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Executive Summary

During its two years of activities the EGIDA Project has provided support to specific tasks planned in the GEO STC Roadmap. The EGIDA Methodology has been designed in order to consolidate the outcomes of those activities in a general methodology to be applied by national and regional Science & Technology communities for contributing to GEO/GEOSS. A first version of the EGIDA Methodology has been released after the first year of EGIDA activities in November 2011, basing on selected case-studies, and on the experiences from the EGIDA activities. In the second year an assessment of the EGIDA Methodology has taken place. The EGIDA Methodology has been transferred in five different use-cases, each of them providing outcomes from the applied process for a revision of the Methodology itself. Moreover the EGIDA Methodology has been presented and discussed in several events, collecting more feedbacks.

The assessment phase show that the five use-cases were in general able to demonstrate the feasibility of the EGIDA Methodology transfer in a set of very different contexts. This implicitly demonstrates the validity of the EGIDA Methodology idea, approach and current implementation. The feedback provided suggestions for new practices and for modification of some of the existing guidelines. These updates easily fit in the current structure of activities, actions and sub-actions.

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Acronyms and Abbreviations

Abbreviation	Name
EC	European Commission
EU	European Union
FP7	Seventh Framework Programme
GEO	Group on Earth Observations
GEOSS	Global Earth Observation System of Systems
GMES	Global Monitoring for Environment and Security
INSPIRE	Infrastructure for Spatial Information in Europe
MS	Member State
SDI	Spatial Data Infrastructure
SEIS	Shared Environmental Information System
WP	Work Package
T	Task
ST-09-01	GEO Task ST-09-01: Catalyzing Research and Development (R&D) Funding for GEOSS
ST-09-02	GEO Task ST-09-02: Promoting Awareness and Benefits of GEO

1 Introduction

The objective of this deliverable is to collect and discuss the results of the activities carried out in EGIDA Tasks 4.5.* and 4.6 for the assessment of the EGIDA Methodology.

A first version of the EGIDA Methodology was delivered in November 2011, after the first year of the EGIDA project. It included inputs from the activities carried out during the first twelve months in WP2 – "Support of GEO Task ST-09-01" and WP3 – "Support of GEO Task ST-09-02" and from the analysis of relevant projects and initiative at national, regional and global level (EGIDA deliverables D4.1 and D4.2).

During the second year of the project an assessment of this first version of the EGIDA Methodology has been carried out. In particular the EGIDA Methodology transfer process has been tested in four use-cases, different for covered themes, geographical area, and context. After the completion of the transfer process, each use-case has provided a feedback the EGIDA Methodology enhancement. The feedbacks are expressed in terms of general comments and specific suggestions for adding or modifying proposed activities and guidelines. The description and outcomes of the use-cases are described in the EGIDA Deliverables D4.3 ("Hot-spot pollution in the Mediterranean"), D4.4 ("Mediterranean region") D4.5 ("pan-European 'Air Quality for Health' ") and D4.9 ("Slovenia"). During the project a fifth use-case ("GEO-Spain") was also proposed and run; since no deliverable was planned for it, its description and outcomes are provided as an attachment of this document.

During the second year of the project either through the general coordination or through the use-cases, several workshops were organized. They were the opportunity to provide other relevant feedbacks for the enhancement of the EGIDA Methodology. The outcomes of those workshops are described in the EGIDA deliverable D4.6.

The EGIDA Methodology was also distributed to the Stakeholders Network and the Advisory Board, and presented in the context of relevant conferences and events. Comments and suggestions for improvements were then provided during discussions.

The present deliverable collects all the feedbacks received about the first version of the EGIDA Methodology, and summarizes them in a set of decisions for the final version of the EGIDA Methodology.

2 The outcomes of the use-cases

The EGIDA Methodology transfer in five different use-cases has been the main activity towards an assessment of the methodology itself. Basically each use-case applied the same transfer process (see Figure 1): a) analyzing the current version of the EGIDA Methodology, b) matching the EGIDA Methodology activities with the actions planned in the addressed use-case, c) applying the relevant guidelines or proposing new ones, d) evaluating the results, and e) providing feedbacks and outcomes to the EGIDA Consortium.

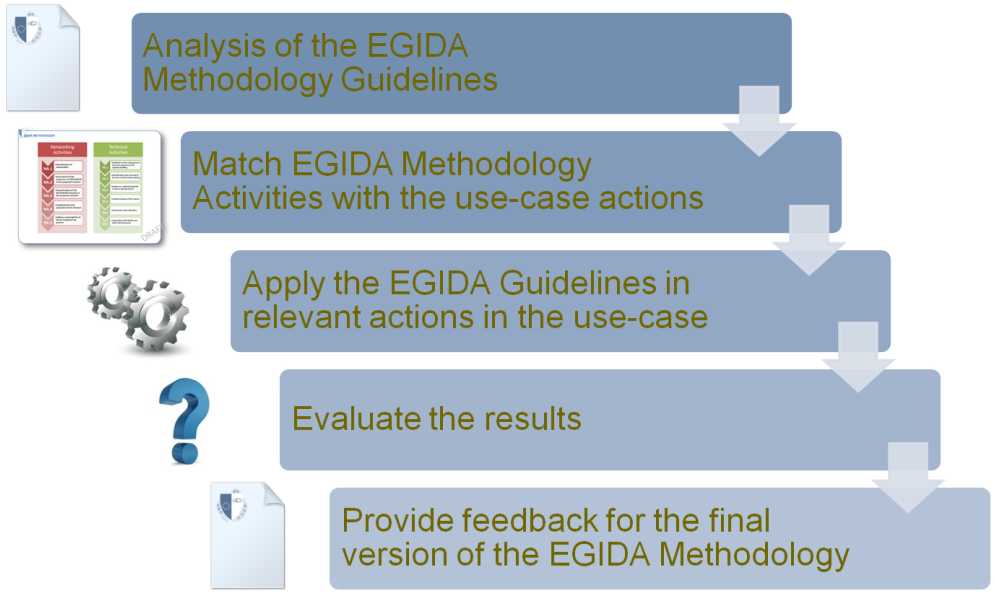

Figure 1 - The EGIDA Methodology transfer process adopted in the use-cases

In the following paragraph the relevant sections from the five use-cases reports are quoted.

2.1. Use-case #1: Hot-spot pollution in the Mediterranean

General assessment

From a general point of view, lesson learned from this use-case concern the:

- weak sharing of information because researcher prefer to publish in advance collected data;
- medium level technological skills requirements to implement the system;
- separate management of IT systems and data/map servers, and the very strict policy rules;
- unavailability of funds for such initiatives;
- requirement of additional/dedicated resources that can leverage the participation.

Additional key points discovered along the process showed that:

- internal initiative aimed to spread GEOSS awareness can support the implementation process;
- big difficulties have been encountered while inputing metadata for time consumption and often annoying;
- it was not simple to convince all partners that they can benefit from GEOSS initiative;
- partners are no interested in the system architecture (proprietary or open-source, tools for data and metadata management, thesauri), data matters, network services, as the most important topic is data availability.

2.1.1. Recommendations for new actions/sub-actions

One of the weak point we suffer while implementing the EGIDA Methodology was the absence of a Capacity Building Activity. From our point of view this activity can strongly support both the dissemination and the implementation processes. While disseminating the initiative, few key topics have been considered:

- Goal of the action: the best way to make aware of the GEOSS initiative and move the scientific community versus this initiative;

- Audience to be targeted: adopt instrument and language to better raise the interest of the community on the GEOSS initiative and learn about it as much as possible;
- Medium to be used: Use compelling examples as the most proficient way to reach the community;
- Design of execution plan: a plan for the dissemination is powerful that a casual approach.

New initiatives are required to overcome property rights problems as in the case of Gulf of Lions, which includes a shared environment between Spain and France. This results in a trans-boundary case of study with both countries from the EU, which share common EU policies (e.g. INSPIRE, MSFD), but have some differences at the national and local levels. Main issues in the building of the thematic SDI were: 1) different types of indicators computed between countries, 2) licenses of data from different sources of information, 3) lack of complete implementation of OWS from the different cartographic producers in both countries, 4) language issues (Spanish, French, English).

2.1.2. Recommendations of new guidelines for existing actions/sub-actions

Experience from this use-case showed that one of the most powerful object to convince S&T community is to develop compelling examples working on the matter of the community. A Technical Activity can not only show the methodology but also give working compelling examples.

A good practice to enhance awareness within the community can be based on:

- Re-focusing the scope of interoperability adoption
- Highlighting the challenge of interoperability
- Specifying interoperability requirements
- Planning a strategy for achieving interoperability

To this end the Networking Activity can support the development of webinars explaining basic concepts as well basic operational activities.

Finally, two simple aspects can act as a very good catalyst that can multiply SDIs implementation:

i. a tight integration among open-source components that can be easily realized; and
ii. a potentially larger number of users that can check the code and establish the system with a very small economic effort.

An action oriented to show how different tools work and how they can be implemented should better capture the S&T community.

2.2. Use-case #2: Mediterranean region

2.2.1. Recommendations for new actions/sub-actions

As emerged during the meeting held at Cairo, for the implementation of future projects calls that will foresee the involvement of EU neighbour Countries (Asian or African), it is suggested to make one of the extra EU Authorities (that is already involved in consolidated network) to lead the coordination of non-EU countries. In this way, there would be higher chances to contact and work with non-EU stakeholders having interests related to networking activities.

It is also suggested to include in the EGIDA methodology the dissemination of the outcomes through scientific journals or technical symposium. This activity is in itself a good feedback related the targeted achievements.

2.2.2. Recommendations of new guidelines for existing actions/sub-actions

Before TA2, a *process for rising awareness on the benefit of data sharing* should facilitate the removal of barriers, especially the ones tied to behavioural and the institutional (e.g. policy constraint) components.

In TA3 is suggested to enclose the *reuse* (as concept) of already implemented infrastructures and available tools.

User's guidelines related to the access of the implemented/re-engineered system should be drafted.

Training session should also be planned to improve capacity building on managing national nodes/infrastructures.

Main criticality encountered so far and possible solution

1. **C)** Difficulties on activating collaboration/cooperation with EU neighbor Countries if not already planned in existing Programs and Projects.

   S) It would be useful to plan more pilot activities or test cases in the frame of future projects to improve national capabilities. The pilot results will help in the definition of replication processes.

2. **C)** As highlighted in the frame of the cooperation with Egypt, the feasibility in the short time (3-4 years) of the planned metadata networking in the Mediterranean Region can be achieved with the active involvement of EU Neighbors.

   S) The EC is suggested to keep focusing on the involvement of Neighbor countries in future project calls.

3. **C)** The coordination of EU neighbor countries should be led by one of their representatives because of they own knowledge and experience on the mechanism leading relationships.

   S) NARSS (Egypt) expressed availability to coordinate northern African countries in future common activities.

4. **C)** Considering the difficulties encountered on data and metadata sharing, because of internal restricted policy or absence of datasets,

   S) it is suggested to foresee, in future projects, also the production of specific datasets (maybe aligned with EU products and services) to be shared with a specific data policy within new or existing IT infrastructures.

2.3. Use case #3: Pan-European 'Air Quality for Health'

General Assessment

(...) One general remark may be addressed here. It is directed towards the formal lay-out of the methodology and its readability. Overall of course the content counts, but in order to attract projects and their representatives towards the usage of the methodology also the form is be of importance. A more user friendly lay-out of the document may be helpful in this respect, with more bullet points, high-lighted text segments and more graphical elements (e.g. box-diagrams). The highlighted text elements in the current version may be more confusing than helpful. And somehow the directives under the different activity points appear to be un-balanced. E.g. while there is quite detailed information given under TA.4, the technical activities TA5. and TA.6 are described with very general, extremely short statements.

2.3.1. Recommendations for new actions/sub-actions

Here, a few recommendations addressing improved or additional actions are listed, they all are explained in context throughout chapter 4.

NA.2
In general it is concluded, that forming **a substructure or group within a social benefit area** like the Air Quality Community of Practise (AQ CoP) is helpful in streamlining the contribution of many projects or activities towards a common contribution (registry) to the GEOSS-CI. The EGIDA methodology should provide a few general hints on how to organize this streamlining process best.

NA.3
As a method for disseminating information on GEOSS **direct correspondence with representatives** for the various initiatives helped both in promoting the project and its methodology in the Air Quality & Health community. The EGIDA methodology should

clearly recommend the personal contact as the most effective way to get people involved.

Involvement in project meetings of community members is another important way which should be more clearly recommended by the methodology to get initiatives involved. The visited meeting (AQ CoP) marked an important step forward in realising registration of air quality related data and products with GEOSS and technical details related to deployment of data discovery and access services could be directly discussed, here also issues related to future development of the data infrastructure – sustainable process – can be be addressed (as has been done in the EBAS workshop – see 4.1.3).

NA.4
It is believed that **formation of a network** should mainly occur if sustainable long-term funding is available for the cause and this is currently not the case for this use case.

It is considered useful to **connect to existing relevant initiatives** which already have a certain momentum as a kernel for an evolving organized community contribution (a good example is the AQ CoP).

NA.5
A **national/international central coordination point** like the national GEO secretariats could be a first step towards organising a sustainable GEOSS contribution, which especially means supporting the search for funding.

TA.4
A **common portal as a searchable platform** within a community for a relevant group of subsystems would be very helpful and should be emphasized by the EGIDA methodology.

The common metadata harvesting procedures within a community should be given more attention. A practical step towards this data architectural goal would be the

implementation of the OAI-PMH harvesting protocol by GEOSS. The EGIDA methodology should promote this action.

Open data sharing seems not be a general barrier in the Air Quality & Health community. We would leave it open to the recommendations of other use cases, whether this point should be worked out more in the EGIDA methodology.

A major effort in **making visible the benefits of harmonizing the envisaged products** of the different interest groups in the communities and finding the necessary funding (-institutions)) for this undertaking would be necessary to steer a group of projects into this direction.

2.3.2. Recommendations of new guidelines for existing actions/sub-actions

NA.2

From our survey among major actors in the field of Air Quality & Health the benefits of GEOSS remain unclear for the underlying projects, and thus no resources (if available at all for this purpose) are spent towards that direction. **A decisive list of benefits of contributing to and being a member of the GEOSS registered projects/initiatives should be offered in the introductory sections of the EGIDA methodology.**

NA.5

Some of the evaluated projects have only a faint idea how a long term assessment can be maintained. The funding questions for simply guaranteeing an up-to-date infrastructure and sufficient engineering capacity will stay central for almost all of the projects in this social benefit area. A **comprehensive list of recommended ways how**

to assure a long term funding for a sustainable re-engineering process should be compiled and possibly included in the methodology. Here most probably additional discussion steps with potential funding institutions need to be proceeded by the GEOSS community. There seem to be no national or international initiatives or procedures to allow for a long term funding which opens a sustainable contribution to GEOSS, yet.

TA.4

There are many system-of-systems initiatives happening at the same time in the AQ&H field and they are normally not coordinated or aligned at all. **Along with the dissemination of the EGIDA methodology there should be an accompanying initiative to promote actions which support projects in a social benefit area to collectively form a group of common interest in aligning, harmonising and sharing their data and services in a global context**. Here again the intellectual and practical benefits of doing so should be made visible.

2.4. Use-case #4: Slovenia

General Assessment

The EGIDA methodology provided a valuable operational action plan and related guidelines that were followed in the use-case. In the light of the use-case specificity, this methodology proved to be a useful general methodological approach, which can easily be adopted or amended regarding the specific needs of a topical use case. Networking activities as listed in the EGIDA Methodology enabled identification of relevant stakeholders, metadata and spatial data providers, relevant national and international initiatives/projects; evaluation of national role in GEO, compatibility of data bases/infrastructures as well as creation of network of stakeholders potentially contributing to GEOSS. Similar, within the technical activities, barriers to information sharing were identified and a gap analysis on existing infrastructures was successfully performed. However, considering the use-case specificities (e.g. multi-thematic nature of the use-case, fragmentation of existing spatial data and infrastructures between the public and private sector...) more detailed and specific guidelines with regards to

coordination activities are needed. This would then enable the re-use of existing components and tools at national level and consequently enable implementation of the system by deployment of SDI portal.

The approach we used in replication process was case specific, tailored to the needs of dedicated environmental SDI.

2.4.1. Recommendations for new actions/sub-actions

Existing EGIDA Methodology proved to be successful up to the final technical activities TA.4, where lack of resources and lack of motivation of key players in the national SDI made the final steps in preparation of GEOSS components impossible. This can be overcome by involvement of responsible Ministries and policy makers to provide incentives for potential contributors to GEO/GEOSS. Therefore the recommended actions should address in particular the education of

(a) policy makers at the highest national level to build the incentives for data sharing into the national R&D system and

(b) data providers and custodians to increase their willingness to share spatial data at international level.

2.4.2. Recommendations of new guidelines for existing actions/sub-actions

The Use Case focussed on a specific environment of a small country with moderately developed and organised NSDI. Based on the experience, the recommendations mostly tackle the networking activities since these surprisingly showed to be a more complex problem than anticipated. The following set of recommendations is proposed:

→ Take advantage of a small country for using personal communication: personal communication proved to be the most efficient in the first phases of the networking process, in particular in activities of identification of stakeholders and motivating them to participate in the network.

→ *Study the national legal framework*; national legislation regulating the development, organization and management of spatial data infrastructure, which gives some basic information on the organization and the main key players in SDI development in the country, e.g. who has the mandate to coordinate the elaboration of the SDI.

→ *Study the national research and development funding system*: information on terms and conditions for funding research and development activities in the country can give information on potential stakeholders. In small countries, scientific research and development projects are funded mainly from public sources or through international funding organizations and instruments, where registers of beneficiaries and participating organisations (project partners) exist and are in most cases publicly available.

→ *Mobilize project groups, professional and technical associations* in search for potential stakeholders and partners – potential organizations and networks can be national and European project partnerships, national and European technology platforms and initiatives, centres of excellence etc.

→ Information sources for identification of stakeholders vary from country to country, therefore it is recommended to study the national approach to the building of NSDI. For European countries, the national *EC INSPIRE – State of Play Reports* are a valuable source of information on the status and the key entry points to the NSDI. Nevertheless, these reports can still be incomplete in particular in countries where a thematic spatial data is fragmented and to a great extent produced by private companies and/or physical persons.

→ *Involve decision and policy makers*: As it was generally suggested that the top-down approach is the preferred option for building a consistent (environmental) NSDI, the involvement of national and local decision and policy makers from all relevant domains (environment protection and management, spatial planning, science, infrastructure and economic development, health and security) is of utmost importance.

→ *Encourage and promote inter-sectoral collaboration:* As the lack of incentives for data sharing and development of environmental datasets into GEO/GEOSS components is the main reason for poor interest of national data providers and custodians, the researchers must act

as a connection linking the scientific and policy making communities on one side, and a link between different sectors on the other. To achieve this, bottom-up approach is needed, e.g. the numerous initiatives from the public, private non-governmental bodies and organizations will enhance the understanding of the decision and policy makers that the benefits of collaboration go beyond the scientific community to the welfare and well-being of the society at large.

→ As in the Use Case of replication of EGIDA Methodology for the data infrastructure supporting the management of a contaminated area representing a complex environmental problem reaching into all GEO/GEOSS SBAs, *the organisation of thematic working groups (TWG)s defined as a GEOSS SBAs and environmental indicators proved to be a recommendable approach*.

→ In organization of the network, workshops and thematic discussions proved to be a successful approach for assessment of the awareness and dissemination of the GEO/GEOSS initiative in the network and operation of the network in general

→ A small country also means limited size of the (R&D) community, therefore areas exist where the critical mass of knowledge and infrastructure is not available. International, in particular trans-boundary cooperation must be a vital interest and priority of these communities in small countries.

→ Enhance collaboration with international organizations and agencies, such as WMO or IAEA etc., which often provide special support to small and developing countries.

2.5. Use-case #5: GEO-Spain

The GEO-Spain use-case was not planned in the EGIDA project and therefore it did not provide an official report as the other ones. However several interesting outcomes may be collected from the use-case description (see Annex I).

O1. For Networking Activities "*the idea of having a representative group for GEOSS was supported by both the Administration bodies and the scientist (universities, research carters and enterprises).*"

O2. For Technical Activities "*the success of GEO strongly depends on the contributions from science communities. Unfortunately, difficulties in the development and use of GEOSS resources have been identified in these communities including the earth observation one.*"

O3. Furthermore, "*there is a lack of a comprehensive outreach and engagement program to which these [bottom-up] activities could be linked, and there is a lack of top-down activities.*"

O4. An example of effective approach for GEO/GEOSS engagement and dissemination was the EuroGEOSS conference which "*represented a very appropriate framework in which develop the GEO Spain workshop and introduce both sides of the stakeholders, those who pertain to the top level (AEMet) and those who are related with the bottom level (research centres, universities and private enterprises).*"

3 The outcomes from discussions, presentations and workshops

The first version of the EGIDA Methodology has been presented and discussed in several events including the GEO-VIII EC side-event, the Balkan side-event, the EGIDA Advisory Board meetings , the first GEOSS Stakeholders Network Workshop.
In particular the EGIDA Deliverable D4.6 [EGIDA D4.6] describes the workshop held in the context of the EGIDA project. Generally they demonstrated implicitly the importance of disseminating GEO/GEOSS activities, and often explicitly the importance of a general methodology to guide GEO/GEOSS contribution, such as the EGIDA Methodology. Some

of the workshop, provided direct recommendations for the future version of the EGIDA Methodology. Specifically:

1) in the Info-RAC (UNEP-MAP Regional Activity Centre for Information and Communication) National Focal Points meetings it was highlighted that “National MAP and GEO representatives often does not know each other” and that “high interest has been demonstrated on the presentation of the GEOSS Geoportal” again showing the need to raise awareness of GEO/GEOSS objectives and activities.
2) in the Round table discussion on the strategy and common activities in the framework of GEO and GMES in relation to the Horizon 2020 programme during the Workshop on collection, processing and application of data on environment and spatial planning: GEO, GMES and national activities in Slovenia it was highlighted:
    a) “the need for appointment of a national coordinating body or contact point since to the moment it is not possible even to obtain any reliable information of the main stakeholders.”
    b) “the question of the quality assurance and quality control of (measured) data and data collections has been raised, in particular in crowd sourced applications, which are nevertheless commonly used in research projects because of lack or inaccessibility of approved spatial data.”
    c) “the lack of applications for data presentation/visualisation and obtaining information from existing datasets is a bigger obstacle than the actual lack of data – which is rather fragmented than scarce”

4 Discussion

4.1. Overall assessment

The five use-cases were in general able to demonstrate the feasibility of the EGIDA Methodology transfer in a set of very different contexts. This implicitly demonstrates the validity of the EGIDA Methodology idea, approach and current implementation. Some of the use-case reports, explicitly confirm this, highlighting its flexibility, stating that the "*methodology proved to be a useful general methodological approach, which can easily be adopted or amended regarding the specific needs of a topical use case*" [EGIDA D4.9 SLV].
However some main weaknesses have been pointed out:

- unbalance: actions and sub-actions are not described at the same level of detail. For some of them several guidelines and comments are available, for others only a few hints are provided.
- lack of clarity: some readers find difficult to read and consult the EGIDA Methodology. "*A more user friendly lay-out of the document may be helpful in this respect*" [EGIDA D4.5 AQH]

The first point is due to two main reasons. The former is that the first version of the EGIDA Methodology was prepared after the first year of activities in the EGIDA Project. Therefore some activities providing inputs to the Methodology were not started or they were still on-going and their outcomes could not be included. The second reason is that actually some actions/sub-actions can be really addressed in several ways while others not. Thus it is expected that in the next version of the EGIDA Methodology the heterogeneity will be reduced but not entirely eliminated.

The second point was actually highlighted not only by the use-case representatives but also by some members in the EGIDA Advisory Board in personal talks and discussions. Although the objection is correct, it must be considered that the current version of the EGIDA Methodology is provided as part of a deliverable in an EC-funded project. The

deliverables D4.2 "The EGIDA Methodology" and D4.8 "The EGIDA Methodology – Final version" are documents describing the process of defining the Methodology as an outcome of the EGIDA Project activities. Therefore they have some constraints in structure and content. This does not mean that other publishing formats cannot be investigated, and this is what will be considered for future versions.

4.2. New actions/sub-actions

The five use-cases provided several interesting feedbacks to the enhancement of the EGIDA Methodology. Most of them were in form of new guidelines, suggestions to strengthen focus on some aspects, to tailor guidelines to specific contexts (e.g. small countries, developing countries). Most of them easily fit in the current structure of activities, actions and sub-actions.

One major objection concerns the focus only on Networking and Technical Activities. One of the use cases stated "*One of the weak point we suffer while implementing the EGIDA Methodology was the absence of a Capacity Building Activity"* [EGIDA D4.3 HSM]. We actually consider this as a misunderstanding (or lack of clarity) on the scope of the EGIDA Methodology. Indeed it is conceived as a document assisting a general Capacity Building action, therefore it is expected that the decision for a Capacity Building action is already made at a higher level, and that the application of the EGIDA Methodology is considered for guiding the related actions. Networking and Technical activities are considered those needed for an effective and efficient Capacity Building. Concerning the problem of sustainable funding and resource allocation they are considered in the NA.5 action.

4.3. New guidelines for existing actions/sub-actions

Most of the assessment results from the five use-cases are in terms of new guidelines for existing actions/sub-actions, or suggestions to strengthen the focus in existing guidelines.
We can summarize the feedbacks as follows:

Most of the use-cases have faced the problem of building the Stakeholder Network for the addressed initiative. Many suggestions have been provided as a contribution to guidelines of point NA.1. In particular: a) the Slovenia use-case had to face the challenge of building a national stakeholder network from scratch and provided many practical solutions for it; b) the GEO-Spain use-case needed to restart the initiative collecting potential stakeholders and verifying their interest in participating in the GEO-Spain activities.

Basing on the results of action NA.2 in the five use-cases a general lack of awareness of GEO/GEOSS in many communities has been found. Sometimes this depends on a more general lack of awareness in the data sharing and interoperability issues, sometimes is specifically related to the GEO/GEOSS initiative. It is noteworthy to remind that the first version of the EGIDA Methodology "focuses on *how* to provide a contribution to GEO/GEOSS objectives and not on *why* this contribution should be provided". However it was also mentioned that depending "on the outcomes of EGIDA activities in support to the STC Roadmap, feedbacks from the EGIDA use-cases, and suggestions from the EGIDA Advisory Board and Stakeholders Network, the final version of the EGIDA Methodology might address the motivations for a contribution to GEO/GEOSS." Therefore assuming that the initiator of the addressed initiative has a clear view on these issues, it is necessary to provide means and guidelines to communicate awareness and importance of data sharing and of GEO/GEOSS in the Stakeholders Network under creation and operation.

The results of action TA.2 demonstrate the existence of several common barriers in the addressed communities. There are behavioral barriers related to the fact that sometimes the people addressed are scientists not interested in IT topics. Therefore it is necessary to add guidelines on the involvement of personnel with skill and interest in IT. Legal barriers are common both for the need of fitting in existing legal frameworks (as in shared environments like the Gulf of Lion between Spain and France, and more generally in the Mediterranean region), and for preserving the right of scientists to publish before

data are made public. Actually these issues should be considered in action TA.4d; existing policy proposals address specifically the problem of the period reserved to data owner for scientific research publication (embargo period). Economical barriers are common: often lack of funding actually prevent starting and sustaining of Technical Activities and generally Capacity Building actions. However these issues once identified in TA.2 should be solved with action NA.5. Technical barriers are not directly cited in the reports from the five use-cases. This may be due in some cases to the lack of skill and interest in IT topics by the people assessing the EGIDA Methodology, implying an underestimation of technological issues; more generally it seems that technological barriers, although existing, may be overcome with proper effort. One barrier cited is the time required for adding metadata to existing datasets. However since no real technical difficulty is reported, this may be solved simply dedicating effort to this action, thus it is more related to economical barriers than to technical ones. Suggestions related to highlight the re-use and integration of open source tools are considered as guidelines for technical barriers removal. Similarly the fact that "*there are many system-of-systems initiatives happening at the same time [...] and they are normally not coordinated or aligned at all*" should be addressed more at coordination level than at technical level, although existing interoperability solutions (e.g. the brokering approach) addresses this issue avoiding replication of efforts.

Some specific barriers related to small countries have been highlighted. Indeed small country "*means limited size of the (R&D) community, therefore areas exist where the critical mass of knowledge and infrastructure is not available*". A solution is proposed as "*International, in particular trans-boundary cooperation must be a vital interest and priority of these communities in small countries*".

One interesting point addressing both the technical barriers removal and sustainability of the re-engineering project is the suggestion to consider the need of providing user's manuals and organizing training sessions once the infrastructure is set up. This learning actions are indeed important for an effective and efficient Capacity Building.

Some suggestions are related to specific contexts. In a consolidated regional context like that of Northern Africa Mediterranean countries it has been found that it would be easy to contact different countries through a regional contact point in order to exploit existing contacts and collaboration frameworks. This is an interesting guideline for building the regional Stakeholders Network.

One of the use-cases suggested that "*a national/international central coordination point like the national GEO secretariats could be a first step towards organising a sustainable GEOSS contribution, which especially means supporting the search for funding*" [EGIDA-D4.5-AQH]. Also in the workshop in Slovenia it was highlighted "*the need for appointment of a national coordinating body or contact point since to the moment it is not possible even to obtain any reliable information of the main stakeholders*" [EGIDA D4.6]. This point is addressed indirectly by the EGIDA Methodology, since one of its proposed targets is exactly the creation of a national/regional GEO. The fifth EGIDA Methodology use-cases (called GEO-Spain provided as Annex in this deliverable) explores this possibility providing some feedbacks. This suggestion is also proposed as recommendation out of the scope of the EGIDA Methodology because it clearly addresses issues that are not in the context of the EGIDA Methodology.

An use-case suggests that "*a common portal as a searchable platform within a community for a relevant group of subsystems would be very helpful and should be emphasized by the EGIDA methodology*" [EGIDA-D4.5-AQH]. Although the EGIDA Methodology suggests in TA.4a the building of such a portal also for facilitating dissemination, it is important to consider that different stakeholders have often different requirements in discovering and accessing datasets and therefore they may need different clients.

5 Recommendations for a new version of the EGIDA Methodology

Basing on the previously described assessment activities the following recommendations for the new version of the EGIDA Methodology are provided:

R1) **Balance guidelines for different activities**. In particular:

a) NA.2 should be updated including guidelines coming from the second year of EGIDA activities in support of the STC Roadmap Activity 2d "Show GEOSS at work".

b) NA.5 should include guidelines coming from the second year of EGIDA activities in support of the STC Roadmap Activity 2g "Catalyze research and development resources" that were not available at the time of the first version. In particular as one use-case suggested the following guidelines could be included:

i) "*a comprehensive list of recommended ways how to assure a long term funding for a sustainable re-engineering process should be compiled and possibly included in the methodology*" [EGIDA-D4.5-AQH].

ii) The creation of "*A national/international central coordination point like the national GEO secretariats could be a first step towards organising a sustainable GEOSS contribution, which especially means supporting the search for funding.*" [EGIDA-D4.5-AQH]

R2) **Clarify that the EGIDA Methodology is a contribution to the Capacity Building activities in form of good practices and guidelines**. In the introduction to the EGIDA Methodology, a statement reminding that the re-engineering process addressed by the EGIDA Methodology may be (part of) a Capacity Building activity launched and funded by national/regional stakeholders.

R3) **Add new guidelines on the identification of stakeholders**. Guidelines coming from different use-case, in particular the Slovenia and GEO-Spain ones, may enrich the description of action NA.1b: study the national legal framework; study the national research and development funding system; mobilize project groups, professional and technical associations in search for potential stakeholders and partners; study the national approach to the building of NSDI; explore the national participation in European projects relevant to GEO; etc..

R4) **Stress the importance of personal contacts in building and operating the Stakeholder Networks**. As some use-cases noted "*personal communication proved to be the most efficient in the first phases of the networking process, in particular in activities of identification of stakeholders and motivating them to participate in the network*" [EGIDA-D4.9-SLV] and "*clearly recommend the personal contact as the most effective way to get people involved*" [EGIDA-D4.5-AQH].

R5) **Workshop and conferences are important opportunity for building and operating the Stakeholders Network.** The EuroGEOSS 2012 Conference[1] has been reported has a valuable example of opportunity for building and operating a Stekeholder Network. Organization and participation in similar events can be proposed as a guideline.

R6) **Stress the importance of the collaboration with international initiatives.** NA.1 should also identify relevant international initiatives which can provide support for many other NAs and TAs. In particular they often provide special support to small and developing countries.

R7) **Provide guidelines for raising awareness on data sharing, interoperability and GEO/GEOSS**. This includes actions directed to stakeholders (NA.3) for data sharing and GEO/GEOSS, and actions directed to technical partners and implementers (TA.2, TA.6) for interoperability in particular in the GEOSS context. In Networking Activities concerning GEO/GEOSS awareness and dissemination (NA.2 and NA.3) personal contact has demonstrated to be the most effective way to get people involved; also participation in project meetings was useful. In the Technical Activities it is important to stress that current interoperability solutions (e.g. the brokering approach) allows to avoid replication of efforts in multiple initiatives.

R8) **Provide guidelines on the involvement of personnel with skill and interest in IT**. TA.2 should include recommendations for involving personnel with interest and skill in Information Technology, in building the relevant working groups (TA.1b). This would address both behavioral and technical barriers providing means to overcome them.

[1] http://www.eurogeoss.eu/conferences/Pages/2012.aspx

R9) **Provide suggestions to overcome common legal barriers**. In TA.4d it would be important to provide (references to) examples of adopted data policies, in particular addressing international legal frameworks, and embargo periods for scientific publications.

R10) **Clarify different approaches for metadata/data interoperability**. In particular:

a) In TA.4b it would be useful to mention two possible approaches on metadata encoding:

i) A brokered approach with multiple metadata models/encodings adopted in the different subsystems and harmonized by a central component (broker). It would be noteworthy to mention that this is the way the GEOSS work.

ii) A federated approach with a common metadata model/encoding adopted in all the subsystems. Since GEOSS adopts a brokered approach, it is sufficient to choose one of the metadata models/encodings supported by the GEO DAB (Discovery and Access Broker) to assure the interoperability with GEOSS.

b) In TA.4e it would be useful to mention two possible approaches on data encoding:

i) A brokered approach with multiple data models/encodings/formats adopted in the different subsystems and harmonized by a central component (broker). It would be noteworthy to mention that this is the way the GEOSS work.

ii) A federated approach with a common data model/encoding/format adopted in all the subsystems. Since GEOSS adopts a brokered approach, it is sufficient to choose one of the data models/encodings/formats supported by the GEO DAB (Discovery and Access Broker) to assure the interoperability with GEOSS.

R11) **Stress the importance of the re-use and integration of open-source software to overcome economical barriers**. In TA3.c guidelines on how to find and test open-source software can be provided.

R12) **Provide user's manual and training session to enhance the sustainability of the new infrastructure**. In TA.2 a mean to overcome technical barriers is to provide user's manuals and training sessions (to be prepared as outcomes of TA.4).

R13) **Include a guideline on the governance of regional stakeholder networks**. When the region addressed has already an existing, although informal, stakeholders network, it is easier and more

efficient to resort on it. One organization, or individual expert, may act as a contact point towards other stakeholders exploiting existing personal or institutional relationships.

R14) **Include guidelines or references on how to build a GEO Community of Practice**. When the Stakeholders Network refers basically to a well-defined scientific community, e.g. a GEO SBA, a CoP might be created in order to collect contributions from on-going relevant initiatives and projects.

R15) **Investigate the possibility to publish the EGIDA Methodology with a different and more user-friendly structure**. As a deliverable of a European project funded in the EC Seventh Framework Programme, the current versions of the EGIDA Methodology have some editorial constraints. It would be interesting to publish it in a different way, e.g. as a book, or a web site in order to give it a more user-friendly access and the possibility to be updated regularly. The deliverable D4.8 might include a discussion on this point.

6 Recommendations out of the scope of the EGIDA Methodology

The use-cases provided also suggestions that do not fit in the scope of the EGIDA Methodology. Since it is anyway an interesting outcome coming from S&T communities trying to provide a contribution to GEO/GEOSS and in general to scientific data sharing, they are summarized here for future reference:

O1. Focusing on the involvement of neighbor countries in future project calls is considered important for sustainable data sharing initiatives especially in developing countries.

O2. It is considered important to foresee, in future projects, also the production of specific datasets (maybe aligned with EU products and services) to be shared with a specific data policy within new or existing IT infrastructures.

O3. Along with the dissemination of the EGIDA Methodology there should be an accompanying initiative to promote actions which support projects in a social benefit area to collectively form a group of common interest in aligning, harmonising and sharing their data and services in a global context.

O4. A national/international central coordination point like the national GEO secretariats could be a first step towards organising a sustainable GEOSS contribution, which especially means supporting the search for funding.

7 General References

[EGIDA-D3.6]
EGIDA Consortium, "D.3.6 Framework concept for European funding agencies", 2011.

[EGIDA-D4.1]
EGIDA Consortium, "D4.1 Analysis of initiatives relevant for the GEOSS S&T objectives", 2011.

[EGIDA-D4.2]
EGIDA Consortium, "D4.2 The EGIDA Methodology", 2011.

[EGIDA-D4.3-HSP]
EGIDA Consortium, "D4.3 Report on EGIDA Methodology Transfer Use-case: Mediterranean hot-spot pollution", 2012.

[EGIDA-D4.4-MED]
EGIDA Consortium, "D4.4 Report on EGIDA Methodology Transfer Use-case: Mediterranean region", 2012.

[EGIDA-D4.5-AQH]
EGIDA Consortium, "D4.5 Report on EGIDA Methodology Transfer Use-case: Pan-European Air Quality for Health", 2012.

[EGIDA-D4.6]
EGIDA Consortium, "D4.6 Workshops Reports and Recommendations", 2012.

[EGIDA-D4.9-SLV]
EGIDA Consortium, "D4.9 Report on EGIDA Methodology Transfer Use-case: Slovenia", 2012.

[EGIDA-DOW]
EGIDA Consortium, "Grant agreement for: Coordination and support action - Annex I – 'Description of Work'", 2010.

Annex I

EGIDA Methodology Transfer: The GEO-Spain Use-case

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1. The GEO Spain initiative introduction and objectives.

The GEO Spain initiative represents a link between Bottom-up and Top-down actions. The role of GEO Spain is to join forces and develop a comprehensive outreach and engagement program.

Spain is one of the 86 countries that are part of the Group on Earth Observations. Since 2005, there exist in Spain the official group formed by the governmental institutions of science. The GEO Spain group is represented by the AEMet (Agencia Estatal de Meteorologia), the Spanish Meteorological Office. Although some AEMet members participated in GEO Committees and tasks (*e.g.* Architecture and Data Committee and Capacity Building Committee); the GEO Spain group was neither actively contributing to GEOSS tasks nor widely known for science and technology members outside the administrative boundaries (Governmental Departments and Ministries).

The EGIDA Methodology consolidates the EGIDA project experience for future use by defining a general methodological approach which can be adopted by national/regional S&T communities such as GEO Spain . Our contribution to the EGIDA project had two clear targets:

1. To contribute to assess the EGIDA methodology based on a slightly predefined network
2. To enhance the reactivation and dissemination of the GEO Spain group to all the fields related with Science and technology (research centres, enterprises, universities, etc.), not only in administrative institutions.

In order to fulfil the two previous points, the structure of the activities designed in the *D4.2 The EGIDA Methodology* were followed. These are grouped in Networking Activities and Thechnical Activities. In the next sections, all the steps followed throughout these activities, will be explained individually.

Also, GEO Spain could combine:

1. National/regional S&T communities which would like to build a sustainable contribution to the GEOSS through resources available from on-going initiatives and projects.

2. National GEO Scenario: A central group that coordinates efforts on capacity building at national/regional considering relevant supranational and global initiatives.

2. Reactivating the GEO Spain network as an example of an emerging national initiative.

As is stated in the EGIDA methodology, national and regional communities related with science and technology constitute potential groups to contribute to GEOSS. The GEO Spain initiative represents a good example of a predefined network, with a central group that coordinates efforts on capacity building (AEMet), but needing to be fostered in order to restart a proven GEOSS contribution.

The first approach we did was contacting with the administrative (top) level, in order to make a state of the art regarding the representation of science and technology of Spain concerning GEOSS. During September 2010 we made some contacts with Fernando Belda, the official Spanish representative from AEMet (currently the *Director of Production and Infrastructure*), to discuss the possibility of creating a GEO Spain group, in order to determine the need and benefits of the GEO Spain group. Once we have confirmed the will of pushing forward this activity, the national network, in the Top level, we started focusing on the bottom level.

The second step was to create a contact list of scientists related, or potentially interested, in the GEOSS activities. We collected the Spanish partners in European projects related to GEOSS, for further information see Annex: Spanish Science and Technology Network). Then, during the lasts months of 2010, we contacted several partners and organizations involved in those research projects, in order to interview them about needs and benefits of a GEO Spain group. A questionnaire was prepared to gather information from Spanish partners in European projects with GEOSS, the need of links between science and technology and the Administration representatives and the degree of involvement the bottom organizations could have with a future GEO Spain group.

We did 13 interviews to public, private organizations and universities; all of them developing research activities in 8 different EC Projects (GFG2, EUROSITES, ENVIROGRIDS, EUROGEOSS, ECOOP, HEREPLUS, EARLINETASOS and HERMIONE). All these projects were closely related to geographic information and GEOSS.

Following, the interview questions are presented, highlighting the most common responses and their concerns. Due to variety of answers, we have grouped them condensing the most related results.

1. *Do you have some need to find other Spanish members involved in GEOSS?*

   Answers were mostly positive (10 over 13), due to all the partners interviewed were, at that moment, part of European funded projects related to GEOSS. Nevertheless, 4 of them developed activities on their own. So, they have no relations with other GEOSS members in their daily tasks.

Some of these organizations seem to know GEOSS very well and already have relations with other members at Spanish level.

2. *Do you thing that such contact could be simplified if there is a GEOS Spain group?*

Many organizations (10 over 13) are in favour of the good opportunities the GEOSS group could bring to Spanish members, such as facilitate contact amongst members. The activities that can carry out the GEO Spain group are well received. Once the contact are made, the GEOS Spain group could be an interesting and active initiative for the organizations.

2 interviewees did not think the relations with other GEOSS members could be simplified at Spanish level, because they already meet the organizations that work at same stage. One emphasise the need of funds to start a GEO Spain group. One interviewee wasn't sure about the Opportunities of the GEO Spain group in their field.

3. *Do you consider that a GEO Spain group will be helpful for you/ your organization?*

12 interviewees consider that a GEO Spain group could be great for helping their organizations to find other, strengthen relations amongst them or helping organizations that currently are no members of GEOSS. One organization was no sure about the benefits that a GEO Spain group could bring to them, due to they are working in a very specific area, with few members involved, so they already know each other very well and they don't need a central point of contact.

   a. *What do you do when you need to contact with some GEOSS Spanish member?*

All the interviewees are involved in projects that have already started, so they meet other partners frequently. One part of the organizations met other partners before, due to other previous collaborations, they are not necessarily related to GEOSS. Other interviewees contact other GEOSS members through a person who share information in the project.

4. *Would you be interested in joining the GEOSS Spanish group?*

The majority, 11 over 13, of the interviewees are interested in joining the GEO Spain group, and some of them wanted to be informed about the evolution of this initiative. No one was against it, but 2 weren't sure about it.

5. *Do you have time to push it forward?*

The responses to this question are mixed. 4 interviewees don't have time, and other 4 are not sure. Only 5 interviewees were sure they could spend some time in such kind of activities. In general, private organizations could have time only if they were involved in a funded project

related to GEOSS; while public organizations and a university have a more active perspective regarding time inverted in GEO Spain group.

In the figure bellow, the quantitative responses of the questionnaire are represented.

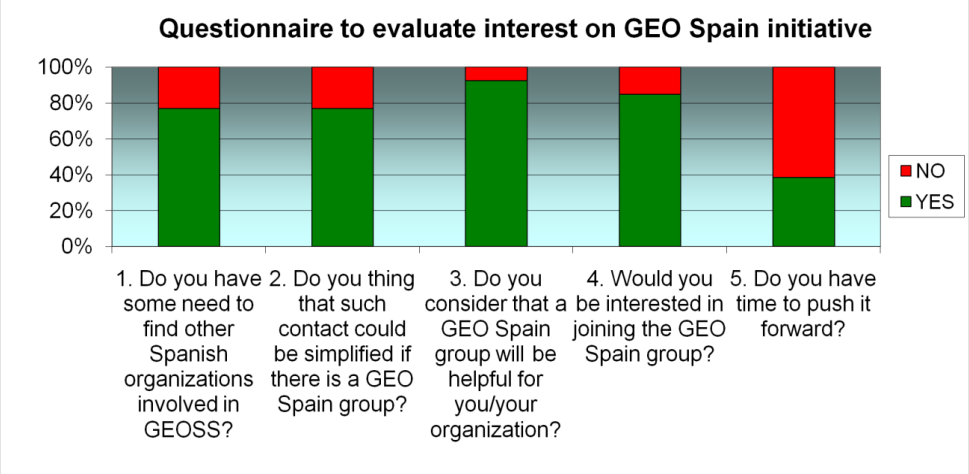

Figure . Graph bar representing the results of the interview made to Spanish scientist related to GEOSS.

As you can see, mainly, ~90% of the interviewees consider that GEO Spain could help their organizations to find other similar organizations and strengthen relations amongst them and that also could simplify and improve their current activities and engage no-members of GEOSS. Furthermore, 30% of the interviewees are interested enough to willing to invest time in the initiative.

The majority of the people interviewed was in favour of having a point of contact for the activities of science and technology related with GEOSS. The interview reveals that universities and research centres recognize the need for a centralized coordination. So that, fostering the predefined GEO Spain group would be of great interest in the national (top and bottom sides) level.

3. Joining Forces Between National Scientific Community and National Agencies: The GEO Spain Network

Primarily, we contacted both sides of the GEO Spain network of science and technology; first, the top level, the Administration institution AEMEt; and second, the bottom level, the centres of research, private organizations and universities related to GEOSS, and proved their willing of

enhancing the GEO Spain network, as explained before. The next step consisted in analyzing the EGIDA methodology following all the activities predefined on it, in order to apply these in our specific scenario, the Spanish network, to assess the methodology empirically and finally to arise conclusions and make recommendations.

On one hand, the European Research projects are contributing to develop GEOSS by providing data, technologies and participating in the Science and Technology Committee (relocated into the "Science & Technology: Strategic Target" after the "Sprint to Plenary" on November 2011 http://www.earthobservations.org/geoss_ta_st_tar.shtml), but they lack the resources to create capacity building, although GEOSS has a Strategic Target called Capacity Building that aims to enhance the coordination of efforts to strengthen individual, institutional and infrastructure capacities, particularly in developing countries, to produce and use Earth observations and derived information products; before 2015.

On the other hand, related to the Regional/National Scenario, EGIDA explores the possibility of creating a permanent GEO Spain network formed by both national administration and official Spanish representatives in GEO and relevant research initiatives; GEO Spain could coordinate projects with Spanish participation. To accomplish this target, the EGIDA methodology was applied.

The two following figures show the steps necessary to be fulfilled to promote the creation and consolidation of national/regional GEOSS networks, as was explained in the *D4.2 The EGIDA Methodology*.

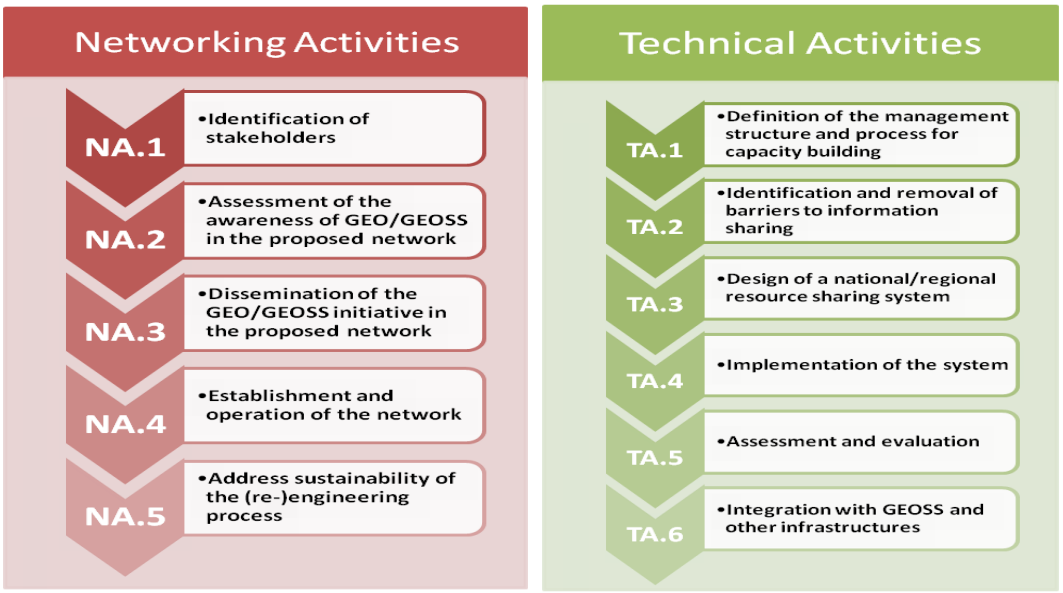

Figure . Activities and actions of the EGIDA methodology designed in the *D4.2 The EGIDA Methodology* grouped in Networking Activities and Technical Activities.

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These designed activities are thought to be running in parallel. The networking activities have to identify and address the relevant S&T community and actors, to promote the community Engagement. The technical activities have to guide the infrastructure development and align it with the GEOSS interoperability principles, to promote the capacity building. These activities will guide us throughout the process of enhancing the GEO Spain network.

3.1 Networking activities.

3.1.1 Identification of Stakeholders.

EGIDA wants to act in two directions, from Top to down and from Bottom to up, thus, the complete scenario should aggregate Administration bodies in the higher levels (Top) and also the smaller research centres, universities and enterprises (Bottom).

AEMet, the Spanish Meteorological Office, is the direct responsible for GEOSS in Spain and they participate in GEO Committees and tasks. Also, the European Commission is actively funding European research projects to develop GEOSS using innovative conceptual frameworks and technologies.

On the bottom level, in a first stage 9 partners involved in different European funded projects, all related with GEOSS were identified: EARLINETASOS, EuroSITES, ENVIROGRIDS, EuroGEOSS, ECOOP, GeoViQua, GFG2, HEREPLUS, and HERMIONE. In later stages, the stakeholders network was extended to other relevant communities, such as the recently formed RNOT: Red Nacional de Observación de la Tierra (National network for Earth Observation), the GIS and Remote Sensing science lists from REDIRIS (the Spanish academic and research network).

3.1.2 Assessment of the GEO/GEOSS in the proposed network.

In order to confirm that the scientists were interested in the GEO Spain initiative, CREAF prepared a questionnaire based on 5 simple questions, conceived to start a dialog. After confirming the willing of the stakeholders to push forward the GEO Spain group, the official Spanish representatives in GEOSS were contacted to explore the possibility of creating a permanent GEO Spain network formed by both national Administration bodies and relevant research initiatives.

The idea of having a representative group for GEOSS was supported by both the Administration bodies and the scientist (universities, research carters and enterprises). The stakeholders have had previous contacts or collaboration with projects related with GEOSS, so they knew the GEOSS infrastructure and advantages.

3.1.3 Dissemination of the GEO/GEOSS initiative on the proposed network.

Once the stakeholders were identified, 13 interviews were done by phone to public, private organizations and universities. This was the first contact that we conducted to the stakeholders.

The interested stakeholders were added to a mailing list. During the entire project, the relevant science and technology activities related with the GEO/GEOSS were sent by mail to the so-called list, as a kind of direct and easy dissemination activity. The GEO Plenary and the Balkans meeting (Istanbul, November 2011) or the EuroGEOSS conference (Madrid, January 2012), are examples of activities which information was distributed by mail, also encouraging the Spanish scientists to participate on them.

3.1.4 Establishment and operation of the network.

As part of one of the reactivation of GEO Spain activities, CREAF as part of the EGIDA project, jointly with partners from other projects such as, Universitat Jaume I de Castelló de la Plana (Spain) and the Instituto Geográfico Nacional (IGN) of Spain, prepared the GEO Spain workshop at the conference "Advancing the vision of GEOSS. Madrid 2012" organized in January by the EuroGEOSS project. This

communication reviewed the methodological approach, the results of these interviews and the future steps that will be conducted at national level. A charter document to guide the initiatives that GEO Spain will conduct in the future was generated and sent to the GEO Spain AEMet representatives. All These points will be explained in deep in the following sections.

3.1.5 Address sustainability of the reengineering process.

3.2 Technical activities

3.2.1 Definition of the management structure and process for capacity building.

3.2.2 Identification and removal of barriers to information sharing.

3.2.3 Design of national/regional resource sharing system.

3.2.4 Implementation of the system.

The success of GEO strongly depends on the contributions from science communities. Unfortunately, difficulties in the development and use of GEOSS resources have been identified in these communities including the earth observation one. Furthermore, up to now, the research activities resemble a bottom-up approach, and depend on national groups and individuals initiatives. There is a lack of a comprehensive outreach and engagement program to which these activities could be linked, and there is a lack of top-down activities.

3.2.5 Assessment and evaluation.

3.2.6 Integration with GEOSS and other infrastructures.

4. EuroGEOSS 2012 first GEO Spain meeting

The EuroGEOSS conference represented a very appropriate framework in which develop the GEO Spain workshop and introduce both sides of the stakeholders, those who pertain to the top level (AEMet) and those who are related with the bottom level (research centres, universities and private enterprises). The main characteristics of such event are:

Many partners from different projects and countries presented their work related with GEOSS, which brought the possibility of sharing knowledge, thus, other partners could use the pre-established components as a starting point to carry out their own needs.

It was a good scenario to join together the Earth observation users and producers, so to increase the relations amongst them.

The EuroGEOSS project is a good example, in our opinion, of a successful project, due to the functionality of their tools developed, such as the three strategic areas of Drought, Forestry and Biodiversity and the EuroGEOSS broker.

The EuroGEOSS project is well represented by Spanish partners, 6 of their 23 partners are from Spain. Thus, it was an opportunity for the GEO Spain network to apprehend from previous projects and establish relations.

The EuroGEOSS conference assured the presence of various partners in the workshop with experience in GEOSS, mostly big institutions, which in Spain are usually partners of Europen projects, as well as scientist from small and medium enterprises, universities and research centres related with science.

Following, the minutes of the GEO Spain workshop, highlight the main concerns and targets of the scientist representing different institutions.

MEETING OF THE NOMINATION FOR RESEARCH AND DEVELOPMENT SECTION OF GEO SPAIN UNDER THE EUROGEOSS CONFERENCE

26/01/2012, 18:30h

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Table . Assistants to the GEO Spain Workshop held in the framework of the EuroGEOSS conference, Madrid January 2012.

The main issue covered was the reactivation of the GEO Spain group.

- *The organization successfully connected with Fernando Belda (AEMet) by teleconference. He could attend without problems to the meeting.*
- *Joan Masó, from CREAF, gives an overview of the participation of Spain representatives in GEOSS. A presentation of regional networks experiences in other countries is given at the beginning of the workshop, also it is explained the creation of GEO Spain in 2004-5. This initiative has been reactivated as a result of the EGIDA project, in which CREAF is involved.*
- *The EGIDA methodology is explained to organize regional/national initiatives. It is suggested to begin forming the GEO network before considering possible technical systems that can contribute to GEOSS.*
- *Thomas Schmid, gives a positive opinion about boosting the group, he believes it should have happened before, as it is a good way of representation. He says that the last meeting was in 2009.*
- *Joan asks Fernando, why the meetings were stopped. Fernando doesn't know the reason, but he has seen the need to promoting this group again.*
- *Antonio Arozarena from IGN says he has attended all the meetings. In 2004-5 the ministries (not research centers, etc.), received the news that a statewide GEO group was going to be created. They met in AEMet, although that did not mean that AEMet was the representative; all ministries agreed on the appropriateness, because the organization was going to be effective. Various ministries met approx. 1-2 times a year: Ports, INTA, AENA, etc.. In the case of IGN, particularly, Observación de la Tierra (OT - Earth observation) was well organized (Plan Nacional de Observación del Territorio - National Plan to Monitor the Territory). The GMES was completely represented, so they even wanted to move to other continents (America). He does not know why they stopped the meetings. He believes that by inertia. Nevertheless, AEMET is still responsible for representing us. OT activities remain organized and they want to continue participating in GEOSS. All synergies are welcomed, he think that if the GEO Spain is supported by a group of researchers*

will be final (in reference to the application for the R&D section in GEO Spain). The various activities in the area (Marine, etc.) have moved on. The ministries are invited coming soon (on 02/02/2012) to renew the GEO Spain representative, because there must be representative scientists, private companies, etc.. He will keep pushing forward from the ministry. But, before the reactivation, the situation must be clarified.

- *Fernando, respect to the past he is not aware of that. He mention that a year and a half ago CREAF talk to them about GEOSS, and then they got worried. From the government perspective it has been concerned to assume AEMet responsibility. They have to deal with GEOSS tasks again and get organized, but they must coordinate with other stakeholders. On February 2nd, at the meeting, they have to discuss the organization, since GEOSS is multidisciplinary.*
  • Antonio Arozarena believes it is a shame that the representation at the state level is not as good as it could be despite the potential of the available actors.
  • Joan Masó read an email from Jose Antonio (another AEMet representative) and the document "Considerations on the future of GEO in Spain."
  • Antonio Arozarena will be attending next meeting on February 2nd. The participation of all actors is indispensable. He believes that we are allowed to participate because it is a public and open meeting. It does seem useful to met each other and then configure the groups that want to work. The IGN will propose to meet those who want to work, as well as the CCAA, because other scientific communities should be enhanced (Ports, Marine, etc.). He will propose that the research groups that have reactivated this issue could be in the next meeting, reason why we are talking about GEO again. Also, to include any actor who represents any public or private institution.
  • Fernando Belda wants to notice that the letter has a positive value in every way, they are attempting to promote forward, and consequently, the meeting has been set. It is necessary to be government-organized. If last 3 years has not been done anything, maybe we could do more than the others in 10 years. The important thing is to look ahead and commit.
  • Antonio Arozarena, he hopes that the meeting members do not allow another "silent" respect the GEO Spain activities, decentralization is important.
  • Joan Masó highlights the previous point as an activity of the EGIDA methodology. Remember that in the mail from AEMet the S&T members are invited to forward the proposals. There are 2 possible ways:
  - 5 minutes brainstorming amongst all the meeting members.
  - Joan elaborates a draft document and he resends the comments.
  In Joan's opinion, an issue to claim is that projects should have a direct line to the GEO Principal to enlist their support. If someone from this community has to act as a

representative of the GEO network, it is not convenient that the unique way to do so is by the Administration (Top – down approach), otherwise, others could be present as an informative way.
He reminds that a draft document will be circulated to be sent to the meeting on February 2nd. Once agreed, it will be sent to Jose Antonio Fernandez Monistrol (AEMet central representative at the time of the meeting) .
• Joan Masó reports that the EC needs places to host the European projects meeting. We could propose to do it in Spain, at the end of 2012 or beginning of 2013. As no abjections are arisen, motion passes.
• Vojko Bratina, EC representative, reviews previous initiatives similar to the GEO Spain: Austria, Eslovenia and Italy. He can give more information about them. In his opinion, it is better to have the system before the network; it helps a lot in having a good continuation. The formal representative of GMES doesn't know the representative of GEOSS, but in these countries they have a very close relation. It is important to engage the GEO principal, various representatives will be sitting and nominated by principals now and the GEO secretariat. It doesn't matter who is the representative, but who is going to work and carry activities, but it has to be someone nominated by GEO principal. Relating the networking program, if possible, the EC will try to financial national structures, triggering the Latin-America part that is already very active (such as Chile). Others are not very active. Coordination with complementary effort is very important. Regarding the European projects meeting, is normal to do it early in the year. The EC supports financial activity in this meeting (European projects)..“

The meeting ends at 19:45h

5. Document explaining the position of the candidate for research and development section of GEO Spain.

30/01/2012

Our position and vision

The candidate for research and development section of GEO Spain (hereinafter "the group") states that, recently, the participation in several research and development projects has been consolidated, in the context of GEO, based basically in European funding. Among the conditions imposed by the EC

to these projects will be the integration of the outcomes in GEOSS, as well as, the dissemination of the project activities through active participation in GEO committees.

It is considered that the group has sufficient critical mass and expertise to establish itself as a group that can join efforts.

The Group wishes to actively contribute and complement the GEO representation which the appropriate state agency (AEMet) is conducting on behalf of all Spanish and government agencies.

The Group agreed that, in general, there is a lack, or confusion, in its community about who is the Spanish representative in GEOSS and the his/her activities; so that, the European Commission demand, mentioned above, cannot be exercised properly.

Needs

The dissemination of both the Administrative and the group activities, in the context of GEOSS, is needed. In case of being in disposition of making contributions, the Group could complement the Spanish representation on tasks and components of GEOSS.

It is necessary to identify and integrate the various stakeholders (government, scientific community, enterprises and managers) and the current state of the SBA.
Support for the promotion and creation of new lines of funding for research projects that promote Spanish and European participation and the promotion of GEOSS.

It is necessary to support the consolidation of data and services, as well as the experimental data networks services.

Proposals

To create, within GEO Spain, a research and development section (hereinafter "Section").

In order to establish coordination mechanisms between the administration representatives (the bulk of GEO Spain) and the section, the following points are proposed:

-The definition of an interlocutor between the administration and the *section*.
-The possibility that a speaker elected by the *section* could participate in the GEO Spain meetings
-When arises the possibility of complementing the representation of the Administration in GEO, it

shall be established a flexible mechanism (*e.g.* email) to nominate participants from the *section* for the GEO Secretariat.
-The creation of a mechanism for information dissemination between both parties based on written documentation (*e.g*. wiki or email exchange) or through presentations at GEO Spain meetings.
-To coordinate and increase interaction with the CDTI to promote research initiatives (whether national or European) to serve as a momentum of technological and advanced development of GEOSS.
-The *section* will help the Administration on activities dissemination in the context of GEOSS.
This document content reflects the *group*'s position on the basis of discussions at the past EuroGEOSS 2012 conference January 26, meeting in Madrid. All meeting attendants have received by email this document and have had the opportunity to review its contents after the meeting. Any assistant have shown no significant objections during the review, although minor corrections have been suggested and introduced.

Annex: Spanish Science and Technology Network

RNOT –Red Nacional de Observación de la Tierra

- **AIDIT - MICIIN: La Agencia de Acreditación en Investigación, Desarrollo e Innovación Tecnológica**

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- **Centro Coordinador de los Centros Tecnológicos de la Región de Murcia**

  - **Centro Tecnológico Naval y del Mar**

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  - **Centro Tecnológico de la Energía y el Medio Ambiente.**

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- **Centro Tecnológico de las Tecnologías de la Información y las Comunicaciones**

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- **Centro Tecnológico del Metal**

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- **Comité de Agricultura Ecológica de la Comunidad de Madrid.**

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Subdirección General de Agricultura y Alimentación
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Private companies (some of them included in the network below)

- **Deimos Imaging S.L.**
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  47151 Boecillo (Valladolid)
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- **GEOSYS, SL**
  Sector Foresta, 23 Locales 7 y 8
  28760 - Tres Cantos (Madrid)
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  Email.- info@geosys.es

- **GMV**
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  La Fundación tiene sus instalaciones en el
  Edificio CRAI-TIC, en el Campus de Vegazana de la Universidad de León. (24071 - León - España)
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Proprietary: **Osvaldo Gervasi** | 16 Members

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  The MIT International Science and Technology Initiatives—better known as MISTI—connects MIT students and faculty with research and innovation around the world. MIT's primary international program, MISTI is a pioneer in applied international studies—a distinctively MIT concept.

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  With 15 years of experience developing projects, SIGTE maintains and promotes creative and innovative spirit necessary to stay current in an industry as technology and changing.
  Outreach: Our mission and vision goes beyond the Catalan government and therefore we maintain a strong European and international vocation has become a benchmark of research, training and dissemination GIS.

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Specialities: Mathematical Modeling, Statistics, Data Mining, Business and Marketing Intelligence, Forecasting, Optimization, Geo-Marketing and GIS.

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Infoterra FSMS Astrium is part of the Geo-Information Services in Spain. It has offices in Barcelona and Madrid, and our main goal is to serve customers both domestic and international, with a focus on the Hispanic market.
The main activities of the company include: Capturing, processing, and development of data and information for various applications in the map section: Image Processing, orthophotos, photogrammetric restitution, mapping, Lidar, etc.., Exchange Control
Distribution of services and TerraSAR-X images, Spot Image, FORMOSAT, KOMPSAT, Pleiades
Integrated remote sensing services for the development of radar applications in precision agriculture and environment, flood control, land subsidence, change detection, etc.
Development in Spain of the GMES (Global Monitoring for the Environment and Security) Global Monitoring Environment and Security.
The wide and long experience of our team and our work in R & D allows us to offer a wide range of products, tools, and unique geo-information services to our clients anywhere in the world.
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Currently we are integrators and distributors of GIS by ESRI, hydrological simulations GEOMER, TRIMBLE GPS equipment, and partners and DELL MICROSOFT.
Since 2006 we are partners ALETIC (empreas Leonesa Association of Information Technology and Communications) and since 2009 are part of the Business Association of Interest in Information Security, led by INTECO cluster.

Specialties: Land Engineering Services: Environment, Forestry, Hydrology, Training, Geo-ICT's: Software GIS, digital mapping, remote sensing, GPS, Emergencies, R & D + i.

- **Satdata**

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Specialties: Location and Mobile Resource Management, Tracking and geo-posiciónamieno vehicles, Professional Digital Radio, R & D + i