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# PRESENTATION OUTLINE

- INTRODUCTION
- ZAMBIA'S RAINY SEASON
- LIGHTNING IN ZAMBIA
- LIGHTNING PROTECTION
- CONCLUSION

# INTRODUCTION

- ZAMBIA IS A LAND LOCKED COUNTRY
- SITUATED IN THE SOUTHERN REGION OF AFRICA
- SIZE OF ABOUT 752,614KM SQUARED
- POPULATION STANDS BETWEEN 12 AND 13 MILLION



# ZAMBIA'S RAINY SEASON

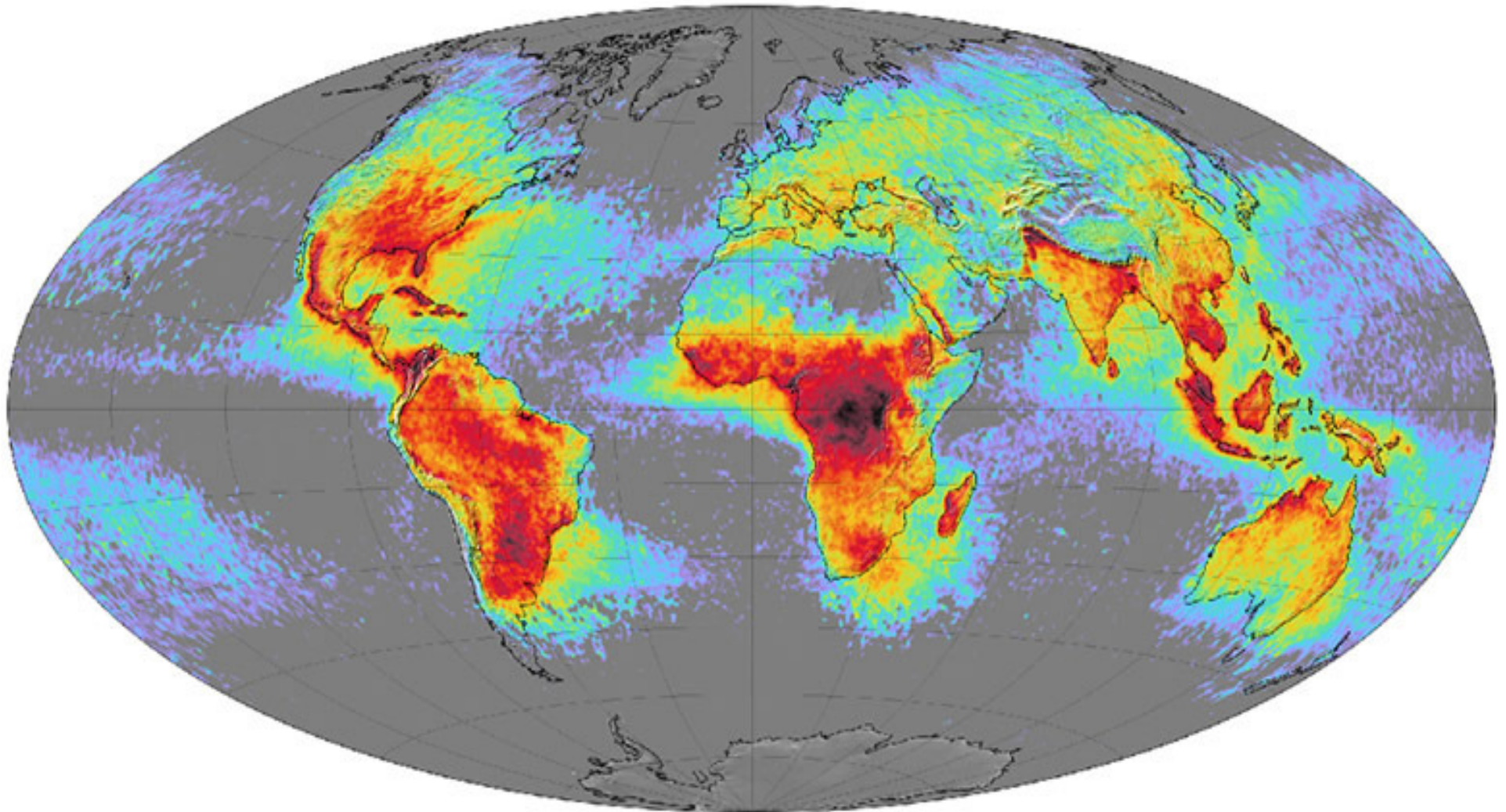
- RAIN STARTS OFFICIALLY IN NOVEMBER
- SOMETIMES TOWARDS THE END OF OCTOBER
- AND DECEMBER SOMETIMES
- BROUGHT BY THE INTER TROPICAL CONVERGENCE ZONE ,ITCZ
- CHARACTERISED BY THUNDERSTORMS, A HIGH ACTIVITY OF LIGHTNING AND SOMETIMES HAIL

# LIGHTNING IN ZAMBIA

- GENERALLY, EVERY ZAMBIAN ADULT UNDERSTANDS THAT ZAMBIA HAS A LOT OF LIGHTNING
- EVERY ZAMBIAN ADULT KNOWS THAT FROM TIME TO TIME, LIGHTNING STRIKES EITHER, HOMES OR WORK PLACES AND IS USUALLY QUITE DISTRACTIVE ( ON 4<sup>TH</sup> OCT. LIGHTNING BLEW UP A BULB IN THE SITTING ROOM AT MY HOME. My husband's laptop went off. Fortunately when he switched it back on, it was able to come on and this is just the beginning of the rain season)
- NO STATISTICS THOUGH

# LIGHTNING IN ZAMBIA cont

- ZAMBIA HAS NINE PROVINCES IT IS GENERALLY KNOWN THAT THERE'S MORE LIGHTNING ON THE COPPERBELT AND IT IS ASSUMED IT IS BECAUSE OF THE PRESENCE OF COPPER (No research undertaken to affirm or dispute)



lightning flashes (per km<sup>2</sup> per year)



0.1    0.4    1.4    5    20    70



# LIGHTNING PROTECTION

- IN ZAMBIA, SOME COMPANIES HAVE TAKEN LIGHTNING PROTECTION QUITE SERIOUS WHILE OTHERS JUST DON'T CARE.
- VISITING A NUMBER OF BIG INSTITUTIONS AND MAJOR SERVICE PROVIDERS THE TELECOMMUNICATIONS INDUSTRY AND THE ZAMBIA ELECTRICITY SUPPLY COMPANY, ZESCO HAVE DONE QUITE WELL.

# LIGHTNING PROTECTION cont

- DISCOVERED THE TELECOMMUNICATION EQUIPMENT HAD PROVISIONS IN TERMS OF ACCESSORIES FOR LIGHTNING PROTECTION AT VARIOUS POINTS
- ZESCO IS AN ASSOCIATE MEMBER OF IEC (International standards body for regulations on electrical installations)
- LIGHTNING PROTECTION IS ONE OF THE DEMANDS ON THE COMPANY TO MEET THE ACCEPTABLE INTERNATIONAL STANDARDS

# LIGHTNING PROTECTION CONTINUED

- ON AVERAGE MOST COMPANIES HAVE INSTALLED AN AIR SPIKE OR TERMINAL FROM THE HIGHEST POINT OF THEIR BUILDING, CONNECTED TO A COPPER BAR OR EARTH WIRE AND THEN TO THE EARTH
- WHILE SOME INSTITUTIONS WILL HAVE NOTHING AT ALL

# CONCLUSION

- EVEN IN THE POWER CONDITIONING PROJECT LIGHTNING PROTECTION HAS NOT BEEN GIVEN THE SERIUOS ATTENTION IT DESERVES
- MAYBE CONFERENCES LIKE THIS ONE SHOULD COME UP WITH DEMANDS ON MEMBER COUNTRIES TO HAVE RESEARCH DONE ON LIGHTNING PROTECTION AND APPROPRIET MEASURES TAKEN AS A QUALIFICATION TO BE A MEMBER TO NAM S&T

# CONCLUSION cont

- I AM SURE THAT WITH THE MOTIVATION AND INFORMATION GATHERED FROM THIS CONFERENCE AND THE LINKAGES THAT WILL BE CREATED, ZAMBIA SHOULD BE ABLE TO ATTACH MORE IMPORTANCE TO THE SUBJECT OF LIGHTNING PROTECTION
- I HOPE ZAMBIA WILL HAVE A BETTER STORY TO TELL IN THE NEXT CONFERENCE

END OF PRESENTATION

**THANK YOU!!!**