

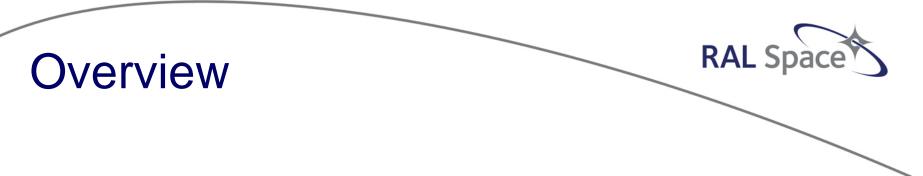
FP7 HELCATS – ROB Meeting WP8 Dissemination

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- Overview
- Update to web site
- Press Release
- Document numbering and template
- First HELCATS open meeting

Overview

- Dissemination is a vital part of the project.
- The primary aim of the dissemination activity WP8 is to support the other work packages and the project as a whole in getting the results of the HELCATS work to broader heliospheric community and other interested parties outside the project.

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 An important aspect is coordination of the standardisation of products in terms of formats, naming conventions, metadata, QA and configuration control.

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Tasks

- T8.1: To publish the results of the studies in the professional literature, and present them at major international science meetings.
- T8.2: To arrange annual, open meetings for the scientific community during the lifetime of the project.
- T8.3: To install all relevant documents, catalogues, publications on the project website.
- T8.4: To integrate into relevant, established community facilities and websites, including the IRAP propagation tool, the AMDA data-mining tool, HELIO and the UKSSDC.
- T8.5: To disseminate information and results to the public and policy makers.

Deliverables



List of deliverables

Delive- rable Number ⁶¹	Deliverable Title	Lead benefi- ciary number	Estimated indicative person- months	Nature ⁶²	Dissemi- nation level ⁶³	Delivery date ⁶⁴
D8.1	Publication in the professional scientific literature	1	2.50	Other	PU	36
D8.2	Annual open meetings	1	1.50	Other	PU	36
D8.3	Attendance/presentations at major science meetings	1	1.50	Other	PU	36
D8.4	Posting information on the website	1	3.50	Other	PU	36
D8.5	Integration with community facilities and websites	1	3.50	Other	PU	36
D8.6	Production of press releases, public talks	1	2.00	Other	PU	36
D8.7	Integrate the J-map associated catalogues produced in HELCATS to the propagation tool.	3	3.00	Report	PU	36
D8.8	Integrate Carrington Map associated catalogues in the propagation tool	3	3.00	Report	PU	36
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Publication of results and conclusions

This activity includes supporting individual work package and project level dissemination of results through the professional literature and at international science meetings. [D8.1 & D8.3]. Will coordinate through the steering committee.

Standard resources such as templates, logos, flyers and contact cards will be available to help promote the activities within the wider community.

A list of publications, presentations and other outreach activities will be maintained and accessible via the HELCATS web site.

Related to this activity is the engagement with the public and policy makers through press releases, presentations, social media and related activities [D8.6]. In particular interaction with national/international space weather programmes exploiting existing contacts within the consortium.

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HELCATS Web Site

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Heliospheric Cataloguing, Analysis and Techniques Service

Home Overview About Sitemap

HELCATS

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The advent of wide-angle imaging of the inner heliosphere has revolutionised the study of the solar wind and, in particular, transient solar wind structures such as Coronal Mass Ejections (CMEs) and Co-rotating Interaction Regions (CRs). CMEs Comprise enormous plasma and magnetic field structures that are ejected from the Sun and propagate at what can be immense speeds through interplanetary space, while CIRs are characterised by extensive swathes of compressed plasma/magnetic field structures that are ejected from the Sun and propagate the line field that from along flow discontinuities of solar origin that permeate the inner heliosphere. With Heliospheric Imaging came the unique ability to track the evolution of these features as they propagate through the inner heliosphere, Pior to the development of wide-angle maging of the inner heliosphere, signatures of such solar wind transients could only be observed within a few solar radii of the Sun, and in the vicinity of a few near-Earth and interplanetary probes making in - situ measurements of the solar wind. Heliospheric Imaging has, for the first time, filled that start and cucial observational gap.

HELGTS provides an unprecedented focus for world-leading European expertise in the novel and revolutionary, European- led field of Heliospheric Imaging, in terms of instrumentation, data analysis, modelling and science. HELGTS is a strategic programme that aims to empower the wider scientific community, in Europe and beyond, by providing access to advanced catalogues - validated and augmented through the use of techniques and models - for the analysis of solar wind transients, based on observations from European-led speci Instrumentation. All participant groups are at the forefront of heliospheric research and bring distinct, yet highly complementary, skills to the project. HELGTS will add significant value to the exploitation of existing European space instrumentation, providing a strong foundation for enhanced exploitation and advancement of the heliospheric research in Europe.

HELCATS recognises the synergy between solar and heliospheric physics research (both of which are European strengths) and their applied space weather aspect, currently a topic of vigorous debate in many political and scientific arenas. With the impending development of a European space weather capability, HELCATS has real relevance.



Public Web Site



HELCATS Calendar

D D Project Wiki | Contact Us

This calendar is used to keep track of general Heliophysics meetings that may be of interest to the HELCATS community. It is also used for our own scheduling activities if you have a meeting or event that may be useful to record here then please let us know.







HELCATS Web Site

- New public web-site established
- Twitter, Facebook and YouTube also set-up
- Ongoing activity to update and add to new material
 - Please provide any inputs, events, presentations, news, publications etc. so that these can be added
 - Also related events and workshops for the calendar
- For internal communication have established mailing lists, newsletters and the project wiki



Press Release



- Initial press release went out 1st Oct
- Picked up by a number of news feeds (see web site)



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OFFICIAL ANNOUNCEMENTS AND KEY EVENTS FROM THE CONSORTIUM

2014-10-01: HELCATS Announcement Press Release

1 October 2014 – UK scientists have unveiled a new £2.5 million (€3.2 million) project that will improve forecasts of solar storms, including their arrival time and impact on the Earth. The three year project will provide the most comprehensive set of information to date about the Sun's influence on interplanetary space and the effects space weather can have on the Earth. The project will enable governments to improve their strategies to lessen the potential negative impacts from the Sun...[more]

Related Articles:

<u>STFC scientists seek to forecast space weather</u>; James Field; Research Professional. <u>UK leads new international solar storm tracking initiative</u>; Portal to the Universe <u>UK Leads New International Solar Storm Tracking initiative</u>; SpaceRef <u>UK leads new international solar storm tracking initiative</u>; AstroNews <u>UK leads new international solar storm tracking initiative</u>; Space Newsfeed <u>UK leads new international solar storm tracking initiative</u>; Just Science News <u>UK leads new international solar storm tracking initiative</u>; Just Science News <u>UK leads new international solar storm tracking initiative</u>; Wired-Gov <u>UK leads new international solar storm tracking initiative</u>; Phys Org

 Richard and Jackie did interview for BBC Radio 4

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(STIC) Buttherford Appleton Laboratory (RAL), the informational HELCATS (Heldopathic Catalogues, Anarayia and Techniques Service) team is earthough and an analysis of the potential thread of disruption induced within the service of the potential thread of disruption of the service of the potential thread of disruption of the service of the potential thread of disruption of the service of th	
that could be caused by a server space weather event, listing it high on the National Risk Respond of CVI Enropside. To better monitor any potential threat the HELCATS team is tracking huse doubt of older material at they are blown of the Son and acceled their way solar system, and which is influenced by the Son. Professor Robard Harrison, from STFC RAL Space, is the HELCATS coordinator. "Sometimes the Son ejects billion-tomes hot plasma dicute into space," he said. "Unnowing how to understand and predict what might be impacting the region of space nearest the Earth is critical for many control to the second space nearest the Barth is critical for many the HELCATS space. The said. "Unnowing how to understand and predict what might be impacting the region of space nearest the Barth is critical for many the HELCATS space. The said "Linker Doubles, the science and technical lead for the HELCATS space. The movel imaging provided by the Helicopheric Imaging cameras on STEREO, combined with citiza- tion of the second space of the HELCATS space. The movel imaging provided by the Helicopheric Imaging cameras on STEREO, combined with citiza- ded selections and the HELCATS space of the Said to Pack and the space of the Helicopheric Imaging cameras on STEREO, combined with citiza- ting the Helicopheric Imaging cameras on STEREO. Combined with citiza- ded selection and the Helicopheric Image and the second of MSA's successful STEREO are the Helicopheric Imagers, which can detect and record the outflow of material frame the Sain. Cho band STEREO are the Helicopheric Imagers, which can detect and record the outflow of material frame and from the Sain. The Verse developed by a UK-led team, headed by STFCS Professor Richard Harrison. Observations from TESED and other space insident, which and developed by study the selection stomes are travered on the solar-sense at helicopheric material frame as ther travered on the found plasma winds within the Helicopherie. The too selection plasma winds within the Helicophere.	
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be impacting the region of space nearest the Earth is critical for many modern technological, and an end of the state of	
satellites, power grids and GHS signals," said Dr Jackée Davies, the science and technical lead for the HILCARS provide. The novel imaging provided by the HILCARS provide. The INCARS provide the HILCARS provides the analysis techniques, will allow us to significantly improve forecasts of the aniral time and impact of these potentially hazardous events." The HILCARS provides the source of the HILCARS provides STEREO are two Hildephore: Imagers, which can detect and record the outflow of material from the Scint. The view of eveloable by a UK-led team, hazard by STRC 5 Medica distance data with the source of the team, hazard by STRC 5 Medica distance data. Observations of STEREO and other space missions, and from radio the BILCARS team to capitol the combined data. The project will not only study by STRC 5 Medica distance data-space missions, and from radio the BILCARS team to capitol the combined data. The project will not only study the solar storms aber travel out from the Sun. Stall-space an insight into the sun way they interact with the solar-space and plasma winds with the hallowage.	
STERED mission, which features two spacecraft orbiting the Sun. On board STERED mission, which features two spacecraft orbiting the Sun. On board STERED are two siles/openic images, which can detect and neord the outflow of material from the Sun. The mages allowed the Sun Stere of solar doubt ejected from the Sun. They were developed by a UK-led team, handed by STECE Professor Richard Natriton. Observations from STERED and other space missions, and from radio theiescopes on the ground, will be foil in the completer models developed by the NELCATS team to exploit the combined data. The project will not only study the solar storms at their taread on throm the Sun, board winds within the belogathers. "The result will be an unperpondent of allaborar and othermate moders harrison."	
Observations from STEREO and other gases missions, and from radio telescopes on the ground, will be foil in to computer models developed by the NELCATS team to copilati the combined data. The project will not only study the solar atoms a ther travel out from the Sun, bot will also give an insight into the way they interact with the solar-generated plasma winds within the lealogueters. The result will be an unprecedented understanding of the nature of the belogipper, through a ungene set of distances and of the nature of the belogipper, through a ungene set of distances and solar team. Such of the other set of the solar set of t	
telescopes on the ground, will be fed in to computer models developed by the HE_CATS team to exploit the combined data. The project will not only study the solar storms as they travel out from the son, but will also give an insight into the way they interact with the solar-presented plasma winds within the Heliopiters. "The result will be an unpresedented understanding of the nature of the heliopiters through a unique set of databases and software tool," and Profession Harrison. These elements will be councid for our understanding of	
"The result will be an unprecedented understanding of the nature of the heliosphere through a unique set of databases and software took," said Professor Harrison. "These elements will be crucial for our understanding of	
what we now call space weather."	
HELCATS is funded through the EU Framework 7 Programme.	
More information:	
Marion O'Sullivan STEC Press Office	

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Document Style

- Draft release of document style
- Covers
 - Document numbering
 - File naming
 - Assignment and Tracking
 - Approval and Issue
 - Baseline Style
 - Cover page
 - Suggested document outline
- Comments welcome
- Presentation style and support media by time of the Open Meeting

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	heric Cataloguing, Analysis d Techniques Service
HELCATS	EU Project #: 606692 FP7-SPACE-2013-1 Document Style Guide Draft: 1.0
Title: Document Number: Project Deliverable: Release/Date	HELCATS Document Style Guide HELCATS_STFC_TN01 N/A Draft: 1.0 2014-07-14
Editor: Contributors: Reviewed By: Distribution:	Chris Perry, STFC - - PROJECT
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First Open Meeting



- The meetings [D8.2] will be used to disseminate the results and support further exploitation of the catalogues, modelling and techniques. The use of a workshop style format will be used to encourage dynamic use and support of the HELCATS products
- 1st Annual Open Meeting, Göttingen, 19th 22nd May 2015
 - 19th SC Meeting, 20-21st Workshop, 22nd Wrap-up
- Pre-announcement planned to go out this month
 - Useful to discuss here...
 - Main themes, goals and structure of the meeting
 - Ensure that we are on schedule for catalogues, tools, techniques and results that we want to highlight at the meeting
 - Identify external participants that we may want to ask to give invited presentations



Catalogue Standardisation

Standardisation of the HELCATS results will simplify inter-working between work packages and interoperability with external users.

A working group will be established to reach agreement on the project standards for delivered catalogue design, feature identification, formats, naming conventions, coordinate systems, metadata, versioning scheme, QA, etc.

Where possible will make use of existing established standards, formats, practices and tools (e.g. consider use of VOTable and HELIO parameter naming and metadata descriptions).

Tools will be provided/developed for the efficient metadata collection, formatting and for catalogue access (e.g. within IDL and Matlab).



Catalogue and Data Dissemination

The master copies of the catalogues generated within WP2 to 7 will be maintained on the UKSSDC web site in the agreed format and naming convention and with the necessary metadata, documentation to support long term accessibility and use.

The most recent versions of these catalogues will also be accessible based on existing UKSSDC VO compliant services (e.g. for access by the IRAP AMDA data mining tool and external VO services).

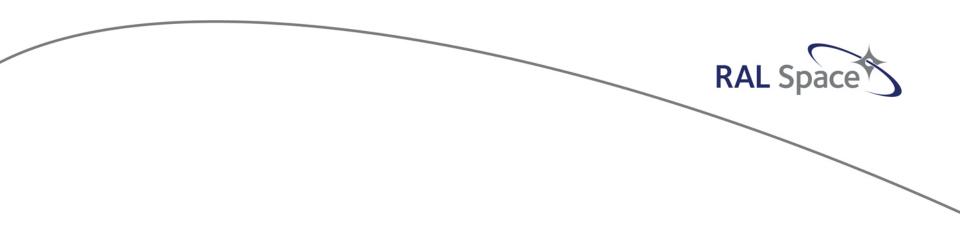
UKSSDC will also be used to serve supporting data products such as the HI J-maps used by the IRAP AMDA data mining tool and propagation tool allowing HELCATS results to visualised within these advanced analysis tools (see next presentation).

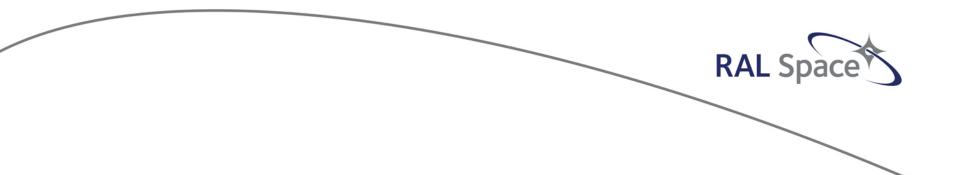
Summary

 Good progress in a number of areas (web site, wiki, mailing lists, press release, document standards)

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• Limited progress in catalogue standardisation – hence the dedicated session at this meeting.





Open Discussion on Catalogue Contents, Standards and Formats

Overview



Standardisation of the HELCATS results will simplify inter-working between work packages and interoperability with external users.

Need to reach agreement on the project standards for delivered catalogues

- Design (what each catalogue contains; manage changes)
- Formats (how the information is stored, need to be pragmatic, not a VO)
- Naming conventions (use common conventions)
- Coordinate systems (agree common set to be used in the catalogues)
- Metadata (agree what is required; collect and maintain)
- Versioning scheme (important for project flow and publication reference)
- QA (quality index, errors, review)

Where possible will make use of existing established standards, formats, practices and tools (e.g. consider use of VOTable and HELIO parameter naming and metadata descriptions).

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Design

Catalogues currently being designed within each of the work-packages

- 1. Need to ensure that all fields required by other WP are included
- 2. Include information need to link the catalogues (namely a standard event ID)
- 3. Try to maximise compatibility with existing systems
- 4. Consider any requirements from data models that we may wish to be compatible with e.g. HEK and/or HELIO



- Parameter	- Type -	CE	→ Descri - on of attribute
 Event_Type	string	req	Event Type (e.g. 'FL: Flare' or 'AR: ActiveRegion')
KB_ArchivDate	string	req	Date when VOEvent entry was imported into Knowledge Base
KB_ArchivID	string	req	Unique internal ID of VOEvent entry
KB_Archivist	string	req	Name of Archivist (internal. user should leave blank)
KB_ArchivURL	string	req	URL of VOEvent entry (internal. user should leave blank)
Event_CoordSys	string	req	Coordinate system type (Choose between UTC-HGS-TOPO [Heliographics Stonyhurst]
Event_CoordUnit	string	req	Units of coordinates (e.g. "deg, deg" for UTC-HGS-TOP0)
Event_EndTime	string	req	Time when event ends (e.g. 2004-02-14T02:00:01)
Event_StartTime	string	req	Time when event starts (e.g. 2004-02-14T02:00:01)
Event_Coord1	float	req	Coordinate 1 of mean location of event
Event_Coord2	float	req	Coordinate 2 of mean location of event
Event_C1Error	float	req	Uncertainty in Coord1 of the mean location of the event.
Event_C2Error	float	req	Uncertainty in Coord2 of the mean location of the event.
FRM_Contact	string	req	Contact information of Feature Recognition Method (FRM)
FRM_DateRun	string	req	Date when Feature Recognition Method (FRM) was run (e.g. 2004-02-15T02:00:01)
FRM_HumanFlag	string	req	Whether a Human identified the event ("T" or "F")
FRM_Identifier	string	req	Username for Knowledge Base
FRM_Institute	string	req	Institute where the Feature Recognition Method (FRM) orginates
FRM_Name	string	req	Name of Feature Recognition Method (e.g. "Mark Cheung" or CACTUS")
FRM_ParamSet	string	req	Values of parameters (e.g. "threshold=0.1")
FRM_URL	string	req	URL to webpage containing information about the Feature Recognition Method
OBS_Observatory	string	req	Name of Observatory (e.g. SOHO)
OBS_ChannelID	string	req	Name of Channel of the instrument (e.g. "G band")
OBS_Instrument	string	req	Name of Instrument (e.g. "SOT")
OBS_MeanWavel	float	req	Mean wavelength (preferably in Angstroms)
OBS_WavelUnit	string	req	Unit of OBS_MeanWavel (preferably "Angstroms")
BoundBox_C1LL	float	req	Coord1 of lower-left corner of bounding box

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Area_Uncert	float	opt
Area_Unit	string	opt
Event_Npixels	long	opt
Event_PixelUnit	string	opt
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OBS_FirstProcessingDa	string	opt
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OBS_IncludesNRT	string	opt

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Area of event at disk center		
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Area of event in sky plane		
Uncertainty of area in sky plane		
Units of area in sky plane (e.g. 'arcsec2')		
Number of pixels pertaining to event		
Units of values given in pixels		
URL pointing to information about how data was reduced		
Earliest date of all images considered part of the event		
Latest date of all images considered part of the event		
Level of Data (e.g. 1.5) = LVL_NUM		
"T" if any image in the event has the NRT flag (bit 30 in QUALITY), "F" othe	erwise	

- Not all fields required
- Some information is the same for all records so does can be held externally



HELIO Data Model

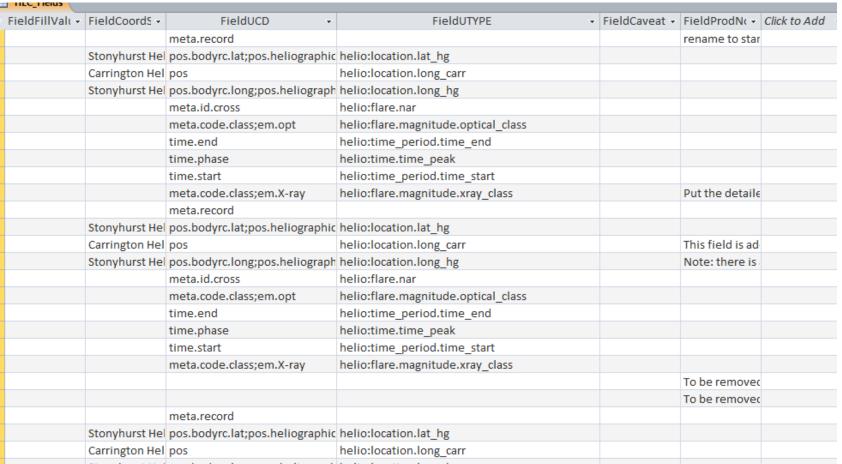
1.2.10	Litelitelite velocity.	
	obal Definitions	
	Complex Type: AccelerationType	
4.4.2		
4.4.3	Complex Type: CMEType	30
4.4.4	Complex Type: Distance	32
4.4.5	Complex Type: EITWaveType	
4.4.6	Complex Type: EventList	33
4.4.7	Complex Type: FlareFlagType	34
4.4.8	Complex Type: FlareType	
4.4.9	Complex Type: ForbushDecrease	
4.4.10		
4.4.11	1 71 7 71	
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4.4.28		
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HELIO Data Model

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13	1		7 long_hg	longitude	Stonyhurst longitude of active	Real		Position	Longitude	degrees	1.0>degrees
11	1		5 nar	nar	NOAA active region index	Integer		Index	Catalogue	NAR #	1>Unitless
16	1	. 10	optical_class	optical_clas	Average optical importance of	Special - Oc		Photon	Optical Class	Optical class	
9	1	. 4	4 time_end	time_end	End time of flare	ISO8601 Tim		Time	End	UT	1.0>UT
8	1	. 3	3 time_peak	time_peak	Peak time of flare	ISO8601 Tim		Time	Peak	UT	1.0>UT
7	1	. :	2 time_start	time_start	Start time of flare	ISO8601 Tim		Time	Start	UT	1.0>UT
15	1		9 xray_class	xray_class	Importance of flare at X-ray wa	Special - Xcl		Photon	X-ray Class	X-ray class	1.0>(Wm^-2 *10^[C=-6,M=-5,X=-4
18	2	. 1	1 HEC_id	ha_id	Event identification number (I	Integer	Private	Index	Catalogue	HEC id	1>Unitless
24	2	. (5 lat_hg	latitude	Average heliographic latitude	Real		Position	Latitude	degrees	1.0>degrees
26	2	8	8 long_carr	long_carr	Carrington longitude of the fla	Real		Position	Longitude	degrees	1.0>degrees
25	2	-	7 long_hg	longitude	Average heliographic longitud	Real		Position	Longitude	degrees	1.0>degrees
23	2	5	5 nar	nar	NOAA active region index	Integer		Index	Catalogue	NAR #	1>Unitless
28	2	10	optical_class	optical_clas	Average optical importance of	Special - Oc		Photon	Optical Class	Optical class	
22	2	. 4	4 time_end	time_end	Average of flare end times	ISO8601 Tim		Time	End	UT	1.0>UT
21	2		3 time peak	time peak	Earliest Universal Time within	ISO8601 Tim		Time	Peak	UT	1.0>UT
20	2		2 time start	time start	Earliest Universal Time of flare	ISO8601 Tim		Time	Start	UT	1.0>UT
27	2		9 xray class	xray class	Importance of flare at X-ray wa	Special - Xcl		Photon	X-ray Class	X-ray class	1.0>(Wm^-2 *10^[C=-6,M=-5,X=-4
30	3	1	2 #	ntime start	Adjusted start time of the eve	ISO8601 Tim		Time	Start	UT	1.0>UT
34	3	(5 #	ntime_end	Adjusted end time of the ever	ISO8601 Tim		Time	End	UT	1.0>UT
29	3	1	1 HEC id	sgs id	Event identification number (I	Integer	Private	Index	Catalogue	HEC id	1>Unitless
36			B lat hg	latitude	Heliographic latitude of the ac			Position	Latitude	degrees	1.0>degrees
38			long carr	long carr	Carrington longitude of active			Position	Longitude	degrees	1.0>degrees
27	2		long hg	longitudo	Stopuburst longitude of active			Desition	Longitudo	dograac	1 Obdograam

RAL Space

HELIO Data Model



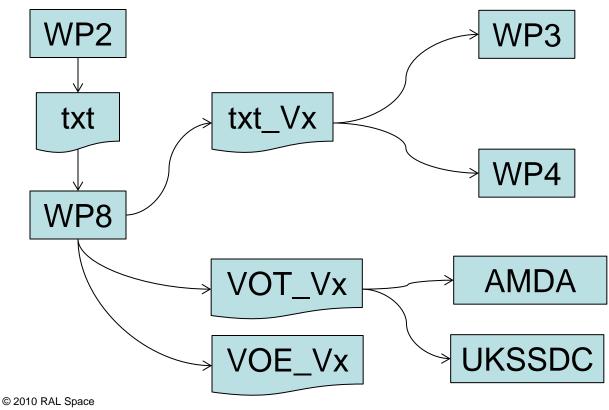
RAL Space

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Formats



- Most WPs currently using space separated tabular data files
- For broader dissemination would want to consider export to more self describing format (e.g. VOTable, VOEvent XML formats)
- Possible scheme (including version control) for WP2 output (similar scheme for other WP)



Formats/Metadata etc

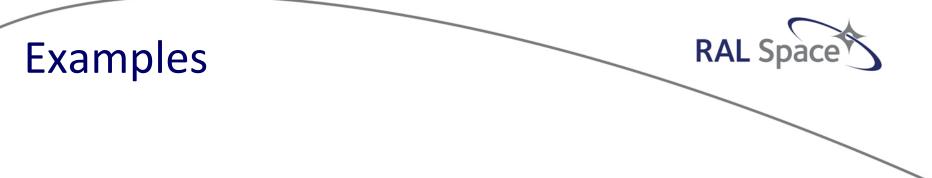


- If using simple txt file then agree standard formats and rules to be followed:
 - Standard way to describe field names, units and other metadata
 - Time: Use CSSDS/ISO8601 YYYY-MM-DDTHH:MM:SSZ
 - Angles specified in degrees
 - Speeds in km/s
 - Coordinate systems HEEQ plus Carrington Longitude
 - Format for event identifier
 - HCME_A_20070415_01 (cat name __ yyyymmdd _ seq)
 - Filename should include the cat name and version
 - Fill values should be the same data type as the field
 - Annotations should be as separate field
 - Avoid complex fields containing multiple bits of information

Version Control / QA



- Configuration control and versioning important
 - Catalogues are being updated (multiple versions already in use)
 - When it comes to publications need to be able to refer to a particular version of the catalogues that have been used
- File names should include version number
- Need to agree an approval and release strategy for making the catalogues publicly available.
 - Require SC approval?



- WP 2
- WP 3
- WP 4
- WP 5
- WP 6
- WP 7