

D4.10: UPDATED DATA MANAGEMENT PLAN - DMP

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Glossary / Acronyms

TERM	EXPLANATION / MEANING
CA	Consortium Agreement
CSW	Catalogue Service for the Web
DAP	Data Access Protocol
DESCA	Consortium Agreement Model
DMP	Data Management Plan
DoA	Document of Action
ERC	European Research Council
EU	European Union
FAIR	Findable, Accessible, Interoperable and Reused
GA	Grant Agreement
GDPR	General Data Protection Regulation
HTTP	Hypertext Transfer Protocol
IaaS	Infrastructure as a Service
IPR	Intellectual Property Rights
ISO	International Standards Organization
JSON	JavaScript Object Notation
KEE	Knowledge Elicitation Engine
OA	Open Access
OGC	Open Geospatial Consortium
ORD	Open Research Data Pilot
RESTful	Representational State Transfer
SDI	Spatial Data Infrastructure
SRTM	Shuttle Radar Topography Mission
USGS	United States Geological Survey
WCS	Web Coverage Service
WMS	Web Map Service
WFS	Web Feature Service
WP	Work Package
XML	eXtensible Markup Language

Addressing Reviewers Comments

Comment	Response
Comments derived from Review report	
The DMP has been updated. A further update is needed to:	We thank the reviewers for this comment. Kindly find in the following how we address each specific comment.
(a) clarify and differentiate between the research data produced by the project, and 3rd party data accessed by and/or curated by the project;	To address this concern raised by the reviewers we kindly ask the reviewer to examine Chapter 2 presenting details concerning data collection/generation by the project, re-use of existing data and how the project data are produced.
(b) clarify ownership, access and usage rights, during and after the end of the project, for commercial and non-commercial use for all data sets;	We kindly bring under the reviewers' attention Chapter 3 and specifically: <ul style="list-style-type: none"> • Section 3.2 on internal and external data dissemination • Section 3.3.1 discussing on selected data license
(c) focus on the plan for management of research data rather than other data, specifically noting that data which will be opted out of open access.	To address the reviewers' comment, we have revised the entire text to: <ul style="list-style-type: none"> • Better present how the research data generated by SIM4NEXUS are handled • Eliminate text related to the curation of non-research data (e.g. publications, papers, etc.) • Have a specific chapter (Existing data re-use) present how additional data are handled by the project. <p>Although it is mentioned in the text (e.g. Executive summary, Chapter 3.2.1) we also want to clarify here that data open-access release is progressive, since the scientific partners producing the data need to wait for the journal paper related to the data generation to be published prior to data release.</p>
Comments derived from Review Report Annex	
The DMP contains a lot of unnecessary background and generic information about data management and open access, rather than focusing on the specific project research data and how this will be managed. In addition, some of the data sets referred to are not research data (i.e. publications and papers).	The reviewers raise a valid concern here. To address these issues: <ul style="list-style-type: none"> • The document has been restructured to reflect issues related only to the data curated by the project • Text related to non-research data handling has been eliminated throughout the text
An update is requested to (a) clarify and differentiate between the research data produced by the project, and 3rd party	Addressed in previous rows

data accessed by and/or curated by the project;	
(b) clarify ownership, access and usage rights, during and after the end of the project, for commercial and non-commercial use for all data sets;	Addressed in previous rows
and (c) focus on the plan for the management of research data rather than other data, specifically noting that data which will be opted out of open access for legitimate reasons.	Addressed in previous rows

Executive Summary

This document presents SIM4NEXUS Data Management Plan (DMP) for open access data handling (see box 1). This Data Management Plan is compiled according to the [Guidelines on FAIR Data Management in H2020](#)¹, and the Guidelines to the Rules on the [Open Access to Scientific Publications and Open Data Access to Research Data in H2020](#)².

The following sections present the lifecycle, responsibilities, review processes and management policies of research data, produced by SIM4NEXUS. The DMP reflects the status of discussion within the Consortium concerning the control, protection, distribution, and enhancement of the produced data.

For SIM4NEXUS, the DMP is defined as “the development, execution and supervision of plans, policies, programmes and practices that control, protect, deliver and enhance the value of data and information assets” obtained. In this regard, at the start of the project, the following processes and procedures for data management procedures were established:

- Data governance, such as standards management and guidelines
- Data architecture, analysis, and design including data modelling
- Data maintenance, administration, and data mapping across building blocks and solution modules
- Data security management including data access, archiving, privacy, and security
- Data quality management including query management, data integrity, data quality, and quality assurance
- Reference and master data management including data integration, external data transfer, master data management, reference data
- Document, record, and content management
- Metadata management, i.e., metadata definition, discovery, publishing, metrics, and standardization

Readers are the project members and research institutions using the data collected and produced during the project period.

Changes with respect to the DoA

The only changes concern the addition of D4.10 and D4.11 deliverables. Both are updated versions of the Data Management Report delivered on Month 6. Before the final Deliverable in month 48 it was decided to deliver an intermediate Updated Version on month 30 (D4.10) and then the Final one (D4.11-covering D4.7) at the end of the project (month 48).

Box 1: DMP Live Document

DMP is a Living Document with iterations (M12, M30 –this one-, and M48) as SIM4NEXUS evolves. An updated version of this document will be delivered together with each reporting period, and whenever significant changes related to DMP would occur. It is agreed that apart from the updates foreseen in the DoW, it will be internally updated also in months 24, 36 and 42.

¹ http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

² http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

Dissemination and uptake

The deliverable is publicly available, based on the participation of SIM4NEXUS to the Pilot on Open Research Data in Horizon 2020³. Special attention will be paid to how personal data will be properly catered together with other important data and/or scientific information, following General Data Protection Regulation (GDPR) (EU) 2016/679.

Short Summary of results (<250 words)

SIM4NEXUS participates in the Pilot on Open Research Data in Horizon 2020, thus a DM report was submitted in Month 6. Open Research Data Pilot participation does not necessarily mean opening all research data. The document determines and explains which (and how) the research data generated will be made open. In this update, the first open access data release is described. Several iterations of this document will be released as project evolves.

DMP focuses on numerical research data related to the Nexus domains i.e.: (i) Water, (ii) Energy and Climate, (iii) Food and Agriculture, and (iv) Land Use and Soil. Case studies inputs are: (i) Thematic models, (ii) Climate data, and (iii) use-case specific data obtained primarily from national sources. *Personal data when processed are anonymized* and will not be communicated to third parties.

Research data are handled as follows: For internal use, an FTP server was established for each case-study and access was granted to relevant project members. Data were organized in a tree-like folder structure common to all case-studies. Open access data are released through the Zenodo data repository, accompanied by relevant metadata to enhance discoverability. Currently the Sardinia fast track data were released. Sardinia and future open datasets can be accessed through the following URL:

<https://zenodo.org/search?page=1&size=20&q=sim4nexus>

It is noted that since data-producing scientific partners need to wait for the relevant research paper to be published (which might require a considerable time), data are progressively released as open access, although they are available for internal project use.

Evidence of accomplishment

The deliverable itself, the FTP Server where data are stored for internal use, and the data released as open access through Zenodo repository can act as the evidence of accomplishment. In addition, communication (Teleconferences, emails) between EURECAT, EPSILON, and the project Coordinator (WUR) can be provided as well.

³ According to article 43.2 of Regulation (EU) No 1290/2013 of the European Parliament and of the Council, of 11 December 2013, laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" and repealing Regulation (EC) No 1906/2006.

1. Introduction

1.1. Scope

This document describes the SIM4NEXUS Updated Data Management Plan (DMP) corresponding to Deliverable D4.10 of SIM4NEXUS Technical Annex. The DMP:

- Provides a description of how the research data collected, processed, and generated will be handled during and after SIM4NEXUS.
- Describes which standards and methodology for data collection and generation will be followed, how data are shared and be curated and preserved.

The document follows the template provided by the European Commission on DMP⁴. The DMP is prerequisite for SIM4NEXUS as it participates in the Open Research Data Pilot⁵, thus first version was delivered at an early stage of the project (D4.2, Month 6).

An updated version of this document has been provided together with the first two progress reports (D4.2 updated, M12, and D4.10, M30), and whenever significant changes occur. At month 48, the final version will be provided as Appendix to deliverable D4.7 Data Management Report. Apart from the updates foreseen in the DoW, Data Management Report will be also updated, for internal use, in months 24, 36 and 42.

1.2. Document Structure

The following chapters are organized as follows:

- Section 2 presents a summary related to SIM4NEXUS datasets
- Section 3 discuss on FAIR data approach
- Section 4 deals with resource allocation
- Section 5 addresses issues related to data security & ethical aspects
- Section 6 answers FAIR data key questions related to all datasets produced or gathered in.

⁴ Guidelines on Data Management in Horizon 2020,

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

⁵ Open Access to Scientific Publications and Research Data in Horizon 2020 Guidelines,

https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

2. Data summary

2.1. Purpose of data collection/generation and relation to project objectives

SIM4NEXUS develops innovative methodologies to address barriers to a resource efficient Europe such as policy inconsistencies and incoherence, knowledge gaps, especially regarding integration methodologies and tools for the Nexus (a coherent system comprising of Land, food, energy, water and climate aspects), and knowledge and technology lock-ins.

For this purpose, 7 well-known and scientifically established existing “thematic” models are used (E3ME-FTT, MAGNET, CAPRI, IMAGE-GLOBIO, OSeMOSYS, SWIM, MAgPIE). The thematic models provide results for 2010 (baseline), 2020, 2030, 2040, 2050 (and some of them 2099) and run under the new scenario framework for climate change research, meaning the combination of SSP (Shared Socio-economic Pathways) and RCP (Representative Concentration Pathways). Along these lines, SIM4NEXUS considers as input, public and readily available input data (e.g. Eurostat, GISCO, MODIS, GEOSS, INSPIRE, meteorological stations, JRC/CORINE and others) for future easy-updates and copyright reasons. Types of data to be used as input include NUTS-III12 for consistency and credibility, while NUTS-II and NUTS-I will also be possible, for coarser approaches. The data that are provided by the thematic models are used as input to the SDMs developed for each case study.

All the Project Objectives are tightly connected to the data collection and generation as i) existing knowledge on the NEXUS, used to develop new expertise on the Nexus and ii) the use of advanced integration methodologies based on Complexity Science approaches, are both highly dependent in data collection and generation.

The thematic models applied or to be applied in each case study are listed in Table 1.

Table 1. Thematic models / case study

Case study		Thematic models applied/to be applied
1	Sardinia	E3ME, CAPRI
2	Greece	E3ME, MAGNET, CAPRI, GLOBIO
3	Andalusia	E3ME, MAGNET, CAPRI
4	UK	E3ME, CAPRI
5	Sweden	MAGNET, CAPRI, GLOBIO
6	Netherlands	E3ME, MAGNET, CAPRI
7	Azerbaijan	E3ME, MAGNET, CAPRI, OSEMOVSYS
8	Latvia	E3ME, MAGNET, CAPRI
9	Germany - FRANCE	E3ME, CAPRI, SWIM
10	Eastern Germany, Czech Republic and Slovakia	CAPRI, SWIM
11	Europe	E3ME, MAGNET, CAPRI, IMAGE, MAGPIE
12	Global	E3ME, MAGNET, CAPRI, IMAGE, OSeMOSYS, MAGPIE

EPSILON manages all the data used during project implementation. Figure 1 depicts the information flow.

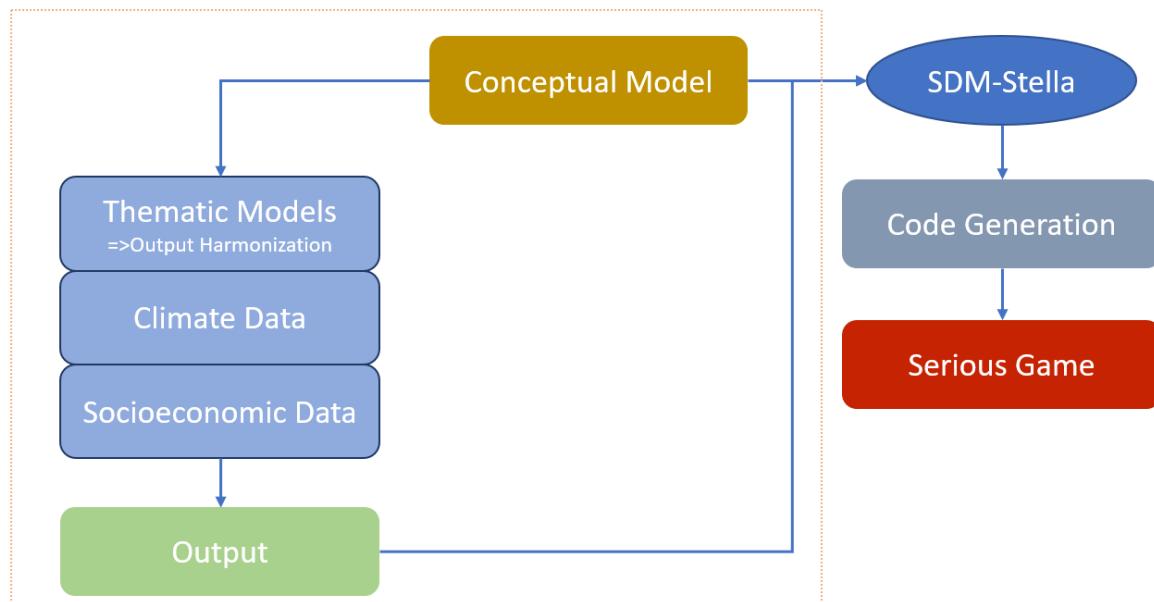


Figure 1. Information flow

Currently Sardinia's fast track simulation is completed, and simulations of the other case studies are ongoing. In this regard, more input is available in terms of data collection and generation and data ontologies are stored in the database and semantic repository. Additionally, bilateral teleconferences take place regularly among EPSILON, EURECAT, WP Leaders, case study leaders and Model partners discussing on available and created data and information and terms of use (i.e. whether data will be publicly available or not).

2.2. Data types and formats of data generated / collected by the project

SIM4NEXUS collects data (Table 2 – Based on D1.3) provided as input to the thematic models (i.e. E3ME-FTT, MAGNET, CAPRI, IMAGE-GLOBIO, OSemMOSYS, SWIM, and MAgPIE) and generates data (see Annex 1 for a detailed presentation) through the thematic models, related to the Nexus components i.e.: (i) Water, (ii) Energy and Climate, (iii) Food and Agriculture, and (iv) Land Use and Soil. This process is mainly linked to WP3 and exploited in Task 3.3. the outputs are fed to Serious Game development and testing. Thus, SIM4NEXUS produces raw data with some parts summarized in deliverables and scientific publications. This raw data, underpinning the published work, constitute the main research data sets that will be made publicly available if the Authors/Data providers give their permission. In cases where release of complete raw data sets is impossible due to, for example, privacy or personal data concerns (such as packet traces involving networking usage of trial participants) SIM4NEXUS Consortium will strive to find data sanitization and anonymization approaches that enable publishing as large parts of the data as possible. Any scripts used for post-processing the raw data will also be shared.

Based on the testing, the partners will then collect and organize the data into a semantic database that houses the complexity science tools (WP1). It will also review and select the most suitable integration methodologies for the Case Studies and the Serious Game (for WP4). Thereby, integrated complexity science models will be developed for all the Case Studies. These complexity science models will then be used to run many scenarios.

For each of these policy domains more detailed data elements have been collected for each case study. The file type of the outputs is either Microsoft Excel Open XML Spreadsheet (.XLSX File Extension) or

Commas Separated Values files (.CSV File Extension), or a generic file type with .DAT file extension. Each dataset of this type may contain data in binary or text format. In addition, for a specific kind of data, 3D map and terrain data are available as well as raster data can be stored in raster files formats such as JPEG, TIFF or GeoTiff. Vector data can be stored in various formats as ESRI Shapefile, MapInfo, DXF, etc.

Table 2. SIM4NEXUS input data

CATEGORY	SCENARIO ELEMENTS
Demographics	Population total and age structure
Economic development	Global and regional GDP, or trends in productivity Regional, national, and sub-national distribution of GDP, including economic catch-up by developing countries Sectoral structure of national economies, in particular the share of agriculture, and agricultural land productivity Nature of international trade
Welfare	Human development
Environmental & ecological factors	Soil Fertilization Biodiversity Floods and droughts Land use, Vegetation Wetlands and irrigation areas
Resources	Fossil fuel resources and renewable energy production Livestock production Other key resources, such as phosphates, fresh water etc.
Technological development	Type (e.g. slow, rapid, transformational) and direction (e.g. environmental, efficiency, productivity improving) of technological progress Diffusion of innovation in particular sectors, e.g. energy supply, distribution and demand, industry, transport, agriculture
Broader societal factors	Attitudes to environment/sustainability/equity and world views Life styles (including diets)
Policies (Water, Energy and Climate, Food and Agriculture, Land Use and Soil)	Non-climate policies including development policies, technology policies, urban planning and transportation policies, energy security policies, and environmental policies to protect air, soil and water quality. It is possible that SSPs could be specified partly in terms of policy objectives, such as strong welfare improving goals, rather than specific policy targets or measures.

2.3. Existing data re-use

Although SIM4NEXUS aspires to produce its own thematic data, it will also use in the most suitable way any existing data that can contribute to its purpose. In this regard, the following data can be used:

- a) 3D map and terrain data will be used coming from the following sources:

- The height map data comes from NASA Shuttle Radar Topographic Mission (SRTM) v4.1 and is distributed freely by USGS. The SRTM data is available with a 90m resolution. Not all data from SRTM is being used in the serious game, only data related to the geographical regions of the 12 case studies are used. This data is downloaded from the USGS web and then stored as mesh elements within the serious game client.
- The texture overlay is from Google Earth downloaded from Google
- Public and readily available input data (e.g. Eurostat, GISCO, MODIS, GEOSS, INSPIRE, meteorological stations, JRC/CORINE and others)

b) Also, some existing ontologies, related to the Nexus, have been analysed to be involved in the SIM4NEXUS context:

- WatERP ontology, which reflects the water manager's expertise to manage water supply and demand. The novelty of WatERP ontology lies on including man interactions with the natural paths as a mechanism to understand how affect into the water resources management with the objective to match supply with demand, these interactions could range from infrastructures to management decisions.
- WEFNexus ontology, which concern Water, Energy and Food derived by the European Directives: Article 2 of EU Directive 98/83/EC that defines the water intended for human consumption; Article 2 of EU Directive 2003/30/EC that defines bio-fuels; Article 2 of EU Regulation 178/2002/EC that defines food.

c) Finally, the thematic models' inputs can be considered as "re-used data", subjected to further processing.

2.4. Data origin

The System Dynamics Model that is developed per case study uses data from **3 sources**:

- **Thematic models:** The origin of the data used for the thematic models is organizations, institutes or programs, like Eurostat, GISCO, MODIS, GEOSS, INSPIRE, meteorological stations, JRC/CORINE, NASA, USGS, Google.
- **Climate data:** provided by Project Partner PIK derived from dynamical downscaling in addition to statistical bias correction (Hempel et al, 2013). Data used come from five global circulation models (GCMs) from the Coupled Model Intercomparison Project (CMIP5- Taylor et al., 2012) archive as input: HadGEM2-ES, IPSL-CM5A-LR, MIROC-ESM-CHEM, GFDL-ESM2M, and NorESM1-M. These five models provide data availability of daily data for the required variables covering the period from 1 January 1950 to 31 December 2099 – historical and all Representative Concentration Pathway (RCP) scenarios (Moss et al., 2010). Downscaled climate data are produced for SIM4NEXUS usage (presented in D3.3).
- **Data provided from each case study:** In cases that the thematic models do not meet the data needs to feed the SDMs each case study has to obtain data from National resources (e.g. Greek case study uses data from Hellenic Statistical Authority (<http://www.statistics.gr>)).

2.5. Expected data size

It is expected raw or text data size (input and outputs) to be manageable in terms of storage capacity (in the magnitude of GBs). Maps is likely to require more storage capacity than other data (e.g. texture overlays used by Serious Game), if it is decided to serve them from SIM4NEXUS servers. However, such

data can be integrated through web mapping protocols (e.g. as Web Map Services – WMS) provided from the original data stakeholders, thus there is no need to consider storage space for them.

2.6. Outline the data utility: to whom will it be useful

Data will be useful in two ways:

- **Internal Project use:** They will allow partners to run models to create and use advanced integration methodologies based on Complexity Science approaches for bridging the knowledge gap related to the complex interactions among all components in the water-land-food-energy-climate Nexus.
- **Public Use:** Data released in Zenodo (www.zenodo.org) can be used by scientists, authorities and other interested parties involved in the Nexus. Already, most of the collected and produced climatic data are already uploaded and available in Zenodo.

3. FAIR Data

Intellectual property rights (IPR) management in SIM4NEXUS project is a substantial part of its data management plan. Usually data content and their system are treated as one parameter, but when the matter comes to IPR, a distinction between the databases and data content is of outmost importance. It is imperative for other users to know how they can reuse both the data collected, assembled, or generated and the databases where these are included.

3.1. Making Data findable, including provisions for metadata

3.1.1. Data discoverability (and metadata provision)

All data, information, and knowledge considered relevant for the scientific community will be made accessible under Open Access. In this regard, data will be shared in relation to (i) publications (deliverables and papers) and (ii) curated and/or raw data. Scientific partners creating SIM4NEXUS data need to publish their results in scientific papers, prior to open-access data release. For the data linked to scientific publication, the publication will serve as the main piece of metadata documentation for the shared data.

It is noted that data will be discoverable in different ways for internal and external use. How this is achieved is further presented in Section 3.2.2.

3.1.2. Data identifiability through standard identification mechanisms

As presented, after project completion, the final dataset will be transferred to the Zenodo repository. This ensures sustainable archiving of the final research data sets and publications produced. Zenodo is built and developed by researchers, in the context of The OpenAIRE project, that in the vanguard of the open access and open data movements in Europe, commissioned by the EC to support their nascent Open Data policy by providing a catchall repository for EC funded research. One of its major advantages is it works closely with GitHub, enabling users to make the work they share on GitHub, citable by archiving one of your GitHub repositories and assigning a DOI with the data archiving tool Zenodo.

Multiple metadata were provided to upload each dataset (Table x). Furthermore, Zenodo automatically assigns a Digital Object Identifier (DOI) to each dataset, enhancing discoverability.

3.1.3. Naming Conventions

Naming conventions were applied primarily to climatic data. A standardised name has been assigned to each dataset in the following format. The Earth System Parameter is a standardized acronym, with its values presented in Figure 2.

Country code_Earth System Model_Simulation Method_Period_Time frequency.dat

The value depends on the variable coded in the individual file name. These are the standardised variable acronyms used in climatology:

pr = Precipitation, originally given as m/s or mm/s, converted to mm/d
rhs = Relative humidity in %, 2 m above ground
rls = Long-wave downward solar radiation at the ground in W/m²
rsds = Short-wave downward solar radiation at the ground in W/m²
tas = Average air temperature 2 m above ground, usually given in K, but converted to °C
tasmax = Daily maximum air temperature
tasmin = Daily minimum air temperature
wind = Wind speed at 10 m height, given in m/s

Figure 2. Example of metadata information in each subfolder

3.1.4. Search keywords for re-use optimization

Search keywords are created by Zenodo by analyzing the metadata info provided during upload (Table 3). Already, this info aimed to be as detailed as possible to ease data discoverability.

3.1.5. Data clear versioning

Zenodo repository standardization ensures that data is stored under specific structure to be easily identified in a historical basis.

3.1.6. Metadata creation standards

Metadata standards are required to i) establish a common understanding of the meaning of the data, and ii) ensure correct and proper use and interpretation of the data by its owners and users. Already, metadata have been created by the responsible partners for the data already uploaded to Zenodo as presented in Table 3. It is expected that future datasets will follow the same metadata requirements.

3.2. Making data openly accessible

3.2.1. Making data openly available & unreleased data rationale

Open access data include:

- PIK climate data
- Numerical datasets produced by the System Dynamics Models (SDM)

At the moment no datasets are considered closed. However, datasets are progressively released as open access. Scientific partners (PIC and SDM designers) need to wait for the relevant paper to be published by a scientific journal before granting the permission to release the outputs of their research for free public use.

3.2.2. Data availability mechanisms

Data are disseminated differently for internal and external purposes to ease day-to-day operations within the project. For external dissemination, in view of the precautions for personal data protection, it is explicitly confirmed that the data collected will be publicly available, after care is taken with regards to rules of confidentiality, anonymity, and protection. Anonymized final data sets will be open access and procedures are set as to how data will be preserved and archived in the repository. We are aware of post-publication risks to local researchers and end-users in our research sites and will mitigate all reasonable risk before publication according to the ethical and IPR requirements set.

Table 3. Zenodo-required Metadata for data uploading

Metadata required for data uploading to Zenodo		
File information	ID	
	File Name	
	Format	
	Short Description (thematic)	
	Data Provider	
	PERMISSION TO RELEASE DATA OPEN ACCESS (Y/N)	
Required	Upload Type	
	Digital Object Identifier (DOI) (Optional)	
	Publication Date	
	Title	
	Description	
	Authors	Name (Last Name, Name, Email, Company/Organization)
	Affiliation	
	ORCID	
	Access Right	
	License	
Optional	Version	
	Language	
	Keywords	
	Additional Notes	
	Funding (Recommended)	Grants
		Grant Number
	Related/Alternate Identifiers (Recommended)	Specify identifiers of related publications and datasets. Supported identifiers include: DOI, Handle, ARK, PURL, ISSN, ISBN, PubMed ID, PubMed Central ID, ADS Bibliographic Code, arXiv, Life Science Identifiers (LSID), EAN-13, ISTC, URNs and URLs.
	Contributors	Name (Last Name, Name, E-mail, Company/Organization)
		Affiliation
		ORCID
	References	
	Journal	
	Conference	
	Book/Report/Chapter	Publisher
		Place
		ISBN
		Book title
		Pages
	Thesis (Optional)	Awarding university
		Supervisors
		Name (Last Name, Name, E-mail, Company/Organization)

		Affiliation ORCID
Subjects	Specify subjects from a taxonomy or controlled vocabulary. Each term must be uniquely identified (e.g. a URL). For free form text, use the keywords field in basic information section.	Term Identifier

However, “Opting Out” remains a choice for data owners, as it is possible that even though comprehensive measures are taken to ensure the safety of participants, researchers and their environment, it is only after a SIM4NEXUS report or peer reviewed article is published and generation of date sets is realized, that the question of open access arises. Open access does not entail an absolute obligation to publish all data, and it is up to researchers and associated organization to decide whether data is suitable and ethical to be published or not.

To ensure archiving and preservation of long-tail research data during the project, a repository with a web catalogue service will be built and maintained after the project competition. The Web Catalogue Services provides the system with a smarter interface to the SIM4NEXUS repository (geo-database).

3.2.2.1. Internal data dissemination

For internal project-use, a tree-like folder organization was created (Figure 3), supporting easy dataset identification and revisions.

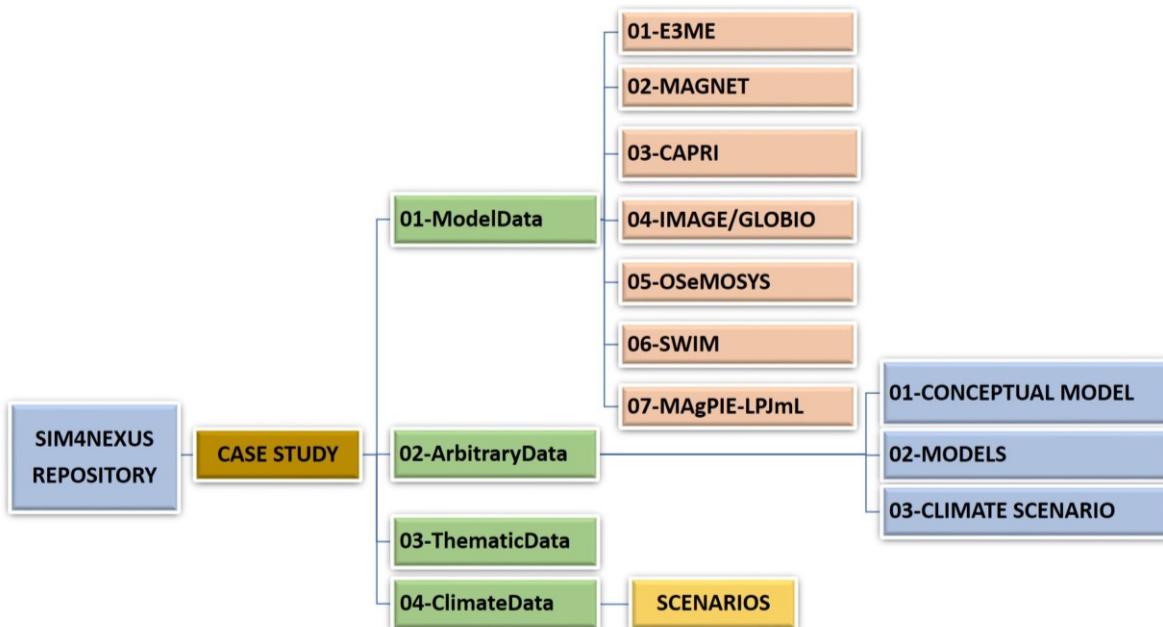


Figure 3. Structure of the SIM4NEXUS repository

For each of the SIM4NEXUS cases, a specific folder has been created in the repository. The folder contains the following sub-folders: 01-ModelData, 02-ArbitraryData, 03-ThematicData, 04-ClimateData (Figure 3).

- The 1st folder provides the outputs from the selected models applied in each case study. The file type of the outputs is either Microsoft Excel Open XML Spreadsheet (.XLSX File Extension) or Commas Separated Values files (.CSV File Extension).
- The sub-folder 02-ArbitraryData contains information about the relevant case study. These include the conceptual model of the case, the concept harmonization process etc.
- The 3rd sub-folder contains the thematic datasets of each case study along with its metadata.
- Finally, the sub-folder 04-ClimateData contains the climate datasets such as precipitation, relative humidity, long-wave downward solar radiation at the ground, long-wave downward solar radiation at the ground, daily maximum air temperature, daily minimum air temperature, and wind speed at 10m height. The datasets in this folder are of a generic file type with .DAT file extension. Each dataset of this type may contain data in binary or text format. In this way, all the necessary elements of each dataset such as the way that each dataset has been produced (i.e. model and simulation methods), the addressed area, and the duration and time frequency, are provided. Each subfolder in the file hosting service contains files with descriptive information about the available datasets.

At first, the folder structure was implemented in Dropbox, however due to:

- Dropbox free space limitations (about 3GB)
- Issues with various partners (space, issues to access Dropbox due to internal restrictions etc.).

An FTP Server was configured. For each case study, a new user was created. Within each user home directory, the Figure 3 folder structure was implemented. FTP has the following advantages:

- Quick and easy to implement
- No cloud-service limitations. We can use as much space as available on the server
- No dependency on a certain cloud service: the consortium has the responsibility to maintain the server

The limitation of this approach is that data availability depends on server availability i.e. if the server has a downtime due to maintenance (or other) reasons, data will not be available.

It has been decided internally that only people involved on each case study will have access to the specific case study folders. This is a default initial status, which can be revoked if the Case Study leader considers it is convenient.

These datasets are useful for the specific case studies' System Dynamic Models generation. The baselines of the case studies are being developed and may be of interest for the scientific community. In this regard, SIM4NEXUS project will make these baselines available under Open Access. For any other Dataset (scenarios) it has been decided to make available publicly only with the permission of the data providers due to Intellectual Property Rights.

3.2.2.2. SIM4NEXUS Data Navigation Tool

For consortium members, the data navigation tool streamlines the exchange of information between the Thematic Models (and other relevant sources) and the Case Studies (Figure 4). It is built upon a harmonized dimensional data model representing the output of the thematic models as defined in deliverable 5.2 and serves as a central window point for the case studies to locate, query, and export all data. The tool offers the user easy navigation through the complex data sets that the thematic models deliver during the project without having to implement their own logic and processes to make the data useful. It is implemented using Power BI desktop on top of data(warehouse) management solution that keeps data history and also performs data quality checks.



Figure 4. SIM4NEXUS Data Navigation Tool Interface

3.2.2.3. External data dissemination

Datasets are progressively released through Zenodo. As agreed within the Consortium, after the end of the Project's 2nd year, **Sardinia** datasets are publicly available (Open access – OA) concerning climatic data (historic and scenarios). Following this agreement, the climatic data have been uploaded in Zenodo since November 2018 (Figure 5). In this regard, permissions have been requested by the climate data providers (PIK) and by the case study Leaders (UNISS) for thematic datasets. All the data providers approved to release Open Access their data. A detailed list of Sardinia fast track datasets is presented in Annex 1 (individual datasets are presented in Annex 2). In Zenodo, SIM4NEXUS data can be accessed through the following URL:

<https://zenodo.org/search?page=1&size=20&q=sim4nexus>

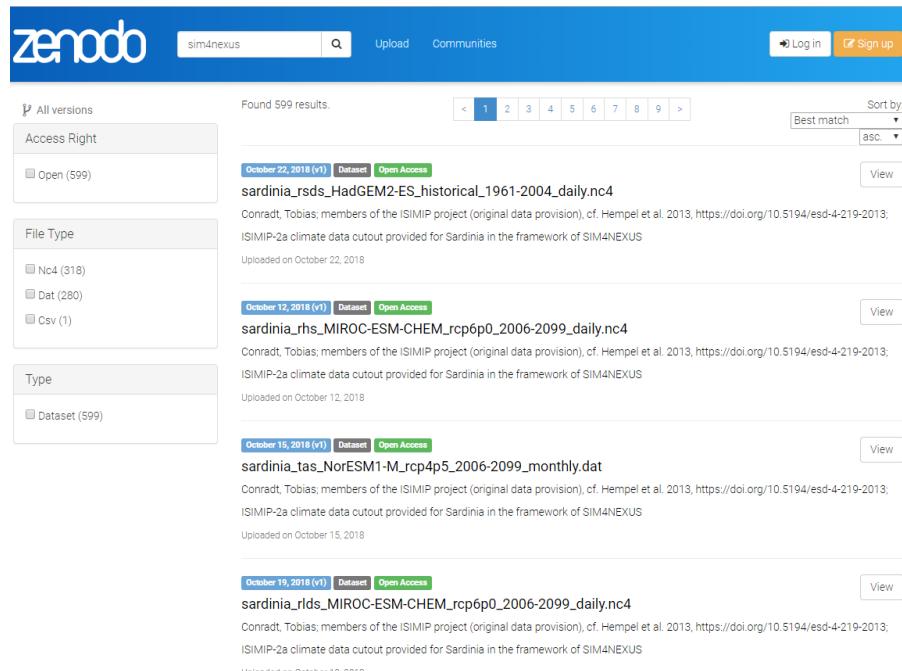


Figure 5. Example of datasets uploaded to Zenodo data repository

Data uploading required multiple metadata to be collected by the partners (Table 3). An excel file was created and provided to data stakeholders requesting (and they provided) relevant info.

3.2.2.4. Semantic repository

A Semantic Repository is being developed to store information related to the concepts, properties and restrictions from the Nexus procedures; to improve the data integration of diverse sources and, finally, to give a better analytical power. This repository, which is currently focused in provide support to the information flow between the System Dynamics Models and the Serious Game User interface, will also allow for knowledge storage related to the Nexus, policies, etc., coming from WP1 and WP2.

A triple-store is being used to be the base of the repository and an ontology to semantically represent the stored data. The ontology is still under development and represents the SIM4NEXUS knowledge and scope. Currently, the top concept is the ‘Session’, which represent a game or session in the Serious Game. Linked to the ‘Session’ there are a ‘User’, representing the player, and a ‘StudyCase’ which, in turn, it is related with a specific ‘Model’, an SDM. In order to represent the Nexus state through the game, the ‘Session’ has a list of ‘StateEvolution’, which represent the way from one state (‘State’) to the new state (‘State’), applying certain policies (‘Policy’). The ‘State’ is defined by ‘NexusComponent’ (for instance ‘Climate and environment’ or ‘Water’) and these components have a specific parameter (‘Parameter’).

The ontology is defined using the Web Ontology Language (OWL), a Semantic Web language designed to represent rich and complex knowledge about things, and relations between things. As described in [3.3 Specifications if existing data is being re-used \(if any\)](#) already existing ontologies, related to the Nexus, have been analysed to be involved in the SIM4NEXUS context:

- WatERP ontology
- WEFNexus ontology

At the moment, the ontology is not available publicly, although it has been iterated several times. It is expected to be publicly released during second half of 2019. In the meanwhile, an in progress version is available at: <https://rioter-project.github.io/rioter-nexus-variables-ontology/>.

3.2.2.5. 3D map and terrain data in serious game

The 3D map available in current Serious Game user interface prototype is rendered from 2 sources – a height map and a texture overlay:

- The height map data comes from NASA Shuttle Radar Topographic Mission (SRTM) v4.1 and is distributed freely by USGS. The SRTM data is available with a 90m resolution. Not all data from SRTM is being used in the serious game, only data related to the geographical regions of the 12 case studies are used. This data is downloaded from the USGS web and then stored as mesh elements within the serious game client.
- The texture overlay is from Google Earth, it is downloaded from Google and then stored within the serious game client.

Consequently, SIM4NEXUS is not generating this data but reusing existing publicly available datasets.

3.2.3. Data access methods and tools

For internal project use, data are exploited either by accessing the data in their raw form in the FTP server and exploited through the SIM4NEXUS Data Navigation Tool. For external users, all data can be easily obtained through Zenodo.

3.2.4. Data and metadata documentation

Data and metadata will be shared in relation to (i) publications (deliverables and papers) and (ii) curated and/or raw data. For the data linked to scientific publication, the publication will serve as the main piece of documentation for the shared data. When this is not seen as being adequate for the comprehension of the raw data, a report will be shared along with the data explaining their meaning and methods of acquisition. However, for both data categories the metadata standard structure of FTP repository will be used.

3.2.5. Access to restricted data

As stated, up to this point there are no data considered as restricted, thus there is no need to implement processes for restricted data access.

3.3. Making data interoperable

3.3.1. Adopted data license

The license for Open Access data release was the Creative Commons Attribution Share-Alike 4.0 License. This allows sharing, remixing, transforming and building upon the material for any purpose. Products should be redistributed under the same license.

3.3.2. Open Access data release schedule

It is foreseen that data will be progressively released during the Project. This timetable is largely defined by the release of the relevant papers for publication. At the moment, Open Access has been granted for the Sardinia case study datasets, primarily for the climatic data, which have been already released since November 2018 (Month 30). An indicative timetable for open access data release is presented in Table 4.

Table 4. Timetable to release data OA

Indicative timetable for Open Access Data Release	
Month 30	Climate Datasets from Sardinia case study
Month 42	Model outputs for all the case studies

3.3.3. Data re-usability

Data are distributed in common formats, allowing for re-usability by third parties. However, at this stage there no other projects take advantage of the produced datasets.

3.3.4. Data quality assurance processes

Data used for SIM4NEXUS is derived from well-known (existing) thematic models, the input data of which comes from readily available databases such as CORINE, INSPIRE, EUROSTAT, GEOSS, EEA, etc. All these databases provide data with identified quality and provenance. In addition, climatic data are provided from five Global Circulation Models from the Coupled Model Inter-comparison Project (CMIP5 archive) with input: HadGEM2-ES, IPSL-CM5A-LR, MIROC-ESM-CHEM, GFDL-ESM2M, and NorESM1-M. These five models provide availability of daily data for the required variables covering the period from

1 January 1950 to 31 December 2099 – historical and all Representative Concentration Pathway (RCP) scenarios.

3.3.5. Data reusability timeframe

After Open Access data release through the Creative Commons Share-alike 4.0 license, there is no timeframe restriction prohibiting data reuse.

4. Allocation of Resources

4.1. FAIR cost estimation and coverage

The cost is estimated at 1-person month per case study to making data FAIR and maintainable. Thus, the total cost is estimated at 120.000€ including travel, other costs (12 person/months @10.000/p-m). This amount is already covered by project budget. During the project life, cost is covered by the SIM4NEXUS budget. Following project closure, this cost will be covered by the pilots or new applications (impact analysis) partners

4.2. Data management responsibilities in SIM4NEXUS

EPSILON, Partner 19 is responsible for the data management.

4.3. Long-term preservation costs and potential value

- **Costs:** estimated as 10% (per year per case study) of the original costs (\approx 12.000€) for making data FAIR.
- **Potential value:** updated for 2 years after the project's completion. After this timeframe, the value of the preserved database will be questionable. It is a matter of the Project's exploitation.
- **Who decides and how:** the SIM4NEXUS Consortium decides on the duration of the long-term preservation of the data
- **What data will be kept:** All the data used for the SIM4NEXUS application in the 12 case studies.
- **For how long:** The data will be preserved for 2 years after project completion. After this period, the data has no value, and unless the project is exploited with additional applications, the database will be obsolete.

5. Data security

For the internally used FTP solution regular backups are taken from time to time. Released data are stored in Zenodo repositories. According to Zenodo policies on longevity (<http://about.zenodo.org/policies/>)

- **Versions:** Data files are versioned. Records are not versioned. The uploaded data is archived as a Submission Information Package. Derivatives of data files are generated, but original content is never modified. Records can be retracted from public view; however, the data files and record are preserved.
- **Replicas:** All data files are stored in CERN Data Centres, primarily Geneva, with replicas in Budapest. Data files are kept in multiple replicas in a distributed file system, which is backed up to tape on a nightly basis.
- **Retention period:** Items will be retained for the lifetime of the repository. This is currently the lifetime of the host laboratory CERN, which currently has an experimental programme defined for the next 20 years at least.
- **Functional preservation:** Zenodo makes no promises of usability and understandability of deposited objects over time.
- **File preservation:** Data files and metadata are backed up nightly and replicated into multiple copies in the online system.
- **Fixity and authenticity:** All data files are stored along with a MD5 checksum of the file content. Files are regularly checked against their checksums to assure that file content remains constant.
- **Succession plans:** In case of closure of the repository, best efforts will be made to integrate all content into suitable alternative institutional and/or subject based repositories.

6. Ethical aspects

6.1. General

Within the SIM4NEXUS study only general ethical issues are concerned such as informed consent, anonymity and confidentiality associated with the voluntary involvement of human participants in the European Union. Types of such data collected in SIM4NEXUS are various user interviews, opinions and reviews associated with project's components. Non-exhaustive list is as follows:

- Stored involvement of Serious Game users to gain insight into the decisions and behaviors of the players and to allow further analysis
- The visualization and interaction tool - to collect information from users so that the Knowledge Elicitation Engine (KEE) can learn from user decisions
- A series of interviews with key stakeholders and decision makers – in particular those which might be affected most by a Nexus-compliant implementation of policies, or which behavioral change is central to the achievement of a resource efficient Europe
- Planned contacts with representative persons of the targeted users. Interviews should be carried out by phone or face-to-face when convenient. Interviews should help define the expected functionalities/ services to be offered, test the price that could be acceptable and identify distribution channels to access these clients
- The end-users, potential developers, and partners, etc. will be provided the opportunity to test and review the latest products and services
- Methodology and procedures for sensitive data processing and storing will be specified as a part of the ethics Deliverable 9.1. It is important to emphasize that special efforts will be devoted to anonymizing information and securing accessibility. Mechanisms to delete personal data will be provided in an easy and usable manner

To strengthen further the commitment that the SIM4NEXUS consortium's stakeholders research approach follows good ethical practice and ensures fair and equal power relationships between researchers and participants, the consortium agrees to comply with the principles laid down in the European Code of Conduct for Research Integrity, published by the European Science Foundation⁶. These principles include:

- honesty in communication of the research's goals and intentions, in reporting methods and procedures and in conveying interpretations;
- reliability in performing research;
- objectivity, which requires facts capable of proof, and transparency in the handling of information;
- impartiality and independence;
- openness and accessibility;
- duty of care - all researchers have a duty of care for the humans, animals, the environment or the objects that they study;
- fairness in providing references and giving credit for the work of others; and
- responsibility for the scientists and researchers of the future;
- care will be taken to minimize the potential collection of personal data, e.g. while taking photos and/or videos during events.

⁶ http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_Researchintegrity.pdf

In this regard, SIM4NEXUS will not involve any potentially vulnerable groups or people unable to consent (children, those with a learning disability or cognitive impairment, or individuals in a dependent or unequal relationship), and it will not involve sensitive topics which might induce psychological stress, anxiety or humiliation, deception, or any potential increased danger to participants, or the collection of personal data from participants.

Further, it will not involve the collection or processing of the following types of data:

- Research involving sensitive topics - for example participants' sexual behavior, their illegal or political behavior, their experience of violence, their abuse or exploitation, their mental health, or their gender or ethnic status;
- Research involving groups where permission of a gatekeeper is normally required for initial access to members - for example, ethnic or cultural groups, native peoples or indigenous communities;
- Research involving deception, or which is conducted without participants' full and informed consent at the time the study is carried out;
- Research involving access to records of personal or confidential information, including genetic or other biological information, concerning identifiable individuals;
- Research which would induce psychological stress, anxiety or humiliation or cause more than minimal pain;
- Research involving intrusive interventions - for example, the administration of drugs or other substances, vigorous physical exercise, or techniques such as hypnotherapy. Participants would not encounter such interventions, which may cause them to reveal information, which causes concern, in the course of their everyday life.
- Research involving the tracking or observation of participants (e.g. surveillance or localization data, and WAN data, such as IP address, MACs, etc.). However, 'cookies' will be used in the website (www.sim4nexus.eu) and the game to help analyze how users use the site and the game.
- A privacy statement will be put on the website www.sim4nexus.eu regarding the use of services like Google Analytics to track how many people access the project website. A similar privacy statement will be put on the serious game regarding the use of services like Google Analytics to track how many people access the game. Templates with the Privacy Statements are presented in Deliverable D9.2.
- SIM4NEXUS might interview young people on the use of the game; related to this, a code of conduct is also adopted on interviewing young people. A template with guidelines on interviewing young people is presented in Deliverable D9.2.
- With the exception of the privacy statements on the use of the website and of the game, and the Code of Conduct on interviewing young people, none of the data collected by SIM4NEXUS will require a notification or authorization for the collection and/or processing of the personal data to authorities or other responsible entities.

In order to ensure that the SIM4NEXUS consortium's participatory research approach follows good ethical practice and ensures fair and equal power relationships between researchers and participants, the consortium have all agreed that they will sign, make public and implement an ethics agreement, based on the European Code of Conduct for Research Integrity, published by the European Science Foundation

(http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_ResearchIntegrity.pdf) and the ethical principles for conducting community-based participatory research, as defined by the National Co-ordinating Centre for Public Engagement of Durham University, UK (www.publicengagement.ac.uk).

6.2. Intellectual Property Rights (IPR)

Intellectual Property Rights (IPR) received special attention from the beginning. All rules regarding management of knowledge and IPR are governed by the Consortium Agreement (CA). SIM4NEXUS was based on DESCA (Consortium Agreement Model) H2020 model for the Consortium Agreement (CA). SIM4NEXUS will not act in contradiction with the rules laid down in Annex II of the Grant Agreement. The CA will address background and foreground knowledge, ownership, protected third party components of the products, and protection, use and dissemination of results and access rights.

The following principles are applied:

- **Confidentiality:** During the project duration and beyond (Section 10 of the GA – nondisclosure of the information for a period of 4 years after the end of the project), the contractors shall treat any information, which is designated as property by the disclosing contractors, as confidential. They also shall impose the same obligations to their employees and suppliers.
- **Pre-existing know how:** Each Contractor is and remains the sole owner of its IPR over its pre-existing know-how. The Contractors will identify and list the pre-existing know-how over which they may grant access rights for the project. The Contractors agree that the access rights to the pre-existing know-how needed for carrying out their own work under the project shall be granted on a royalty-free basis.
- **Ownership and protection of knowledge:** The ownership of the knowledge developed within the project will be governed by an open source license.
- **Open data:** Data and results obtained during the project that are based on open public-sector data will be made available free of charge.

The procedures for the dissemination, protection and exploitation of intellectual property rights (IPR) are clearly covered in the Consortium Agreement (in Section 6: Governance Structure, Sub-section 6.2.4: Veto rights, p 12). The intention has been to balance the requirements necessary to protect such intellectual property and the foreseen dissemination objectives. IPR will be applied according to the rules of the employer under the applicable European and national laws and regulations.

7. Other issues - Questions & Answers on FAIR data

Furthermore, the goal of this document is to clarify a series of questions related to all datasets produced or gathered in SIM4NEXUS project. In this conclusive section, we describe how the DMP answers to these questions. In the following table, we report the characteristics of the dataset together with the questions to which the DMP should answer.

Table 5. Questions and Answers on FAIR Data

Data Characteristic	Question	SIM4NEXUS Answer
Discoverable	Are data and associated software produced and/or used in the SIM4NEXUS discoverable (and readily located), identifiable by means of a standard identification mechanism (e.g. Digital Object Identifier)?	<p>Data produced within the project can be discoverable in SIM4NEXUS Database and will be uniquely identified most probably by RESTful (Representational State Transfer) service pointing to Database resource.</p> <p>Third party datasets will be referenced and identified with data name and version, thus discoverable in their original data repositories.</p> <p>Existing software that is used should be background information of a given partner and as such could be documented but not discoverable.</p> <p>This may also apply to modifications made as part of the SIM4NEXUS case.</p>
Accessible	Are data and associated software produced and/or used in SIM4NEXUS accessible and in what modalities, scope, licenses (e.g. licensing framework for research and education, embargo periods, commercial exploitation, etc.)?	<p>Intermediate data (i.e. non-final data produced during the processing chain elaboration) will be stored in the database but only Consortium Members will access to them.</p> <p>Final products data instead will be stored in the Database and freely accessible also by externals through a dedicated web-service obtaining data from the database.</p>
Assessable and intelligible	Are data and associated software produced and/or used in the project accessible for and intelligible to third parties in contexts such as scientific scrutiny and peer review (e.g. are the minimal datasets handled together with scientific papers for peer review, is data provided in a way that judgments can be made about their reliability and	Final products data will be freely accessible for and intelligible to third parties.

Data Characteristic	Question	SIM4NEXUS Answer
	the competence of those who created them)?	
Useable beyond the original purpose for which it was collected	Are data and associated software produced and/or used in SIM4NEXUS project useable by third parties even long time after the collection of the data (e.g. is the data safely stored in certified repositories for long term preservation and curation; is it stored together with the minimum software, metadata, and documentation to make it useful; is the data useful for the wider public needs and usable for the likely purposes of non-specialists)?	Final products data will be useable by third parties even long time after their production. Thanks to infrastructure (i.e. IaaS – Infrastructure as a Service that will be applied to SIM4NEXUS) behind the database, data retention will have no physical limit about size and the time of validity (just economic limits related to maintenance). The historical data will be accessible through same interface and methods of the most recent ones also thanks to dedicated storage methodologies.
Interoperable to specific quality standards	Are data and associated software produced and/or used in the project interoperable allowing data exchange between researchers, institutions, organizations, countries, etc. (e.g. adhering to standards for data annotation, data exchange, compliant with available software applications, and allowing re-combinations with different datasets from different origins)?	The web-service (providing data) will be based on well-known protocols (i.e. Data Access Protocol - DAP 2.0, RESTful/HTTP), so all data can be accessed in a standardized way, through a compliant HTTP / DAP client. Moreover, data will be stored, when possible, with recognized state of the art standards and protocols, thus assuring interoperability and maximizing exploitation of results.

ANNEX 1 – Sardinia Fast Track Datasets

SIM4NEXUS is implemented in 12 case studies (Table 6) that represent various NEXUS contrasting attributes such as biophysical, socio-economic and policy ones. At the end of the 2nd year of the Project (Month 24 - May 2018) data have been collected for all the case studies and the process of publishing datasets is under development. An analytical **Catalogue** of all the datasets collected/generated along with their metadata, is presented in ANNEX 2.

Table 6 . SIM4NEXUS Case studies

#	LEVEL	CASE STUDY
1	REGIONAL	Region of Andalusia
2		Island of Sardinia
3		SouthWest of the UK
4	NATIONAL	The Netherlands
5		Sweden
6		Greece
7		Latvia
8		Azerbaijan
9	TRANSBOUNDARY	France-Germany
10		Eastern Germany, Czech Republic and Slovakia
11	HIGHER	Europe
12		Global

The Sardinia case was used as a fast track application to identify difficulties in data collection and harmonization, in model implementation and detect any potential complications in the integration of all the Nexus components. In this regard, climate and model outputs data (E3ME and CAPRI) have been collected/generated and currently the process of publishing them open access is underway. More specifically, the data that will be published in this stage are: **climate data** provided by PIK and UNISS. Model outputs are collected but will be released at a later stage.

7.1. Sardinia Climate Data

Table 6 summarizes the monthly climate data (historical or scenarios) that are collected for various time ranges and from various model resources (**Data Provider:** PIK, **data format:** *.dat*).

Table 7. Climate Data collected/generated for Sardinia case study

Climate Data	Time Range	Scenario Models
Daily and monthly precipitation (mm/d)	1961-2004	GFDL-ESM2M IPSL-CM5A-LR
Daily and monthly relative humidity (%), 2m above ground	----- ----- RCP2P6	HadGEM2-ES

Daily and monthly long-wave downward solar radiation at the ground (W/m^2)	2005-2099	RCP4P5 RCP6P0 RCP8P5	MIROC-ESM-CHEM NorESM1-M
Daily and monthly short-wave downward solar radiation at the ground (W/m^2)			
Daily and monthly average air temperature 2m above ground ($^{\circ}C$)			
Daily and monthly maximum air temperature ($^{\circ}C$)			
Daily and monthly minimum air temperature ($^{\circ}C$)			
Daily and monthly wind speed at 10m height (m/s)			

CAPRI MODEL – Data Categories

Data **Categories** obtained from CAPRI for Baseline 2010 and 2030 (RCP 8.5) are summarized in the following tables (Table 8 & Table 9):

Table 8. Data categories in CAPRI, Baseline 2010

Baseline 2010
Water Supply Details: Area, Yield
Biofuel Markets: Bio-Diesel, Bio-Ethanol
Producer Price /Product
Prices Market: Producer Price (€/T) – Consumer Price (€/T)

Table 9. Data Categories in CAPRI, 2030 - RCP 8.5

Baseline 2030 – RCP 8.5
Water Supply Details: Area, Yield
Irrigation Water Use: Total Land, Irrigated Land, Irrigation Water Use (ha, tn)
Water Supply Details (aggregate): Area, Yield
Biofuel Markets: Bio-Diesel, Bio-Ethanol

Producer Price /Product

Prices Market: Producer Price (€/T) – Consumer Price (€/T)

The data produced by CAPRI for Water Supply Details (baseline 2010, 2030-RCP8.5) are listed in Table 10.

Table 10. Water Supply Details (area & yield)

WATER SUPPLY DETAILS (Hectares/herd size[ha/hds], Yield [kg, Const EU or 1/1000 head/ha], Supply - [1000 t, 1000 ha or Mio Const EU])		
Utilized agricultural area	Tobacco	Dairy Cows high yield
Cereals	Other industrial crops	Dairy Cows low yield
Oilseeds	Other crops	Other Cows
Other arable crops	Vegetables and Permanent crops	Heifers breeding
Vegetables and Permanent crops	Tomatoes	Heifers fattening high weight
Fodder activities	Other Vegetables	Heifers fattening low weight
Set aside and fallow land	Apples Pears and Peaches	Male adult cattle high weight
All cattle activities	Other Fruits	Male adult cattle low weight
Beef meat activities	Citrus Fruits	Raising male calves
Other animals	Table Grapes	Raising female Calves
Utilized agricultural area	Olives for oil	Fattening male calves
Cereals	Table Olives	Fattening female calves
Soft wheat	Wine	Beef meat activities
Durum wheat	Nurseries	Other Cows
Rye and Meslin	Flowers	Heifers fattening high weight
Barley	Fodder activities	Heifers fattening low weight
Oats	Fodder maize	Male adult cattle high weight
Grain Maize	Fodder root crops	Male adult cattle low weight
Other cereals	Fodder other on arable land	Other animals
Paddy rice	Gras and grazings extensive	Pig fattening
Oilseeds	Gras and grazings intensive	Pig Breeding
Rape	Abandoned grass lands	Milk Ewes and Goat
Sunflower	Set aside and fallow land	Sheep and Goat fattening
Soya	Set-aside obligatory, idling	Laying hens
Other oils	Set-aside obligatory, used as grass land	Poultry fattening
Other arable crops	Set-aside obligatory, tree cover	Other animals
Pulses	Set-aside voluntary	Pasture
Potatoes	Fallow land	Arable land
Sugar Beet	Abandoned arable land	All agricultural activities
Flax and hemp	All cattle activities	

The data produced by CAPRI for Irrigation Water Use (baseline 2010, 2030-RCP8.5) are listed in Table 11.

Table 11. Irrigation Water Use (area, volume)

IRRIGATION WATER USE			
Hectares/herd size[ha/hds], Yield [kg, Const EU or 1/1000 head/ha], Supply - [1000 t, 1000 ha or Mio Const EU			
soft wheat	paddy rice	sugar beet	apples pears and peaches
durum wheat	rape	flax and hemp	other fruits
Rye and Meslin	sunflower	tobacco	citrus fruits
barley	soya	other industrial crops	table grapes
oats	other oils	other crops	olives for oil
grain maize	pulses	tomatoes	table olives
other cereals	potatoes	other vegetables	wine

The data produced by CAPRI for Biofuel Markets (baseline 2010, 2030-RCP8.5) are listed in Table 12.

Table 12. Biofuel Markets

BIOFUEL MARKETS	
Total Biofuel production - [1000 t]	Energy share in total fuel use - [%]
First Generation Biofuels (from Agriculture) - [1000 t]	Energy share in total fuel use of Quota obligation - [%]
Second Generation Biofuels - [1000 t]	Imports - [1000 t]
Biofuels from non-agricultural sources - [1000 t]	Exports - [1000 t]
Biofuel-use by transport sector - [1000 t]	consumer prices - [Euro/ton]
Biofuel-use by industry - [1000 t]	consumer taxes - [Euro/Ton]

The data produced by CAPRI for Producer Price (€/tn) (baseline 2010, 2030-RCP8.5) are listed in Table 13.

Table 13. Producer Prices

PRODUCER PRICE (€/TN)			
All primary agricultural output	Apples pears and peaches	Young heifer output	Heating
Cereals	Table grapes	Young male calf output	Lubricants
Oilseeds	Citrus fruits	Young female calf output	Water
Other arable field crops	Other fruits	Young piglet output	Agricultural Services input
Vegetables and Permanent crops	Olive for oil	Young lamb output	Other input
Coffee, Teas and Cocoa	Table olives	Young chicken output	Dairy products
All other crops	Wine	Manure output	Butter
Fodder	Coffee, Teas and Cocoa	Manure nitrate	Skimmed milk powder
Meat	Coffee	Manure phosphate	Cheese
Other Animal products	Tea	Manure potassium	Fresh milk products
Fish and other aquatic products	Cocoa	Fertiliser	Cream
Young animals	All other crops	Nitrate (N)	Concentrated milk
Manure output	Other oil	Potassium (K2O)	Whole milk powder
Fertiliser	Flax and hemp	Calcium fertiliser	Casein
Feedingstuff	Tobacco	Feedingstuff	Whey powder
Remonte	Other industrial crops	Feed cereals	Oils

Other inputs	Nurseries	Feed rich protein	Rape seed oil
Dairy products	Flowers	Feed rich energy	Sunflower seed oil
Oils	Other crops	Feed from milk product	Soya oil
Oil cakes	Fodder	Feed other	Olive oil
Secondary products	Fodder maize	Fodder maize	Palm oil
All products	Fodder root crops	Fodder root crops	Other oil
All primary agricultural output	Other fodder from arable land	Fodder other on arable land	Oil cakes
Cereals	Straw	Gras	Rape seed cake
Soft wheat	Meat		Sunflowe seed cake
Durum wheat	Beef	Milk for feeding	Soya cake
Rye and meslin	Pork meat	Sheep and Goat Milk for feeding	Olive cakes
Barley	Sheep and goat meat	Remonte	Other cakes
Oats	Poultry meat	Young cow input	Secondary products
Grain maize	Other Animal products	Young bull input	Rice milled
Other cereals	Cow and buffalo milk	Young heifer input	Molasse
Paddy rice	Sheep and goat milk	Young male calf input	Starch
Oilseeds	Raw milk	Young female calf input	Sugar
Rape seed	Eggs	Young piglet input	Bio diesel
Sunflower seed	Milk for feeding	Young lamb input	Bio ethanol
Soya seed	Other animal output	Young chicken input	Distilled dried grains from bio-ethanol processing
Other arable field crops	Fish and other aquatic products	Other inputs	Protein rich by products
Pulses	Fresh water fish	Seed	Energy rich by products
Potatoes	Saltwater fish	Plant protection	Total diesel
Sugar beet	Other aquatic	Pharma. inputs	Agricultural land
Yams, Manioc, Cassava and Other Roots and Tubers	Young animals	Maintenance machinery	Feed energy input
Vegetables and Permanent crops	Young cow output	Maintenance buildings	Total gasoline
Tomatoes	Young bull output	Electricity	Land
Other vegetables	Phosphate (P2O5)	Fuel	

The data produced by CAPRI for Market Prices (€/tn) (baseline 2010, 2030-RCP8.5) are listed in Table 14.

Table 14. Market Prices

MARKET PRICE (€/TN)			
Cereals	Soya seed	Sheep and goat meat	Palm oil
Oilseeds	Other arable field crops	Poultry meat	Oil cakes
Other arable field crops	Pulses	Other Animal products	Rape seed cake
Vegetables and Permanent crops	Potatoes	Raw milk	Sunflowe seed cake

Coffee, Teas and Cocoa	Yams, Manioc, Cassava and Other Roots and Tubers	Eggs	Soya cake
All other crops	Vegetables and Permanent crops	Fish and other aquatic products	Secondary products
Meat	Tomatoes	Fresh water fish	Rice milled
Other Animal products	Other vegetables	Saltwater fish	Sugar
Fish and other aquatic products	Apples pears and peaches	Other aquatic	Bio diesel
Dairy products	Table grapes	Dairy products	Bio ethanol
Oils	Citrus fruits	Butter	Distilled dried grains from bio-ethanol processing
Oil cakes	Other fruits	Skimmed milk powder	Protein rich by products
Secondary products	Table olives	Cheese	Energy rich by products
All primary agricultural output	Wine	Fresh milk products	Total diesel
Cereals	Coffee, Teas and Cocoa	Cream	Agricultural land
Wheat	Coffee	Concentrated milk	Feed energy input
Rye and meslin	Tea	Whole milk powder	Total gasoline
Barley	Cocoa	Casein	Fat content
Oats	All other crops	Whey powder	Protein content
Grain maize	Flax and hemp	Oils	All non agricultural goods
Other cereals	Tobacco	Rape seed oil	Sum
Oilseeds	Meat	Sunflower seed oil	
Rape seed	Beef	Soya oil	
Sunflower seed	Pork meat	Olive oil	

E3ME Model – Data Categories

Data Categories along with the pertinent data generated by E3ME are presented in Table 15 to Table 18:

Table 15. Output & Employment by sector. Available for years 2010-2030

OUTPUT BY SECTOR (M €) - EMPLOYMENT BY SECTOR (1K PERSONS)			
1 Crop production	19 Electronics	37 Warehousing	55 Employment activities
2 Forestry	20 Electrical equipment	38 Postal & courier act.	56 Travel agency
3 Fishing	21 Machinery	39 Hotels & catering	57 Security & admin.
4 Coal	22 Motor vehicles	40 Publishing activities	58 Public admin. & def.
5 Oil and Gas	23 Oth. transport equip.	41 Broadcasting & movies	59 Education
6 Other mining	24 Manufacuring nes	42 Telecommunications	60 Human health activ.
7 Food	25 Repair & installation	43 Computer services	61 Residential care
8 Textiles & leather	26 Electricity	44 Financial services	62 Arts & ent activ.
9 Wood & wood prods	27 Gas	45 Insurance	63 Sports activities
10 Paper & paper prods	28 Water supply	46 Auxiliary to finance	64 Membership orgs.
11 Printing	29 Sewerage & waste	47 Real estate	65 Repair hhold goods

12 Manufactured fuels	30 Construction	48 Imputed rents	66 Other personal serv.
13 Chemicals nes	31 Sale of cars	49 Legal	67 Households employers
14 Pharmaceuticals	32 Other wholesale	50 Architect & engineer	68 Extraterritorial org.
15 Rubber & plastic	33 Other retail	51 R&D activities	69 Unallocated/Dwellings
16 Non-Met. Min. prods.	34 Land transport	52 Advertising	70 Hydrogen Supply
17 Basic metals	35 Water transport	53 Other professional	
18 Metal products	36 Air transport	54 Rental & leasing	

Table 16. CO2 emissions by sector

CO2 EMISSIONS BY SECTOR (THC)			
1 Power own use & trans.	7 Non-metallics nes	13 Other industry	19 Households
2 O.energy own use & tra	8 Ore-extra.(non-energy)	14 Construction	20 Agriculture
3 Hydrogen production	9 Food	15 Rail transport	21 Fishing
4 Iron & steel	10 Tex.	16 Road transport	22 Other final use
5 Non-ferrous metals	11 Paper & pulp	17 Air transport	23 Non-energy use
6 Chemicals	12 Engineering etc	18 Other transp. serv.	

Table 17. Per Sector Energy demand for coal – oil – gas – electricity – heat – biomass - combustible waste

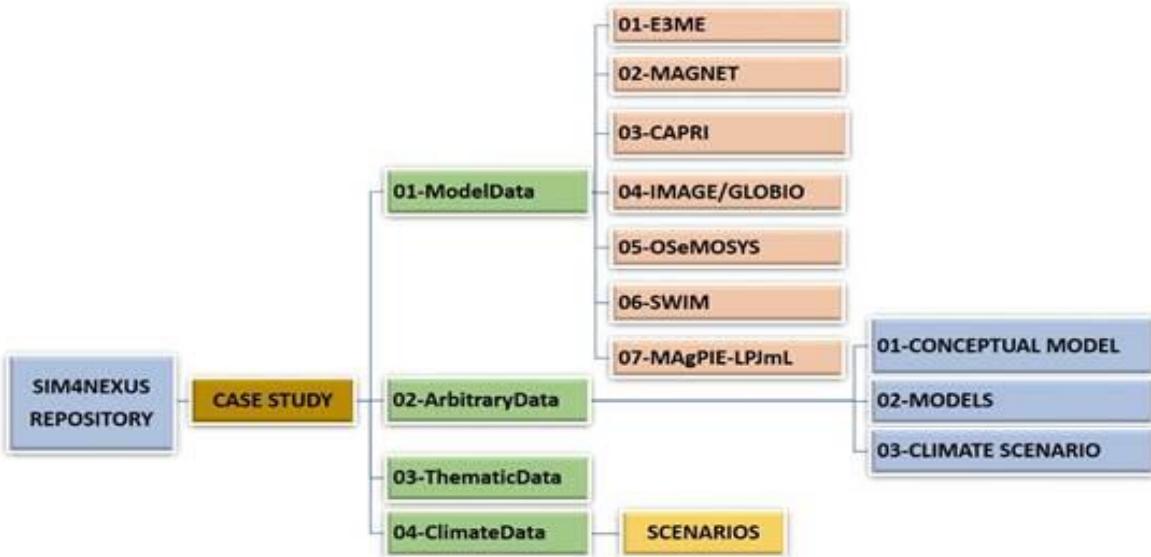
ENERGY DEMAND FOR COAL – OIL – GAS – ELECTRICITY – HEAT – BIOMASS - COMBUSTIBLE WASTE, BY SECTOR (TH TOE)			
1 Power own use & trans.	7 Non-metallics nes	13 Other industry	19 Households
2 O.energy own use & tra	8 Ore-extra.(non-energy)	14 Construction	20 Agriculture
3 Hydrogen production	9 Food	15 Rail transport	21 Fishing
4 Iron & steel	10 Tex.	16 Road transport	22 Other final use
5 Non-ferrous metals	11 Paper & pulp	17 Air transport	23 Non-energy use
6 Chemicals	12 Engineering etc	18 Other transp. serv.	

Table 18. Electricity generation by technology

ELECTRICITY GENERATION BY TECHNOLOGY (GWH/Y)	
Nuclear	Hydro
Coal	Solar
Oil	Wind
Gas	Other
Biomass	

ANNEX 2

ANNEX 1



01-ModelData: should contain outputs from the selected models applied in each case study. The file type of the outputs is either Microsoft Excel Open XML Spreadsheet (.XLSX File Extension) or Comma Separated Values files (.CSV File Extension).

02-ArbitraryData: information about the relevant case Study. This folder should include:
the conceptual model
the concept harmonization process
Climate scenario

03-ThematicData: the thematic datasets of each case study along with its metadata. Here you have to upload the data you use for the SDM (apart from those provided by the thematic models).

04-ClimateData: contains the climate datasets (historical and scenarios) such as precipitation, relative humidity, long-wave downward solar radiation at the ground, long-wave downward solar radiation at the ground, daily maximum air temperature, daily minimum air temperature, and wind speed at 10m height. The datasets in this folder are of a generic file type with .DAT file extension. Each dataset of this type may contain data in binary or text format. A standardised name has been assigned to each dataset in the following format: Country code_Earth System Model_Simulation Method_Period_Time frequency.dat. In this way, all the necessary elements of each dataset such as the way that each dataset has been produced (i.e. model and simulation methods), the addressed area, and the duration and time frequency, will be provided. Each subfolder in the file hosting service should contain files with descriptive information about the available datasets.

	Permission asked to release Open Access
	Data Provider Approved to release Open Access
	Data Provider Denied to release Open Access

ID	folder- case study	subfolder	File Name	Size (k)	Format	Short Description (thematic)	Data Provider	Last Update	time of update	PERMISSION TO RELEASE DATA OPEN ACCESS (Y/N)
1	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\01-CAPRI]	Copy of capri_data_Greece_2030.xlsx	31.7	xlsx	Capri output 2030	CAPRI??	06/02/2017	11:58	
2	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\01-CAPRI]	Copy of capri_data_Greece_2010_edited.xlsx	29.8	xlsx	Capri output 2010	CAPRI??	03/08/2017	17:07	
3	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\01-CAPRI]	Copy of capri_data_Greece_2010.xlsx	24.1	xlsx	Capri output 2010	CAPRI??	24/07/2017	17:29	
4	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\02-GTAP]	SSP2_2030_Greece.xlsx	106.4	xlsx	SSP2 2030 Greece	GTAP	21/03/2017	14:37	
5	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\03-E3ME data]	E3ME Baseline data for Greece V2.csv	62.5	csv	E3ME output baseline V2	CE, UCAM (Eva Alexandri)	23/08/2017	15:31	
6	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\03-E3ME data]	E3ME Baseline data for Greece.csv	17	csv	E3ME output baseline V3	CE, UCAM (Eva Alexandri)	24/07/2017	17:33	
7	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\04-OSeMOSYS data]	Power plant codes.pdf	203.5	pdf	Power plant codes		12/12/2017	14:17	
8	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\04-OSeMOSYS data]	OSeMOSYS_Results_December_Updated2050.xlsx	11.7	xlsx	OSEMOsys results Greece	OSeMOSYS	22/12/2017	19:45	
9	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\04-OSeMOSYS data]	Input Data_Electricity model of Greece_OSeMOSYS_Updated_2050.xlsx	5100	xlsx	Osemosys input Greece	OSeMOSYS	14/12/2017	18:34	
10	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\04-OSeMOSYS data]	Greece_RES_Electricity system.pptx	52.4	pptx	Greece_RES_Electricity system	OSeMOSYS	12/11/2017	00:51	
11	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\01-ModelDATA\05-MAGNET]	54N_MAGNET_Baseline_Greece_260917.xlsx	15	xlsx	MAGNET results Greece	MAGNET	29/09/2017	18:32	
12	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\02-ArbitraryData\01-ConceptualModel]	Greece-SIM4NEXUS conceptual_framework_03_03_2017.pptx	77.5	pptx	Conceptual Model Greece V2	Case study	21/03/2018	14:38	
13	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\02-ArbitraryData\01-ConceptualModel]	Greece-SIM4NEXUS conceptual framework_v1.pptx	38.5	pptx	Conceptual Model Greece V1	Case study	06/02/2017	17:06	
14	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\02-ArbitraryData\01-ConceptualModel]	Greece-SIM4NEXUS conceptual framework_energy_24_03_2017.pptx	55	pptx	Conceptual Model Greece final version	Case study	24/03/2017	11:49	
15	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\02-ArbitraryData\02-Models]	model harmonization.xlsx	8.5	xlsx	Model harmonization Greece		30/01/2017	15:48	
16	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData]	SolarRad unit Conversion.pdf	47.2	pdf			01/03/2018	00:27	
17	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData]	Readme PIK data.rtf	1.1	rtf		PIK	28/02/2018	17:36	
18	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData]	Jensen and Haise formula example.png	317.2	png			01/03/2018	15:16	
19	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData]	Jensen and Haise formula.png	522.4	png			01/03/2018	00:32	
20	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData]	Jensen and Haise.pdf	128.8	pdf			01/03/2018	00:32	
21	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_pr_NorESM1-M_historical_1961-2005_monthly.dat	17.5	dat	kr_pr_NorESM1-M_historical_1961-2005_monthly	PIK	17/02/2017	17:07	
22	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_pr_NorESM1-M_rcp2p6_2006-2099_monthly.dat	36.5	dat	kr_pr_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	06/10/2017	02:51	
23	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_pr_NorESM1-M_rcp4p5_2006-2099_monthly.dat	36.5	dat	kr_pr_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	06/10/2017	05:45	
24	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_pr_NorESM1-M_rcp6p0_2006-2099_monthly.dat	36.5	dat	kr_pr_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	06/10/2017	08:41	
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26	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rhs_NorESM1-M_historical_1961-2005_monthly.dat	17.4	dat	kr_rhs_NorESM1-M_historical_1961-2005_monthly	PIK	17/02/2017	17:56	
27	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rhs_NorESM1-M_rcp2p6_2006-2099_monthly.dat	36.3	dat	kr_rhs_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	06/10/2017	04:19	
28	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rhs_NorESM1-M_rcp4p5_2006-2099_monthly.dat	36.3	dat	kr_rhs_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	06/10/2017	07:13	
29	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rhs_NorESM1-M_rcp6p0_2006-2099_monthly.dat	36.3	dat	kr_rhs_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	06/10/2017	10:11	
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31	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rlds_NorESM1-M_historical_1961-2005_monthly.dat	17.4	dat	kr_rlds_NorESM1-M_historical_1961-2005_monthly	PIK	17/02/2017	17:19	
32	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rlds_NorESM1-M_rcp2p6_2006-2099_monthly.dat	36.3	dat	kr_rlds_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	06/10/2017	03:13	
33	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rlds_NorESM1-M_rcp4p5_2006-2099_monthly.dat	36.3	dat	kr_rlds_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	06/10/2017	06:07	
34	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rlds_NorESM1-M_rcp6p0_2006-2099_monthly.dat	36.3	dat	kr_rlds_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	06/10/2017	09:03	
35	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rlds_NorESM1-M_rcp8p5_2006-2099_monthly.dat	36.3	dat	kr_rlds_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	06/10/2017	12:05	
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37	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rds_NorESM1-M_rcp2p6_2006-2099_monthly.dat	36.3	dat	kr_rds_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	06/10/2017	03:35	
38	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rds_NorESM1-M_rcp4p5_2006-2099_monthly.dat	36.3	dat	kr_rds_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	06/10/2017	06:29	
39	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_rds_NorESM1-M_rcp6p0_2006-2099_monthly.dat	36.3	dat	kr_rds_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	06/10/2017	09:26	
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41	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tas_NorESM1-M_historical_1961-2005_monthly.dat	17.4	dat	kr_tas_NorESM1-M_historical_1961-2005_monthly	PIK	17/02/2017	16:31	
42	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tas_NorESM1-M_rcp2p6_2006-2099_monthly.dat	36.3	dat	kr_tas_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	06/10/2017	01:48	
43	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tas_NorESM1-M_rcp4p5_2006-2099_monthly.dat	36.3	dat	kr_tas_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	06/10/2017	04:41	
44	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tas_NorESM1-M_rcp6p0_2006-2099_monthly.dat	36.3	dat	kr_tas_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	06/10/2017	07:35	
45	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tas_NorESM1-M_rcp8p5_2006-2099_monthly.dat	36.3	dat	kr_tas_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	06/10/2017	10:35	
46	SIM4NEXUS-GREEK_CASE_STUDY	[SIM4NEXUS-GREEK_CASE_STUDY\04-ClimateData\Scenarios\kr_NorESM1-M_monthly.zip]	kr_tasmax_NorESM1-M_historical_1961-2005_monthly.dat	17.4	dat	kr_tasmax_NorESM1-M_historical_1961-2005_monthly	PIK	17/02/2017	16:45	

689	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}info\arc.dir		1.1.dir	physical system input SARdem	UNISS?	29/01/2017	19:42	
690	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\w001001.adf		45.5.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
691	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\w001001.adf		4400.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
692	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\vat.adf		14.1.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
693	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\sta.adf		0.032.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
694	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\prj.adf		0.738.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
695	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\log		0.284.log	physical system input SARdem	UNISS?	29/01/2017	19:42	
696	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\hdr.adf		0.308.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
697	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\dblibnd.adf		0.032.adf	physical system input SARdem	UNISS?	29/01/2017	19:42	
698	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\{SARdem_UTM\}utm\utm_100\log		0.101.log	physical system input SARdem	UNISS?	29/01/2017	19:42	
699	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.shx		0.42.shp	physical system input SARdem	UNISS?	17/12/2016	03:05	
700	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.shp		1.1.shp	physical system input SARdem	UNISS?	17/12/2016	03:05	
701	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.sbx		0.148.sbx	physical system input SARdem	UNISS?	17/12/2016	03:00	
702	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.sbn		0.524.sbn	physical system input SARdem	UNISS?	17/12/2016	03:00	
703	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.prj		0.4.prj	physical system input SARdem	UNISS?	17/12/2016	03:00	
704	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_utm.dbf		11.8.dbf	physical system input SARdem	UNISS?	30/01/2017	00:30	
705	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.shx		0.42.shx	physical system input SARdem	UNISS?	17/12/2016	03:06	
706	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.shp		1.1.shp	physical system input SARdem	UNISS?	17/12/2016	03:06	
707	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.sbx		0.148.sbx	physical system input SARdem	UNISS?	17/12/2016	03:06	
708	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.sbn		0.524.sbn	physical system input SARdem	UNISS?	17/12/2016	03:06	
709	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.prj		0.145.prj	physical system input SARdem	UNISS?	17/12/2016	03:06	
710	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS02_phys_ical_system_input]SARdem_UTM\dams_geog.dbf		12.2.dbf	physical system input SARdem	UNISS?	30/01/2017	00:38	
711	SIM4NEXUS-FastTrack-Sardinia	FastTrackOutputs_26_04_2017.xlsx		45.6.xlsx	2010 baseline, 2030 RCP45, RCP85	UNISS?	11/05/2017	01:51	
712	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[02_conceptual_UNISS]k 11/05/2017 11:35a--29.4.docx		29.4.docx	Conceptual model input/output data for fast track Sardinia metadata file	UNISS?	11/05/2017	11:35	
713	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[03_E3ME]E3ME.csv		13.7.csv	E3ME outputs	CE, UCAM (Eva Alexandri)	06/02/2017	17:18	Y
714	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[04_GTAP]Copy of SSP2_2030_Italy.xlsx		71.9.xlsx	GTAP outputs	WUR-LEI?	30/01/2017	18:08	
715	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDM]SDM_Metadata.docx		13.2.docx	readme file	Medhi Exeter??	11/05/2017	11:27	
716	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDM]Sardinia reservoir model_S4N Fast Track.STMX		42.5.STMX	reservoir model	?	11/05/2017	07:57	
717	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDM]Sardinia reservoir model_S4N Fast Track.isdb		77.isdb	reservoir model	?	11/05/2017	07:51	
718	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Rdata		26.R.data	R script related file	Medhi Exeter??	15/03/2017	16:59	
719	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Rhistry		29.4.Rhistory	R script related file	Medhi Exeter??	15/03/2017	16:59	
720	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Converted_R_Script.R		5.5.R	R script related file	Medhi Exeter??	15/03/2017	16:52	
721	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Agri_energy_demand.csv		0.189.csv	output from STELLA to R conversion agri-energy	Medhi Exeter??	14/03/2017	10:06	
722	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Citrus.csv		0.147.csv	output from STELLA to R conversion citrus	Medhi Exeter??	14/03/2017	10:06	
723	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Domestic_energy_dema nd.csv		0.193.csv	output from STELLA to R conversion domestic-energy	Medhi Exeter??	14/03/2017	10:06	
724	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_ET_open_body.csv		0.186.csv	output from STELLA to R conversion ET	Medhi Exeter??	14/03/2017	10:06	
725	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Fruit.csv		0.146.csv	output from STELLA to R conversion fruit	Medhi Exeter??	14/03/2017	10:06	
726	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Functions.R		3.7.R	output from STELLA to R conversion functions	Medhi Exeter??	14/03/2017	10:06	
727	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Grape.csv		0.142.csv	output from STELLA to R conversion grape	Medhi Exeter??	14/03/2017	10:06	
728	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Industrial.csv		0.231.csv	output from STELLA to R conversion industrial	Medhi Exeter??	14/03/2017	10:06	
729	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Maize.csv		0.142.csv	output from STELLA to R conversion maize	Medhi Exeter??	14/03/2017	10:06	
730	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Oat.csv		0.139.csv	output from STELLA to R conversion oat	Medhi Exeter??	14/03/2017	10:06	
731	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Olive.csv		0.145.csv	output from STELLA to R conversion olive	Medhi Exeter??	14/03/2017	10:06	
732	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Pasture.csv		0.157.csv	output from STELLA to R conversion pasture	Medhi Exeter??	14/03/2017	10:06	
733	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Potato.csv		0.142.csv	output from STELLA to R conversion potato	Medhi Exeter??	14/03/2017	10:06	
734	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Ptitable.csv		0.18.csv	output from STELLA to R conversion precipitation	Medhi Exeter??	14/03/2017	10:06	
735	SIM4NEXUS-FastTrack-Sardinia	[SIM4NEXUS-FastTrack-Sardinia](01-ModelDATA)[05_SDMBaselineTest.rar].Stella_Data_Rice.csv		0.143.csv	output from STELLA to R conversion rice	Medhi Exeter??	14/03/2017	10:06	

1322	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_rsds_NorESM1-M_rcp2p6_2006-2099_monthly.dat	740.2.dat	uk_rsds_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	12/11/2017	6:15		
1323	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_rsds_NorESM1-M_rcp4p5_2006-2099_monthly.dat	740.2.dat	uk_rsds_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	12/11/2017	9:20		
1324	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_rsds_NorESM1-M_rcp6p0_2006-2099_monthly.dat	740.2.dat	uk_rsds_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	12/11/2017	12:25		
1325	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_rsds_NorESM1-M_rcp8p5_2006-2099_monthly.dat	740.2.dat	uk_rsds_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	12/11/2017	15:31		
1326	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tas_NorESM1-M_rcp2p6_2006-2099_monthly.dat	740.2.dat	uk_tas_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	12/11/2017	4:19		
1327	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tas_NorESM1-M_rcp4p5_2006-2099_monthly.dat	740.2.dat	uk_tas_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	12/11/2017	7:26		
1328	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tas_NorESM1-M_rcp6p0_2006-2099_monthly.dat	740.2.dat	uk_tas_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	12/11/2017	10:31		
1329	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tas_NorESM1-M_rcp8p5_2006-2099_monthly.dat	740.2.dat	uk_tas_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	12/11/2017	13:37		
1330	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmax_NorESM1-M_rcp2p6_2006-2099_monthly.dat	740.2.dat	uk_tasmax_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	12/11/2017	4:43		
1331	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmax_NorESM1-M_rcp4p5_2006-2099_monthly.dat	740.2.dat	uk_tasmax_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	12/11/2017	7:49		
1332	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmax_NorESM1-M_rcp6p0_2006-2099_monthly.dat	740.2.dat	uk_tasmax_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	12/11/2017	10:54		
1333	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmax_NorESM1-M_rcp8p5_2006-2099_monthly.dat	740.2.dat	uk_tasmax_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	12/11/2017	14:00		
1334	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmin_NorESM1-M_rcp2p6_2006-2099_monthly.dat	740.3.dat	uk_tasmin_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	12/11/2017	17:06		
1335	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmin_NorESM1-M_rcp4p5_2006-2099_monthly.dat	740.3.dat	uk_tasmin_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	12/11/2017	8:13		
1336	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmin_NorESM1-M_rcp6p0_2006-2099_monthly.dat	740.3.dat	uk_tasmin_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	12/11/2017	11:18		
1337	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_tasmin_NorESM1-M_rcp8p5_2006-2099_monthly.dat	740.3.dat	uk_tasmin_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	12/11/2017	14:24		
1338	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_wind_NorESM1-M_rcp2p6_2006-2099_monthly.dat	740.2.dat	uk_wind_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	12/11/2017	6:38		
1339	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_wind_NorESM1-M_rcp4p5_2006-2099_monthly.dat	740.2.dat	uk_wind_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	12/11/2017	9:43		
1340	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_wind_NorESM1-M_rcp6p0_2006-2099_monthly.dat	740.2.dat	uk_wind_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	12/11/2017	12:49		
1341	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_2006-2099_monthly.zip]	uk_wind_NorESM1-M_rcp8p5_2006-2099_monthly.dat	740.2.dat	uk_wind_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	12/11/2017	15:55		
1342	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_pr_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_pr_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	19:31		
1343	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_rhs_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_rhs_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	20:18		
1344	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_rlds_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_rlds_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	19:43		
1345	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_rds_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_rds_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	19:54		
1346	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_tas_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_tas_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	18:59		
1347	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_tasmax_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_tasmax_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	19:10		
1348	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_tasmin_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_tasmin_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	19:22		
1349	SIM4NEXUS-UK_CASE_STUDY	[SIM4NEXUS-UK_Case_Study]\04_Climate Data\Scenarios\uk_NorESM1-M_historical_1961-2005_monthly.zip]	uk_wind_NorESM1-M_historical_1961-2005_monthly.dat	354.4.dat	uk_wind_NorESM1-M_historical_1961-2005_monthly	PIK	10/11/2017	20:06		
1350	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\01-ModelData\01-CAPRI]	capri_baseline_Andalusia.xlsx	26.9.xlsx	capri_baseline_Andalusia output	UPM	26/9/2017	13:54		
1351	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\01-ModelData\02-GTAP]	SSP2_2030_Spain.xlsx	140.4.xlsx	SSP2_2030_Spain output	GTAP	14/7/2017	16:05		
1352	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\01-ModelData\03-E3ME]	Andalusia_BaselineV2.csv	36.5.csv	Andalusia_BaselineV2 E3ME output	CE, UCAM (Eva Alexandri)	9/8/2017	12:09		
1353	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\01-ModelData\03-E3ME]	Andalusia_Baseline.csv	34.8.csv	Andalusia_Baseline E3ME output	CE, UCAM (Eva Alexandri)	28/7/2017	12:13		
1354	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\02-ArbitraryData\01-ConceptualModel]	170904_conceptual_model_Andalusia_aJusnuk.pptx	1400.pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50		
1355	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\02-ArbitraryData\01-ConceptualModel]	170717_conceptual_model_Andalusia_aJusnuk.pptx	1400.pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50		
1356	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study]\02-ArbitraryData\01-ConceptualModel]	170717_conceptual_model_Andalusia_aJusnuk.pptx	61.2.pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50		

	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\02-ArbitraryData\01-ConceptualModel]	170703_conceptual_model_Andalusi a-J5.pptx	1200 .pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50	
1358	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\02-ArbitraryData\01-ConceptualModel]	170703_conceptual_model_Andalusi a.pptx	58.3 .pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50	
1359	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\02-ArbitraryData\01-ConceptualModel]	170626_conceptual_model_Andalusi a.pptx	51.2 .pptx	conceptual_model_Andalusia	UPM	25/9/2017	14:50	
1360	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	water_supply_by_user.xlsx	9.7 .xlsx	water_supply_by_user_Andalusia	UPM	22/9/2017	16:30	
1361	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	water_supply.xlsx	9.3 .xlsx	water_supply_Andalusia	UPM	22/9/2017	16:31	
1362	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	water_demand_supply_2012-2021.xlsx	27.9 .xlsx	water_demand_supply_2012-2021	UPM	13/9/2017	18:31	
1363	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	soil_losses_andalusia_1976-2014.xlsx	9.3 .xlsx	soil_losses_andalusia_1976-2014	UPM	13/9/2017	18:31	
1364	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	reused_water_by_sector.xlsx	8.9 .xlsx	reused_water_by_sector_Andalusia	UPM	19/9/2017	18:37	
1365	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	rain erosion_by_province_2004-2014.xlsx	17 .xlsx	rain_erosion_by_province_2004-2014 Andalusia	UPM	13/9/2017	18:31	
1366	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	land_use_by_province_2013.xlsx	77.5 .xlsx	land_use_by_province_2013_Andalusia	UPM	13/9/2017	18:31	
1367	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	estimated_water_demand_per_river_basin_2015.xlsx	11.2 .xlsx	estimated_water_demand_per_river_basin_2015 Andalusia	UPM	3/10/2017	19:36	
1368	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\03-ThematicData]	energy_balance_andalusia_by_source_2000-2015.xlsx	115.7 .xlsx	energy_balance_andalusia_by_source_2000-2015 Andalusia	UPM	13/9/2017	18:31	
1369	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_pr_GFDL-ESM2M_histirical_1961-2005_monthly.dat	1200 .dat	al_pr_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	12:00	
1370	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_rlds_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_rlds_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	11:11	
1371	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_rsdss_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_rsdss_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	12:21	
1372	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_tas_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_tas_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	11:28	
1373	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_tasmax_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_tasmax_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	11:39	
1374	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_tasmin_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_tasmin_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	11:50	
1375	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_historical_1961-2005_monthly.zip]	al_wind_GFDL-ESM2M_histrical_1961-2005_monthly.dat	1200 .dat	al_wind_GFDL-ESM2M_histrical_1961-2005_monthly	PIK	11/7/2017	12:32	
1376	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_pr_GFDL-ESM2M_rcp2p6_2006-2099_monthly.dat	2500 .dat	al_pr_GFDL-ESM2M_rcp2p6_2006-2099_monthly	PIK	11/7/2017	12:49	
1377	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_pr_GFDL-ESM2M_rcp4p5_2006-2099_monthly.dat	2500 .dat	al_pr_GFDL-ESM2M_rcp4p5_2006-2099_monthly	PIK	11/7/2017	15:07	
1378	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_pr_GFDL-ESM2M_rcp6p0_2006-2099_monthly.dat	2500 .dat	al_pr_GFDL-ESM2M_rcp6p0_2006-2099_monthly	PIK	11/7/2017	18:12	
1379	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_pr_GFDL-ESM2M_rcp8p5_2006-2099_monthly.dat	2500 .dat	al_pr_GFDL-ESM2M_rcp8p5_2006-2099_monthly	PIK	11/7/2017	21:38	
1380	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rhs_GFDL-ESM2M_rcp2p6_2006-2099_monthly.dat	0.038 .dat	al_rhs_GFDL-ESM2M_rcp2p6_2006-2099_monthly	PIK	11/7/2017	13:53	
1381	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rhs_GFDL-ESM2M_rcp4p5_2006-2099_monthly.dat	0.038 .dat	al_rhs_GFDL-ESM2M_rcp4p5_2006-2099_monthly	PIK	11/7/2017	16:22	
1382	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rhs_GFDL-ESM2M_rcp6p0_2006-2099_monthly.dat	0.038 .dat	al_rhs_GFDL-ESM2M_rcp6p0_2006-2099_monthly	PIK	11/7/2017	19:46	
1383	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rhs_GFDL-ESM2M_rcp8p5_2006-2099_monthly.dat	0.038 .dat	al_rhs_GFDL-ESM2M_rcp8p5_2006-2099_monthly	PIK	11/7/2017	23:16	
1384	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rlds_GFDL-ESM2M_rcp2p6_2006-2099_monthly.dat	2500 .dat	al_rlds_GFDL-ESM2M_rcp2p6_2006-2099_monthly	PIK	11/7/2017	13:12	
1385	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rlds_GFDL-ESM2M_rcp4p5_2006-2099_monthly.dat	2500 .dat	al_rlds_GFDL-ESM2M_rcp4p5_2006-2099_monthly	PIK	11/7/2017	15:28	
1386	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rlds_GFDL-ESM2M_rcp6p0_2006-2099_monthly.dat	2500 .dat	al_rlds_GFDL-ESM2M_rcp6p0_2006-2099_monthly	PIK	11/7/2017	18:43	
1387	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rlds_GFDL-ESM2M_rcp8p5_2006-2099_monthly.dat	2500 .dat	al_rlds_GFDL-ESM2M_rcp8p5_2006-2099_monthly	PIK	11/7/2017	22:10	
1388	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rsdss_GFDL-ESM2M_rcp2p6_2006-2099_monthly.dat	2500 .dat	al_rsdss_GFDL-ESM2M_rcp2p6_2006-2099_monthly	PIK	11/7/2017	13:32	
1389	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rsdss_GFDL-ESM2M_rcp4p5_2006-2099_monthly.dat	2500 .dat	al_rsdss_GFDL-ESM2M_rcp4p5_2006-2099_monthly	PIK	11/7/2017	15:52	
1390	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rsdss_GFDL-ESM2M_rcp6p0_2006-2099_monthly.dat	2500 .dat	al_rsdss_GFDL-ESM2M_rcp6p0_2006-2099_monthly	PIK	11/7/2017	19:14	
1391	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_rsdss_GFDL-ESM2M_rcp8p5_2006-2099_monthly.dat	2500 .dat	al_rsdss_GFDL-ESM2M_rcp8p5_2006-2099_monthly	PIK	11/7/2017	22:43	
1392	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_tas_GFDL-ESM2M_rcp2p6_2006-2099_monthly.dat	2500 .dat	al_tas_GFDL-ESM2M_rcp2p6_2006-2099_monthly	PIK	11/7/2017	11:48	
1393	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_tas_GFDL-ESM2M_rcp4p5_2006-2099_monthly.dat	2500 .dat	al_tas_GFDL-ESM2M_rcp4p5_2006-2099_monthly	PIK	11/7/2017	14:13	
1394	SIM4NEXUS-ANDALUSIA-CASE_STUDY	[SIM4NEXUS-Andalusia_Case_Study\04-ClimaticData\Scenarios\al_GFDL-ESM2M_scenarios_2006-2099_monthly.zip]	al_tas_GFDL-ESM2M_rcp6p0_2006-2099_monthly.dat	2500 .dat	al_tas_GFDL-ESM2M_rcp6p0_2006-2099_monthly	PIK	11/7/2017	16:51	

2190	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_rsd5_NorESM1-M_rcp8p5_2006-2099_monthly.dat	2100.dat	nl_rsd5_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	8/2/2018	12:22
2191	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tas_NorESM1-M_rcp2p6_2006-2099_monthly.dat	2100.dat	nl_tas_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	8/2/2018	1:10
2192	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tas_NorESM1-M_rcp4p5_2006-2099_monthly.dat	2100.dat	nl_tas_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	8/2/2018	4:14
2193	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tas_NorESM1-M_rcp6p0_2006-2099_monthly.dat	2100.dat	nl_tas_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	8/2/2018	7:24
2194	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tas_NorESM1-M_rcp8p5_2006-2099_monthly.dat	2100.dat	nl_tas_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	8/2/2018	10:30
2195	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmax_NorESM1-M_rcp2p6_2006-2099_monthly.dat	2100.dat	nl_tasmax_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	8/2/2018	1:33
2196	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmax_NorESM1-M_rcp4p5_2006-2099_monthly.dat	2100.dat	nl_tasmax_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	8/2/2018	4:38
2197	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmax_NorESM1-M_rcp6p0_2006-2099_monthly.dat	2100.dat	nl_tasmax_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	8/2/2018	7:47
2198	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmax_NorESM1-M_rcp8p5_2006-2099_monthly.dat	2100.dat	nl_tasmax_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	8/2/2018	10:53
2199	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmin_NorESM1-M_rcp2p6_2006-2099_monthly.dat	2100.dat	nl_tasmin_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	8/2/2018	1:56
2200	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmin_NorESM1-M_rcp4p5_2006-2099_monthly.dat	2100.dat	nl_tasmin_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	8/2/2018	5:02
2201	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmin_NorESM1-M_rcp6p0_2006-2099_monthly.dat	2100.dat	nl_tasmin_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	8/2/2018	8:11
2202	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_tasmin_NorESM1-M_rcp8p5_2006-2099_monthly.dat	2100.dat	nl_tasmin_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	8/2/2018	11:15
2203	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_wind_NorESM1-M_rcp2p6_2006-2099_monthly.dat	2100.dat	nl_wind_NorESM1-M_rcp2p6_2006-2099_monthly	PIK	8/2/2018	3:26
2204	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_wind_NorESM1-M_rcp4p5_2006-2099_monthly.dat	2100.dat	nl_wind_NorESM1-M_rcp4p5_2006-2099_monthly	PIK	8/2/2018	6:35
2205	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_wind_NorESM1-M_rcp6p0_2006-2099_monthly.dat	2100.dat	nl_wind_NorESM1-M_rcp6p0_2006-2099_monthly	PIK	8/2/2018	9:45
2206	SIM4NEXUS-NETHERLANDS-CASE_STUDY	[SIM4NEXUS-NETHERLANDS-CASE_STUDY]04-ClimateData[Scenarios\n_NorESM1-M_2006-2099_monthly.zip]	nl_wind_NorESM1-M_rcp8p5_2006-2099_monthly.dat	2100.dat	nl_wind_NorESM1-M_rcp8p5_2006-2099_monthly	PIK	8/2/2018	12:46