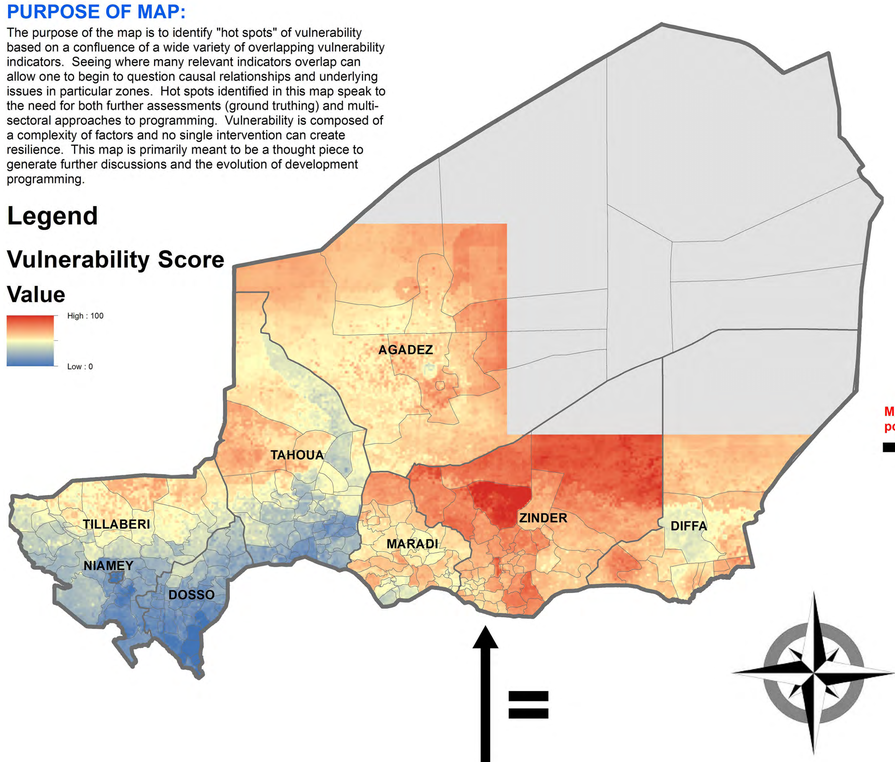
Niger Vulnerability Map - March 2014

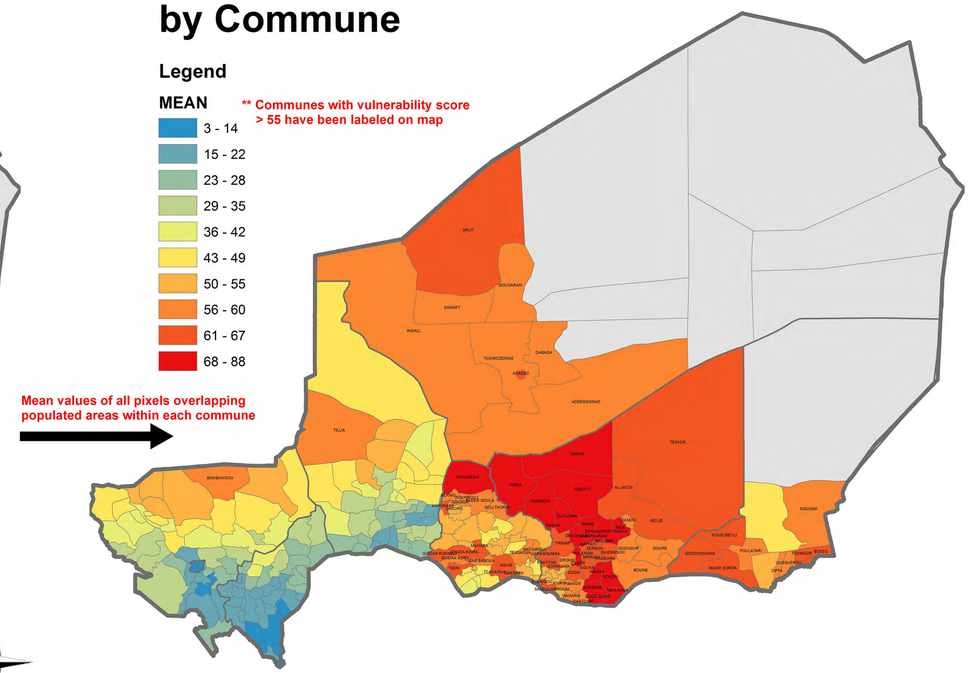
USAID FROM THE AMERICAN PEOPLE

PURPOSE OF MAP:

The purpose of the map is to identify "hot spots" of vulnerability based on a confluence of a wide variety of overlapping vulnerability indicators. Seeing where many relevant indicators overlap can allow one to begin to question causal relationships and underlying issues in particular zones. Hot spots identified in this map speak to the need for both further assessments (ground truthing) and multi-sectoral approaches to programming. Vulnerability is composed of a complexity of factors and no single intervention can create resilience. This map is primarily meant to be a thought piece to generate further discussions and the evolution of development programming.



Vulnerability Score by Commune



Top 50 Vulnerable Communes

COMMUNE	REGION	POPULATION
TANOUT	ZINDER	134074
ZINDER	ZINDER	274530
GOUCHI	ZINDER	47978
TENHIA	ZINDER	21205
DUNGASS	ZINDER	100431
GANGARA	ZINDER	40796
FALANKO	ZINDER	4561
ALBERKARAM	ZINDER	15414
TARKA	ZINDER	89533
WAME	ZINDER	32695
DAMAGARAM TAKAYA	ZINDER	46178
MOA	ZINDER	26290
MALLAOUA	ZINDER	67329
WACHA	ZINDER	67334
DOGO DOGO	ZINDER	42011
GADABEDJI	MARADI	5328
OLLELEWA	ZINDER	105167
DAKOUSSA	ZINDER	54330
GOUDOUMARIA	DIFFA	102800
DOGO	ZINDER	86306
TESKER	ZINDER	34641
GUIDIMOUNI	ZINDER	54579
GAFFATI	ZINDER	43097
ZERMOU	ZINDER	24987
TCADAOUA	MARADI	91507
ARLIT	AGADEZ	112432
TIRMINI	ZINDER	97247
TOUMOUR	DIFFA	1336
MIRRIAH	ZINDER	60805
DOUNGOU	ZINDER	32081
BOSSO	DIFFA	52177
MAZAMNI	ZINDER	8994
KOLERAM	ZINDER	25978
HAMDARA	ZINDER	32006
KANTCHE	ZINDER	51333
GOUNA	ZINDER	55666
TIBIRI	MARADI	114424
GANGARA	MARADI	40796
SASSOUMBROUM	ZINDER	57166
AGADEZ	AGADEZ	124324
ALLAKOS	ZINDER	21279
KELLE	ZINDER	62003
KOROHANE	MARADI	9551
MAIYARA	MARADI	56087
GARAGOUMSA	ZINDER	64257
GUIDAN ROUMDJI	MARADI	88690
AGUIE	MARADI	142182
MAINE SOROA	DIFFA	94074
NGUELBEYLI	DIFFA	1413
ICHIRNAWA	ZINDER	35045

Basic Methodology:

Step 1: Define relevant indicators of vulnerability to use in analysis

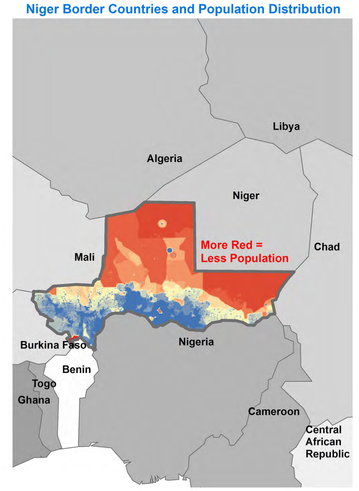
Step 2: Convert geographically disaggregated indicator data to raster format

Step 3: Winsorize data where appropriate based on histogram analysis. This is done to prevent data from being skewed by outlier data.

Step 4: Rescale all datasets to a common 0-100 scale so that they are comparable.

Step 5: Average composites of relevant indicators. Use weighting when appropriate based on expert judgment.

Niger Border Countries and Population Distribution



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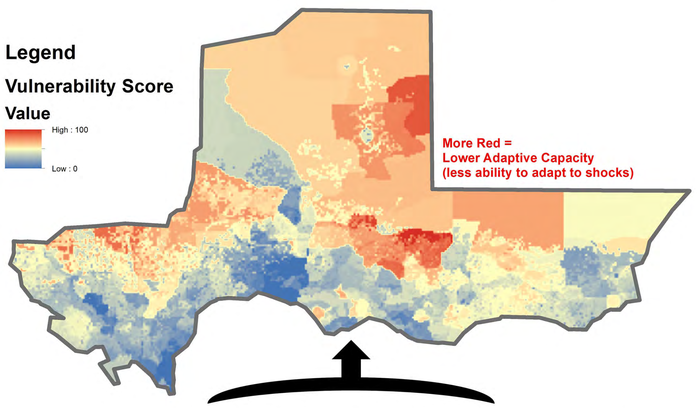
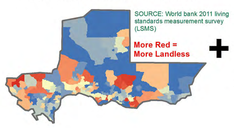
Lack of Adaptive Capacity



% of Households Farm Landless



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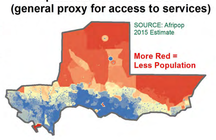
Population Count Distribution (general proxy for access to services)



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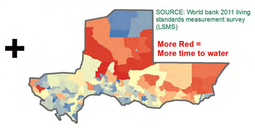
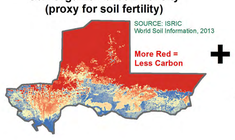
Total Time Required to Get Water



Soil Organic Carbon Density (proxy for soil fertility)



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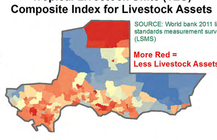
Tropical Livestock Units (TLU) Composite Index for Livestock Assets



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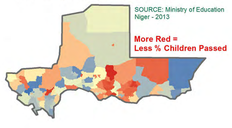
Poverty Rates by Region

% of Children who Passed CFEPD (End of primary school exam)



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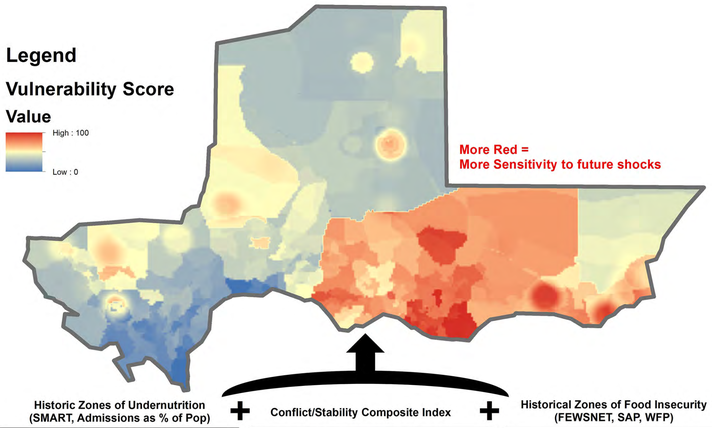
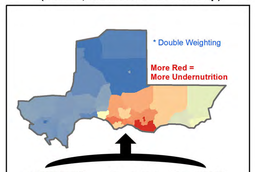
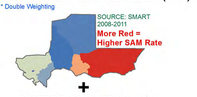
Sensitivity



Historic Zones of Undernutrition (SMART, Admissions as % of Pop)



HISTORIC Severe Acute Malnutrition (SAM)



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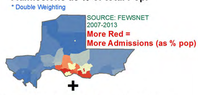
HISTORIC Severe Malnutrition Admissions as % of total Pop.



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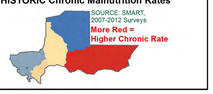
HISTORIC Chronic Malnutrition Rates



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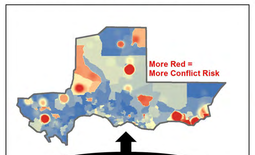
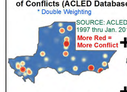
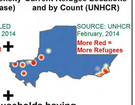
Conflict/Stability Composite Index



HISTORIC Locations and Intensity of Conflicts (ACLED Database)



Current Refugee Locations and by Count (UNHCR)



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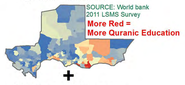
% Head of Households having Quranic Education



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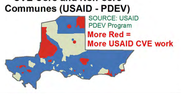
CVE Core and Non-core Communes (USAID - PDEV)



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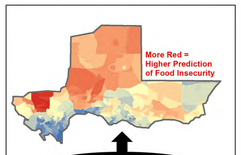
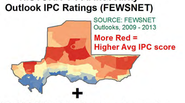
Historical Zones of Food Insecurity (FEWSNET, SAP, WFP)



HISTORIC Food Insecurity Outlook IPC Ratings (FEWSNET)



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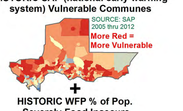
HISTORIC SAP (national early warning system) Vulnerable Communes



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HISTORIC WFP % of Pop. Severely Food Insecure

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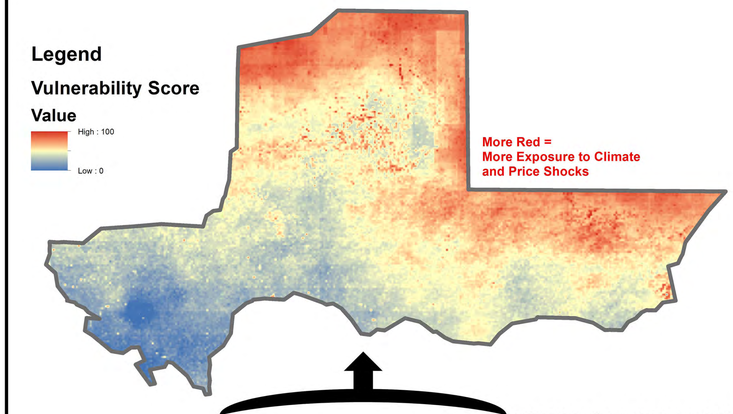
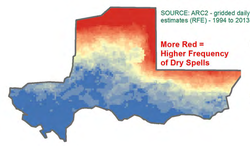
Exposure



HISTORIC Frequency of Dry Spells (no rain for >=15 days during season)



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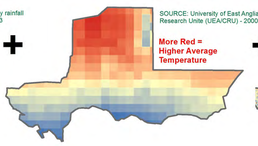
HISTORIC Average Temperature (during rainy season, JJAS)



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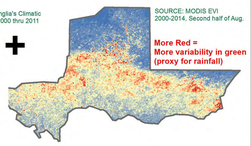
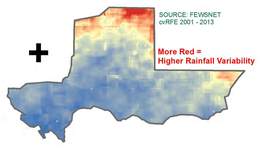
HISTORIC Coefficient of Variation of NDVI (variability of "greenness"- 2000 onwards)

* Double weighting since cvNDVI is such a commonly used dataset (as a proxy) for measuring rainfall variability



HISTORIC Rainfall Variability (cvRFE)



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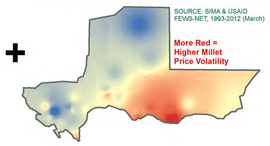
HISTORIC Millet Price Volatility (price shock)

* Double weighting to balance against large amount of climate shock data layers. This layer represents the only PRICE SHOCK data layer.



For more information contact:
Jeremy Chevrier
Regional Geospatial Analyst
Sahel Regional Office
USAID/Senegal
Email: JChevrier@usaid.gov