

UNIVERSITY OF TWENTE.

University of Berlin

TEMPUS - SESREMO

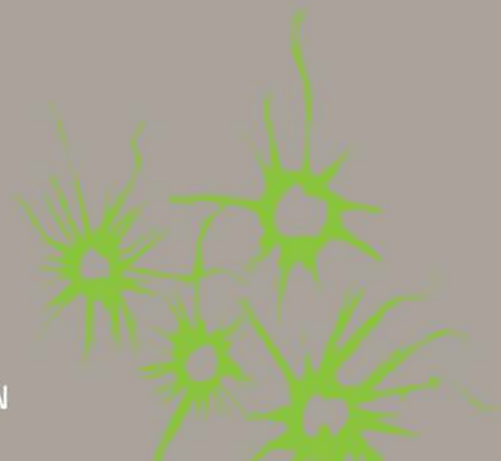
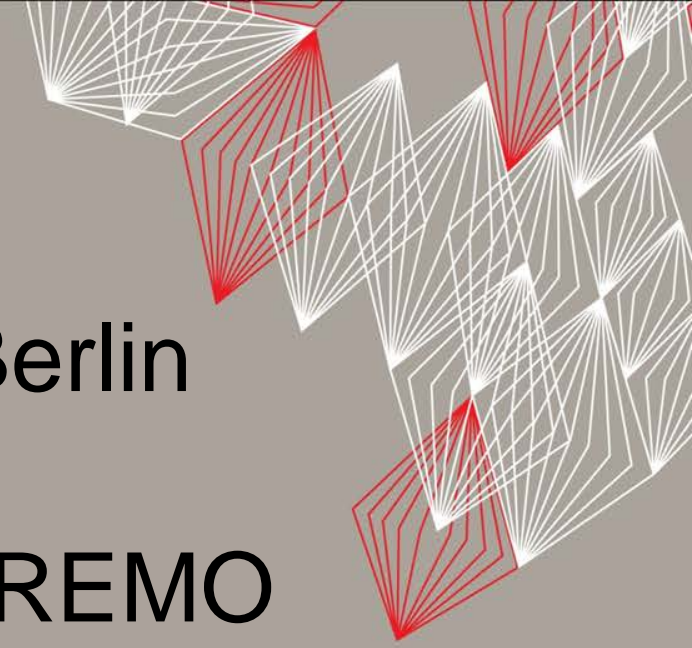
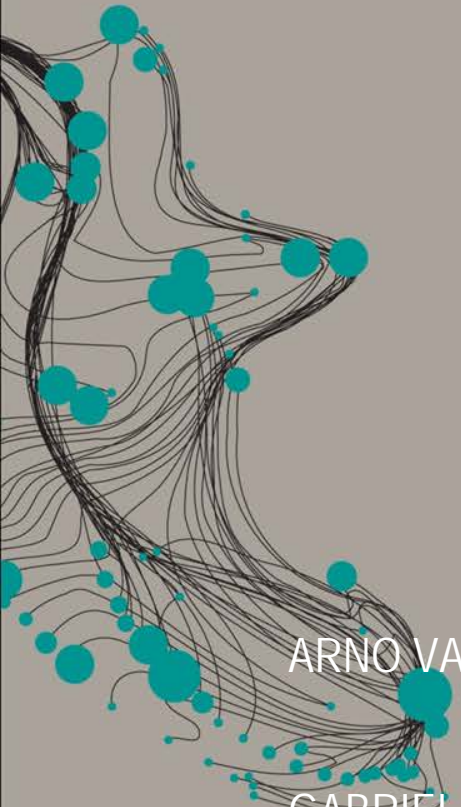
December 15 2014

ARNO VAN LIESHOUT

GABRIEL PARODI



FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION



Programme morning session

11:00	Welcome	Arno van Lieshout / Bert Boer
11:15	Overview of Curricula developed by ITC	Arno van Lieshout
11:30	Overview of Water Quality Module	Suhyb Salama
12:00	Overview of GeoNetcast Module	Arno van Lieshout
12:30	Lunch	Arno van Lieshout – Bert Boer

Programme afternoon session

- 13:30 Meeting with Finance J.W Timmerman
- 14:00 Visit of GeoNetcast reception center Bas Retsios
- 14:30 Overview of EO, GIS, Drought/Floods modules Arno van Lieshout
- 15:00 Upcoming workshop at ITC Arno van Lieshout
- 15:30 Coffee
- 15:45 Future Collaboration Lieshout / Boer



Overview of Items developed

2 curricula

- Environmental Drought and Flood Monitoring and RS applications:
(2 weeks full time)
- Environmental: (Water) quality monitoring and assessment
(2 weeks)

2 modules

- Principles and Applications of Geographic Information Systems and Remote Sensing (1 week each)

Additionally

- GEONETCast
(6 days full time)





DESIGN PRINCIPLES

1. ITC-method: Theory (morning) combined with Exercises (afternoon)
2. Open source software:
 - ILWIS 3.3 Academic (for the GIS, RS courses)
 - ILWIS 3.7.2 (for the GEONETCast course)
 - BEAM-VISTA (WQ course)
 - NEST (Radar exercise – flooding)
3. Complete documentation with ppts, pdfs, exercises etc.
4. Complete schedule on day to day basis assuming start at 8:45
5. GIS and RS knowledge prerequisite for Drought, Floods, WQ and GEONETCast modules.

General Set-up for each Topic

- Objectives
- Entry level
- Course Material
- Course Curriculum
- Schedule
- Estimate of Staff and Student involvement
- Explanation of the materials
- Ability to import into CANVAS INSTRUCTURE or any other CMS

Example Set-up of schedule

L1: Introduction in drought management	2
L2: Drought managements and polices	2
L3a: Recap on Remote Sensing + L3b: Drought impact in the hydrological cycle	2
L4: Drought from Evapotranspiration	2
L5: Surface Energy Balance System	2
L6: Precipitation	2
L7: Soil Moisture	2
L8: Hydrological Drought	2

Lectures	Hours
	Total: 38
L1: Introduction: Quantifying floods	2
L2: Statistics in Floods	2
L3: Floods mapping in Remote Sensing (VIS-RAD)	2
L4: Urban Flood hazard: Study case of NAGA	2
L5: Radar basics and use in Floods	2



Linked to...

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EXAMPLE SCHEDULE

Week	1 Droughts and Remote Sensing				
Period	5-Jan-15 Monday	6-Jan-15 Tuesday	7-Jan-15 Wednesday	8-Jan-15 Thursday	9-Jan-15 Friday
8:45-9:30 9:45-10:30	L1: Introduction in drought management	L4: Drought from Evapotranspiration	L6: Precipitation	L9: Land surface products	L11: Drought impact mitigation
10:45-11:30 11:45-12:30	L2: Drought managements and polices	L5: Surface Energy Balance System	L7: Soil Moisture	L10: Retrieval of land surface parameters	L12: Vulnerability and impacts
13:45-14:30 14:45-15:30	L3a: Recap on Remote Sensing + L3b: Drought impact in the hydrological cycle	P2: Evapotranspiration estimation from SEBS	P3: Drought estimation from ET/SM/P	P4: Retrieval of land surface parameters from Remote Sensing	L13: Strategic Planning
15:45-16:30 16:45-17:30	P1: Online Drought Monitoring Systems	P2: Evapotranspiration estimation from SEBS	L8: Hydrological Drought	P4: Retrieval of land surface parameters from Remote Sensing	L14: DEMO: Drought in France - A case study

Week	2 Floods and Remote Sensing				
Period	12-Jan-15 Monday	13-Jan-15 Tuesday	14-Jan-15 Wednesday	15-Jan-15 Thursday	16-Jan-15 Friday
8:45-9:30 9:45-10:30	L1: Introduction: Quantifying floods	L3: Floods mapping in Remote Sensing (VIS-RAD)	L4: Urban Flood hazard: Study case of NAGA	L5: Radar basics and use in Floods	P6: SAR data processing: Batch processing and Co-registration
10:45-11:30 11:45-12:30	L2: Statistics in Floods	P2: Exercise of Flood Hazard for Bnagladesh	P3: Exercises of Urban Flood hazard. The NAGA case	P4: SAR data processing: Terrain Correction	P7: Mapping open water and flood extent with SAR
13:45-14:30 14:45-15:30	P1: Traditional treatment of hydrological data for floods	P2: Exercise of Flood Hazard for Bnagladesh	P3: Exercises of Urban Flood hazard. The NAGA case	P5: SAR data processing: Speckle filtering and subsetting	P7: Mapping open water and flood extent with SAR
15:45-16:30 16:45-17:30	P1: Traditional treatment of hydrological data for floods	P2: Exercise of Flood Hazard for Bnagladesh	P3: Exercises of Urban Flood hazard. The NAGA case	P6: SAR data processing: Batch processing and Co-registration	P7: Mapping open water and flood extent with SAR



Linked to....

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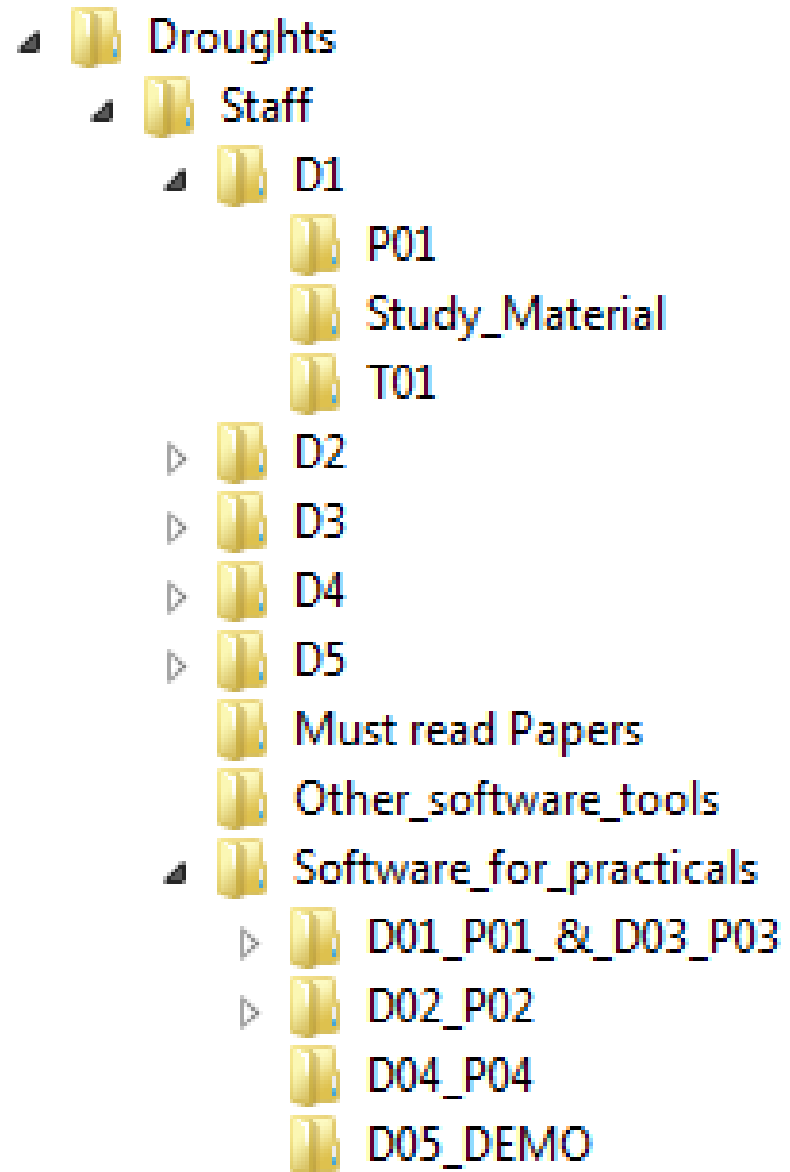
12/12/2014




Table 1: Estimated number of hours for students and staff. Note: 1 period = 2 hours

Summary of hours				
	Staff		Students	
	Hours	Periods	Hours	Periods
Lectures - L	0	0	38	19
Supervised Practicals - P			36	18
Individual Assignments - IA			6	3
Group assignment - GA			0	0
Self study unsupervised practicals - S			0	0
Overhead - O			0	0
Overall practicals	0	0	42	21
TOTALS	0	0	80	40

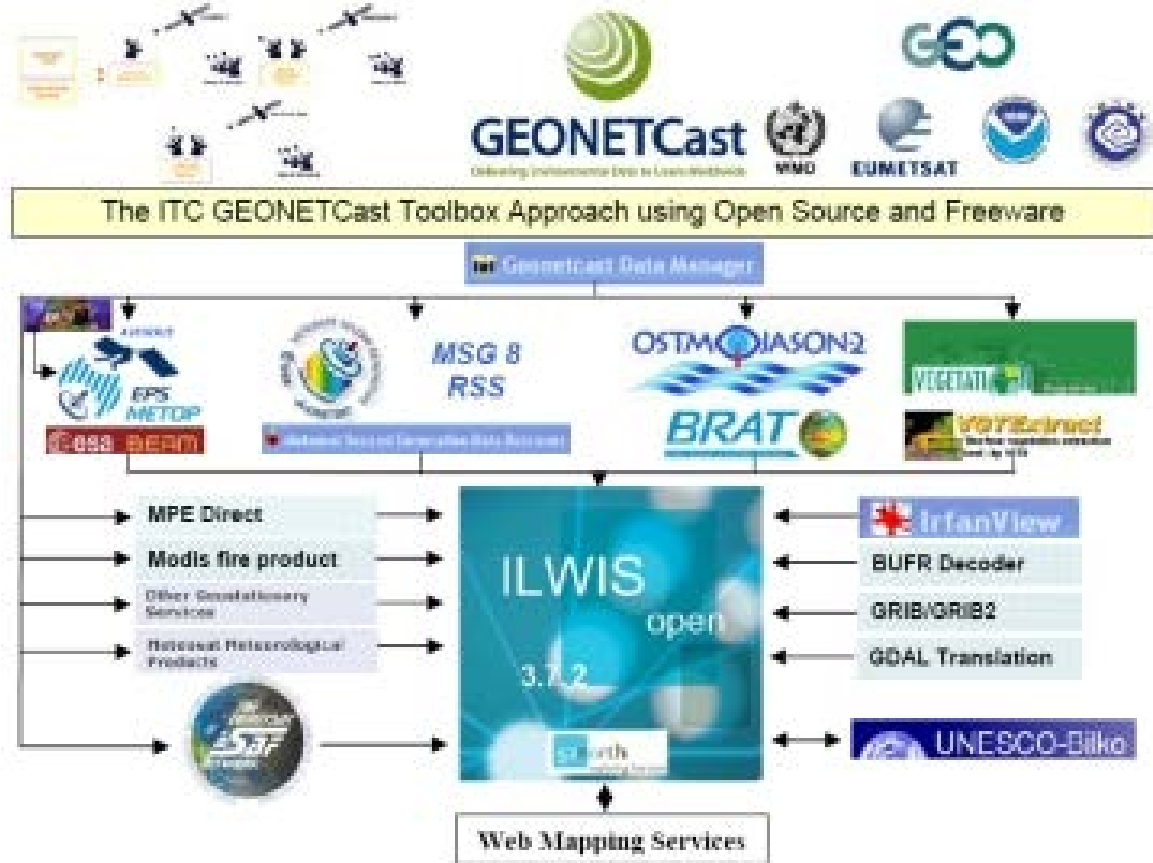
FIXED FOLDER STRUCTURE



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- Introduction on the WQ module

BY Dr. Suhyb Salama

INTRO TO GEONETCAST MODULE





GEONETCAST MODULE - OBJECTIVES

- Students learn the operation of GEONETCAST. Installation and hardware will be briefly discussed and the focus will be the execution of the pre-processing and post-processing of the satellites and products using a specific version of the ILWIS software.
- Students will be free to select from a number of tutorials during the course and the material will remain in their hands to expand to other examples, built their own and/or contribute to the development of products (DEVOCAST)



GEONETCAST MODULE - COURSE MATERIAL

- All the material required are in the compressed distribution file that comes in this package.
- ILWIS freeware. Software manuals and help files are available and extremely useful. A special version 3.7.2 is the best suited for GeonetCast use. The version is available in the files and the strict sequence of the installation is also indicated and done.
- Practical: self-guided exercises. Students will be able to select from a number of choices according to their interest and expertise.
- Supervision: Experience has indicated that this course requires strict supervision most of the time.



GEONETCAST MODULE : SCHEDULE

Week 1 Geonetcast week 1										
Period	5-Jan-15	Monday	6-Jan-15	Tuesday	7-Jan-15	Wednesday	8-Jan-15	Thursday	9-Jan-15	Friday
8:45-9:30 9:45-10:30	Introduction to Geonetcast		ILWIS installation and data download		Geonetcast data processing		Geonetcast data processing		Geonetcast applications	
10:45-11:30 11:45-12:30	Introduction to Geonetcast		ILWIS installation and data download		Geonetcast data processing		Geonetcast data processing		Geonetcast applications	
13:45-14:30 14:45-15:30	Introduction to the open source tools developed for accessing and processing		Geonetcast data processing		Geonetcast data processing		Geontcast applications		Geontcast applications	
15:45-16:30 16:45-17:30	Introduction to the open source tools developed for accessing and processing		Geonetcast data processing		Geonetcast data processing		Geontcast applications		Geontcast applications	
Week 2 Geonetcast week 2										
Period	12-Jan-15	Monday	13-Jan-15	Tuesday	14-Jan-15	Wednesday	15-Jan-15	Thursday	16-Jan-15	Friday
8:45-9:30 9:45-10:30	Geontcast applications									
10:45-11:30 11:45-12:30	Geontcast applications									
13:45-14:30 14:45-15:30	Geontcast applications									
15:45-16:30 16:45-17:30	Geontcast applications									



GEONETCAST MODULE: TOPICS

Course block	Duration (days)	Documentation and presentations	Data and exercise descriptions	Supporting documents - exercises	Location under \SESREMO package
1-Intro GEONETCast	0.5	2 presentations and 2 documents available	n/a	PPT and PDF	\Documents \GEONETCast and \Presentations \ppt or \pdf and Online, see link above
2-Intro OS Tools for GEONETCast	0.5	2 presentations and 1 document available	n/a	PPT and PDF	\Documents\Tools and \Presentations \ppt or \pdf
3-Software and Data installation	0.5	n/a	Available – this document	Ilwis supporting exercise + data	\ILWIS_QuickIntro
4-GEONETCast Data Processing	2	n/a	Available -online	PDF	\Documents \Manuals and \Documents\MSG
5-GEONETCast Applications	2.5	n/a	Available -online	PPT and PDF	Online, see link above

GEONETCAST MODULE: DAY 3-4

4. EXERCISES USING DATA FROM GEONETCAST, APPLYING ILWIS AND THE GEONETCAST TOOLBOX	60
4.1 Import and visualization of data from MSG, GOES11-13 and METOP.	60
4.1.1 Data import and visualization from Meteosat Second Generation (MSG).	60
4.1.2 Construct a Daytime Microphysical (DMP) Colour Scheme composite	64
4.1.3 The MSG water vapour channel (WV_062 and the Thermal channel (IR_108)	67
4.1.4 Multi temporal data import, processing and analysis	70
4.1.5 Import of the HRV channel	72
4.1.6 Geostationary LRIT, example of GOES 13 and GOES 15	74
4.1.7 Geostationary LRIT, example of Meteosat 7	76
4.1.8 Import of METOP AVHRR/3	77
4.2 Import products from the Meteorological Product Extraction Facility (MPEF) ...	80
4.2.1 Import and processing of MPEF high temporal resolution data	80
4.2.2 Import and processing of MPEF low temporal resolution data	85



GEONETCATS MODULE: DAY 5-6 APPLICATIONS

- Link to manual available on internet
- Applications can be selected from there
- Application content:
- D:\SESREMO\Meeting dec 2015\Table_of_content.pdf



-
- ILWIS DEMO
 - MORE THIS AFTERNOON FOR GERMAN BY BAS RETSIOS



-
- Questions???

FOLLOWED BY LUNCH

AFTERNOON

- 13:30 Meeting with J.W Timmerman Finance
- 14:00 Visit of GeoNetcast reception center Bas Retsios
- 14:30 Overview of EO, GIS, Drought/Floods modules Arno van Lieshout
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EO – GIS – FLOODS AND DROUGHT MODULES

- Via the pdfs...



EARTH OBSERVATION

- [..\SESREMO_RS\RS_SESREMO_intro_Information.docx](#)



GIS

- [GIS_SESREMO_intro_Information.docx](#)



DROUGHT AND FLOODS

- [..\SESREMO_DrFI\Droughts&Floods_RS_intro_Information.docx](#)



UPCOMING WORKSHOP

WORKSHOP AT ITC – UNIVERSITY OF TWENTE

Participants

- Date: between May 18 and June 5 tbc
- Centralization of the reception of staff from partners willing to participate: TU (deadline must be established for this)
- Sending the final list to ITC: TU
- VISA: on personal basis. Paperwork at the corresponding DUTCH/EU consulates.
- Making of the invitation letters and sending to individual staff: ITC-WRES (Prof. Bob Su). Immediate after reception final list.
- Hotel booking: Information to ITC on budget available per person: TU. Information of lodging choices to TU: ITC. Booking ITC.

-
- Program of the training: Proposal ITC. Revision TU.
 - Sending of the final agreed program to partners: TU
 - Welcome program and excursions: ITC-WREM. It requires information of budget from TU
 - Training at ITC in special rooms. Relevant staff for each of the 4 curricula delivered will be available for 2 days each



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