

Spanish-Portuguese Meteorological Information System for Trans-Boundary Operations in Forest Fires

Context

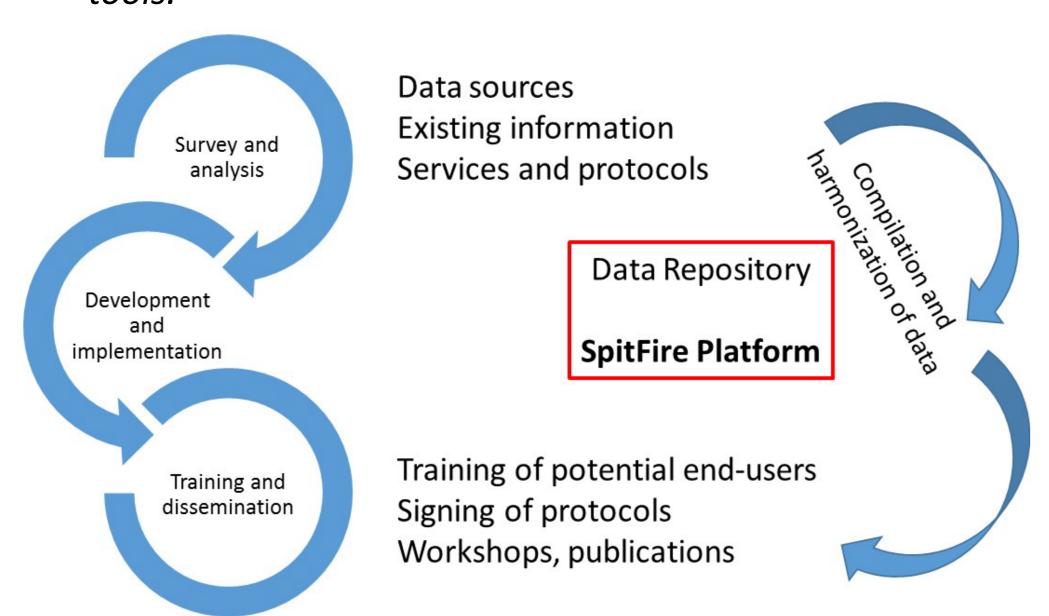
SpitFire addresses several issues aiming at the improvement of the efficiency of actions of prevention, preparedness and response to wildfires in the transboundary area between Portugal and Spain.

Objectives

Improve and increase the sharing of meteorological and forest fire risk information of the border area between Portugal and Spain.

Methodology

- identification, design and implementation of data interchange protocols;
- development of the <u>Spitfire Platform</u> to facilitate the sharing of information between Portuguese and Spanish civil protection authorities, and to provide decision support tools.





(above, left) General methodology used in the project spitfire (above, right) Area of interest in the border area between Portugal and Spain (very above, on the right of the "Objectives") Currently used fire risk map where is possible to observe the under data harmonization for both countries.

Consortium



ADAI - Associação para o Desenvolvimento da Aerodinâmica Industrial (PT) - <u>Coordinator</u> www.adai.pt



METEOGRID – Meteorological services (SP) www.meteogrid.com



AEMET - Agencia Estatal de Meteorología (SP) www.aemet.es



IPMA - Instituto Português do Mar e da Atmosfera (PT) www.ipma.pt



ANPC - Autoridade Nacional de Proteção Civil (PT) www.prociv.pt

Project structure

T01 – Requirements analysis; survey and assessment of the existing services; system specifications

T02 – Information collection and data repository

T03 – Development of common fire weather indexes

T04 – Development of the SpitFire Platform

T05 – Training and operational implementation

T08 – Management and coordination T07 – Dissemination and communication

Important dates

- January 1st, 2015 SpitFire Project kick-off
- December 11th, 2015 1st Workshop: presentation of the preliminary results

→T06 – Workshops organization and case studies

- October 03rd, 2016 SpitFire Training Session
- November 11th, 2016 Final Workshop: presentation of the final results

Important Information

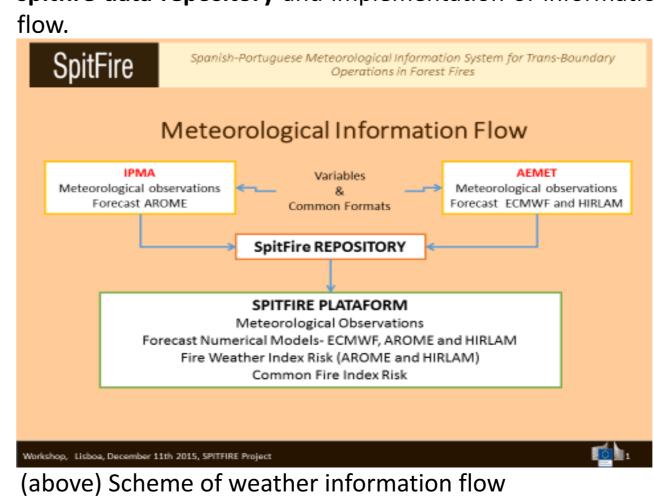
- SpitFire Project webpage <u>www.adai.pt/spitfire</u>
- To receive information about the project, to clarify eventual doubts, to participate in the public SpitFire activities or to communicate with the consortium, please contact: e-mail: xavier.viegas@dem.uc.pt; telephone: 00351 239790731.

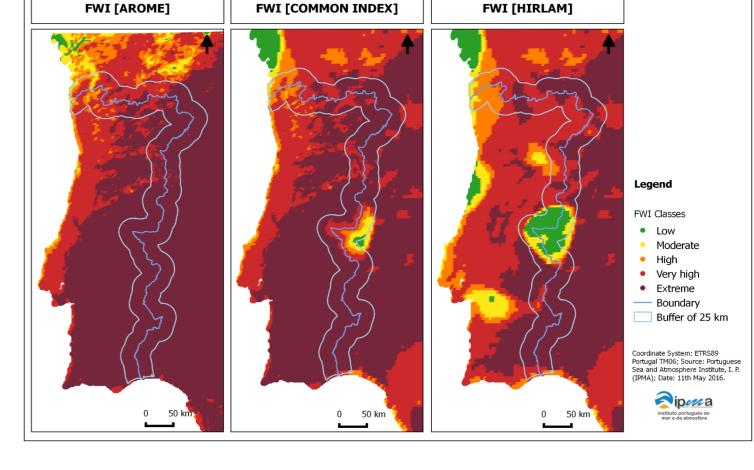
Task T01 – Requirements analysis; survey and assessment of the existing services; system specifications

Authors	Product	Format	Source	ACORDO ENTRE O GOVERNO DA REPÚBLICA PORTUGUESA E O GOVERNO DO REINO DE ESPANHA PARA A CODPE-	PROTOCOLO ADICIONAL SOBRE AJUDA MÚTUA EM CASO DE INCÊNDIOS FLORESTAIS NAS ZONAS FRONTEIRIÇAS, ADOPTADO NOS
IPMA	FWI (obs, prev)	txt, jpg, dat	ftp, web	PAÇAO CIENTÍFICA E TÉCNICA NO CAMPO DAS CIÊNCIAS DA ATMOSFERA. O Governo da República Portuguesa e o Governo do Reino de Espanha, animados pelo espírito de amizade e solidariedade existente entre ambos os Estados, Com o propósito de intensificar e fortalecer a sua cooperação científica e técnica, tal como está previsto no vigente Tratado de Amizade e Cooperação entre Portugal e Espanha, Considerando que o Instituto Nacional de Meteorologia e Geofísica de Portugal e o Instituto Nacional de Meteorologia de Espanha desempenham funções de investigação e utilizam tecnologias similares no campo das ciências da atmosfera,	TERMOS DO ARTIGO 8º DO PROTOCOLO ENTRE A REPÚBLICA PORTUGUESA E O REINO DE ESPANHA SOBRE COOPERAÇÃO TÉCNICA E ASSISTÊNCIA MÚTUA EM MATÉRIA DE PROTECÇÃO CIVIL, ASSINADO EM ÉVORA A 9 DE MARÇO DE 1992 O vigente Protocolo entre a República Portuguesa o Reino de Espanha sobre Cooperação Técnica e Assistência Mútua em matéria de Protecção Civil, assinado em Évora a 9 de Março de 1992, veio ampliar o âmbito da Convenção de Assistência Mútua entre os Serviços contra Incêndios e de Socorro Portugueses e Espanhóis, assinado em Lisboa a 31 de Março de 1980. Não obstante, a aplicação do vigente Protocolo e os incêndios florestais que todos os anos, em especial durante o Verão, afectam profundamente a zona fronteiriça luso-espanhola, salientam a necessidade de dispor de procedimentos mais ágeis que os estabelecidos com carácter geral. Estes novos instrumentos deverão permitir, quando a urgência da situação o aconselhe, uma rápida intervenção e prestação de ajuda mútua no caso de incêndios florestais na zona referida. O presente Protocolo Adicional complementa, neste aspecto, o supracitado Protocolo, nos termos do disposto no seu artigo 8º.
IPMA	Sub-indexes FWI (obs, prev)	txt, jpg, kmz	ftp		
IPMA	WForecast AROME	txt, jpg, kmz	ftp		
IPMA	Percentils FWI (obs., prev)	txt, jpg, kmz	ftp		
IPMA	ICRIF (obs, prev)	txt, jpg	ftp		
IPMA	RCM (obs, prev)	txt, jpg, ddm	ftp, web	resolveram celebrar o seguinte acordo de cooperação:	
IPMA	Meteograma AROME	jpg	e-mail		Agencia Estatal de Meteorologi NSTRVIO DE HETEOROLOGIA. IÀ Acordo de Barcelona
Meteo – IST	Meteograma WRF		web		Centro Ibérico de Serviços de Clima - CISCLIMA
Meteo – IST	Meteograma GFS		web		
AEMET	FWI (obs, prev)	txt, jpeg	ftp, web, e-mail	(above) Agreements and cooperation protocols between Portug and Spain in the context of meteorological information exchange and fire fighting operational collaboration. (Left) Examples of existing products and services.	
AEMET	Sub-indexes FWI (obs, prev)	txt, jpeg	ftp, web, e-mail		
AEMET	Risk classes FWI (obs, prev)	txt, jpeg	ftp, web, e-mail		

Task T02 – Information collection and data repository

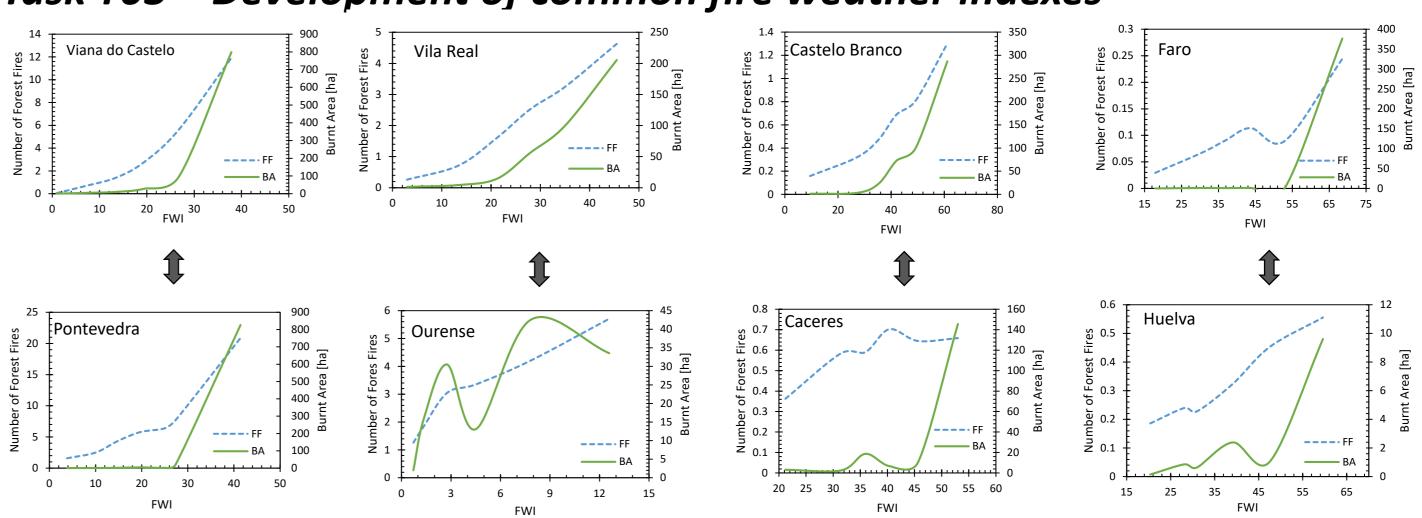
- **Methodology** for the obtainment of consistent series of meteorological indexes of fire risk (FWI) historical data, information **standardization** and **harmonization**.
- Specifications and requirements of the structure of **spitfire data repository** and implementation of information





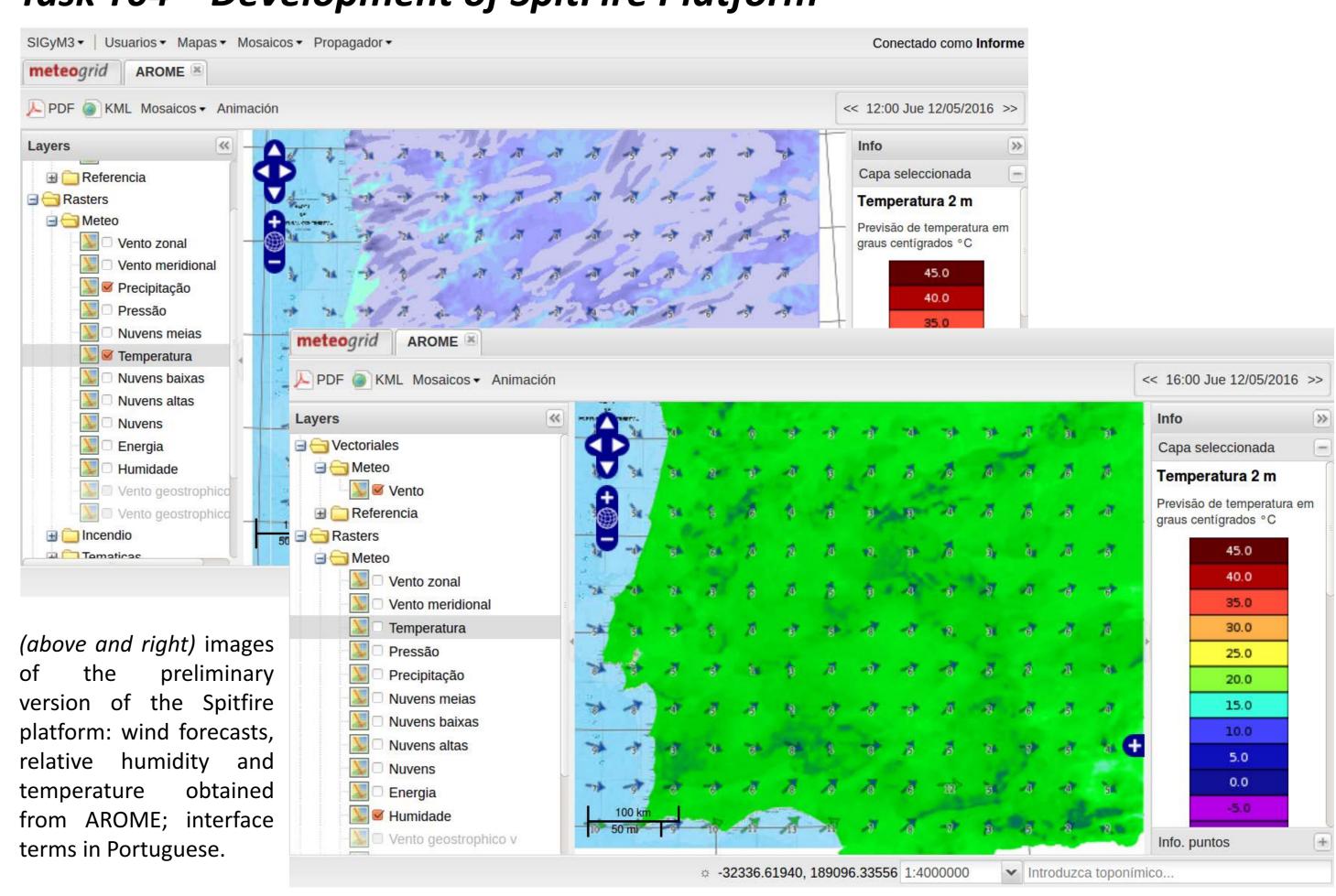
(above) Examples of the fire risk weather index (FWI). FWI determined using AROME model outputs (from IPMA, on the left); FWI determined using HIRLAM model outputs (from AEMET, on the right), common fire risk weather index (SpitFire, in the middle).

Task T03 – Development of common fire weather indexes



(above) Examples of the correlation analysis between the average burned area (AA) and the number of wildfire events (Nº IF) for the Portuguese districts and the contiguous Spanish provinces aiming the harmonization of the fire risk weather index values (FWI)

Task T04 – Development of SpitFire Platform



Task T06 – Organization of Workshops







(above) Images of the 1st Spitfire Workshop on 11/Dec/2015 and SpitFire Training Session on 03/Oct/2016.