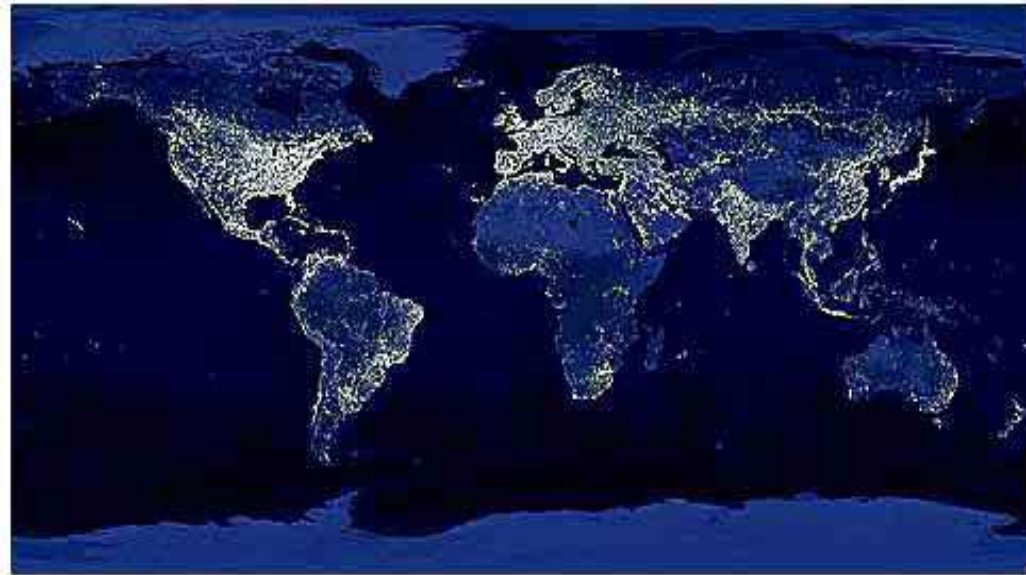


# • Darkness Area and Important locations for • Night Sky Screening and Related Activities • Mohamed Mostafa Ejfaeri • Libyan Center for Remote Sensing and Space Science



## • Abstract



- Dark and quit locations decreasing day by day . in Libya we have huge areas still keep the quality of natural rural habitat that will offer a world future opportunity for more investing in different type of research and tourist activities
- Today we have different questions to demonstrate our objectives and how to reach them and implement tasks toward the best quality places by offering more capability compared with other world places. The questions are , how to identify the best places?, are the places that we are selected the best or we need to discover the best ones? , also how to make this work more sustainable by providing divers programs that make the work self founding and more attractive for different segments of people. to support the activities in terms of astronomy researchers , other human & habitat researches and tourists . the work will be promoted by other wild and planet activities . we tend to construct parks inside Libyan rural area that will support many activates toward more sustainability environment. The parks have attracted the interests to see our sky in a clear sight with more capability that our desert places are offering as the clear atmosphere and natural environment with a normal dark night . the environment has the clear sky most nights a year and dry regions . the locations are the paradises for numerous activities that will bring a life to this remote places. The project will provide a modern capability to assist Interdisciplinary research among lighting, medical, and environmental research communities within different facilities and equipments . by constructing many small village based on the life without artificial light during the dark time in rural areas , we can bring the amazing experience in a new tourist assay. under strong criteria , the high dark area points selected in first step then location pass through filtering through field measurements in terms of more quality places selected . we have two type of campuses 1- rovers and 2- settled that can give more dynamic capacity to make different views from more locations as many habitats will discover simultaneously. This project will support international missions and give other societies the recommended positions in the admirable places. The Libyan Center for Remote Sensing and Space Science is looking to open the door for future cooperation in order to make the project sustainable under international programs and support. Also scenarios are going to construct frameworks for capacity building , technology transfer and diplomacy under the international dealings.
- Why this project
- The dark region in our world decrees with the revolution of electricity that can generated by different source and also increase using wireless technology in whole location of our world . the previous problems difficulty have implied regions criteria that need to support the astronomical effort within a suitable budget and offer easiest capability to be reached. The regions are free of diseases and pandemics and we can have good level of security and nice whether during a year with a nice dry region suitable for space monitoring and quite place for radio astronomy . we can consider the places in Libya as a best location for different type of activates.

## • Objectives

- - region Developments
- - Capacity Building
- - improving world capability to capture more information about our universe by offering more data from different angles in our planet.
- - enhance Libyan capability to lead astronomical efforts .
- - create sustainable activities that exploiting Tourist activities programs and scientific effort to support.
- - create a new type of life and experience for people to live under natural environment without any ALAN pollution and also in quiet place.
- - Bio-Environment study and offering big zone to start research in pure natural regions for the health of many organisms. We tend to offer Epidemiological studies that will show strong correlation between ALAN and elevated rates of some hormonal ,cancers, obesity, diabetes, depression, and disruption of sleep.
- - study the sensitivity to ALAN among individuals, and safe dosage thresholds and how both indoor and outdoor lighting at night affects humans and wildlife. This project will undertake the research for Many species of flora and fauna that are negatively affected by ALAN.

## • Results

- We started up to undertake other multidisciplinary research activities that utilized the specific natural pure environment to carry out different experiments under natural dark nights.
- Between 6 zones we selected the first one that located in Alhroug Asud Mountain and second and third zones will be selected later among 6 regions were nominated to be the best locations that fulfill our future dream .
- We have created eight main groups that will be responsible on preparing plans and ideas to estimate what we have and we need and how to implement the objectives.1- Astronomical Group Monitoring Group , 2-Scientific Group, 3- Economical Group , 4- Tourism Group. 5- Protection Group, 6- Environment & Wild Habitat Protection Group , 7- Meteorites Group. and 8-Construction plan Group. Each group study their objectives and requirements and arrange their discussion with other groups to coordinate their plans and ideas in terms of our objectives scenario .
- - Astronomical Group are studying the best places that will offer darkest points and also selected the quite location for Radio Astronomy also we make an arrangement with other remote darkest regions that have been selected to mitigate the LEO communication satellite effect by providing another location view of universe that show us a better ability to see. the group responsible on activities arrangement for local and international astronomic scientists and how to exploit this monitoring locations. the group is concerned for rover missions by planning for different journey among desert and mountains to experience extra sky monitoring points.
- - Scientific Group: The tasks of the group is important because his responsibility to arrange multidisciplinary research fields that will take the advantage of this pure natural nights experience and leverage the result benefit gathered.
- - Economical Group: is to promote the park activities and support the planning scenarios from other groups. the group is considered as the skeleton of the parks project . his responsibility is to offer sustainability of the projects , economic plan for future ,and solving finance & investment dilemma .
- - Tourism Group: arranging tourist program based on the special feature of the Libyan locations. The group open the world relation for a new type of tourist that will experience natural pure nights.
- - Protection Group: is responsible for arranging the life manage whole problem inside the park also protect the regions from any prospective risk that will harm activities in the region.
- - Environment & Wild Hebetate Protection Group: the program of this group concentrate on monitoring the activities inside the region and try to enhance the life inside the region without harm the natural situation.
- - Meteorites Group: this group is responsible for discovering near regions and searching for meteorites that are spread through the regions and cooperate with international labs and expert to analysis the main component of meteorites and classify them.
- - Construction plan Group: this group will support other groups activities and facilitate their tasks by providing special type of constructions that don't conflict with the natural of region.
- The selected regions will offer extra privileges not existing in the other world darkest locations as the following:
- easy to access.
- no diseases exist in that region.
- nice weather whole the time a year.
- no cloud during a year clear sky.
- best quiet location exist in the world( less Radio-wave Interference).
- Libyan parks are located in the center of the world, easy to be utilized from other scientists in the world as the international points for sky monitoring.
- we can secure the regions from other terrorist risk .

## • Conclusion

- - Libyan zones can provide darkest and quiet places that will add value for world effort to monitor the sky at pure natural dark nights.
- - Using many zones distributed on the huge area will mitigate the problem of LEO communication satellites brightness by offering alternative sky scenes in another zones.
- - The distributed parks will offer fantastic experience for many people to live in dark and virgin unpolluted locations.
- - parks activities supporting and keeping wild and natural habitat.
- - Libyan parks Offering locations for Bio-Environment study and offering big zone to start research in pure natural regions for the health of many organisms.
- - whole year clear weather will provide the perfect locations to help for more potential to discover the sky compared with other locations in our world.
- - This project will contribute to add values of settlements developing at this domestic region and offering the opportunity to enhance situations of jobs , economical ,and service .

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- *by Andrew Fraknoi (Fromm Institute, U of San Francisco)*
- *Version 5.1; Jan 2021*

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