Minutes of the 2nd year NEAREST Meeting

Berlin, May 9-10 October 2008

Venue

Technische Fachhochschule Berlin
Luxemburger Strasse 10 - 13353 Berlin (Germany)
Haus Gauß: Room B501

List of Participants

Organisation	Participant name
ISMAR	Nevio Zitellini
	Francesco Chierici
	Luigi Vigliotti
FFCUL	Maria Ana Baptista
	Luis Matias
	Cesar Andrade
	Conceiçao Freitas
CSIC	Juan Jose Dañobeitia
	Eulalia Gracia
	Rafael Bartolome
AWI	Wolfram Geissler
	Michele Ickrath
	Katharina Unglert
	Christian Feld
	Martin Romsdorf
UBO	Marc-André Gutscher
	Audrey Gailler
INGV	Paolo Favali
	Laura Beranzoli
	Davide Embriaco
	Stephen monna
TFH	Hans Gerber
	Wilfried Langner
UGR	José Morales Soto
	Daniel Stich
	Flor de Lis Mancilla
IM	Fernando Carrilho
CNRST	El Mouraouah Azelarab
	Toto El Arbi
	Abdelouahad Birouk
	Mohamed Benammi
	Aomar Ibenbrahim
ASTER	Maria Grazia Zucchini
	Alessandra Borgatti
Advisors	Vasily Titov
	Hitoshi Mikada
EC Observer	François Schindelé

Day 1 - Thursday 9 October 2008

Opening Session

After a welcome address by Klaus Kramer and Hans Gerber from the hosting organisation TFH, the project Coordinator Mr Zitellini presented the Agenda of the Meeting and illustrated the structure and the scope of each meeting session. Each sessions was aiming at achieving a complete state of the art of the project, sharing results and information among the different workpackages, discussing critical aspects and identifying corrective actions for a good prosecution of the project in the following months.

The Coordinator stressed the importance of the reporting aspects along with the scientific activities and provided an overview of the following steps connected with the end of the second year of activity.

Finally, the Coordinator introduced the EC observer François Schindelé to the audience.

WP3 Analysis and planning Seismological monitoring

Presentations made by Wolfram Geissler – AWI
Presentations available on the Nearest website: *Berlin_WP3_Geissler*

The speaker presented the results of the WP3 Meeting which was held the previous day in an ad hoc meeting among the partners involved. He reminded some details on the main goals and activities foreseen in WP3. In particular, the extension of the onshore seismic networks, a better knowledge about the seismically active geological structures, an evaluation of the hazard potential and the contribution to the development of a Tsunami Early Warning System. A map of the area provided by the Institute of Metrology in Lisbon for the period Sept. 2007 – July 2008 was described as well as the parameters of the Lobster (Longterm Ocean Bottom Seismometer for Tsunami and Earthquake Research) the instrument used in the field experiment.
Geissler reported about the Recovery Cruise with Urania (Palermo – Faro) in the period between 1st August 2008 and 13th August 2008: the recovery route and the work onboard. The main phases of the Recovery Cruise included the

- -ranging, release
- -recovery on sea surface & on deck
- -stop recording, clock synchronization by GPS
- -cleaning, disassembling, packing of OBS
- -data download and archiving

In parallel with the Recovery Cruise, the partner from FFCUL and ISMAR carried on the surveillance of Navigation, Chirp and Multibeam.
During the recovery of the OBS a stop in the recording occurred and 9 instruments had problems of battery capacities. This meant a good recording but the clock was not synchronised. The levelling of seismometer was successfully done.

To sum up the problems occurred were related to:

- 9 OBS didn't succeed in the clock synchronization due to battery low
- 12.5 OBS didn't have a correct levelling
- the OBS orientation which is still in evaluation
- the swings after strong impulses

The presentation continued with the description of FFCUL work onboard about the data surveillance and analysis. Some examples of OBS signals and behaviors during earthquake events were showed. Then the speaker focused on some strange signals on hydrophones

recorded and some details were provided about the data collected and the outcomes resulted.

The following steps to be done are about:

- the OBS orientation
- the evaluation of time corrections
- data quality protocol and meta data
- integration of Geostar and onshore data into a common database
- local seismicity studies
- structural studies by passive methods

The presentation continued with a description of some pictures by the Moroccan colleagues about their monitoring of their local coasts.
Finally the WP3 was described by a reporting point of view with regards to objectives and starting point, progress toward the objectives, deviations, personnel involved and deliverables produced. Some questions and clarifications were asked by some partners and the project coordinator gave some anticipations about the planning for the following six months.

WP2 Analysis and planning: Tsunami source characterization
Presentations made by WP 2 Leader: Juan Jose Dañobeitia – CSIC

Presentations available on the Nearest website: *Berlin_WP2_ Dañobeitia*

The activities of the WP2 were described with an overview of the objective and the starting point, the workplan and its goals. Before a detailed presentation of each tasks started, a list of the staff engaged, meetings, papers produced and research stays were presented.

As for the *Reprocessing and pre-stack depth migration of existing MCS data*, CSIC concentrated on SWIM-06 data acquired in June 2006 for a total of 10 MCS profiles.

As for the *Wide-angle reflection/refraction acquisition experiment*, the Cruise dates were already fixed. It will be held in 18 days, between the 27th October and the 13th November 2008. The starting point will be Cartagena (48 hours + transit) and during the 8th October Meeting a consensus had been reached on the first refraction line to be studied.

The task 2.3 *Processing, modelling and interpretation of wide-angle seismic data* keeps its schedule and the deliverable 24 *Depth-migrated MCS profiles* was almost completed and included 10 MCS lines. Luis Matias from FFCUL integrated the presentation with some pictures and suggestions (see on the website: Berlin_WP2_Matias_suggestions.pdf). Some comments and recommendations were presented by some other partners: Marc Andree Gutscher (see on the website: Berlin_WP2_Gutscher_suggestions.ppt) , Eulalia Gracia, Nevio Zitellini) about the positioning of the lines.

WP4 Analysis and planning Tsunami signal detection

Presentations made by WP4 Leader Laura Beranzoli – INGV and Francesco Chierici- ISMAR
Presentations available on the Nearest website: *Berlin_WP4_Beranzoli*
Berlin_WP4_Chierici

The presentation focused on the activities carried out during the second year of the project and in particular on the last semester (goals achieved, deliverables produced and criticalities met) and the activity for the following 6 months
The main objectives of the WP were reminded as well as the partner involved with reference to their contribution and role. The experiment overview was provided. The description focused on the tasks for the 4th semester

- the preparation planning and implementation of a long-term (about 1 year) mission; cruises for deployment and recovery; mission follow-up.
- the data back-up, quality checks, preparation of the data base to be integrated with other data; pre-analysis of 'parent' tsunami signals.

The status of the deliverables was showed and the next ones were described: a draft circulated about D15a recovery cruise of the deep-sea platform and data quality checks and D15b about the cruise report was completed. An overview of all deliverables due for the WP4 and of the milestones was provided

Deviations from the project WorkProgramme

The main deviations were:

1. *Bouy Acoustic communications malfunctioning* which occurred immediately after the GEOSTAR deployment (on 25th August 2008)
   Remedial action: the acoustic modem and the electronics of the buoy were removed and shipped to laboratory in order to set up again the communication chain. The system was restored and re-configured. On 17th October a new cruise took place in order to rebuild the communication on the buoy. The acoustic link was newly established: the observatory was acoustically checked and some data and parameters were retrieved

   After the setup of the buoy electronics and the reconfiguration of GEOSTAR via acoustic communications (17 October 07), the acoustic system of the abyssal observatory hang up revealing a *problem of the seafloor acoustic modem*.
   Remedial action: contacts with the acoustic communication supplier (SERCEL) started soon in order to programme an upgrade of the modem communication system for a possible next deployment. None possibility to arrange a recovery of the observatory (needed ship, MODUS, cable + winch). GEOSTAR has continued to work as an autonomous observatory. All data were locally stored and would have been recovered after the recovery cruise.

2. *Buoy drift and ARGOS alarms emission to INGV* (19 October)
   Arrangement of an extraordinary cruise for the buoy recovery on 20th October 2007. Some pictures were showed about the buoy, the real time position tracking from GPS data via satellite link, the recovery in the warehouse.
   The deviation is related also to the mooring line at sea. During cruise of AWI in the deployment area the buoy acoustic release on the seafloor was monitored: it correctly answered the query from the pinger surface unit.

In August 2008, the Geostar was recovered by Urania, Some pictures and details were provided. As for the outcome of the mission:

- it lasted 325 days (25 Sept. 2007 - 17 Aug. 2008)
- observatory last operating day was 6 July '08 (central clock drift: 184 ms in 359 days ~ 0.51 ms/day)
- the acoustic status was of 256 working hours (also tested positively on deck immediately after the recovery)
- battery status was low for the observatory and for acoustics

Some first results were showed. As for the conclusion, the contemporary onset of malfunctioning over the 7 channels of digitiser suggested a damage about this latter which was probably occurred by the violent knock against the ship. The remedial actions were explained to the audience.

Davide Embriaco from INGV continued the presentation about the Pressure Gauge data and the damage occurred. The analysis led to an investigations about the cause of the jumps and large discrepancy in pressure data and the cause of corrosion.

Laura Beranzoli concluded that during the following 6 months the work would be devoted to the data analysis from other sensors that would give the possibility to make analysis on the water column, cross-checking analysis and that will constitute a precious data set calibrated on the site. The pressure data in selected time windows would be used to revise and eventually refine the parameter of the Tsunami Detection Algorithm. To fulfill the project objectives, the partner proposed to fix all the problems (also with the contribution of suppliers) and to find out a new opportunity for a further mission in order to achieve the real-time message transmission from the observatory to land within the project duration

The remedial action would be realised within the frame of the ESONET NoE program of Demonstration Missions, LIDO-DM (LIstening the Deep Ocean) that would operate a first nucleus of seafloor observatory network at Mediterranean scale in two ESONET sites by aligning to the same performances SN1 cabled Observatory (Eastern Sicily) and GEOSTAR observatory newly deployed in the Gulf of Cadiz. The network would perform an experiment of geo-hazard detection and mammals tracking. A new deployment of the whole system (GEOSTAR and the buoy) is scheduled in May 2009 with the support of the Spanish vessel "Sarmiento de Gamboa" (CSIC).

The presentation was concluded with the proposed adjustments to the bar chart showing the work plan of WP4 with reference to tasks 4.4 and 4.5.

Some comments arose from the audience and the project coordinator stressed the risk of the experiment, the fact that the instruments is a prototype and praised the work done within the work package. In particular it was stressed the short time of reaction and the prompt solution to apply to another project.

WP5 Analysis and planning – Data integration / Integrated Tsunami Detection Network

Presentations made by WP5 Leader: Josè Morales – UGR, Fernando Carrilho – IM, Abdelouahad Birouk – CNRST, Luis Matias - FFCUL
Presentations available on the Nearest website: *Berlin_WP5_Morales*
Berlin_WP5_Carrilho
Berlin_*WP5_Birouk*

The activities of the WP5 were described with an overview of the objectives and a precise description of each tasks.

As for task *5.1 Establishment of data collectors for real-time automatic processing of data*, some data were showed about the status and the improvements achieved in the data acquisition and processing of the seismic network related with the WP5 (task 5.1 and 5.2).
The seismic instrumentation pool managed by IAG-UGR was described and as well as some maps of the seismic stations location.
In particular, the speaker presented the choice of the Seismological Communicator Processor (SeisComP) 2.5 (SC2.5), developed by GEOFON data center at GFZ Postdam (Hanka, 2003) as the best solution because:

- it is a robust protocol (soft) for real time transmission of data for its use in Internet or any other circuit that supports the protocol TCP/IP
- it is robust because the clients can be disconnected and connected without lost of data
- the requested data can be limited to a single station, to a single channel, to a complete net or another type of device (tidal gauge, OBS, boys etc)
- the packages are sent in way of 512-bytes in mini-SEED format
- the most common implementation is to include the protocol Seedlink inside the SeiscomP package

The change in the land seismic component of the network meant to face some important challenges which were described. During 2008, since a new version of the the SeisComP 3.0 (SC3) was launched the group was involved in a training course. This new version has some more characteristics such as the possibility to receive in real time until more that one thousand of streams from different types of seismometers (strong ground motion, short periods, broad bands), belonging to different organisms and networks, by using TCP/IP protocol; the remote review, a status control network and the possibility to share waveforms with different nodes or server.
The speaker presented some pictures of the seismic stations installed underlying that several hundreds of seismograms from different networks around the world are under processing.

As for task *5.2 Development of automatic procedures for rapid determination of seismic parameters* its principal goal is to have a robust tool to determine a fast location and evaluation of the size of the seismic source in tsunamigenic region as SW Iberia. SC3 receives and manages waveforms in real time from different networks and devices and moreover it allows the following automatic processes. The presentation proceeded with the description of how the AUTOLOC soft estimates several magnitudes by using the seismograms that arrive in real time to the dataconcentrator. Several functions and tables were described.
To sum up, during the 2nd year of the project, the Autoloc, autopicker, and magnitude evaluations of the SC3 had been adopted at IAG-UGR seismic center and SC3 proved to be a good tool for fast location and size evaluation of the seismic activity and could be used as a module for future Early Warning System in the gulf of Cadiz.

As for the following year IAG-UGR is going to include more BB's seismic stations in the seismic networks and to continue with the testing of the system for local/regional earthquakes and also for global earthquakes.

Fernando Carrilho from IM continued the presentation regarding WP5 with a focus on the Data Concentrator, its requirement, its configuration and future development. In particular, the Cascais upgrade was expected very soon. Some pictures of the tide gauges were presented, as well as the seedlink data flow. The speaker presented some pictures about the quality control done on the received data. An overview of the future activities to be realised within the work package was explained.

Birouk gave an overview of the CNRST contribution to the WP5 activities as for the development of an effective tsunami detection methodology and the definition of thresholds for issuing different levels of alarm messages.

The coordinator praised the good collaboration and the integration among the Spanish, the Portuguese and the Moroccan teams.

Luis Matias from FFCUL concluded the presentations of WP5 with a focus on the activities dealing with observations of tide gauges and the problems arisen with the processing of online data (i.e. bad weather). The connection with the Italian colleagues' work was underlined.

WP6 Analysis and planning – Paleotsunami and Paleoseismic records
Presentations made by Eulalia Gracia - CSIC; Cesar Andrade – CSIC and Luigi Vigliotti – ISMAR
Presentations available on the Nearest website: *Berlin_WP6_Gracia*

The WP leader presented the objectives of the WP. They are in particular:
- to map low lying areas in Portugal, Spain and Morocco, and submarine channels and basins
- to characterise the tsunami and turbidite deposits related to 1755 and older events by completing several geological, geophysical and geochemical procedures
- to constrain the age of the tsunami and earthquake episodes preserved on sedimentary record using radiometric (14C, 137Cs, 210Pb), and luminescence (TL, OSL) dating methods
- to propose a model of recurrence interval for the earthquake and tsunami events occurred in Gulf of Cadiz during the Holocene

The meetings attended, the presentations done, the publications presented, the field works realised and the cruises participated in were listed with reference to the people involved.
The results for each tasks were presented.

As for *task 6.1. Onshore sedimentological evidence of tsunami records* each partner involved presented the work done. The FFCUL partner explained the field work, the lab work and the Moroccan meeting which took place in March 2008. Some pictures and data were showed to describe the progress toward the objectives. Luigi Vigliotti presented the Paleomagnetic, Rock-Magnetic and Sedimentological analysis of Sediments from Boca do Rio (Algarve).

As for *task 6.2. Offshore sedimentological evidence of earthquake events* Eulalia Gracia presented the team and the work done. From the period of the 18th February to 19th March 2008 the team involved opened, described and imaged (digital photo) five recently acquired

sediment cores from the SW Iberian Margin which will be added to the turbidite paleoseismology model of the Gulf of Cadiz. The presentation continued with the description of the new methodology applied to calibrate radiocarbon ages and of the calculation of the calendar ages of the turbidite events. Some data, information and images were presented about the RV James Cook 27 cruise (Atlantic Margin), occurred from the 3rd of August to the 3rd of September 2008, Santa Cruz de Tenerife to Portland (UK).

As for the deviations from the project Work Programme, the WP leader explained:

1. the need to postpone the completion of deliverable D21 to month 36 because, on one side, of the higher than expected amount of effort and time in surveying, coring, describing and interpreting the stratigraphy and sediments collected in Algarve and Morocco coastal lowlands; and on the other side because of the required preliminary processing of sediment in order to select the most promising three sites where tsunami deposits could be found.
2. the need to postpone the end of deliverables D22, 22b, 23 to month 36 because more time was necessary to work on the new JC-27 cores together with the previously obtained ones. The necessary steps to achieve this were already done (i.e. a collaboration agreement with Drs. R. Wynn & D. Masson from NOCS to work on the new cores acquired in the Gulf of Cadiz during the RV James Cook-2008 cruise) or are planned (i.e. a new request for shiptime in the RV Sarmiento de Gamboa to carry out the NEAREST-CORE cruise). And in particular, the NEAREST-CORE cruise is going to be devoted to complete high-resolution acoustics and seismics in the Gulf of Cadiz. Based on the preliminary ship time scheduled it is likely that the cruise may occur by Autumn 2008, just by the end of the project. As there won't be enough time to analyze the new data, only first results will be given as deliverable regarding this cruise by the end of the NEAREST project.

According to the deviations explained, the presentation ended with an overview of the barchart. The coordinator concluded with some comments on the planning of the refraction campaign leaving the decisions to the Steering Committee meeting of the following day.

WP7 Analysis and planning: Modelling of tsunami impact in SW Portugal

Presentation made by the WP 7 Leader: Maria Ana Batipsta – FFCUL, Francesco Chierici – ISMAR.

Presentation available on the Nearest website: *Berlin_WP7_Batipsta*
Berlin_WP7_Chierici

The WP leader presented the activities foreseen for WP7 but most of the results were presented during Barcelona meeting. In particular, during the second year, the acquisition of bathymetric data at sea was completed and the numerical modelling for tsunami propagation was implemented. The final goal is the preparation of a set of inundation maps for the selected target areas. Maps and tables were shown regarding nested grid system, benchmark testing, the model earthquake (the Lisbon event) and the Casablanca test site.

As for the next steps, the team needs to tune the model for flow depth velocity, to produce the flow depth velocity maps and to wait the ouputs of TRANSFER project in order to produce the standards for inundation maps. The list of publications was provided and their status of the art was underlined.

The coordinator underlined the connections with the Transfer project and stressed the collaboration especially in the Gulf of Cadiz. The collaboration between the two teams takes advantages of the results avoiding any duplication of the work done within the two projects.

Francesco Chierici from ISMAR presented the 2-D model of tsunami generation in compressible water column overlying a porous sea bed and the results achiedeved in particular concerning the acoustic wave induced within the water column by the sea floor motion.
The solved model allowed the team to study, on one side, the pressure and velocity fields (in the water column and in the porous sediment) and, on the other, the free surface signal (from the velocity vertical component at the air-water interface) at different distances from the source. As for the conclusions, it was observed that the acoustic signal generated by the sea-floor motion travels from the source at sound speed, reaching the observation points much earlier than the possible tsunami wave. Moreover, the acoustic signal showed a low attenuation in amplitude also at a long distance from the source and it carried information on the source length, sea bottom rising velocity and water depth, also in the case of frequency interference. Finally, the main effect of the porosity is a low-pass filtering of the signals and a damping of the tsunami wave amplitude and the acoustic modulation.

WP8 Analysis and planning – Feasibility study and prototype for an EWS
Presentation made by Luis Matias - FFCUL
Presentation available on the Nearest website: *Berlin_WP8_Matias*

The speaker presented the main progresses made within the Work Package made up of two tasks and the presentation was focused mainly on task 8.1. “Simulation of tsunami generation scenarios” and on the feasibility study on prototype of an early warning system. While in WP 4 the data were collected by seismology and sea level, in WP 8 these information had to be analysed and used through the simulation. The speaker presented the TEWS architecture (published by NOA at the end of 2007 on behalf of the Indian Ocean Tsunami Warning System), a design of an end to end Tsunami Warning System with reference to the part where the decision has to be made on a Tsunami generation. Many pictures referred to the TAT Tsunami analysis developed by the JCR of Ispra were explained and detailed (see presentation). The speaker proposed to discuss among the partner and decide by the end of 2008 whether to use the model adopted by NOA along with the computation of scenario made available by the JRC facilities.

WP9 Analysis and Planning: Circulation of project information to end-users
Presentation made by WP9 Leader: Nevio Zitellini – ISMAR
Presentation available on the Nearest website: *Berlin_WP9_Zitellini*

The task 9.1 Project communication was completed in the previous period so as the task 9.2 Project web site which is updated periodically. In particular, a new section dedicated to the dissemination was created. This section will be developed and improved with the contributions of all partners.
As for task 9.3, all the partners were solicited to contribute to develop the contact database.
The diffusion plan (task 9.4) includes two different actions: the first one is the diffusion of the knowledge inside the scientific community and in the second one the knowledge dissemination is addressed to a non specialistic public. The contribution to the diffusion comes mainly from:

- the NEAREST partners participation to the national and international scientific congresses;
- the production of various scientific papers published on international journals and thematic volumes (i.e. Marine Geology , Journal of Marine and Petroleum Geology, Tectonophysics, etc) or on not SCI journals.

The dissemination toward a non specialistic public has been done, in each NEAREST partner country, by radio interviews and TV appearances, internet newsletters and newspaper articles.
The speaker presented a list of published scientific papers and the conference participations, the radio interviews and TV appearances and internet newsletters.
Another activity was addressed to very young people. For this purpose, ISMAR was participating in an educational local project "Il linguaggio della ricerca" promoted by CNR and addressed to the secondary and high schools of Bologna. This project includes the visit to the ISMAR Institute, brief lessons or talks on tsunami and the Nearest project, practical applications and distribution of dissemination materials tailored on the age of the audience. This materials can be easily translated in the languages of the partners involved in the project. In addition some Italian scientific museums have been contacted in order to perform meetings or "permanent" exhibitions about tsunamis issues and the contents of the NEAREST project.

Presentation made by Nevio Zitellini – ISMAR
Presentation available on the Nearest website: *Berlin_Multibeam_Zitellini*

Mr Zitellini took advantage of the audience to present some images on the work done during the recovery campaign about the multibeam survey on some interesting and critical areas.

Closing remarks (definition of the list of issues to be discussed by the Steering Committee on Friday 10th October)
(Nevio Zitellini -ISMAR)

Day 2 - Friday 10 October 2008

Financial and administrative issues

The first session of the morning was addressed to project PIs, and their principal collaborators in the management of the project.

The Friday session started with an intervention of Ms. Zucchini (Aster) who summarized the reporting activity to be carried out at the end of the second year of the project implementation. The contributions expected by each partner were reminded, defining deadlines for the provision of files and signed documents. Template of reports to be produced were presented and specific procedure for financial reporting was illustrated in details, including recommendations recently received from the Nearest financial officer. The related file will be uploaded in the Nearest website to allow easy access and consultation from each partner. The financial level of expenses at the end of year 2 was then analysed, pointing out that:

- the minimum level of expenditure to assure the third advance payment from The Commission will be certainly reached. The payment is expected in spring 2009.
- some partners (CNRST, CSIC) have already sustained costs exceeding initial forecasting; nevertheless, considering their high level of interest in the project they decided to support with own funds the extra-costs to complete the project activities.

Steering Committee Meeting

The second session of the morning was addressed to the NEAREST Steering Committee meeting, involving only the responsible members for each project partner, plus some observer assistants. During the SC meeting the main critical issues of the forthcoming period were tackled.
The detailed report on the Steering Committee meeting is available in a separate specific file.

Advisor Report @ Berlin (2008)

Presentation made by Hitoshi Mikada – Kyoto University
Presentation available on the Nearest website: *Berlin_Mikada*

The speaker expressed his pleasure to be at the meeting and started by summarizing the comments presented during the Marrakech meeting. In particular, during that meeting his major comments had been addressed to survey/observation plans that should be based on scientific hypotheses, the inter-package activity and international collaboration that needed to be encouraged and technical developments that had to be considered as a top priority issue. Already during the Marrakech meeting he had noticed that a lot of work had been done especially in the international collaboration with Morocco. In Berlin he recommended to keep going on and to continue to develop the technical part of the project.
He continued by describing his work and the Japanese experience. Figures and photos were showed to present instruments, analysis, field work and data (see presentation)
As for his conclusions, professor Mikada advised to continue the work done till that moment and suggested to take into consideration also the post-NEAREST activities maybe into another funded project.

Tsunami Mitigation Strategy

Presentation made by François Schindele – European Commission Observer
Presentation available on the Nearest website: *Berlin_Schindele*

The speaker introduced himself, his role and experience as national contact for Tsunami Warning System in the Pacific especially in Tahiti. His participation during the Meeting was foreseen to share some recommendations about the strategy for Tsunami mitigation.
The Tsunami warning system was described as made up of three phases: assessment, warning guidance and preparedness.
As for the assessment phase, the speaker stressed the importance of historical studies, field surveys, numerical simulation, Tsunami data base, inundation maps and evacuation maps. In particular, he underlined how sometimes a local event could prove experience and important information for the scientific studies.
As for the warning guidance, its main aspects were described as measurement, telecommunication (especially real time), numerical simulation, early detection, real-time data, wave forecast and warning dissemination "to the last km".
The speaker praised the good cooperation among the Spanish, Portuguese, Moroccan teams and hoped a continuous work in this direction.
As for the preparedness phase, the speaker described the pacific experience about education, dissemination and communication through brochures, books, community meetings, TV, radio and web information. He underlined that each country had to be responsible for this phase especially because it has to fit the characteristics of each organisation. He was happy to see that the Nearest project covered this aspect and suggest to take advantage of the publications already available.
The presentation ended with some recommendations about the components rotation and suggestion about the worst scenario (see presentation).
Some partners added comments about the peculiarity of the Nearest project especially about the near source situation and that the tide gauge had to be installed close to costal area with the maximum probability to have a Tsunami event.
Schindele gave also another suggestion about the importance to anticipate some deliverables presentation to have the time to share and discuss the information. The Coordinator thanked for the suggestion and assured that the issue was discussed and would be one of the main decision to be taken in the next meeting in Brest.

Closing remarks by Nevio Zitellini - ISMAR

The coordinator underlined how many suggestions made by the advisors and the EC observer had already been included in the project development. In particular, the collaboration among the work packages, the international cooperation with Morocco, the technical collaboration (for example, problems within Geostar found a prompt reaction within Esonet Network). The consortium showed the capability to have positive reaction. As for the suggestions of the EC observer, the coordinator underlined how Nearest project was already on the track to realize them even with the required variations. The coordinator stressed the point that with the beginning of the 3rd year of the project a new critical phase was going to start: the processing of the data acquired is a key moment.
He thanked the partner participating in the meeting and a brief reminder on the next steps scheduled was made (i.e. reporting to the Commission and Brest meeting in April).