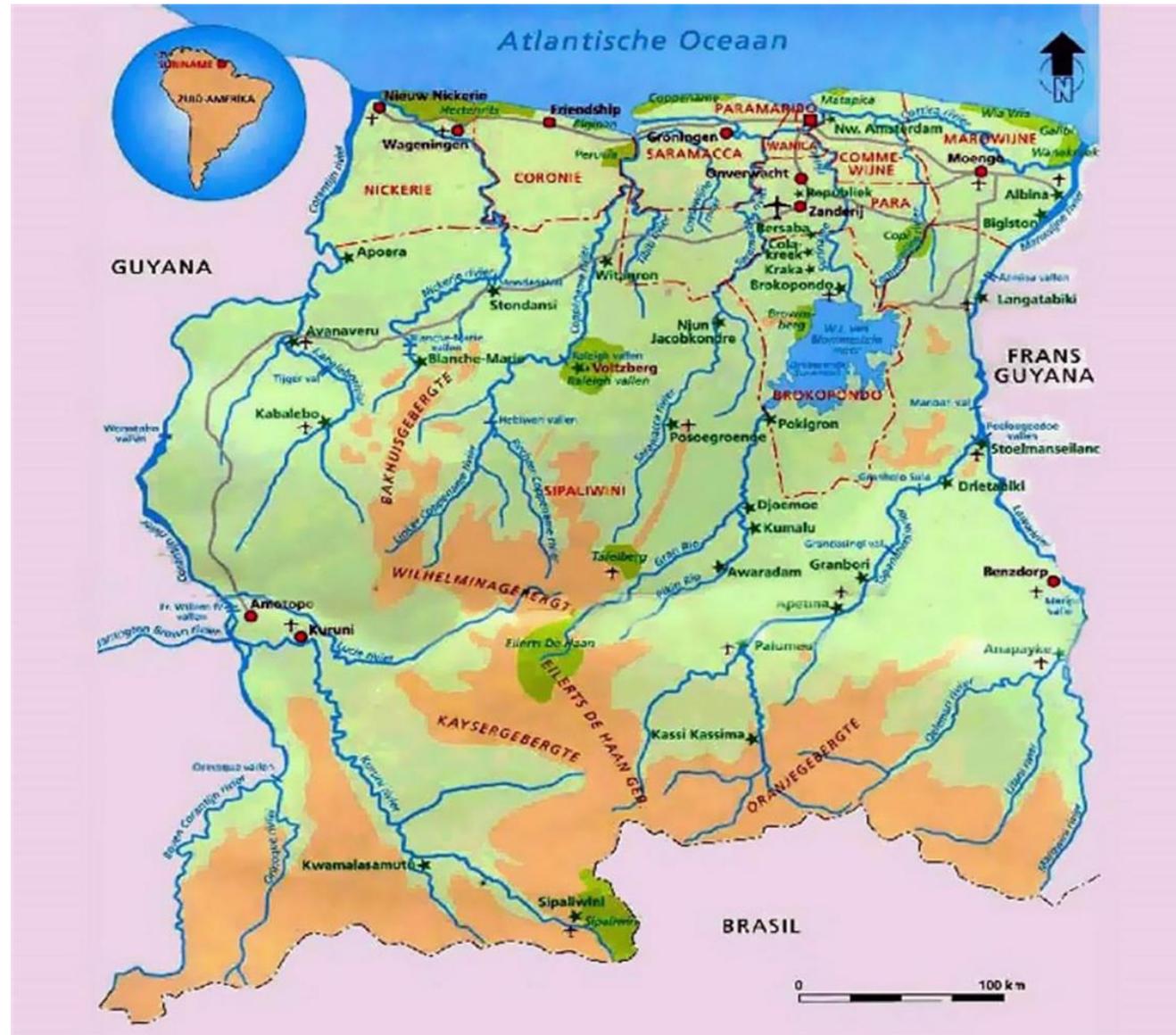


TABLE OF CONTENTS

- Suriname
- Temperature
- Precipitation
- Season Forecast
- Project Paramaribo Atmospheric Observatory of the KNMI
- Automatic Weather Stations
- Local Forecasting
- Alerts
- Rivers in Suriname
- 8 Drain Areas of Suriname
- Water level and weather stations
- Reactivate Hydrological and meteorological monitoring network EU/GCCA+ Phase 2 Project
- BIO-PLATEAU PROJECT Suriname, French Guiana and Brasil
- Suriname experiences flooding in several inland villages

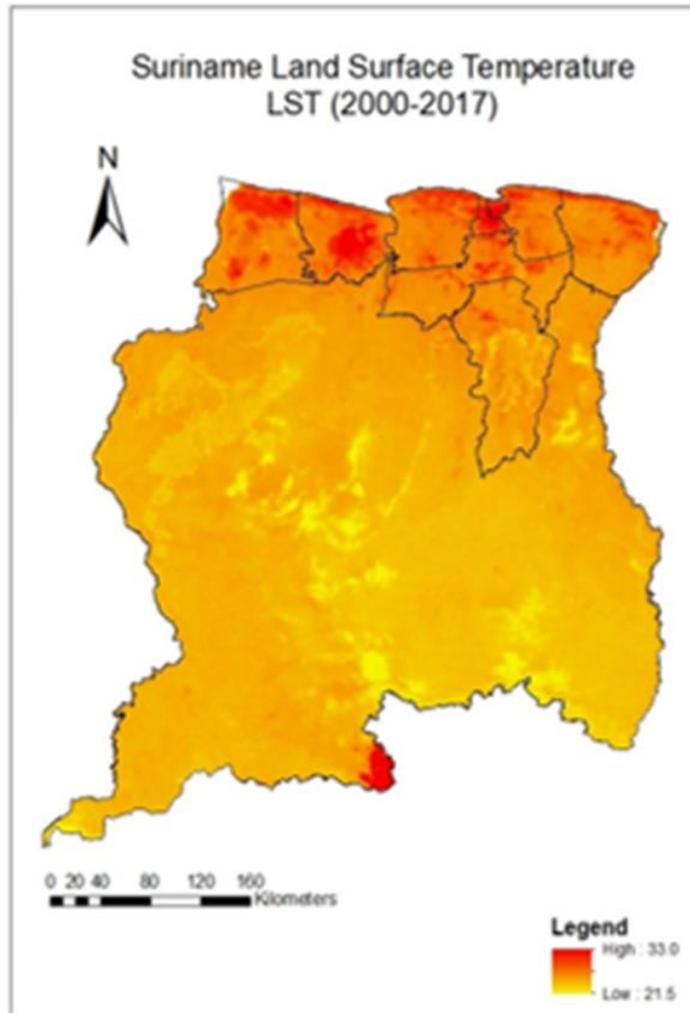


• Suriname

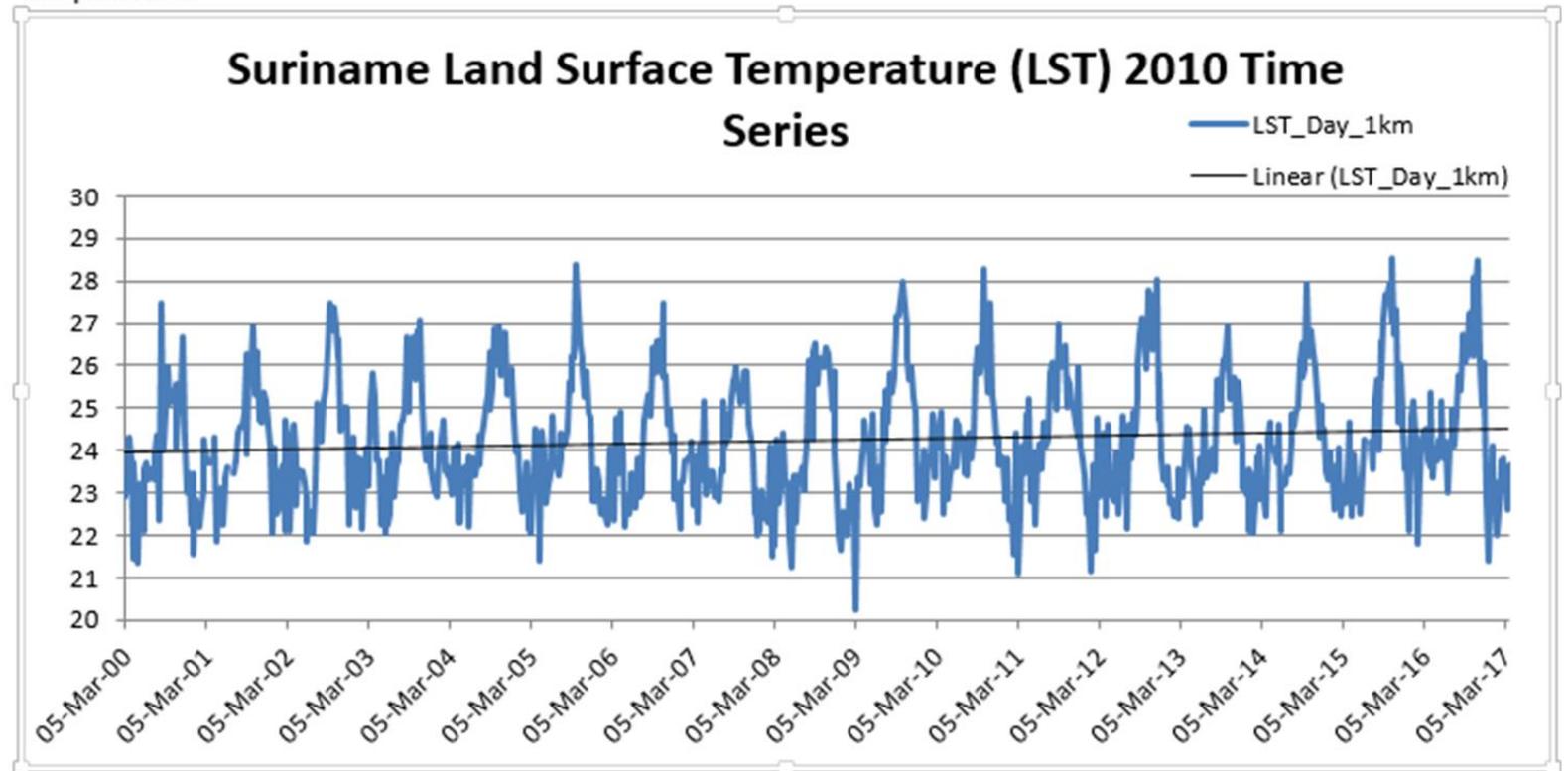


TRANSBOUNDARY RIVER BASINS CONFERENCE IN THE GUIANAS
BIO-PLATEAUX CONFERENCE - PARAMARIBO

• Meteorological Service Suriname: Temperature



Temperature:



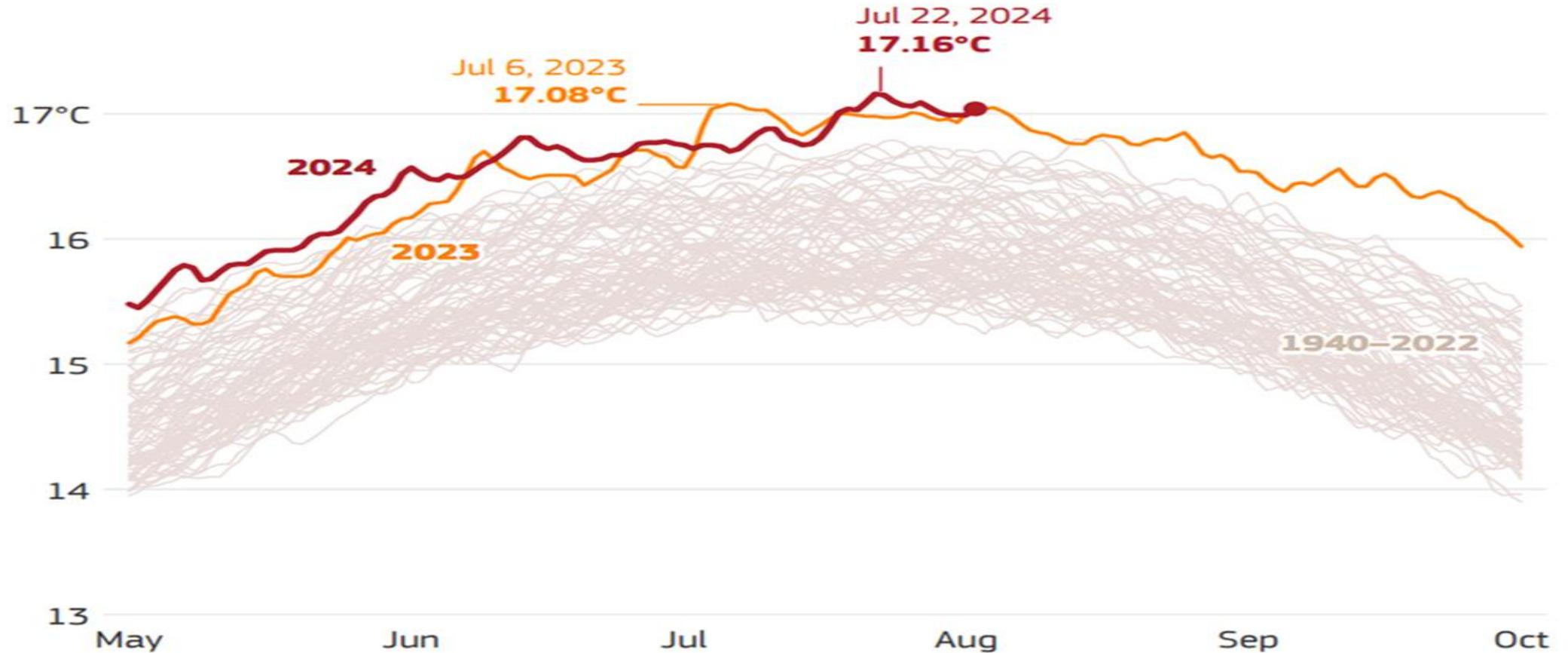
Conclusion:

Between the years 2000 and 2017 there has been an increase in the temperature, based on the trend line. Within those 17 years an increase of about 0.5 degrees Celsius has been observed. Depending on the seasons, the fluctuations may vary in the maximum and minimum values.



• Meteorological Service Suriname: Temperature

Daily global surface air temperature



Data source: ERA5 • Credit: C3S/ECMWF



• Meteorological Service Suriname: Precipitation

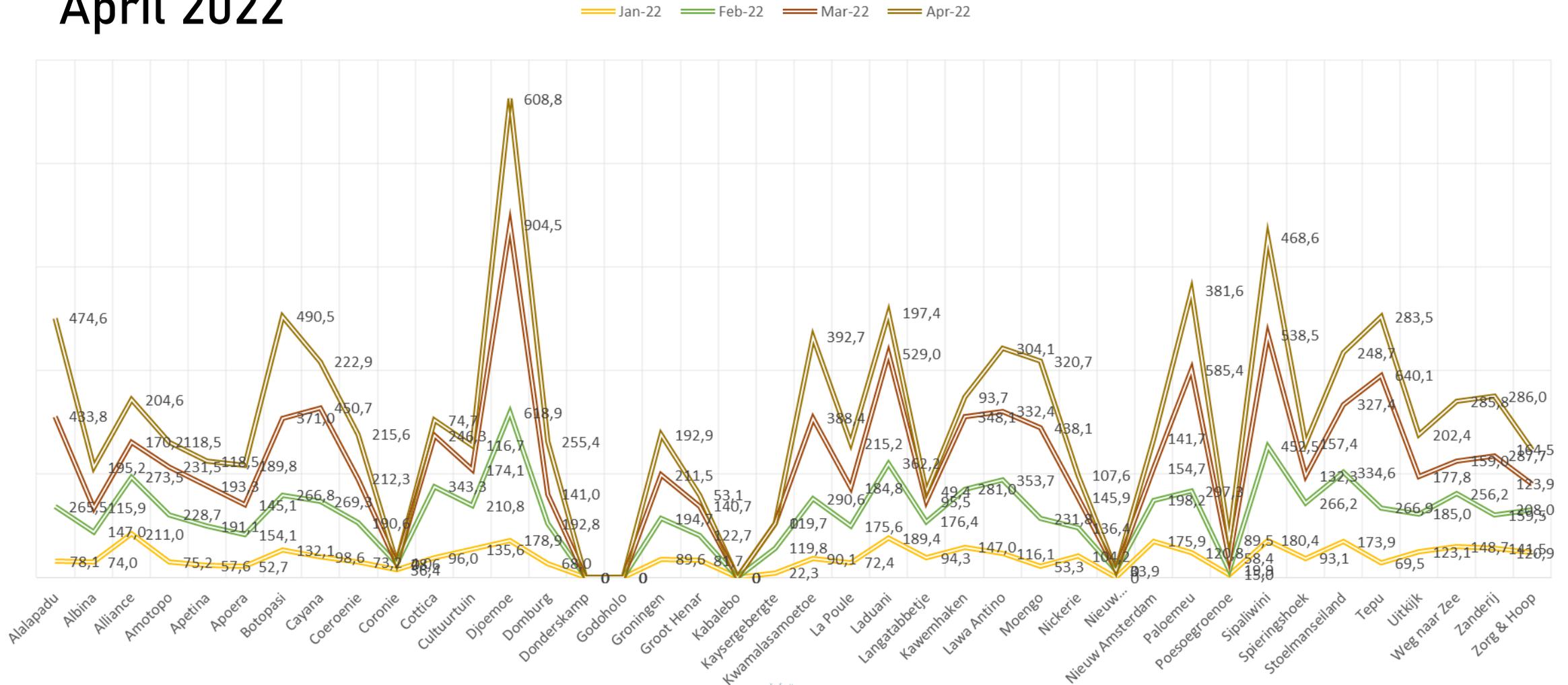
	<i>Station</i>	<i>Jan-22</i>	<i>Feb-22</i>	<i>Mar-22</i>	<i>Apr-22</i>
1	Alalapadu	78.1	265.5	433.8	474.6
2	Albina	74.0	147.0	115.9	195.2
3	Alliance	211.0	273.5	170.2	204.6
4	Amotopo	75.2	228.7	231.5	118.5
5	Apetina	57.6	191.1	193.3	118.5
6	Apoera	52.7	154.1	145.1	189.8
7	Botopasi	132.1	266.8	371.0	490.5
8	Cayana	98.6	269.3	450.7	222.9
9	Coeroenie	73.2	190.6	212.3	215.6
10	Coronie	36.4	28.6		4.0
11	Cottica	96.0	343.3	246.3	74.7
12	Cultuurtuin	135.6	210.8	174.1	116.7
13	Djoemoe	178.9	618.9	904.5	608.8
14	Domburg	68.0	192.8	141.0	255.4
15	Donderskamp				
16	Godoholo				
17	Groningen	89.6	194.7	211.5	192.9
18	Groot Henar	81.7	122.7	140.7	53.1
19	Kabalebo				
20	Kaysergebergte	22.3	119.8	119.7	
21	Kwamalasamoetoe	90.1	290.6	388.4	392.7
22	La Poule	72.4	175.6	184.8	215.2
23	Laduani	189.4	362.2	529.0	197.4
24	Langatabbetje	94.3	176.4	95.5	49.4
25	Kawemhaken	147.0	281.0	348.1	93.7
26	Lawa Antino	116.1	353.7	332.4	304.1
27	Moengo	53.3	231.8	438.1	320.7
28	Nickerie	104.2	136.4	145.9	107.6
29	Nieuw Jacobkondre		33.9		
30	Nieuw Amsterdam	175.9	198.2	154.7	141.7
31	Paloemeu	120.8	297.3	585.4	381.6
32	Poesoegroenoe	15.0	19.9	58.4	89.5
33	Sipaliwini	180.4	452.5	538.5	468.6
34	Spieningshoek	93.1	266.2	132.3	157.4
35	Stoelmanseiland	173.9	334.6	327.4	248.7
36	Tepu	69.5	266.9	640.1	283.5
37	Uitkijk	123.1	185.0	177.8	202.4
38	Weg naar Zee	148.7	256.2	159.0	285.8
39	Zanderij	141.5	159.5	287.7	286.0
40	Zorg & Hoop	120.9	208.0	123.9	164.5

Precipitation analysis,
rainfall is measured from 52
stations across Suriname

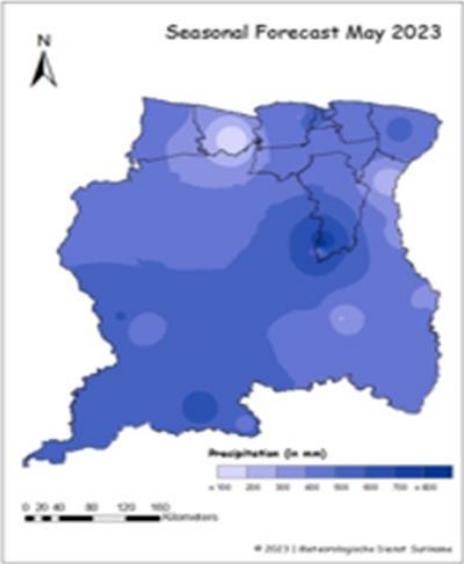
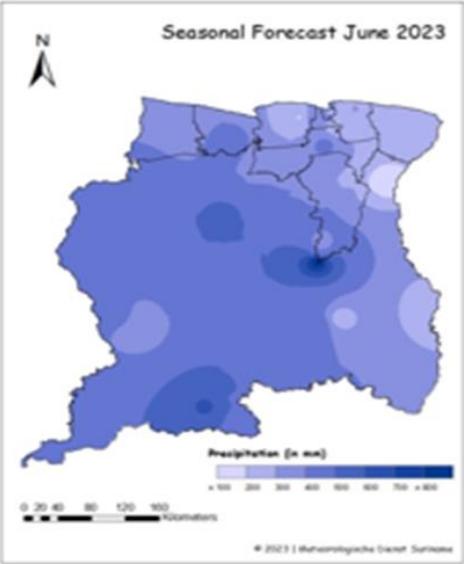


Meteorological Service Suriname: Precipitation

- Line graph of rainfall in various locations from January through April 2022

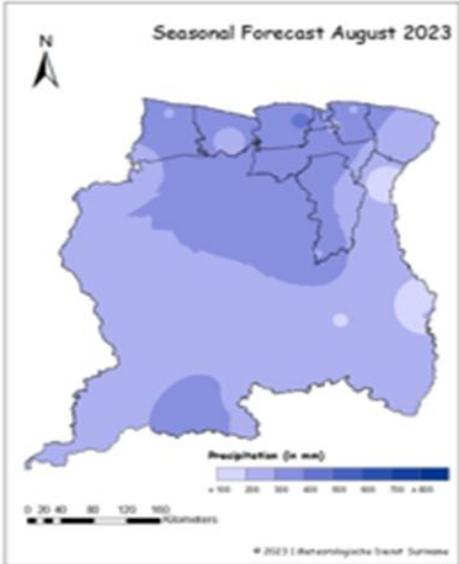
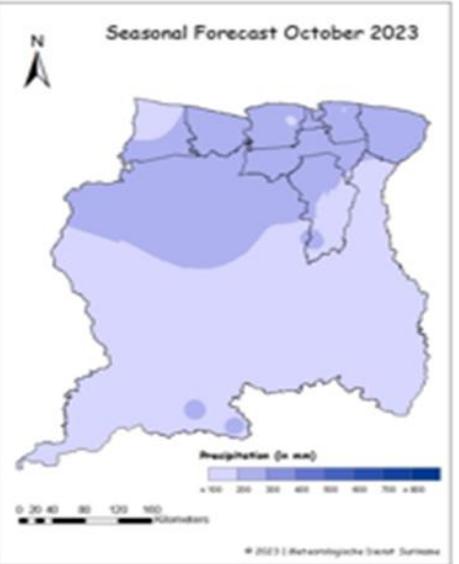


• Meteorological Service Suriname: Season Forecast

May	June	July
		
<p>During the month May 2023, the area of the most concentrated rainfall was in the coastal area (<u>Domburg</u>: 427.9mm), Central Suriname (<u>Cayana</u>: 477mm) and the southwestern area (<u>Kwamalasamutu</u> with 514.9mm); real-time observations were used to map out the concentrated areas.</p>	<p>For the month June 2023, a slight decrease in the precipitation pattern is seen/ forecasted. The forecast for Suriname on precipitation is close to normal. The high concentrated areas are in Central Suriname and in the capital Paramaribo with projected number reaching 400mm.</p>	<p>July will still have more precipitation, a slight decrease compared to June, however around the capital and a much larger concentration is noticeable (of about 423mm for <u>La Poule</u>, located west of Paramaribo).</p>



• Meteorological Service Suriname: Season Forecast

August	September	October
		
<p>During the month August 2023, the high concentration of precipitation is forecasted mainly around the coastal area and Central Suriname. Precipitation varying from 150mm up to 350mm is expected. Climatologically the mid of August is categorized as the start of the dry season.</p>	<p>September is expected to have the least rainfall. In some areas however, there are some locations where there might be significant rainfall; this could be the cause of the topography and the <u>Brokopondo</u> reservoir. The monthly total precipitation is expected to not reach higher than 185mm.</p>	<p>In October 2023, the coastal area is expected to have more precipitation compared to the interior. Predictions give out that the coastal area will probably have rainfall between 180mm up to 310mm.</p>



- **Meteorological Service Suriname: Project Paramaribo Atmospheric Observatory of the KNMI**



A unique atmospheric observatory in the Tropics, where processes can be studied with large impact on global climate.

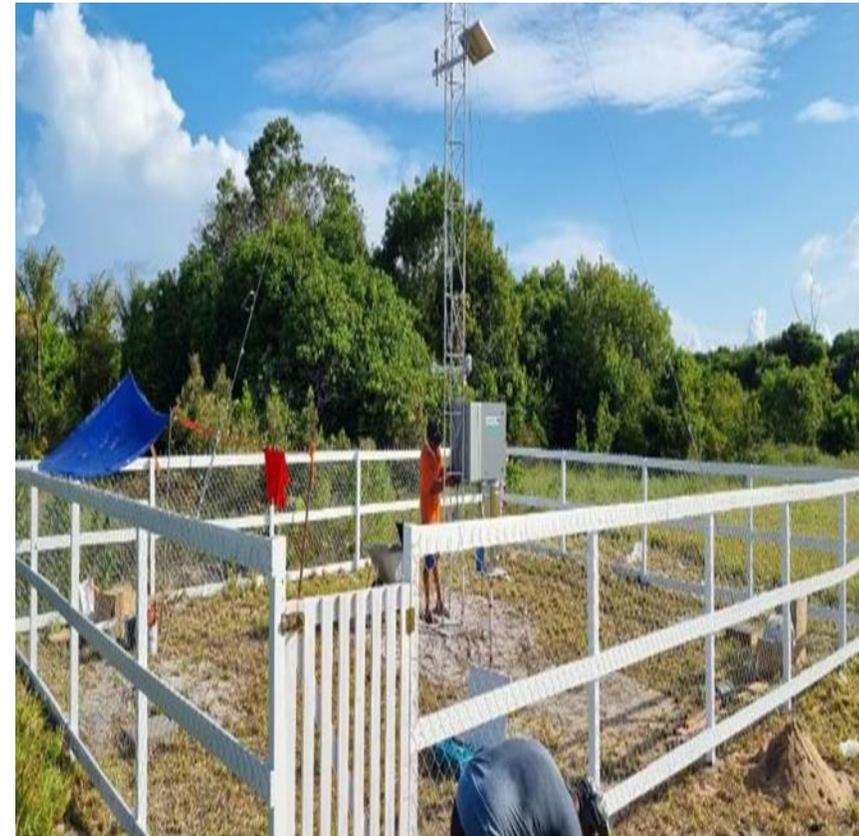
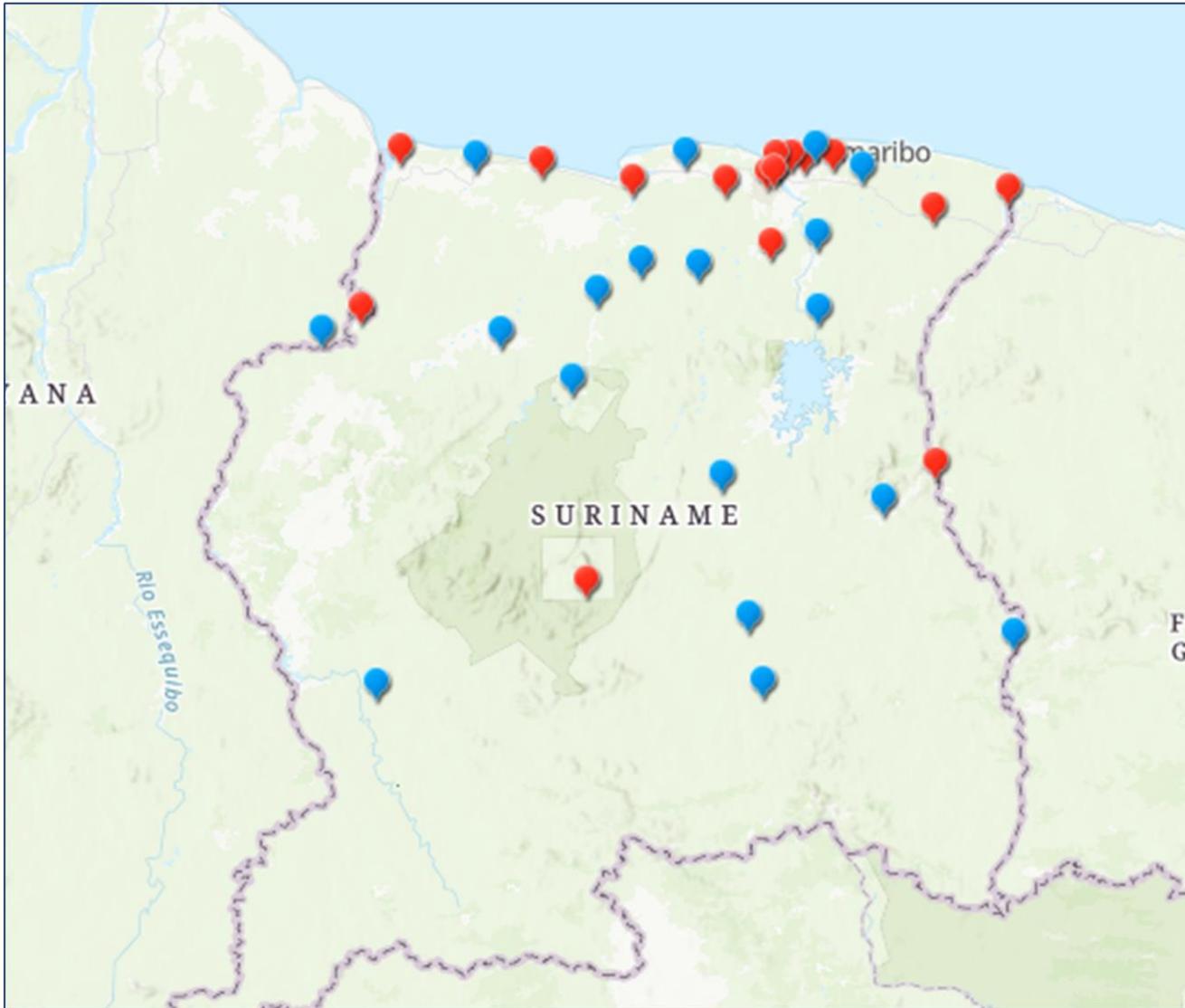


• Meteorological Service Suriname: Project Paramaribo Atmospheric Observatory of the KNMI

- The Paramaribo Atmospheric Observatory is one of only very few atmospheric observatories in the Tropics, where unique atmospheric processes are taking place that have large impact on weather and climate. Since the Paramaribo Observatory has been in operation since 1999, a substantial data record of various atmospheric parameters has been collected. This data record has proven invaluable for atmospheric research and is approaching lengths that enable detection of long-term changes, such as changes to the deep vertical motion in the tropical atmosphere, driving weather and climate changes in other far away regions of the globe.



• Meteorological Service Suriname: Automatic Weather Stations



1 Meteo network:

Fase 1: 4 ARS and 2 AWS

Fase 2: 3AWS and 15 ARS

17 Automatic Weather stations.

19 Automatic Rain gauge



• Meteorological Service Suriname: Automatic Weather Stations



• Meteorological Service Suriname: Local Forecasting



Ministerie van Openbare Werken
 Directoraat Onderzoek & Dienstverlening
 Onderdirectoraat Onderzoek en Innovatie
 Afdeling Meteorologische Dienst
 Het Nationaal Meteorologisch Centrum | Tel no: 0925206/0925190
 e-mail adres: mds@hydromet.sr



Gebiedsverwachting (Nationaal): 29/30 okt 2024

PLAATS	TEMPERATUUR (In graden Celsius: °C)		Indien kansen voor Zwaar ≥50%	VERWACHTING		VERWACHTE NEERSLAG
	29 okt Overdag	29/30 okt Nacht		29 okt Overdag	29/30 okt Avond/Nacht	
MAROWIJNE	24 - 32	27 - 25				0
COMMEWIJNE	25 - 31	28 - 26				0 - 5
PARAMARIBO	25 - 31	28 - 26				0 - 5
WANICA	24 - 32	28 - 25				0 - 5
SARAMACCA	24 - 32	28 - 25				0 - 5
CORONIE	24 - 32	28 - 25				0 - 5
NICKERIE	25 - 34	29 - 25				0 - 5
PARA	24 - 33	29 - 24				0
BROKOPONDO	24 - 33	30 - 24				0
SIPALIWINI	24 - 36	30 - 24				0

Zie webpage: hydromet.sr voor details en updates.

Voor alerts zie: https://hydromet.sr/mds_upload/ALERT.pdf



De Ware Tijd Online

8 u ·



PARAMARIBO — In de weersverwachting van woensdag stelt de Meteorologische Dienst dat er in de middag tot in de vooravond in delen van het kustgebied en het binnenland lichte tot matige onweersbuien zullen optreden. Plaatselijk kunnen deze buien zwaarder zijn. Daarom wordt er gewaarschuwd dat er kans is op kortdurende, maar zware onweersbuien.

[lees verder op: <https://dwtonline.com/meteodienst-kans-op-kortdurende.../>]



• Meteorological Service Suriname: Alerts

Weer alert voor Suriname - 19 juli 2024

Voor vandaag wordt verwacht dat er in de middag tot avond plaatselijk matige tot zware onweersbuien zullen optreden in het kustgebied en in sommige delen van het binnenland. Deze buien kunnen gepaard gaan met lokale windstoten en mogelijk wateroverlast veroorzaken. Wij adviseren u om voorzorgsmaatregelen te nemen en alert te blijven.

PLAATS	VERWACHTE NEERSLAG d.d. 19 JULI 2024 IN MM (millimeters)
MAROWIJNE	20mm - 30mm MAX50mm
COMMEWIJNE	20mm - 30mm MAX50mm
PARAMARIBO	20mm - 40mm MAX50mm
WANICA	20mm - 40mm MAX50mm
SARAMACCA	30mm - 30mm MAX50mm
CORONIE	20mm - 30mm MAX50mm
NICKERIE	20mm - 30mm MAX50mm
PARA	20mm - 30mm MAX50mm
BROKOPONDO	20mm - 30mm MAX50mm
SIPALIWINI	10mm - 30mm MAX45mm

Opgemaakt door: B.R.

Nationaal Meteorologisch Centrum

Legenda voor neerslag intensiteit:



*1mm neerslag = *1liter water per vierkante meter grond

Extreme Weather Alerts: (Since July 2024)

These alerts are designed to warn the public about severe weather conditions, including heavy rainfall, storms, and potential flooding. They are crucial for ensuring that communities can take timely action to protect lives and property.

Source: MDS

• Meteorological Service Suriname: Alerts

Hitte alert 05 oktober 2024:

Kustgebied

Datum:	05 okt	06 okt	07 okt
Max dag temperatuur in °C	36	35	35
Max nacht temperatuur in °C	26	26	26
Gevoelstemperatuur (dag) in °C	42	41	43

Binnenland

Datum:	05 okt	06 okt	07 okt
Max dag temperatuur in °C	37	37	37
Max nacht temperatuur in °C	26	27	26
Gevoelstemperatuur (dag) in °C	41	40	41

Algemene aanbevolen maatregelen:

			
Bescherm jezelf tegen de hitte	Drink voldoende water	Maak gebruik van airconditioning/ ventilatoren	Raadpleeg een arts bij ongemak

Kwetsbare groepen:

Alle mensen lopen risico op de gevolgen van hitte, maar vooral kwetsbare groepen. Deze omvatten:

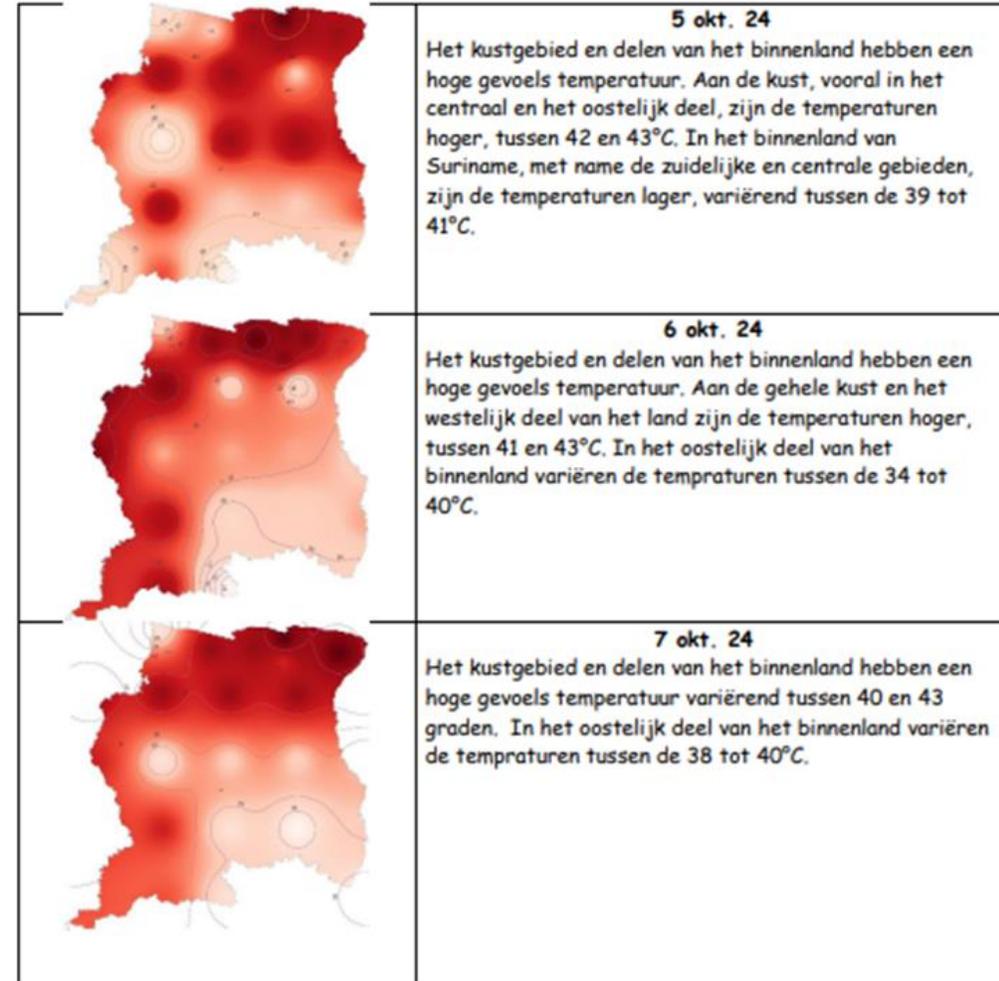
				
Ouderen	Zwangere Vrouwen	Baby's	Chronisch zieken	Mensen met een beperking

Blijf koel, blijf gehydrateerd, blijf geïnformeerd.

Dit is slechts een hitte alert en omvat alleen informatie over de temperatuur

Voor meer informatie: Bezoek onze website: hydromet.sr

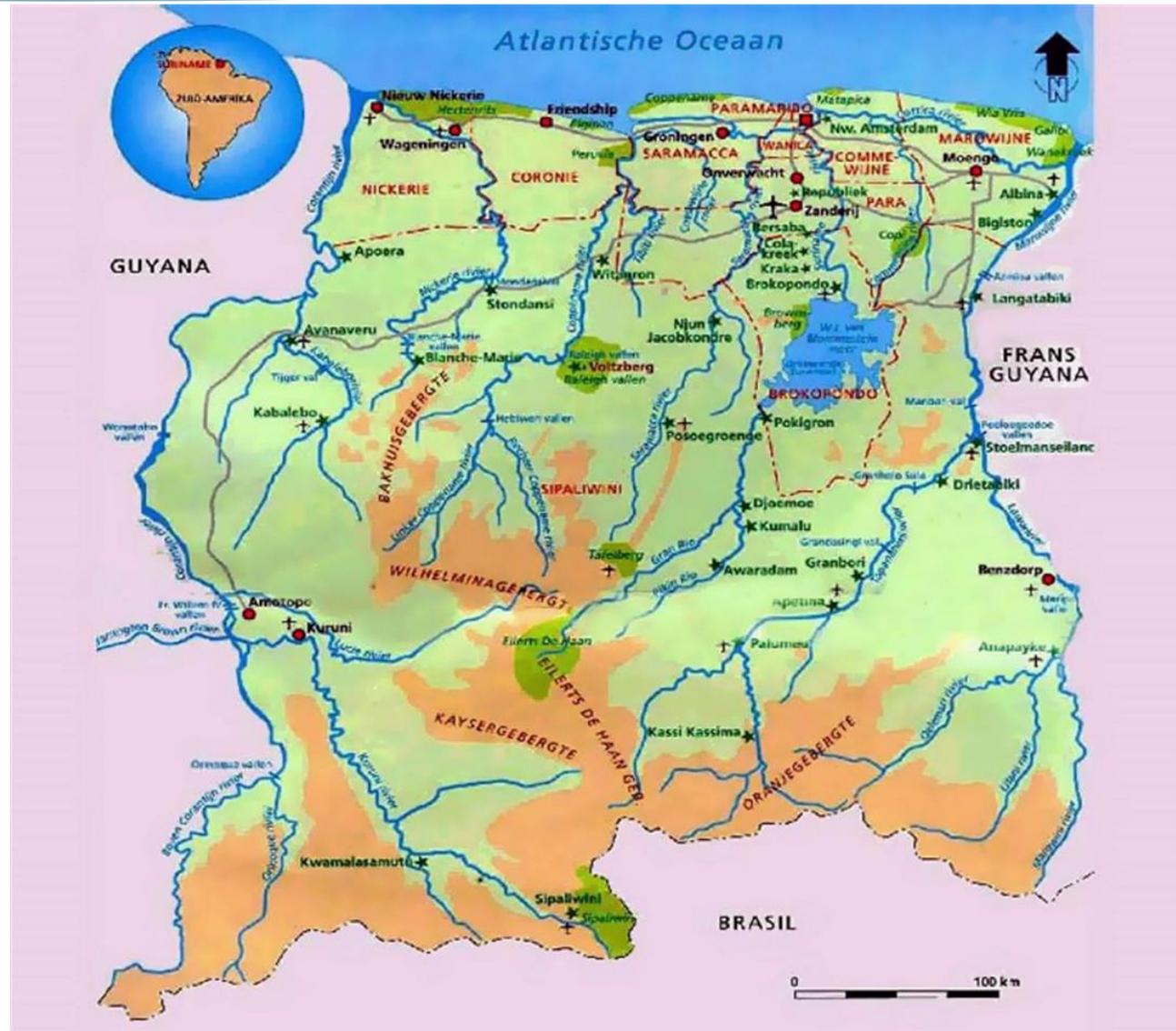
Opgemaakt door: Rajai.D.



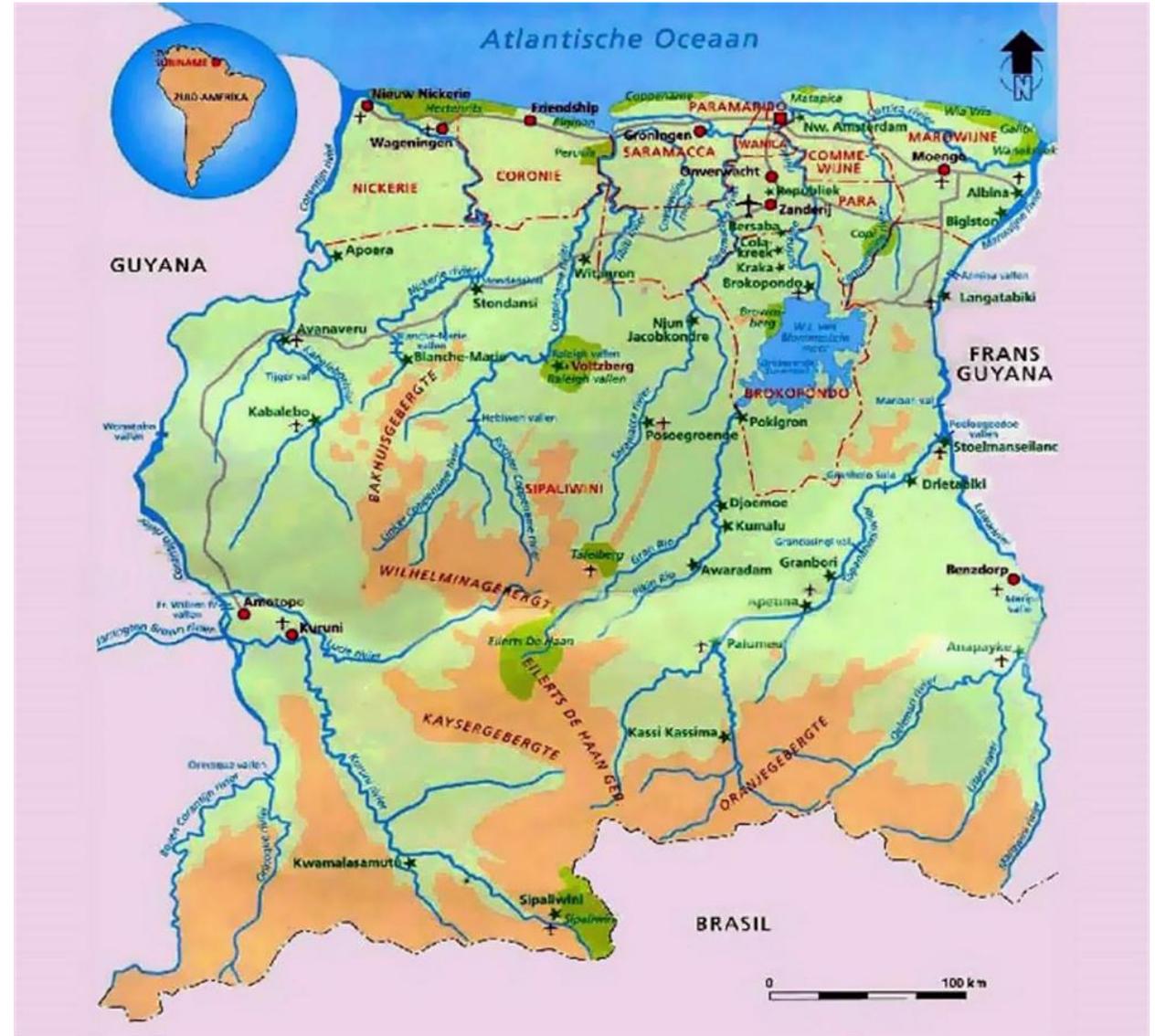
Opgemaakt door: Rajai D.



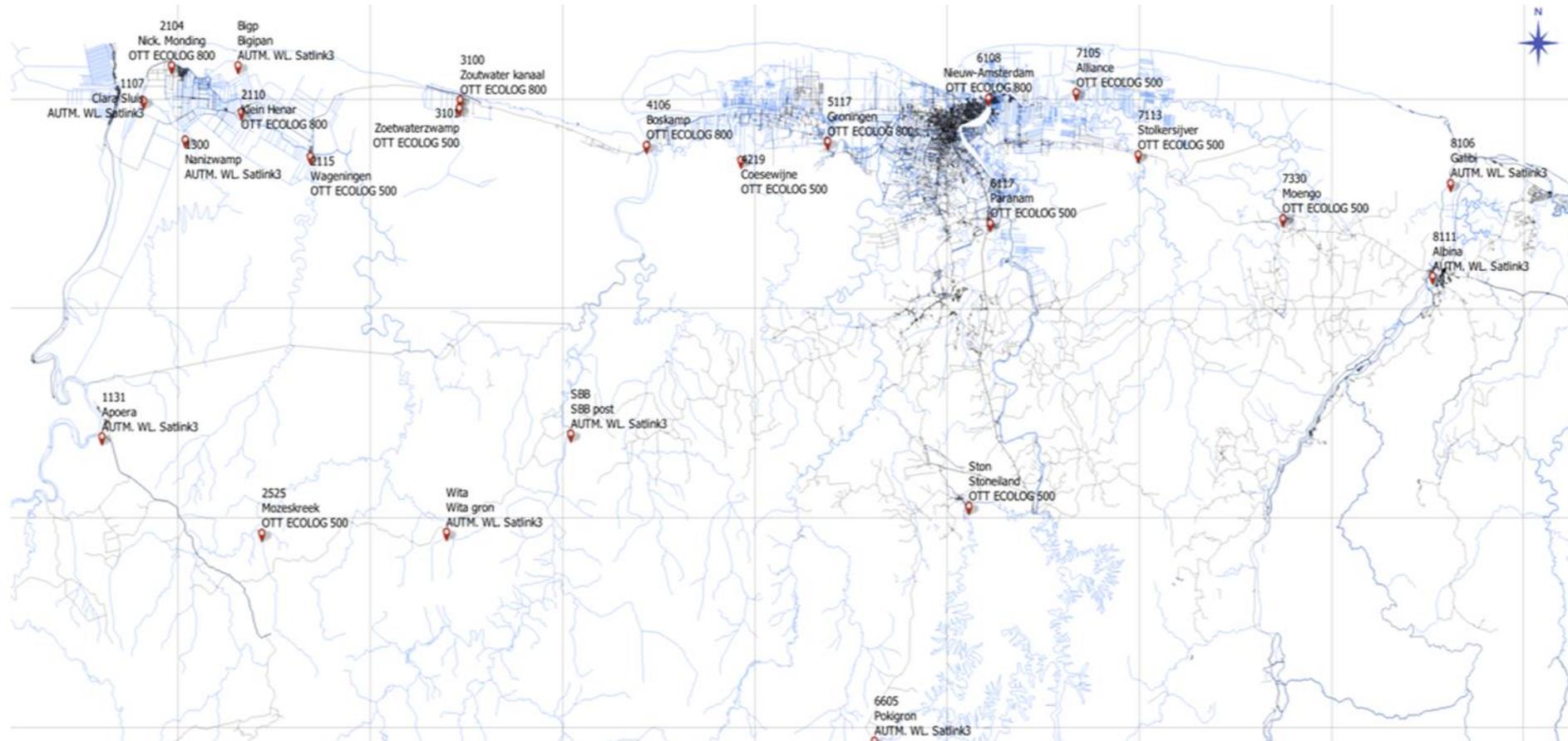
• Rivers in Suriname



- Hydrological Service Suriname: 8 Drain Area's of Suriname



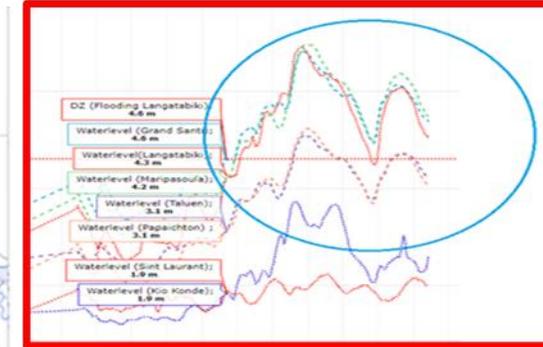
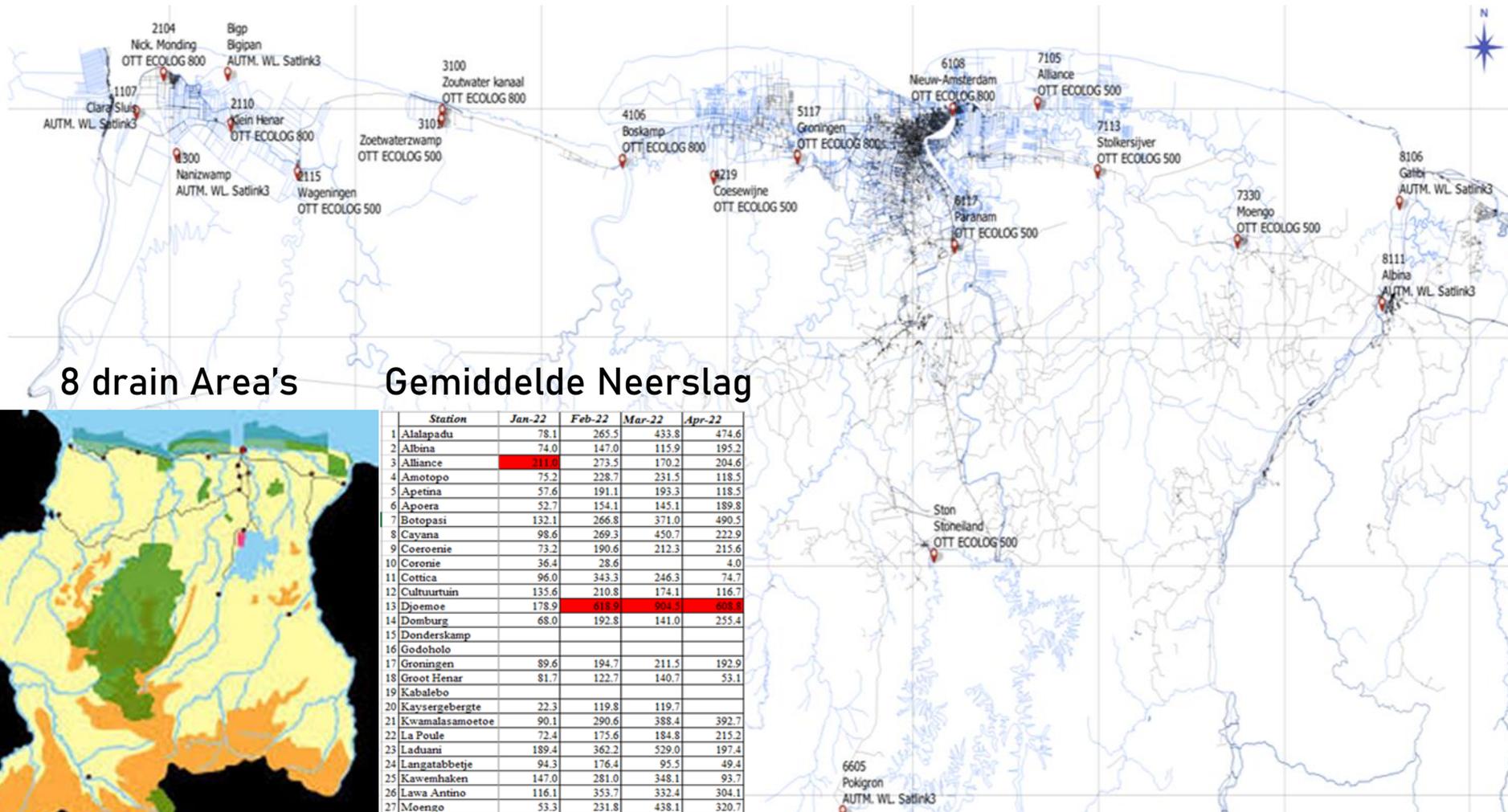
Reactivate Hydrological and meteorological monitoring network EU/GCCA+ phase 2 Project



• Reactivate Hydrological en meteorological monitoring network EU/GCCA+ phase 2 Project

- To be installed: AWS, AWLS, ARS

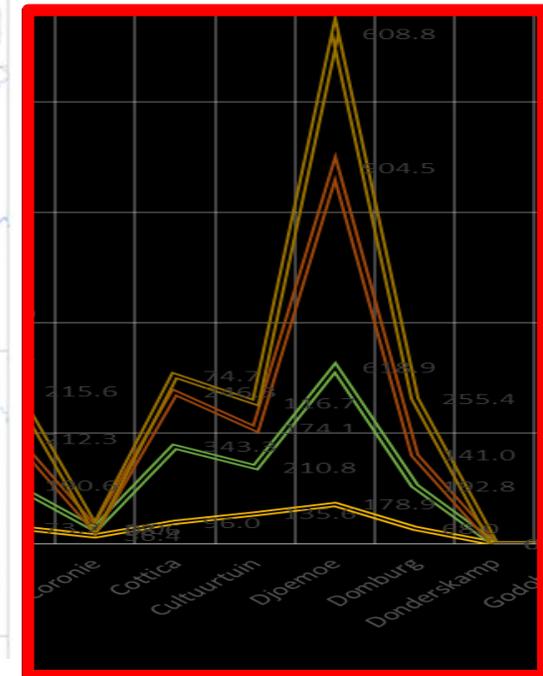
- For measuring: Flow velocity, water level, precipitation, temperature, humidity and windspeed



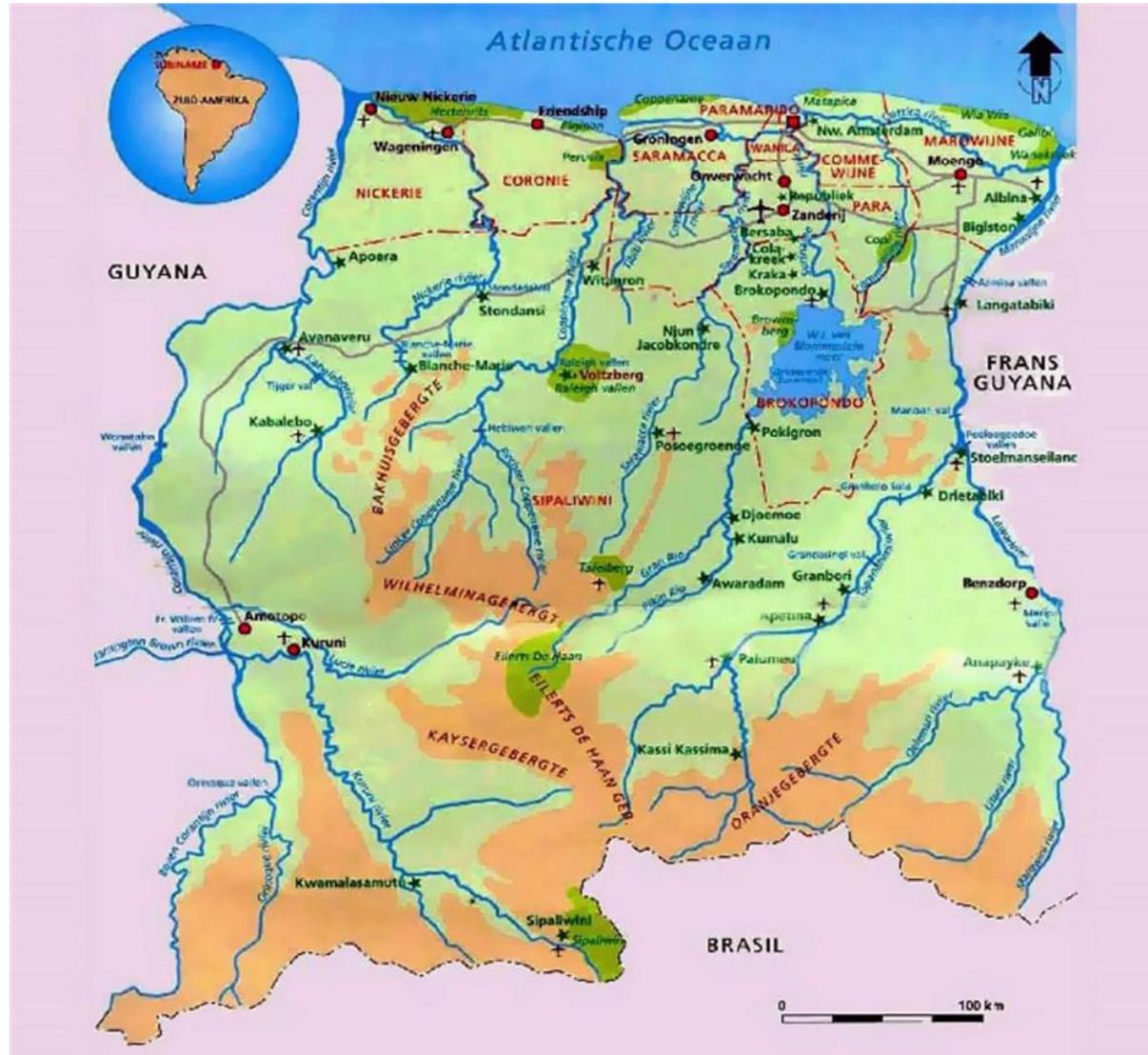
8 drain Area's

Gemiddelde Neerslag

Station	Jan-22	Feb-22	Mar-22	Apr-22
1 Alalapadu	78.1	265.5	433.8	474.6
2 Albina	74.0	147.0	115.9	195.2
3 Alliance	211.0	273.5	170.2	204.6
4 Amotopo	75.2	228.7	231.5	118.5
5 Apetina	57.6	191.1	193.3	118.5
6 Apoera	52.7	154.1	145.1	189.8
7 Botopasi	132.1	266.8	371.0	490.5
8 Cayana	98.6	269.3	450.7	222.9
9 Coeroenie	73.2	190.6	212.3	215.6
10 Coronie	36.4	28.6		4.0
11 Cottica	96.0	343.3	246.3	74.7
12 Cultuurtuin	135.6	210.8	174.1	116.7
13 Djoemoe	178.9	618.9	904.9	608.8
14 Domburg	68.0	192.8	141.0	255.4
15 Donderskamp				
16 Godoholo				
17 Groningen	89.6	194.7	211.5	192.9
18 Groot Henar	81.7	122.7	140.7	53.1
19 Kabalebo				
20 Kaysergeberge	22.3	119.8	119.7	
21 Kwamalasamoetoe	90.1	290.6	388.4	392.7
22 La Poule	72.4	175.6	184.8	215.2
23 Laduani	189.4	362.2	529.0	197.4
24 Langatabbetje	94.3	176.4	95.5	49.4
25 Kawemhaken	147.0	281.0	348.1	93.7
26 Lawa Antino	116.1	353.7	332.4	304.1
27 Moengo	53.3	231.8	438.1	320.7
28 Nickerie	104.2	136.4	145.9	107.6
29 Nieuw Jacobkonde		33.9		
30 Nieuw Amsterdam	175.9	198.2	154.7	141.7
31 Paloemeu	120.8	297.3	585.4	381.6
32 Poesegroenoe	15.0	19.9	58.4	89.3



- BIO-PLATEAU PROJECT
- Suriname, French Guiana and Brasil



TRANSBOUNDARY RIVER BASINS CONFERENCE IN THE GUIANAS
BIO-PLATEAUX CONFERENCE - PARAMARIBO

- BIO-PLATEAU PROJECT
- Suriname, French Guiana and Brasil

Bio_Plateau Project (Suriname/French Guiana/Brasil)

Ministry of Public Works (Hydraulic Research Division), ADEKUS .. -

Development of the Waterlevel, Flow en Flooding from data at the Maroni - and Lawa rivier)
- Period : From Nov 26, 2020 - April 22, 2022-



Omcirkel de periode (8 April 2021 tot 7 Juli 2021 en 18 februari 2022 tot heden) van wateroverlast in de Marowijne stroom gebied bij de plaatsen; Langatabettje, Grand Santi, Maripa Soula, Taulen en tevens Kio Kondre aan de Tapanhony rivier.



- Suriname experiences flooding in several inland villages



THANK YOU FOR YOUR ATTENTION.



www.bio-plateaux.org



THANK YOU FOR YOUR PATIENCE

THE SESSION WILL START SHORTLY

**TRANSBOUNDARY RIVERS BASINS CONFERENCE IN THE
GUIANAS**

BIO-PLATEAUX CONFERENCE - PARAMARIBO

