

DATA SETS ON COOPERATION

Ana Crespo Solana
High-Spanish Council of Research
CCHS-CSIC

Budapest, 15-17 september 2010

DATA SETS HISTORICAL GIS

- Data Sets must contain coordinates in terms of longitude and latitude
- Dissemination over Internet

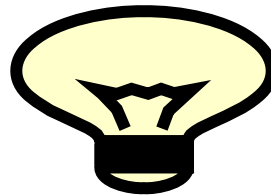
- DATA SHARING



- <http://idahostate.academia.edu/JBJackOwens/Papers/84972>
- (Ethical Guidelines for the used of Shared and distributed Data)

Creation of a CONCEPTUAL MODEL: Objectives, previous steps

- Spatial Database
- GIS: handle a great volume of data and different kinds of information from historical sources
- Is geo-referenced
- Spatio-temporal component
- Issue to be solved: each database contained information from primary sources, literature and specialist bibliography integrated into different tools and with different objectives in mind.
- Level of precision
- Existence of gaps of information due to the lack of relevant details in historical sources.
- Phases:
 - » CONCEPTUALIZATION
 - » DESIGN OF A DATA MODEL
 - » IMPLEMENTATION



Catographical Corpus

- Polytechnic university of Madrid:
- Miguel Ángel Bernabé Poveda
- Adolfo Urrutia
- Alberto Fernández
- Daniel Orellana
- Marta Guerrero
- Teresa Iturrioz
- Willington Siabato
- Monica Wachowicz

The screenshot displays the DynCoopNet Cartoteca Virtual interface. At the top, the logo 'DynCoopNet' is visible, along with the text 'CARTOTECA VIRTUAL' and 'Versión Alfa'. Below the header, there is a search bar with a 'Buscar' button and a 'Ir' button. To the right of the search bar are links for 'Autores', 'Fechas', 'Lugares', and 'Colecciones'. The main content area shows a list of search results for historical maps. Each result includes a thumbnail image of the map, the title, the responsible person (Resp.), and the date. The results are as follows:

Title	Resp.	Date
Hindoostan	A. Findlay	1818
Spain & Portugal	A. Findlay	c.1820
Sweden, Norway, and Denmark	A. Findlay	1820
Switzerland	A. Findlay	c.1820

On the right side of the interface, there is a 'Mapa Guia' section with a world map and a 'Mapa Base' section with a map of Europe. The main map area shows a detailed view of Europe with a scale of 1:33981200. The interface also includes a search bar, a list of collections, and a sidebar with navigation options like 'Mapa Guia', 'Mapa Base', 'Otros Recursos', and 'A. Findlay'.



<http://www.dyncoopnet.eu/cartoteca>

What type of historical database is needed for making a GIS that is spatio-temporal and dynamic?

- Localization, geometry, high-level concepts



- activities: actions taken by agents
- Events: with a summary of historical events
- Processes: geospatial process

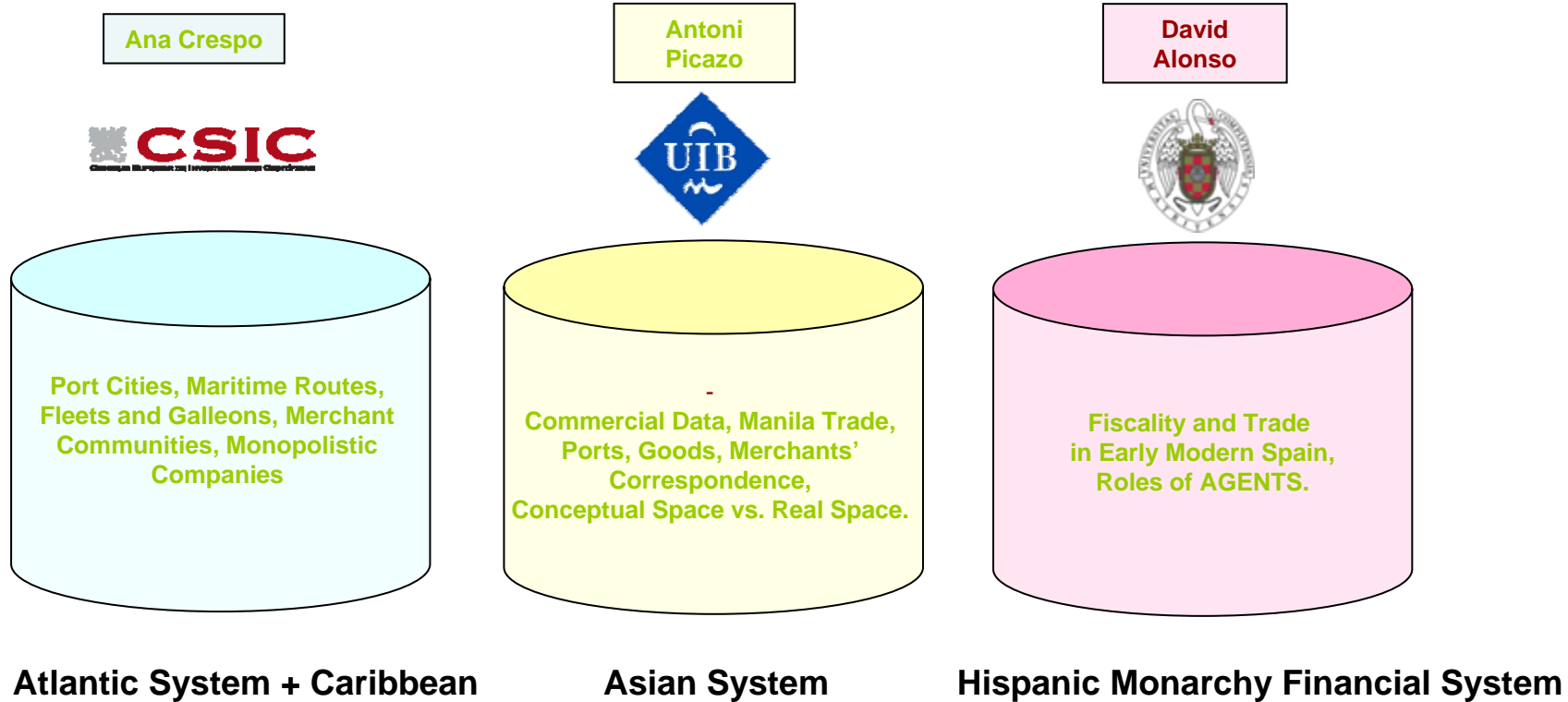
“Dynamic is a common term used to characterize the work of forces that drive the behaviour of a system and the system’s components individually and collectively”

May Yuan (Department of Geography, University of Oklahoma)

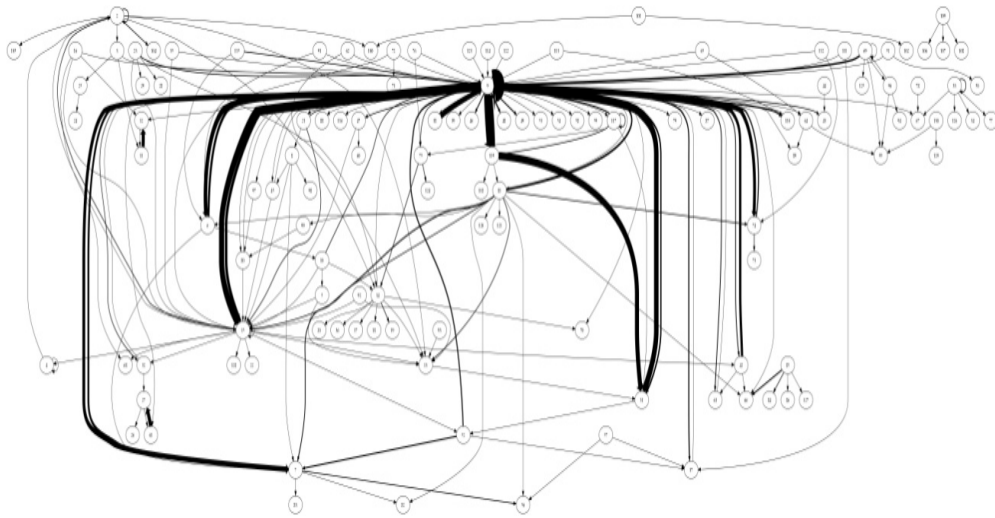
Three stages:

- 1. Compilation of the Databases (data and type of information contained)
- 2. design and description of the Data model (oriented to agents and cooperation)
- 3. Final objective: sharing data and creation of a SDI (Spatial Data infrastructure) <http://www.ideo.es>

DATABASES oriented to Agents, Trade and Cooperation in maritimes routes: *Historical GIS DynCoopNet-CSIC*



CrespoDynCoopNetDATA Collections



Graph: representing maritimes connections Between ports and agents networks (used the DynCoopNet Data Provider Interfaz)

- DATA BASE: European Atlantic Trade, ca. 1650-1780.
- Connections between important commercial areas: **Systems.**
- Maritime routes (specific ships and fleets, agents involved, types of negotiations and cooperation)

CrespoDynCoopNetDATA Collections

- Information about merchants networks, trading activities and cooperation between agents and merchant communities.
- DIGITAL REPOSITORY CSIC:
- <http://digital.csic.es/>

GIS Laboratory CSIC, Madrid, Spain



Crespo's team: Juan Manuel Sánchez-Crespo, Roberto Maestre, Esther Pérez Asensio

Antoni Picazo Muntaner

Data bases: Phillipine trade relations with Indian and Pacific Oceans

- Visibles and Invisibles Networks:
 - data showed a high degree of fraud.
 - configuration of invisible networks
 - extreme virulence of the clash between "invisible network" Hispanic to control illegal trade in Acapulco
- Cartography/Ports



PicazoDynCoopNet DATA SETS

David Alonso García

AlonsoDynCoopNet DATA SETS



Financial System of the Hispanic Monarchy

Interconnected networks of merchants
And financiers

XVI century Castille

AGENTS: Emphasis on their family relationships, institutional context, subsystems

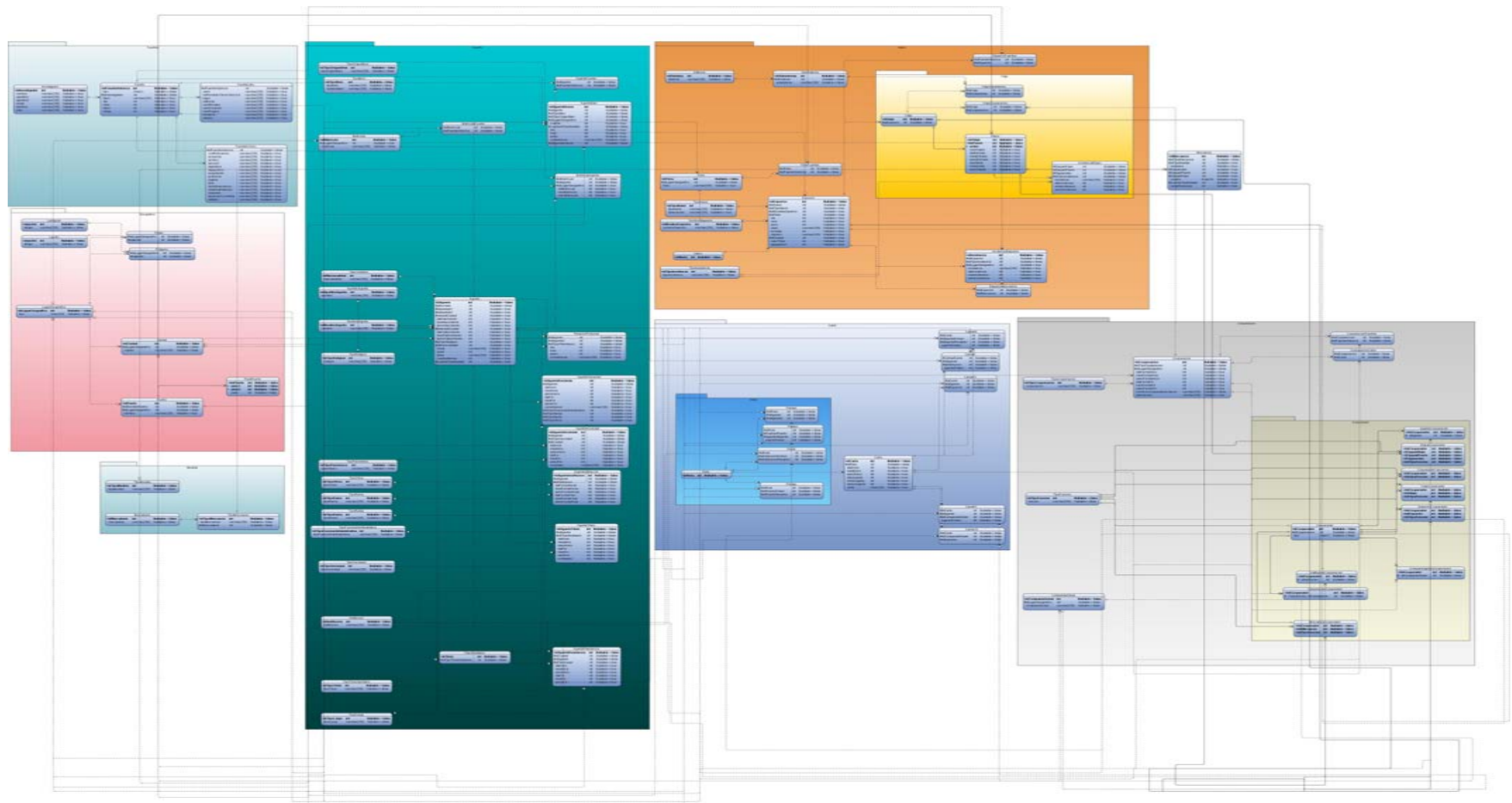


DATA MODEL

- Objective: INTEGRATES *all data, is scalable and with great potential; is capable of answering any questions and reaching scientific objectives raised by the end user.*
- Three basic questions:
 1. socio-economic system
 2. Merchant networks
 3. Trade circles
- Physical model: two blocks of historical information:
 - Life-cycle of ships involved in commercial operations
 - » Cooperation relationships established by AGENTS in specific geographical spaces and times
- Conceptual design: emphasizes relation between information blocks

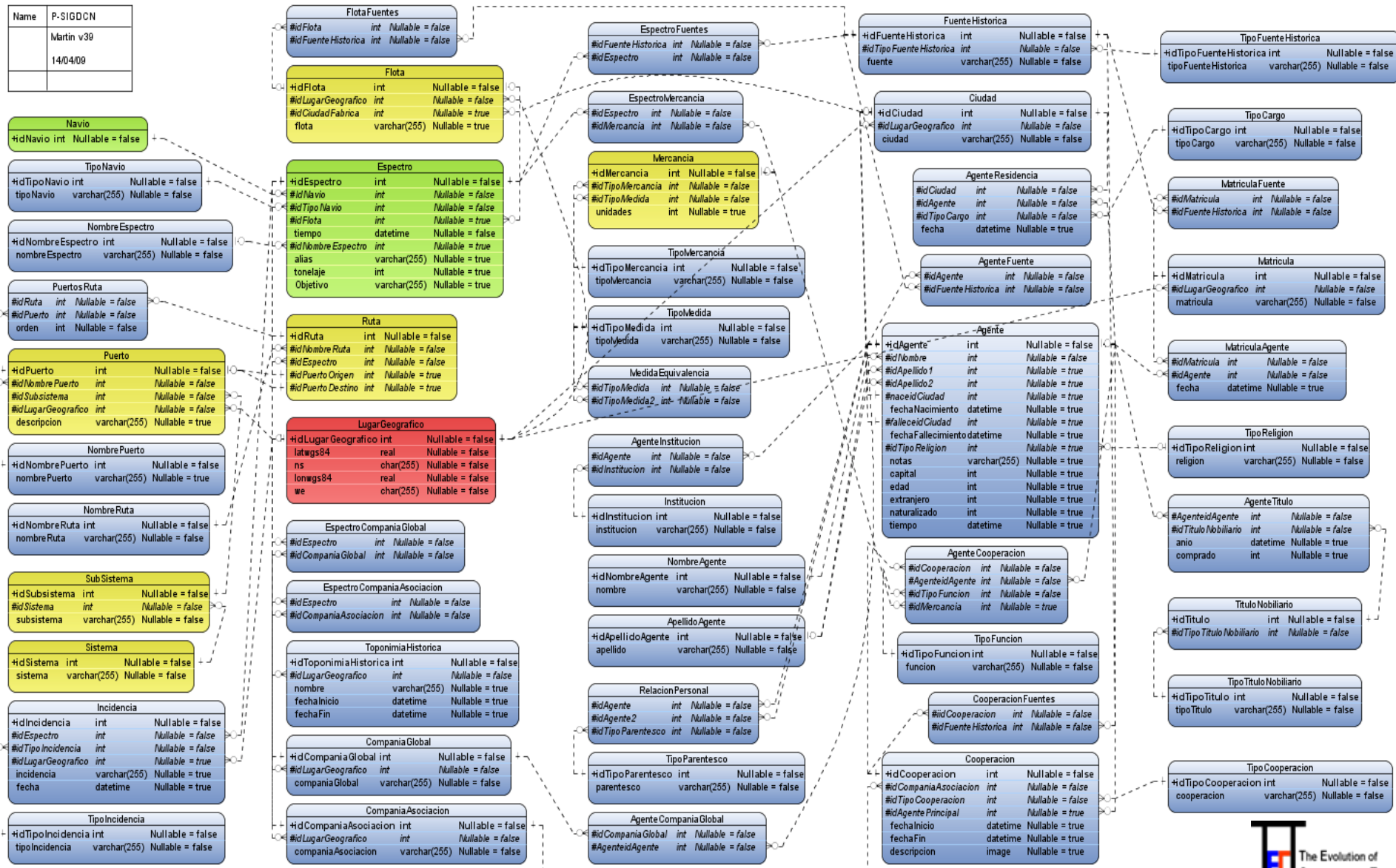


Conceptual Data of GIS DynCoopNet in UML notation



4. Data Model. Sea Routes and Ships

Name	P-SIGDCN
	Martin v39
	14/04/09



5. Data Model. Agents (merchants)

Name	P-SIGDCN
	Martin v39
	14/04/09

Navio	#idNavio int Nullable = false
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Tipo Navio	#idTipoNavio int Nullable = false	tiponavio varchar(255) Nullable = false
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Nombre Espectro	#idNombreEspectro int Nullable = false	nombreEspectro varchar(255) Nullable = false
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Puertos Ruta	#idRuta int Nullable = false	#idPuerto int Nullable = false	orden int Nullable = false
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Puerto	#idPuerto int Nullable = false	#idNombrePuerto int Nullable = false	#idSubsistema int Nullable = false	#idLugarGeografico int Nullable = false	descripcion varchar(255) Nullable = true
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Nombre Puerto	#idNombrePuerto int Nullable = false	nombrePuerto varchar(255) Nullable = true
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Nombre Ruta	#idNombreRuta int Nullable = false	nombreRuta varchar(255) Nullable = false
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Sub Sistema	#idSubsistema int Nullable = false	#idSistema int Nullable = false	subsistema varchar(255) Nullable = false
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Sistema	#idSistema int Nullable = false	sistema varchar(255) Nullable = false
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Incidencia	#idIncidencia int Nullable = false	#idEspectro int Nullable = false	#idTipoIncidencia int Nullable = false	#idLugarGeografico int Nullable = true	incidencia varchar(255) Nullable = true	fecha datetime Nullable = true
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Tipo Incidencia	#idTipoIncidencia int Nullable = false	tipoincidencia varchar(255) Nullable = false
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Flota Fuentes	#idFlota int Nullable = false	#idFuenteHistorica int Nullable = false
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Flota	#idFlota int Nullable = false	#idLugarGeografico int Nullable = false	#idCiudadFabrica int Nullable = true	flota varchar(255) Nullable = true
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Espectro	#idEspectro int Nullable = false	#idNavio int Nullable = false	#idTipoNavio int Nullable = false	#idFlota int Nullable = true	tiempo datetime Nullable = false	#idNombreEspectro int Nullable = true	alias varchar(255) Nullable = true	tonelaje int Nullable = true	Objetivo varchar(255) Nullable = true
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Ruta	#idRuta int Nullable = false	#idNombreRuta int Nullable = false	#idEspectro int Nullable = false	#idPuertoOrigen int Nullable = true	#idPuertoDestino int Nullable = true
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Lugar Geografico	#idLugarGeografico int Nullable = false	latwgs84 real Nullable = false	ns char(255) Nullable = false	lonwgs84 real Nullable = false	we char(255) Nullable = false
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Espectro Compania Global	#idEspectro int Nullable = false	#idCompaniaGlobal int Nullable = false
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Espectro Compania Asociacion	#idEspectro int Nullable = false	#idCompaniaAsociacion int Nullable = false
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Toponimia Historica	#idToponimiaHistorica int Nullable = false	#idLugarGeografico int Nullable = false	nombre varchar(255) Nullable = true	fechaInicio datetime Nullable = true	fechaFin datetime Nullable = true
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Compania Global	#idCompaniaGlobal int Nullable = false	#idLugarGeografico int Nullable = false	companiaGlobal varchar(255) Nullable = false
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Compania Asociacion	#idCompaniaAsociacion int Nullable = false	#idLugarGeografico int Nullable = false	companiaAsociacion varchar(255) Nullable = false
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Espectro Fuentes	#idFuenteHistorica int Nullable = false	#idEspectro int Nullable = false
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Espectro Mercancia	#idEspectro int Nullable = false	#idMercancia int Nullable = false
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Mercancia	#idMercancia int Nullable = false	#idTipoMercancia int Nullable = false	#idTipoMedida int Nullable = false	unidades int Nullable = true
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Tipo Mercancia	#idTipoMercancia int Nullable = false	tipomercancia varchar(255) Nullable = false
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Tipo Medida	#idTipoMedida int Nullable = false	tipomedida varchar(255) Nullable = false
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Medida Equivalencia	#idTipoMedida int Nullable = false	#idTipoMedida2 int Nullable = false
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Agente Institucion	#idAgente int Nullable = false	#idInstitucion int Nullable = false
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Institucion	#idInstitucion int Nullable = false	institucion varchar(255) Nullable = false
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Nombre Agente	#idNombreAgente int Nullable = false	nombre varchar(255) Nullable = false
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Apellido Agente	#idApellidoAgente int Nullable = false	apellido varchar(255) Nullable = false
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Relacion Personal	#idAgente int Nullable = false	#idAgente2 int Nullable = false	#idTipoParentesco int Nullable = false
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Tipo Parentesco	#idTipoParentesco int Nullable = false	parentesco varchar(255) Nullable = false
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Agente Compania Global	#idCompaniaGlobal int Nullable = false	#idAgente int Nullable = false
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Fuente Historica	#idFuenteHistorica int Nullable = false	#idTipoFuenteHistorica int Nullable = false	fuente varchar(255) Nullable = false
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Ciudad	#idCiudad int Nullable = false	#idLugarGeografico int Nullable = false	ciudad varchar(255) Nullable = false
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Agente Residencia	#idCiudad int Nullable = false	#idAgente int Nullable = false	#idTipoCargo int Nullable = false	fecha datetime Nullable = true
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Agente Fuente	#idAgente int Nullable = false	#idFuenteHistorica int Nullable = false
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Agente	#idAgente int Nullable = false	#idNombre int Nullable = false	#idApellido1 int Nullable = true	#idApellido2 int Nullable = true	#nacimientoidCiudad int Nullable = true	fechaNacimiento datetime Nullable = true	#falleceidCiudad int Nullable = true	fechaFallecimiento datetime Nullable = true	#idTipoReligion int Nullable = true	notas varchar(255) Nullable = true	capital int Nullable = true	edad int Nullable = true	extranjerio int Nullable = true	naturalizado int Nullable = true	tiempo datetime Nullable = true
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Agente Cooperacion	#idCooperacion int Nullable = false	#idAgente int Nullable = false	#idTipoFuncion int Nullable = false	#idMercancia int Nullable = true
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Tipo Funcion	#idTipoFuncion int Nullable = false	funcion varchar(255) Nullable = false
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Cooperacion Fuentes	#idCooperacion int Nullable = false	#idFuenteHistorica int Nullable = false
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Cooperacion	#idCooperacion int Nullable = false	#idCompaniaAsociacion int Nullable = false	#idTipoCooperacion int Nullable = false	#idAgentePrincipal int Nullable = true	fechaInicio datetime Nullable = true	fechaFin datetime Nullable = true	descripcion image Nullable = true
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Tipo Fuente Historica	#idTipoFuenteHistorica int Nullable = false	tipoFuenteHistorica varchar(255) Nullable = false
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Tipo Cargo	#idTipoCargo int Nullable = false	tipocargo varchar(255) Nullable = false
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Matricula Fuente	#idMatricula int Nullable = false	#idFuenteHistorica int Nullable = false
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Matricula	#idMatricula int Nullable = false	#idLugarGeografico int Nullable = false	matricula varchar(255) Nullable = false
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Matricula Agente	#idMatricula int Nullable = false	#idAgente int Nullable = false	fecha datetime Nullable = true
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Tipo Religion	#idTipoReligion int Nullable = false	religion varchar(255) Nullable = false
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Agente Titulo	#idAgente int Nullable = false	#idTituloNobiliar int Nullable = false	anio comprado datetime Nullable = true
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Titulo Nobiliario	#idTitulo int Nullable = false	#idTipoTituloNobiliar int Nullable = false
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Tipo Titulo Nobiliario	#idTipoTitulo int Nullable = false	tipotitulo varchar(255) Nullable = false
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Tipo Cooperacion	#idTipoCooperacion int Nullable = false	cooperacion varchar(255) Nullable = false
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5. Data Model. Cooperation

Name	P-SIGDCN
	Martin v39
	14/04/09

Navio
#idNavio int Nullable = false

Tipo Navio
#idTipoNavio int Nullable = false
tipoNavio varchar(255) Nullable = false

Nombre Espectro
#idNombreEspectro int Nullable = false
nombreEspectro varchar(255) Nullable = false

Puertos Ruta
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#idPuerto int Nullable = false
orden int Nullable = false

Puerto
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#idNombrePuerto int Nullable = false
#idSubsistema int Nullable = false
#idLugarGeografico int Nullable = false
descripcion varchar(255) Nullable = true

Nombre Puerto
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nombrePuerto varchar(255) Nullable = true

Nombre Ruta
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nombreRuta varchar(255) Nullable = false

Sub Sistema
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subsistema varchar(255) Nullable = false

Sistema
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sistema varchar(255) Nullable = false

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#idTipoIncidencia int Nullable = false
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incidencia varchar(255) Nullable = true
fecha datetime Nullable = true

Tipo Incidencia
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tipoIncidencia varchar(255) Nullable = false

Flota Fuentes
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#idFuenteHistorica int Nullable = false

Flota
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#idLugarGeografico int Nullable = false
#idCiudadFabrica int Nullable = true
flota varchar(255) Nullable = true

Espectro
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#idFlota int Nullable = true
tiempo datetime Nullable = false
#idNombreEspectro int Nullable = true
alias varchar(255) Nullable = true
tonelaje int Nullable = true
Objetivo varchar(255) Nullable = true

Ruta
#idRuta int Nullable = false
#idNombreRuta int Nullable = false
#idEspectro int Nullable = false
#idPuertoOrigen int Nullable = true
#idPuertoDestino int Nullable = true

Lugar Geografico
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latwgs84 real Nullable = false
ns char(255) Nullable = false
lonwgs84 real Nullable = false
we char(255) Nullable = false

Espectro Compania Global
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Espectro Compania Asociacion
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Toponimia Historica
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fechaInicio datetime Nullable = true
fechaFin datetime Nullable = true

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Compania Asociacion
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companiaAsociacion varchar(255) Nullable = false

Espectro Fuentes
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#idEspectro int Nullable = false

Espectro Mercancia
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Mercancia
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unidades int Nullable = true

Tipo Mercancia
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Tipo Medida
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tipoMedida varchar(255) Nullable = false

Medida Equivalencia
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#idTipoMedida_2 int Nullable = false

Agente Institucion
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#idInstitucion int Nullable = false

Institucion
#idInstitucion int Nullable = false
institucion varchar(255) Nullable = false

Nombre Agente
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nombre varchar(255) Nullable = false

Apellido Agente
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apellido varchar(255) Nullable = false

Relacion Personal
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#idTipoParentesco int Nullable = false

Tipo Parentesco
#idTipoParentesco int Nullable = false
parentesco varchar(255) Nullable = false

Agente Compania Global
#idCompaniaGlobal int Nullable = false
#idAgente int Nullable = false

Fuente Historica
#idFuenteHistorica int Nullable = false
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fuente varchar(255) Nullable = false

Ciudad
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#idLugarGeografico int Nullable = false
ciudad varchar(255) Nullable = false

Agente Residencia
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#idAgente int Nullable = false
#idTipoCargo int Nullable = false
fecha datetime Nullable = true

Agente Fuente
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#idFuenteHistorica int Nullable = false

Agente
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#idApellido1 int Nullable = true
#idApellido2 int Nullable = true
#nacimiento datetime Nullable = true
#fallecimiento datetime Nullable = true
#fechaFallecimiento datetime Nullable = true
#idTipoReligion int Nullable = true
notas varchar(255) Nullable = true
capital int Nullable = true
edad int Nullable = true
extranjero int Nullable = true
naturalizado int Nullable = true
tiempo datetime Nullable = true

Agente Cooperacion
#idCooperacion int Nullable = false
#idAgente int Nullable = false
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#idMercancia int Nullable = true

Tipo Funcion
#idTipoFuncion int Nullable = false
funcion varchar(255) Nullable = false

Cooperacion Fuentes
#idCooperacion int Nullable = false
#idFuenteHistorica int Nullable = false

Cooperacion
#idCooperacion int Nullable = false
#idCompaniaAsociacion int Nullable = false
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#idAgentePrincipal int Nullable = true
fechaInicio datetime Nullable = true
fechaFin datetime Nullable = true
descripcion image Nullable = true

Tipo Fuente Historica
#idTipoFuenteHistorica int Nullable = false
tipoFuenteHistorica varchar(255) Nullable = false

Tipo Cargo
#idTipoCargo int Nullable = false
tipoCargo varchar(255) Nullable = false

Matricula Fuente
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#idFuenteHistorica int Nullable = false

Matricula
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#idLugarGeografico int Nullable = false
matricula varchar(255) Nullable = false

Matricula Agente
#idMatricula int Nullable = false
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fecha datetime Nullable = true

Tipo Religion
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religion varchar(255) Nullable = false

Agente Titulo
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anio datetime Nullable = true
comprado int Nullable = true


Titulo Nobiliar
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#idTipoTituloNobiliar int Nullable = false

Tipo Titulo Nobiliar
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tipoTitulo varchar(255) Nullable = false





Tipo Cooperacion
#idTipoCooperacion int Nullable = false
cooperacion varchar(255) Nullable = false

DynCoopNet Data provider

<https://161.111.47.117/dyncoopnet3/ticket.jsp>


















[Salir](#) → [Inicio](#) → [Navio](#) → [Espectros del navio](#) → [Espectro](#)

Editar	Eliminar	Nombre	Año	Tipo navio	Flota	Alias	Tonelaje	Valor total
		Concepción y San Antonio	1770	Navio		La Concepción	825	

Viajes realizados

Añadir Viaje al espectro

Eliminar	Acceder	Geovisualizar	Numero de puertos visitados	Puertos
			3	Cádiz , Buenos Aires , Cádiz
			3	Cádiz , Veracruz , Cádiz
			3	Cádiz , Buenos Aires , Cádiz
			3	Cádiz , Callao , Cádiz
			3	Cádiz , Veracruz , Cádiz

Mercancias generales espectro (no de los viajes)

Añadir Mercancia al espectro

Incidencias

Añadir incidencia al espectro

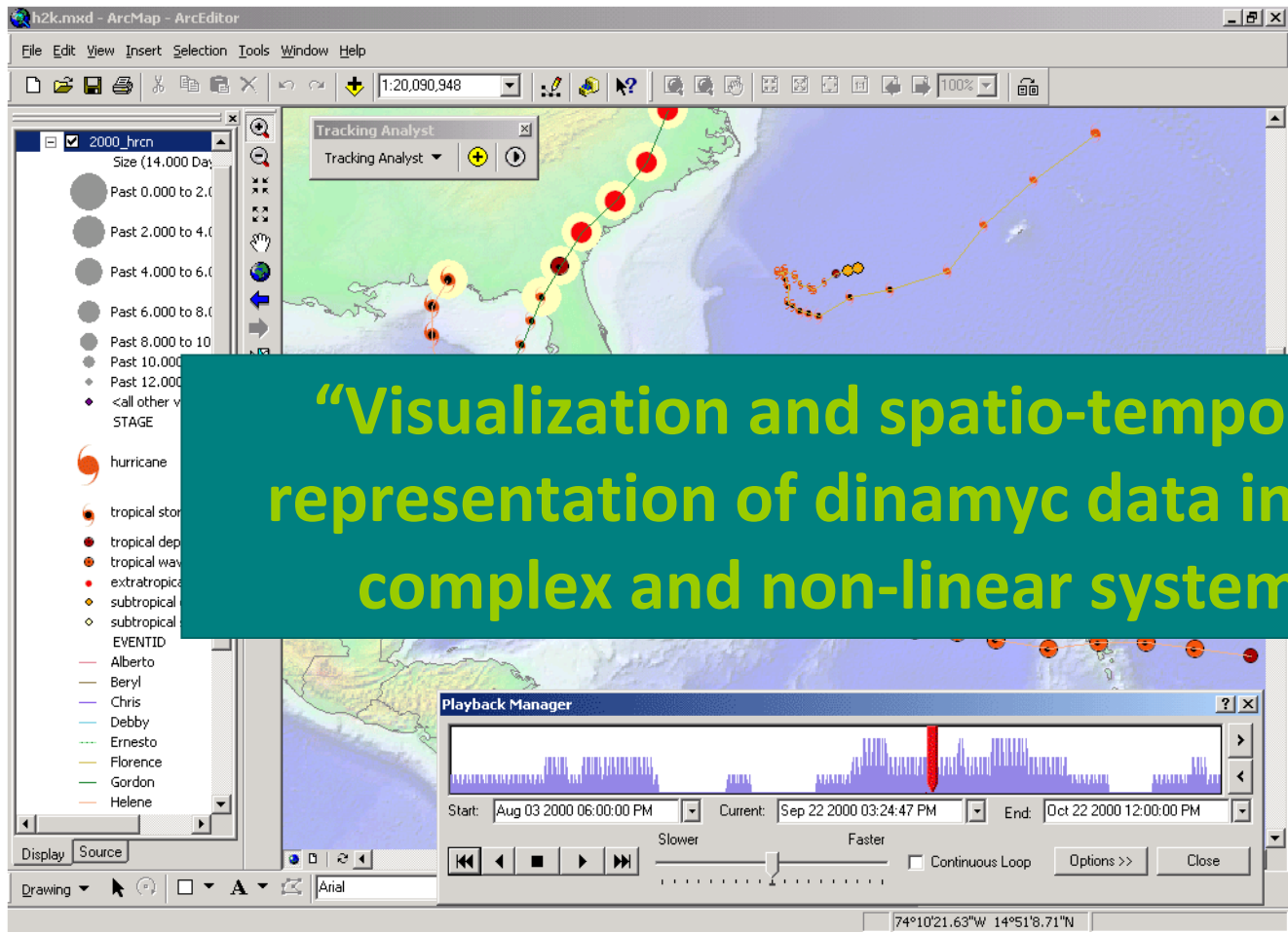
Fuentes historicas

4. Geovisualization and analysis with GIS

- Area of influence of the monopolistic company W.I.C. (Dutch West Indies Company) -
Localization of the company's main agents, XVII – XVIII centuries. **“Triangular Commerce” – Atlantic System**

The screenshot displays the ArcMap interface with several map documents open. The main map shows a triangular area of influence in the Atlantic Ocean, connecting Europe (Zeeland, Amsterdam), the Caribbean (Curaçao), and West Africa (Benin, Elmina). The interface includes various toolboxes and layers panels.

6. Spatio-temporal geovisualization



“Visualization and spatio-temporal representation of dynamic data into a complex and non-linear system.”

<http://digital.csic.es/> Instituto de Historia



CSIC

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS
Secretaría General Adjunta de Informática

Centro de Ciencias Humanas y Sociales



THANK YOU VERY MUCH