

# FEWS SOS, WRSI, AND SWI ZIP PRODUCTS

## Instruction and Explanation Document for distributed zipped WRSI images products

February 3, 2025

### Steps to get zip products.

Zipped raster data are made available for download from the FEWS NET website: <https://earlywarning.usgs.gov/fews>.

There are only 2 basic steps required to download the images. A brief explanation on naming convention and product description is documented below.

#### Step 1. Go to the “Search” page to find available WRSI products.

Go to <https://earlywarning.usgs.gov/fews/search> and under “Product Types” check “Water Requirement Satisfaction Index (WRSI)” to filter out and see all the available WRSI product.

#### Step 2. Download dekadal zip products by region of interest.

From the WRSI product page, go to “Documentation” and find the table with the links to the different WRSI products. The links are useful to download current (latest) and historical products.

## Description of zip products by region codes and product description

Zipped file naming convention for WRSI products: `w%yyyy%kk%rg%f%.zip`

Where:

- **w**: single character “w” stands for WRSI.
- **yyyy**: four-digit year, e.g., 2006 as 06
- **kk**: two-digit dekad, e.g., dekad 16
- **rg**: two-character **region code** as shown in the Table 1
- **f**: (optional): a single character to differentiate raster dataset types. At this moment, this only applies to Central America products.

For example: `w200617ee.zip` for June dekad 2 of 2006 corresponding to period June 16-20, 2006 (dekad 17 of the year), for East Africa-long rains (`ee`)

**Table 1:** Region code and season description.

Region	Region code	Crop	Season description
Southern Africa	SA	Maize	Oct-May
West Africa	WA	Millet	May-Nov
	W1	Rangeland	May-Nov
East Africa	EE	Maize	East Africa: Mar-Nov (long rains, maize)
	ET	Maize	East Africa: Oct-Feb (short rains)
	EK	Grains (Sorghum)	East Africa: Mar-Sep (belg)
	EL	Grains	East Africa: Mar-Nov (long rains, grains)
	E1	Rangeland	East Africa: Sep - Jan (short rains)
	E2	Rangeland	East Africa: Feb-Jul (long rains)
Central America	C1	Corn	Premera season (Apr-Sep)
	C2	Corn	Postrera season (Aug-Dec)
Caribbean (Hispaniola)	H1	Corn	Premera season (Apr-Sep)
	H2	Corn	Postrera season (Aug-Dec)

**Important Note:** Crop specific simulation was conducted based on the predominant crop in the region; however, the index is also indicative of other cereal crops in the region growing in the same season.

The zipped files contain the follow raster (\*.tif) and colormap (\*.clr):

- Onset of Rains (SOS, surrogate for crop Start of Season)
- Current Crop Water Requirement Satisfaction Index (WRSI)
- Extended WRSI
- Soil Water Index (% WHC)
- Anomaly WRSI
- Anomaly SOS
- Season progress.

## Summary of Products

Product Name	Description
w%yyyy%dk%dt.tif	Start of Season map showing dekads where planting started in the WRSI model
w%yyyy%dk%dd.tif	SOS anomaly maps: Average SOS minus current SOS
w%yyyy%dk%dl.tif	Length of Growing Period Fraction ("Season Progress").  <b>Note:</b> possible start areas (as of this dekad) may show the previous dekad or this dekad as the start dekad if enough rainfall is registered in this dekad and the next dekad(s). The SOS algorithm requires three dekads before a start dekad is confirmed (see the readme file)
w%yyyy%dk%do.tif	Current WRSI values showing crop condition until this dekad
w%yyyy%dk%eo.tif	Forecast WRSI values showing crop condition at the end of the season using long-term average climatic data
w%yyyy%dk%dw.tif	Current Soil Water Content Index showing the moisture status at the end of the dekad
w%yyyy%dk%er.tif	WRSI Anomaly map; extended WRSI as a percentage of median WRSI (1996 - 2002/03)
w%yyyy%dk%ep.tif	WRSI Anomaly map; extended WRSI as a percentage of the previous year WRSI

Where:

- **yyyy:** four-digit year
- **dd:** two-digit dekad

For example: w200101do will be simulation at the end of January 10, 2001; w220136do represents December 31, 2001.

**More information can be found in the “documentation” tab at the following web pages:**  
<https://earlywarning.usgs.gov/fews/product/899#documentation>.

### Important Note:

Read Start of Season (SOS) map while interpreting the WRSI images. Particularly when the SOS indicates dekads labeled as "<= Dekad", the actual rainy season could have started much earlier than the labeled dekad, in which case the WRSI values are not representative of the crop condition of those areas with that SOS. Thus, WRSI is more reliable for areas whose SOS occurred after the initial label.

## Color tables for WRSI products

Image type	Image Naming Convention	Color table.
Current WRSI	W yyyydd DO	WRSI.CLR
Extended WRSI	W yyyydd EO	WRSI.CLR
WRSI Anomaly	W yyyydd ER	WRSI_ANO.CLR
WRSI Anom c.f. Prev Year	W yyyydd EP	WRSI_ANO.CLR
SOS	W yyyydd DT	SOS_%reg%.CLR
SOS Anomaly	W yyyydd DD	SOS_ANO.CLR
Season Progress	W yyyydd DL	LGP_FRAC.CLR
Soil Water	W yyyydd DW	SOILWATR.CLR

## Point of Contacts

Please note that your comments and suggestions will help improve the accuracy and significance of these products. We strongly recommend contacting us at

<https://earlywarning.usgs.gov/fews/contact>

### Principal Investigator

Gabriel Senay

[senay@usgs.gov](mailto:senay@usgs.gov)

### Technical (GIS Analyst) and Management

Claudia J Young

[cyoung@contractor.usgs.gov](mailto:cyoung@contractor.usgs.gov)