ANDI TABINAS

Portfolio

Tableau Public: https://public.tableau.com/profile/spatially4u#!/

Github: https://github.com/saanyan

https://github.com/mentalhealthawhereness

Carto: https://anditabinas.carto.com/

Website: https://mentalhealthawhereness.com

Non-profit: **Mental Health AWHEREness PH, Inc.**

https://mentalhealthawhereness.com

aims to promote mental health awareness through information, education, communication, and mapping of available mental health services and their corresponding important information that would help and encourage people to seek mental healthcare without telling others until they are ready to do so; and to tell decision-makers where more mental health services are needed.

Mapping Groups: **GeoladiesPH**

https://geoladiesph.github.io/home/

advocating for community diversity, collaborative participation, and affirmative spaces especially for women and under-represented communities.

Ministry of Mapping

https://www.ministryofmapping.com/

a collective of geospatial workers who serve the people with geospatial data, tech, and science through open and fair work

CROWDSOURCING MAPS

MANILAud: Metro Manila Soundscapes

A soundscapes map to enable users to listen to soundscapes within Metro Manila or upload their own audio recordings of sounds related to different locations in the city, get the Perceived Level of Annoyance (PLA), and explore the city through sounds.

https://gme210soundmap.github.io/Manilaud/

RescuePH

An interactive map where people who need rescuing or relief goods during the Typhoon Ulysses or volunteers can input locations of people who need help

https://saanyan.github.io/rescueph/

UlyssesPH Responders Map

A map to assist the LGUs or local responders and help them locate people who need rescue or relief goods

https://spatially4u.carto.com/builder/545a5e21-22e5-4753-b32c-5d4cad6f3afc/embed

Taal Volcano Eruption Evacuation Centers - Collaboration Tool for Evacuation Centers During the Taal Volcano Eruption Response

These are temporary evacuation centers with temporary information, so points were not added directly to OSM.

https://mentalhealthawhereness.github.io/evacuationcenters/

Mental Health aWHEREness Map – Map and Point-Collection Tool for the Mental Health aWHEREness Project aside from OSM ID

This project aims to have an online platform for mental health awareness and a crowd-sourcing page to map mental health services to provide information for people to seek professional help without telling others until they're ready to do so. We also aim to work with policymakers to increase access for all by showing them where services are needed through our crowd map. Participants are non-mappers so we choice a more user-friendly platform for beginner OSM mappers.

https://www.mapcontrib.xyz/t/db00dc-Mental_Health_aWHEREness#

Mental Health aWHEREness

- One of the 2020 HOT OSM Micrograntees
- https://mentalhealthawhereness.com/more-on-mental-health-awareness/
- https://www.facebook.com/mentalhealthaWHEREness/
- https://twitter.com/MHawhereness

Mental Health aWHEREness Map (Updated, 2021)

https://public.tableau.com/views/MentalHealthAWHEREnessPHMHAPhMap/MHAPh?:language=en&:display_count=no&:showVizHome=no&:showShareOptions=true

Mental Health aWHEREness Map Point-collection Map (Updated, 2021)

https://mentalhealthawhereness.github.io/mhaphmap/

Hear; Here - Community Care Map to Encourage People to provide Community Care to people with mental health problems, especially useful during these times of the COVID-19 Pandemic

This map is for those who would be willing to listen to someone who is fighting a mental health battle and needs a friend. Anyone who is willing to listen may add their information here.

https://mentalhealthawhereness.github.io/hearhere/

Mapping Emotions - Community Care Map for Mental Health Visibility

This map encourages people to share their mental health stories to help increase mental health-related discourse and make mental health more visible. We want to let people know that no matter how young or old, how rich or poor, or WHEREever they are, they are not alone in their battles.

MAPPING our EMOTIONS can show that mental health occupies space and it matters. Through increased visibility, we can help fight the stigma and show the general public and policymakers that mental health problems are more prevalent than they appear.

https://mentalhealthawhereness.github.io/mhstories/

Saan May Nagdedeliver? ***(Where can we avail products that can be delivered?)***

Due to lockdown and curfew, many people may not be able to go outside to buy their daily needs. This crowdmap aims to encourage people to share information about available delivery services during the COVID-19 outbreak and enhanced community quarantines.

https://saanyan.github.io/saanmaynagdedeliver/

Map for Pups – Map on Information for Pet-parents.

Map points and information from OSM via Overpass-turbo.

https://www.mapcontrib.xyz/t/ddc6c4-Map_for_Pups?fbclid=IwAR1Z1bc0ECnnm0yphHZezv6gnxicgxD50uI1nlnqTU4hcP_4Zdd8EQk_L9M

https://www.facebook.com/mapforpups/

DSWD MAPVIEWER AND DASHBOARDS

DSWD MapViewer - Online Interactive Map Platform of the PH Department of Social Welfare and Development for data and information sharing to the public

Led the creation of this platform and headed the GIS Team that manages the DSWD MapViewer and teaches Regional IT Officers of DSWD from all 17 regional and field offices.

https://maps.dswd.gov.ph/

DSWD Dashboard - Platform of the PH Department of Social Welfare and Development for data and information sharing to the public about its programs and projects.

Dashboard in the screenshot: Social Amelioration Program (SAP) Monitoring Dashboard for Emergency Subsidy under the DSWD Assistance to Individuals in Crisis Situation (AICS) *as a response to COVID-19*

https://public.tableau.com/views/SAPMonitoringDashboardforEmergencySubsidyunderAICS/Dashboard1?:display_count=yes&:showVizHome=no

DATA VISUALIZATIONS

COVID-19 Dashboards

COVID-19 PH Viz and Analysis *(buttons in the viz leads to other pages of the dashboard)*

https://public.tableau.com/views/COVID-19PHDashboard-Analysis/Dashboard?:display_count=yes&:showVizHome=no

COVID-19 PH – Initial COVID-19 PH Dashboard Originally published on March 13, 2020

https://public.tableau.com/views/COVID-19PHDashboard/Dashboard?:display_count=yes&:showVizHome=no

COVID-19 Dashboard-PUM and PUI Monitoring for a town in PH

https://public.tableau.com/views/Limay-COVID-19Dashboard-PUMandPUIMonitoring/Dashboard?:display_count=yes&:showVizHome=no

Quezon City, Metro Manila, Philippines COVID-19 Cases Dashboard

https://public.tableau.com/views/QC-COVID-19Dashboard-Analysis/Dashboard?:display_count=yes&:showVizHome=no

IATF Community Quarantine Recommendations based on Risk Level to COVID-19

https://public.tableau.com/views/IATFCommunityQuarantineRecommendationsbasedonRiskLeveltoCOVID-19/CommunityQuarantinePH?:display_count=yes&:showVizHome=no

COVID-19 Mobility Trends in the Philippines

https://public.tableau.com/profile/spatially4u#!/vizhome/COVID-19MobilityTrendsinthePhilippines/PHMobilityTrend

Other Data Visualizations/Dashboards

Paid Project for SE4All's Energizing Finance Series

Data Visual Design for Sustainable Energy for All

https://www.seforall.org/data-and-evidence/energizing-finance-series

Dashboards for MANILAud: Metro Manila Soundscapes

https://public.tableau.com/views/PercievedLevelofAnnoyanceofSoundscapes/Dashboard1?%3Alanguage=en&%3Adisplay_count=no&%3AshowVizHome=no&%3AshowShareOptions=false - 3

Centers Offering Online Psychological Services in the Philippines During the COVID-19 Pandemic

https://public.tableau.com/views/CentersOfferingOnlinePsychologicalServicesDuringtheCOVID-19Pandemic/ByContactMeans?:language=en&:display_count=no&:showVizHome=no

Dashboards for the Ateneo School of Medicine and Public Health's Nationwide Study on Mental Health: *Analyzing Mental Health in the Philippines: Perception, Access, and Delivery*

https://public.tableau.com/views/MentalHealthinthePhilippinesPerceptionAccessandDeliverymhPADMap/Dashboard1?:language=en&:display_count=no&:showVizHome=no&:showShareOptions=false

(multiple pages)

Mental Health in the Philippines

https://public.tableau.com/views/MentalHealthinthePhilippines/MentalHealthinthePH?:display_count=yes&:showVizHome=no

Suicide Rates in the Philippines

https://public.tableau.com/views/SuicideRates1994-2015-Ph/SuicideRates?:display_count=yes&:showVizHome=no

Mental Health AWHEREness Website and Social Media Reach

https://public.tableau.com/profile/spatially4u#!/vizhome/MentalHealthAWHEREnessWebsiteandSocialMediaReachfor2020/Dashboard1

MapBeks #ARVayanihan: Dispensed Enrolled and Transient PLHIVs to help them with ARV

https://public.tableau.com/profile/spatially4u#!/vizhome/MapBeksARVayanihan/Dashboard1

TALKS, PRESENTATIONS, MENTORSHIP

Bayanivation

Mentor for a nationwide program that aims to spark civic innovation and digital transformation in local governance in the Philippines

https://bayanivation.com/

Philippine Geography Olympiad

http://pgo.younggeographers.org/

https://slides.com/anditabinas/deck-6d64df

Practicing Self-Love for Mental Wellness and Extending it to Others Through Community Care

https://slides.com/anditabinas/deck-9e8381

Crowd-mapping with OSM for Mental Health aWHEREness – SOTM 2019

https://slides.com/anditabinas/mental-health-awhereness-8

Mental Health A-WHERE-ness PH: Mapping mental health resources in the Philippines

https://2018.stateofthemap.org/2018/L018-Mental_Health_A-WHERE-ness_PH__Mapping_mental_health_resources_in_the_Philippines/

POSTERS/RESEARCH

A three-year analysis of Normalized Difference Drought Index (NDDI) as a measure of drought conditions of cornfields in Cauayan City, Isabela, Philippines

S. Tabinas, A. Familara, R. Velasco, A. Vicario
University of the Philippines, Diliman - College of Engineering, DGE

Introduction

Being a country near the equator which primary rely on crop production, the Philippines is highly susceptible to agricultural drought, or the deficiency in plant water supply over a predetermined period of time.

This study utilized NDDI, a derivative of NDVI and NDWI, as a measurement index of corn drought conditions in one of the major corn producers in the Philippines. The NDDI takes advantage of the NDVI sensing plant matter and NDWI sensing plant moisture.

The research aimed to confirm and check the Drought/Dry Spell Assessment tool of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA).

Figure 1. ROIs from vector files of cornfields

NDVI = (ρNIR - ρRed) / (ρNIR + ρRed)

NDWI = (ρNIR - ρSWIR) / (ρNIR + ρSWIR)

NDDI = (NDVI - NDWI) / (NDVI + NDWI)

Methodology

Data Acquisition and Processing:

Landsat 8 OLI Data → Pre-processing (Layer Stacking) → Conversion of vectors (EVF) to Regions of Interest (ROI) → NDVI, NDWI, and NDDI Calculations

Agricultural Land Cover Map → Identification of Corn Fields → Creation of vectors for Cornfields as study areas

Figure 2. Methodology Flowchart

Data Analysis: Comparative Analysis of the NDDI and other Drought Measurement tools in the Philippines

Year / Quarter	NDDI	% of Normal Temp	% of Normal Rainfall	PAGASA DDSA
2014 Q1	0.49424	103.8753496	175.6296296	Not Affected
2014 Q3	0.525478	113.0952381	151.9004739	Not Affected
2015 Q1	0.517787	106.5388201	194.9259259	Not Affected
2015 Q3	0.57084	116.6666667	184.9763033	Drought
2016 Q1	0.464595	113.1974963	162.5432099	Not Affected
2016 Q3	0.593754	117.8571429	170.0331754	Not Affected

Figure 3. Table of Drought Measuremetns and NDDI

Results

2014 2015 2016

Figure 4. NDDI for all corn fields; top: 1st quarter, bottom: 2nd quarter

The brighter part of the images portrayed larger NDDI values which means that the area has greater drought conditions in its surroundings at the time the satellite image was taken. In contrast, the darker sections revealed areas that have less drought conditions, revealing healthier and wetter cornfields.

	ROIs	NDVI Q1	NDVI Q3	NDWI Q1	NDWI Q3	NDDI Q1	NDDI Q3
2014	All ROIs	0.349347	0.33201	0.144893	0.193468	0.49424	0.525478
	1	0.554222	0.337589	0.384909	0.226654	0.544533	0.564243
	2	0.54273	0.371002	0.270035	0.206648	0.486245	0.57765
	3	0.353668	0.356331	0.173469	0.246849	0.527138	0.60318
2015	All ROIs	0.350679	0.382508	0.16711	0.188332	0.517787	0.57084
	1	0.364269	0.315561	0.214044	0.14932	0.578313	0.464881
	2	0.391594	0.398598	0.174997	0.152142	0.566591	0.55074
	3	0.370947	0.278037	0.211057	0.098234	0.582003	0.376271
2016	All ROIs	0.336271	0.387604	0.128324	0.206151	0.464595	0.593754
	1	0.296743	0.377191	0.136336	0.215605	0.43308	0.592796
	2	0.368568	0.369659	0.124157	0.19667	0.492725	0.566329
	3	0.257725	0.387726	0.093164	0.213632	0.350889	0.601358

Figure 5. Table of NDVI, NDWI, NDDI Values

As evident in Table 1, the NDDI values are greater in the third quarter than the NDDI values in the first quarter. The dark section of the NDDI image for the third quarter of 2015 is due to cloud cover. It is still noticeable that it has parts brighter than its counterparts on the image of the first quarter of 2015.

Relationship of NDDI with % of Normal Temperature and Rainfall

Figure 6. Relationship of NDDI with Percent of Normal (Anomaly) Temperature and Rainfall

NDDI and Different Temperature and Rainfall Anomaly Time Frames from the Date the Satellite Image is Taken, Corn Fields, Cauayan City, Isabela

Figure 7. Bubble Chart of the NDDI and Different Temperature and Rainfall Anomaly Timeframes

Acknowledgement

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Further Information

email: andtabinas@gmail.com
other projects at https://mhaphmap.com

Conclusion

It can be concluded that the observation timeframe of temp. and prec. anomalies that best translate with the measured NDDI values is three months prior to the quarterly periods. This reinforces the method of PAGASA in defining drought detection and reporting that defines drought as three (3) consecutive months of below normal rainfall condition (21%-60% reduction from average rainfall).

Literature Cited

City of Cauayan. (2017, May 16). City of Cauayan - General Information. Retrieved from City of Cauayan Official Website: http://cityofcauayan.gov.ph/index.php/city-profile/general-information
Congedo, L. (2017, May 16). Semi-Automatic Classification Plugin for QGIS. Retrieved from From GIS to Remote Sensing: https://fromgistors.blogspot.com/p/semi-automatic-classification-plugin.html
Diego Renza, E. M. (2010). Drought Estimation Maps by Means of Multidate Landsat Fused Images. Remote Sensing for Science, Education, and Natural and Cultural Heritage, 775-782.
Japitana, I. E. (2015). Coupling Lidar Data and Landsat 8 OLI in Delineating Corn Plantations in Bulsan City, Philippines. Asian Conference on Remote Sensing.
Yingxin Gu, J. B. (2007). A five-year analysis of MODIS NDVI and NDWI for grassland drought assessment over the central Great Plains of the United States. Geophysical Research Letters, Vol. 34, 1-6.

MGA 2019 – MELBOURNE, AUSTRALIA

A three-year analysis of Normalized Difference Drought Index (NDDI) as a measure of drought conditions of cornfields in Cauayan City, Isabela Philippines

Young Southeast Asian Leadership Initiative Workshop on Empowering the Next Generation for Advocacy and Grassroots Engagement on Non-Communicable Diseases (YSEALI-ENGAGE) – BANDUNG, INDONESIA

Top 3 Best Initiative / Presentation

ARTICLES & FEATURES

RTI International

https://www.rti.org/impact/new-generation-advocates-ncd-and-mental-health-disorders-prevention?fbclid=IwAR1kALD6ta7RyDXH0jySTF4MvsdJWfVRdtyCEMIGKvTRi3fVxGsOpyHXYos

University of the Philippines, Diliman Department of Geography

http://updgeography.blogspot.com/2020/01/mental-health-awhereness-conducts-its.html

Esquire

https://www.esquiremag.ph/life/health-and-fitness/interactive-map-of-all-the-mental-health-facilities-in-the-philippines-a1889-20180613?fbclid=IwAR2cxKgrltuS3NQY3kTH41RF82i3oEMYppIKjstbz5a0Sd1-7bZ0DKQ2a6c

SmartParenting PH

https://www.smartparenting.com.ph/health/wellness/mental-health-map-philippines-a00228-20180831?fbclid=IwAR2oRdTU4mE2J2iZreez-SY7v5yXnsMwNBigpXUg_IKMNX0ouP1Sf77o-6U

Female Network

https://www.femalenetwork.com/lifestyle/mental-health-map-philippine-sa00228-20180908-src-sp?ref=home_feed_1

Career Executive Service Board

http://www.cesboard.gov.ph/index_2017.php?title=we_march5_2017wU.php