Improve Disaster Management with the help of fact based information

Tutor‘s guide (1)

Introduction to the Learning Environment, Basic Features

NATIONAL INSTITUTE OF DISASTER MANAGEMENT - Delhi
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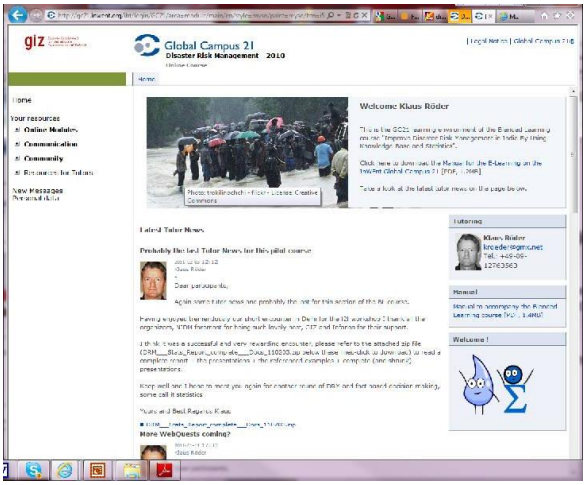
What is this Tutor’s Guide about

The beginning: This is what the Tutor and the Participant see (in 2010)

Welcome to the learning environment

This is a short introduction on how to handle the learning environment. Being a Tutor is quite different from being a teacher, a professor or a facilitator of a workshop

The first difference: Usually you don’t see each other



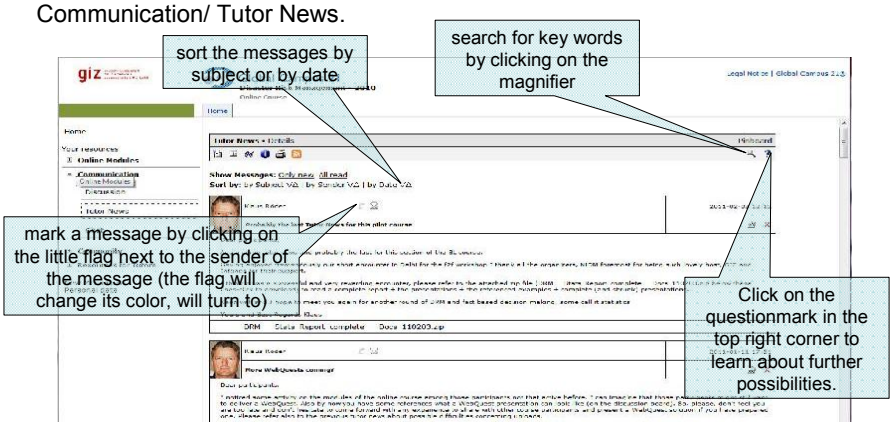
What is on the Home page

Communication of and with the Tutor

The principal access: Communication

What's new?

The first entry in the category "Information" is the "What's new?" board. Here, you can see all messages your tutor left on the start page or you enter Communication/ Tutor News.



The Blended Learning course - Disaster Management and Statistics

- Why do we engage in the use of Statistics for Disaster Management?
- What can and - equally important – cannot be done with the use of Statistics for Disaster Risk Management?
- What are the basic concepts, terminology and tools for the use of Statistics for Disaster Risk Management?

The online course - Why collecting data?

We wanted to describe the reason and the methods to collect data and to improve knowledge and decision making based on information.

Collecting data is not without reason and the purpose is to relate data collection and the use of information to the goals of Disaster Risk Management.

The online course - Why analyze data?

We wanted to describe the reason and the methods to analyze data and to improve knowledge and decision making based on these information.

The course is structured in four subject groups (Modules)

- Disaster Data/Statistics – A glossary
- Introduction to Statistical Terminology and Basics
- Use statistical information on recent and passed disasters
- Understand "Cause and Effects" of disasters described by statistics

The Scenario – Flood
The Scenario - Agricultural Drought

Since the related disasters are related closely to rainfall we will look at and analyze rainfall data for the State of Bihar. This is an example for training purposes. Any other state or disaster type could have been chosen for the purpose of this course

Statistical terminology is explained in this module using rainfall data and variation

But Learning is **NOT** done by reading or repeating but by solving **CASE STUDIES** using
• tools and instruments (statistics) either known already or acquired in the course and
• real life Indian or international data sources tapped into solving the case studies

These case studies are structured as
- Guided Exercises (if the solution is explained step by step)
- Independent Exercises (if the solution has to be found independently) and
- Online tests responding to questions related to the case studies
- Self-assessments as a self-administered control of knowledge at the end of the Modules (2 – 4)

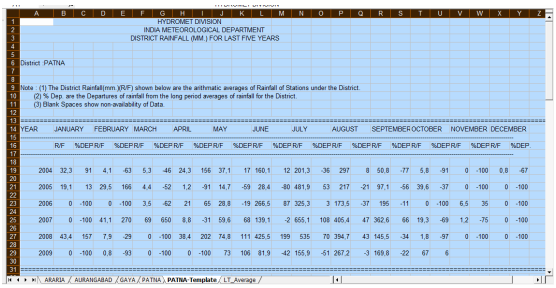
What can Data tell us?
What Data cannot tell us?

- Delimitate our search due to commonplace knowledge (no tsunami on a mountain)?
- What were the specific conditions in the past?
- At what time / under which conditions are the risk of a disaster high?
- At what time / under which conditions are the risk of a disaster low?
- Where are the possible damages and losses located?

- Statistics are general pieces of information that apply to an entire 'population'. Statistics can't tell you exactly what will happen to you personally.
- If 65% of people with your type of illness responded to a treatment, then there is a two out of three chance that you will too. But no one can say definitely whether your illness will respond to that treatment.
- What will be the rainfall conditions during next year?
- What will be your personal risk of being struck by a disaster?
- Statistics always talks about a population and not about individuals
- Statistics can't tell you about your future individual damages and losses

Four Districts of Bihar in our (guided) Scenario

Guided exercises and the use of StatistiXL



HYDROMET DIVISION
INDIA METEOROLOGICAL DEPARTMENT
DISTRICT RAINFALL (MM.) FOR LAST FIVE YEARS

District : PATNA

Note : (1) The District Rainfall(mm.)(R/F) shown below are the arithmatic averages of Rainfall of Stations under the District.
(2) % Dep. are the Departures of rainfall from the long period averages of rainfall for the District.
(3) Blank Spaces show non-availability of Data.

YEAR	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2004	32.3	91	4.1	-63	5.3	-46	24.3	156	37.1	17	160.1	12	201.3	-36	297	8	50.8	-77	5.8	-91	0	-100	0.8	-67
2005	19.1	13	29.5	166	4.4	-52	1.2	-91	14.7	-59	28.4	-80	481.9	53	217	-21	97.1	-56	39.6	-37	0	-100	0	-100
2006	0	-100	0	-100	3.5	-62	21	65	28.8	-19	266.5	87	325.3	3	173.5	-37	195	-11	0	-100	6.5	35	0	-100
2007	0	-100	41.1	270	69	650	8.8	-31	59.6	68	139.1	-2	655.1	108	405.4	47	362.6	66	19.3	-69	1.2	-75	0	-100
2008	43.4	157	7.9	-29	0	-100	38.4	202	74.8	111	425.5	199	535	70	394.7	43	145.5	-34	1.8	-97	0	-100	0	-100
2009	0	-100	0.8	-93	0	-100	0	-100	73	106	81.9	-42	155.9	-51	267.2	-3	169.8	-22	67	6				

ARARIA / AURANGABAD / GAYA / PATNA / **PATNA-Template** / LT_Average /

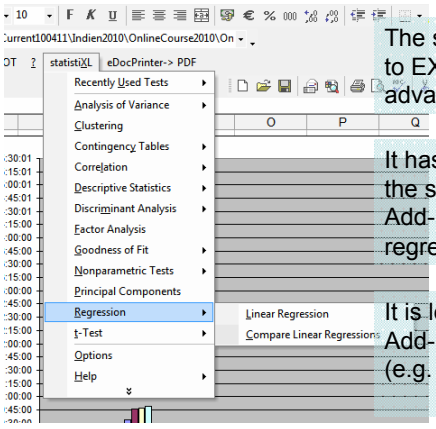
The PATNA-Template sheet contains the sample data for the PATNA District
The lines represent the years
The columns are displayed with monthly rainfalls (R/F) in mm
What do we want to find out?:
Rainfall patterns (highs, lows, and dispersion of rainfall) for the months? The answers will be given in the "Guided Exercises"

In the Guided Exercise, participants learn in this context of Bihar District Rainfall to understand terms like
Average, kurtosis , maximum/ minimum, median , mode, quartile, skewness , standard deviation, variance
And apply them for understanding rainfall patterns in Bihar

Use a Stats Pack as an Add-on to EXCEL called StatistiXL

And apply them for understanding rainfall patterns in Bihar

The use of StatistiXL



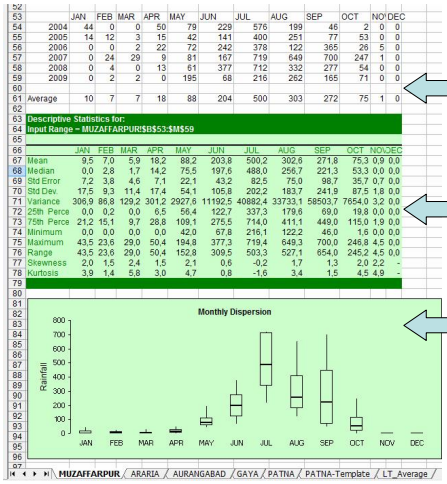
The software StatistiXL is an Add-on to EXCEL and allows the use of advanced statistics.

It has more advanced features than the standard Statistical Data Analysis Add-in of EXCEL (like stepwise regression and Factor Analysis)

It is less costly than other commercial Add-ins (e.g.XLStat) or stats packages (e.g. SPSS, Stata) and easier to learn

It has been distributed free of charge with the first DM course 2010

Results of the guided exercise



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2004	44	0	0	50	79	229	576	199	46	2	0	0
2005	14	12	3	15	42	141	400	251	77	53	0	0
2006	0	0	2	22	72	242	378	122	365	26	5	0
2007	0	24	29	9	81	167	719	649	700	247	1	0
2008	0	4	0	13	61	377	712	332	277	54	0	0
2009	0	2	2	0	195	68	216	262	165	71	0	0
Average	10	7	7	18	88	204	500	303	272	75	1	0

Descriptive Statistics for:
Input Range = MUZAFFARPUR!$B$53:$M$59

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Mean	9,5	7,0	5,9	18,2	88,2	203,8	500,2	302,6	271,8	75,3	0,9	0,0
Median	0,0	2,8	1,7	14,2	75,5	197,6	488,0	256,7	221,3	53,3	0,0	0,0
Std Error	7,2	3,8	4,6	7,1	22,1	43,2	82,5	75,0	98,7	35,7	0,7	0,0
Std Dev.	17,5	9,3	11,4	17,4	54,1	105,8	202,2	183,7	241,9	87,5	1,8	0,0
Variance	306,9	86,8	129,2	301,2	2927,6	11192,5	40882,4	33733,1	58503,7	7654,0	3,2	0,0
25th Perce	0,0	0,2	0,0	6,5	56,4	122,7	337,3	179,6	69,0	19,8	0,0	0,0
75th Perce	21,2	15,1	9,7	28,8	109,1	275,5	714,0	411,1	449,0	115,0	1,9	0,0
Minimum	0,0	0,0	0,0	0,0	42,0	67,8	216,1	122,2	46,0	1,6	0,0	0,0
Maximum	43,5	23,6	29,0	50,4	194,8	377,3	719,4	649,3	700,0	246,8	4,5	0,0
Range	43,5	23,6	29,0	50,4	152,8	309,5	503,3	527,1	654,9	245,2	4,5	0,0
Skewness	2,0	1,5	2,4	1,5	2,1	0,6	-0,2	1,7	1,3	2,0	2,2	-
Kurtosis	3,9	1,4	5,8	3,0	4,7	0,8	-1,6	3,4	1,5	4,5	4,9	-

MUZAFFARPUR / ARARIA / AURANGABAD / GAYA / PATNA / PATNA-Template / LT_Average /

The Data

The Statistics

The Boxplot

The Analysis: …….
To be done as an independent (self-timed) exercise

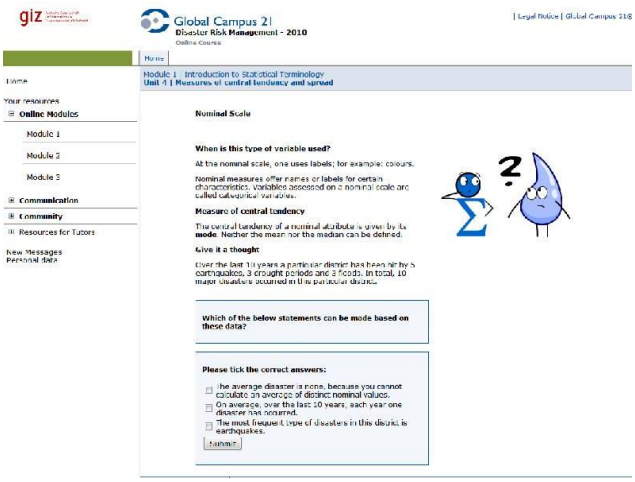
Tutorials for the guided exercise

We prepared a video tutorial for visual explanation.

Video Tutorial

1. Andhra Pradesh
2. Arunachal Pradesh
3. Assam
4. Bihar
5. Chhattisgarh
6. Goa
7. Gujarat
8. Haryana
9. Himachal Pradesh
10. Jammu and Kashmir
11. Jharkhand
12. Karnataka
13. Kerala
14. Madhya Pradesh
15. Maharashtra
16. Manipur
17. Meghalaya
18. Mizoram
19. Nagaland
20. Orissa

Self-timed exercises during the course



Essentials of the Blended Learning course: DM and Statistics

You should have knowledge about the elements of such a course:

Modules, broken down in Units, Pages
Why this course deals with fact base information
How this course tries to teach the use of fact base information
- Scenarios
- Guided Exercises
- Use of Stats Add-on to EXCEL and a software called StatistiXL
- Tutorials
- Self-timed exercises

This is all information to use the web-based training of BL as a **learner**, but so far you have no information how to act as a **tutor**

To gain information how to act as a tutor will be the next step

Thank You for your Attention!