12th Regional Meeting + TTW– Mauritius (Anglophone countries + Madagascar due to location)

**Agenda / Program**

**Tuesday, 23 May 2017**

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| --- | --- | --- |
| 09:00 -10:30 | **GLOBE Africa regional meeting**  Welcome, Greetings and Opening RemarksOpening Remarks and overview of GLOBE **Welcoming - Africa Initiatives – Discussion /Participation and addressing the disconnect.**  (Invited guests / role players) | Mark  Paul Gormley, US Embassy |
| 10:30 – 11:00 | Tea break and departure of guests |  |
| 11: 00 – 13:00 | **Discussion (continue)**  Planning for the workshop – Report forward | Mark and CC’s |
| 13:00 – 14:00 | Lunch |  |
| 14:00 -15:30 | Website interaction, new developments and administration tools | Dave Overoye |
| 15:30 – 16:00 | Tea break |  |
| 16:00 -16:45 | **Discussion (End)**  Planning for the workshop – Report forward | Mark and CC’s |
| 17:00 -18:00 | TBA |  |

**Wednesday, 24 May 2017**

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| 07:30 – 08:00 | Travel from Hotel (training site) |  |
| 08:00 – 08:30 | Greetings and Opening Remarks   * Workshop Objectives, Structure & Logistics   + What is involved in preparing for training? | Mark |
| 08:30-10:00 | GLOBE  * What is GLOBE? * Introduction to GLOBE Educational Materials (Teacher’s Guide, GLOBE Science Log, Data Book) * Earth As A System Poster Activity | Mark and Team |
| 10:00 – 10:30 | Tea break |  |
|  |  |  |
| 10:30- 13h00 | GLOBE/Atmosphere  * What are the objectives for the Atmosphere training? * What is the current local weather? * What can data tell you about seasonal cycles? * What is the value of data? * What makes temperature data accurate? * How useful are spatial data?   + Where are most data for weather predictions collected?   + What information about the location is important? * What are GLOBE’s Basic Atmosphere Protocols?   + How is cloud cover determined?   + How can clouds be identified by type?   + How are Maximum and Minimum air temperature collected?     - What are common errors?   + How are Precipitation Data Collected?     - What are common errors?   + What is Relative Humidity and why do we need to measure it? |  |
| 13:00 - 14:00 | Lunch |  |
| 14:00 – 16:00 | GLOBE/Atmosphere How are Atmospheric Data Collected? |  |
|  | Travel Back to hotel |  |

**Thursday 25 May 2017**

|  |  |  |
| --- | --- | --- |
| 08:00 – 08:30 | Travel from Hotel (training site) |  |
| 08:30 – 09:00 | Greetings and review |  |
| 09:00- 10:00 | GLOBE/Atmosphere (continued)  * How can data be entered into the GLOBE data archive? * What does it all mean and why are atmosphere data useful? | Dave Overoye |
| 10:00 – 10:30 | Tea break |  |
| 10:30 – 13:00 | GLOBE/Atmosphere + Land Cover+Hydrology Data Collection |  |
| 13:00 - 14:00 | Lunch |  |
| 14:00 – 16:00 | GLOBE/Atmosphere + Land Cover+Hydrology Data Collection |  |
|  | Travel Back to hotel |  |

**FRIDAY 26 March 2017**

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| --- | --- | --- |
| 08:00 – 08:30 | Travel from Hotel (training site) |  |
| 08:30 – 08:40 | Greetings and review |  |
| 08:40- 10:00 | GLOBE GLOBE Data entry, evaluation, certification and closing remarks |  |
| 10:00 – 10:15 | Tea break (working break) |  |
| 10:15 – 11:00 | GLOBE GLOBE Data entry, evaluation, certification and closing remarks - continue |  |

**Tuesday 23, May 2017**

**Regional Events 2018:**   
**Regional Meetings and Regional Master Trainer Workshops**

**In attendance:**

1. **US embassy** - Paul Gormley, Economic Officer, U.S. Embassy Mauritius, +230 202-4465, [gormleypj@state.gov](mailto:gormleypj@state.gov)
2. **Mauritius Ministry of Education** - Director CD & E & HRMD and assistant secretary Natcom - Mrs. A. Hoorah
3. **SSAI Web Management Solutions -** Dave Overoye
4. **Globe Africa coordinator -** Mark Brettenny
5. **Trainers**
   * Ms. Rogeline Brettenny
   * Mr. Leonard Diergaardt
6. **Globe country representative :** 
   * Madagascar - Mr. Paul Randrianarisoa
   * Kenya - Mr. Andrew Nyawade
   * Ethiopia - Ms. Ledet S. Abera
   * Namibia - Ms. Zelda Diergaardt
   * South Africa - Ms. Mokgadi Madiga
   * Uganda - Mr. Patrick Sempala
   * Mauritius – Anil Ramdewor

**GLOBE Africa regional meeting**

Welcoming remark and brief overview of GLOBE by Mark Brettenny

* + Thank you all for coming to attend the GLOBE Africa in Mauritius.
  + Especial to the US embassy GLOBE program representative and the Mauritius Government representative Director CD & E & HRMD and assistant secretary Natcom - Mrs. A. Ghoorah
  + I would like to stress that Mauritius is a good exemplary country that took the initiative to engage the GLOBE program before the MOU was signed between to the two entities.

Opening speech by Economic officer - the US embassy, Paul [ name ]

- Thank you all for coming to Mauritius to be part of the GLOBE program. The US embassy’s priority is to promote science in general and especially promoting children learning science. We strongly believe in this program as it is a complimentary tool to learn and practice science in schools. I was first introduce to silence when I first started to work for the US EPA and I am very glad to be taking part of this initiative.

Brief welcoming and introduction of the GLOBE Mauritius program - Director CD & E & HRMD and assistant secretary Natcom - Mrs. A. Ghoorah

* Welcome to Mauritius, this is the second time that Mauritius gets the privilege to host GLOBE program. Last year we had training for 30 trainees were trained of that which 10 continued the program.
* Our major problem was related to internet connectivity, nevertheless this year 25 school will trained and partner with the project.
* Science cannot be learnt it has to be practiced. program like global and eco school are benefit kids who are interested to learn science - find a way ahead.

**Discussion /Participation and addressing the disconnect.**

**Kenya Representative**

Number of GLOBE schools (54) reporting schools (approximately 12).

We observed that a low data entry and utilization at the local level as they are limited number of instruments and mechanism.

25 Automatic weather stations were installed by Trans-African Hydro Meteorological Organization. Data can be visualized from [www.school2school.net](http://www.school2school.net) however it is not linked to GLOBE website yet. This is one of the reasons why the data even though collected does not show on the GLOBE system.

10 3D Printed Automatic Weather Stations produced and installed with support from NCAR/UCAR. Data available from <http://3d-kenya.chordsrt.com> (not linked to GLOBE website yet)

Regional Centre for Mapping of Resources for Development Space Challenge in partnership with GLOBE will engage schools over three years to interpret the collected data. 2017 focuses on interpretation of humidity and precipitate data of five different regions over a whole year and present their report and posters at a workshop. 2018 will focus on land cover and land use while 2019 will focus on land degradation.

**Uganda Representative**

The number of GLOBE Schools are 36 and reporting schools are 8. Currently, only atmosphere protocols are being practiced.

Data collection is not is where it should be because of the unavailability of equipment. Our other challenge is caused because of transfer of teachers to schools from where there are GLOBE program to new school.

The Country has started Lake Victoria program in which carries out hydrological data collection and analysis. Three schools are already participating in this activity.

**South Africa Representative**

More than 80 school are involved in South Africa and the program is going well with some of our biggest challenges related to uploading data. As we all know this is one of the major activity to keep the program going. We also recognize that teachers are overloaded with school work therefore it is also another bottle neck to proceed with the activities. Moreover, learns who are excited about the program don't have access to the system as the teacher have to be involved with them while accessing the system.

As complementary option we are trying to bring on board the science center set up with the government to assist teacher. This option can only be useful to school that are located in main cities as the centers are not available in the remote areas.

Over all we are trying to make the program go strong in South African school as much as we possible can.

Lastly, how do we incentives schools to upload more data? who should be incentivized? teacher? student? or school?

**Madagascar Representative**

We have about 15 globe school in Madagascar. Globe is more that collecting of data - is it a program, as a chief of education for development into education policy I know GLOBE is the best way to integrate quality education. We have done training at the easter part of the country for 400 schools out of 10000 schools, however we will like to train more but the the globe material is expensive.

In addition as we are trying to continue promoting the continuity of GLOBE, we face the challenge of the teachers not being able to encode and send data to GLOBE. Currently, I receive data in hard copy and I encode the data into the system, this is rigorous work and not sustainable.

Finally, I would like to say that we as African are foreigner to our land and environment and I believe that GLOBE will fill the gap of we let our children be part of this initiative.

Namibia Representative

I am here to observe and see what I can contribute to GLOBE program in Namibia and I am excited to begin his journey and involve my school, I will not be a foreigner to my own country.

**Ethiopia Representative**

GLOBE in Ethiopia was launched few years back and it will be a great pleasure to reinitiate it through the upcoming training and also looking for ways to involve more school all over the country. Ethiopia being a big country, programs like GLOBE will be instrumental to compliment science in Ethiopian schools.

**SSAI Web Management Solutions**

I am responsible for the data processing, I attend different meetings and get feedback on what is going on with countries GLOBE program. This helps us to get a hold of what we are doing as it guides where the technology goes. We would like to hear from you because it will help us understand and prioritize what is the most important tool to encourage more engagement with the GLOBE system and all end users. Charles from Kenya is the best recourse to get feedback from him. We have a dozen people that work on it. I am here to do one to one support with all interested as we have a great resource I will be happy to share. For example we have different ways to monitor how many times documents are downloaded, - we have been working on building applications to identify mosquito … and etc.

- We will sort out issues with regards to your email issues?

- We have designed a user friendly system to allow all regions to upload especially.

- We can only see the GLOBE program active when you start uploading data.

* How are we going to by pass the problem?
* How do we use the students to figure out better ways to upload more data.
* How do we get more teacher get recognized?
* How does a globe school gets visible?
* Let us have a data uploading initiative in Africa - and the recognition get to be known by many

**Trainer**  - Mr. Leonard Diergaardt

* I have worked as a navigator for process stream lining - I heard a lot of why? we will be able to change it to what? How each of our countries can get the change that it need to get with the stakeholders of the teacher and students.
* 6 sigma
* How do we cross the divide - between the collected data and the upload of the data
* Doing more with less - doing better with less

[ group exercise ]

**Summary - Globe Africa coordinator**

**South Africa** - We should be able to find ways to mitigate this challenge throughout Africa in terms of connectivity especially this coming from SA.

We don't need marginalize our program towards Science educators - the reason why I am saying this is because we have an online meeting - data is being submitted into the system

you need the community to see how the job is being done so that the metrics will reflect itself

**Mauritius** - There is no real monitoring at the school level - so there should be a way to reinitiate the activities

**Kenya** - Kenya is a good model were it is unique as the ministry of defense is the lead of GLOBE in the country. In all your countries there is an opportunity for automated weather station . Forming with the country’s metrological agency and have an MOU.

It should be noted that with NASA - the school have to be registered to enter data - the school will have an ID.

**Madagascar** - I can never commend you enough because you have integrated the globe program to carry it through. For example the malaria initiative of the mosquito protocol. We need to identify where we can take initiate as well as take advance of the existing protocols.

**Namibia** - With Namibia the person responsible was moved from the program, therefore now Ms Zelda is here to observe and take over the program.

**Ethiopia** - we would like to see Ethiopia start the program again and make sure that teacher are trained

**Wednesday 24, May 2017**

**The specifications for the four GLOBE study sites are listed below:**

***Atmosphere/Climate:*** The GLOBE atmosphere and climate site consists of a 10 cm by 10 cm square by 2 m long post with a 50 cm by 25 cm thermometer enclosure and a rain gauge mounted on it. These should be located on a flat, grass covered area, at least 5 meters away from trees or buildings. This study site should be in close proximity to the indoor workshop site.

***Hydrology:*** The GLOBE hydrology site requires safe access to surface water of any stream, river, lake, bay, seashore, or pond **within 15 minutes transportation time** of the indoor workshop site. Observations of water temperature, transparency and dissolved oxygen must be conducted at this site. 10 liters of distilled water should be available for the trainers.

***Land Cover/Biology:***The GLOBE Land Cover/Biology protocols are best done at a natural forest, woodland, shrub land, or grassland site. For training, natural means not watered, irrigated, mowed, or planted with decorative, non-native plants. Ideally, this site should be a square measuring 90 m by 90 m that is homogeneous in vegetation cover clearings and paths within the site are fine). The site must be within 15 minutes transportation time of the indoor workshop location. If an ideal site is not available, the protocols can be trained on a 30 m by 30 m site, in a stand of trees and/or shrubs in a park, or in a grassy field. If teachers attending the training come from schools where forests are the primary form of natural land cover, the grassland and shrub land sites may be omitted, or if those attending come only from grassland areas, the forest and shrub land sites may be omitted. In the grassland site, permission is needed to clip at least a 1 m by 1 m square to the bare ground (this should not kill the grass).

***Soil:*** The GLOBE Soil site is an area where one can dig to a depth of 1 meter. Natural areas or parks where the soil has not been disturbed are ideal, but any location where there are at least 2 distinct layers in the top meter of soil is acceptable. Permission to dig a 1 m deep soil pit is desirable, but the protocol can be taught using an auger to remove soil samples. Some additional surface soil will also be disturbed. The site should be as close as possible and must be within 15 minutes transportation time to the indoor workshop location.

**Thursday 25, May 2017**

Afternoon session -

**SSAI Web Management Solutions**

I would like to run through the new changes and upgrades on the website to ease access [ see inclosed PPT for full details]

- What has changed in the last year?

- Home page is redesigned

- It will have a 3D globe

- 7 day animation

- News

- Calendar

- Globe people (a way to recognize those who enter a lot of data)

- We are trying to find solution to make sure that all the website is user friendly

it is up to the country coordinator

- More languages are available

- Cloud observation that are useful for citizen scientists