Water Information Management and Analysis System (WIMAS), Version 4, for ArcView

An ArcView Based GIS Application for Kansas Water Right Analysis

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Water Information Management and Analysis System (WIMAS)

Public application that maps, queries, analyzes, prints, and exports Kansas water right data

- First developed in 1991 as an ARC/INFO application by Kyle Juracek of the USGS in cooperation with the KS Dept. of Agriculture, Division of Water Resources
- Milestone program that both mapped and queried Kansas water right data
- Required access to a UNIX workstation running a license copy of ARC/INFO
- In 1996, the Kansas GIS Policy Board provided funds to re-write and enhance the WIMAS program as an ArcView program to run on the desktop

Customized ESRI ArcView project file

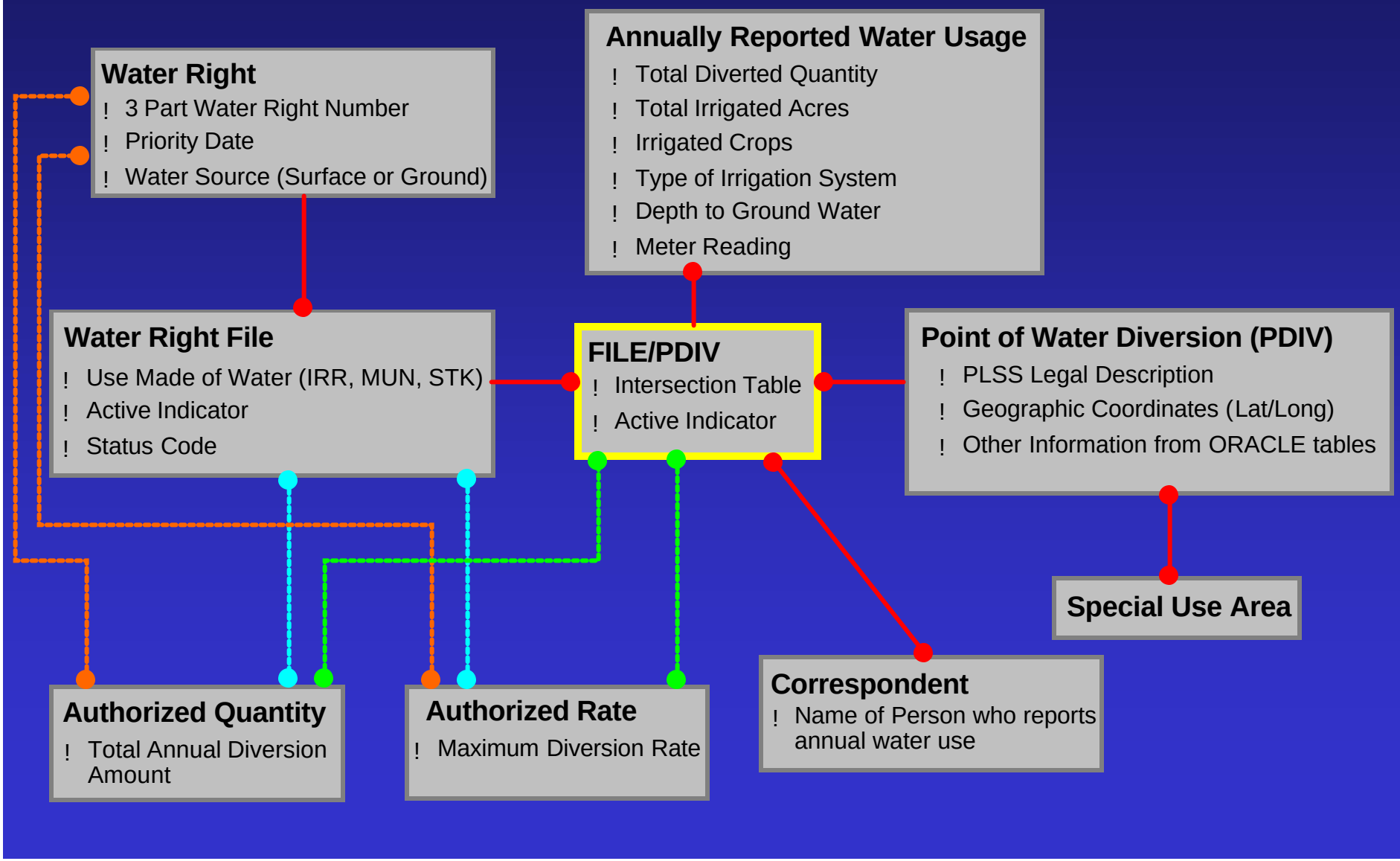
- ArcView version 3.0a or 3.1
- Developed with Avenue programming language
- Extensive use of the Dialog Designer Extension for ArcView

Primary data set is the KS Dept. Of Agriculture, Division of Water Resources' Water Rights Information System

- ORACLE RDBMS
- Approximately 70 tables
- Migrated in September 1996
- Restructured database items and relationships

Water Rights Information System (WRIS)
Primary ORACLE Tables Used in WIMAS

One — Many



Exporting WRIS Data to the WIMAS Program

SQL Requests

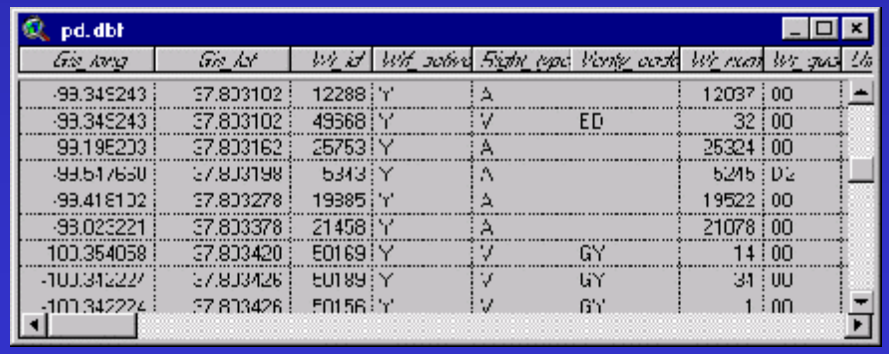
ArcView

ODBC

ORACLE

dBase formatted tables

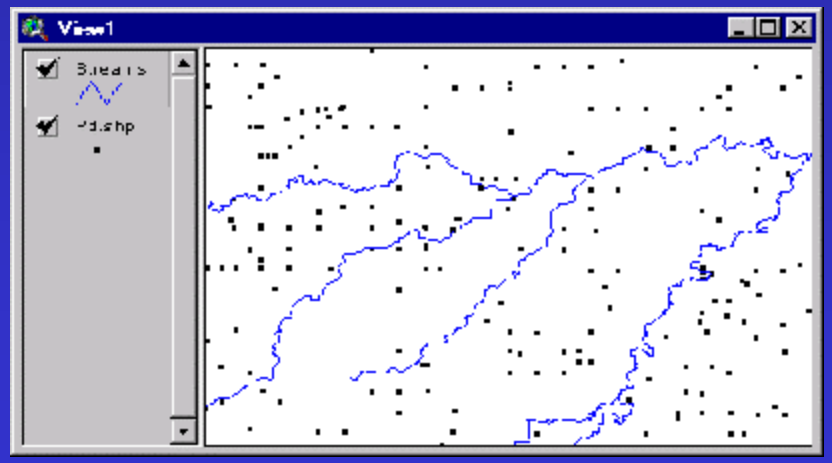
Data is collapsed into a single ArcView Shape File based on stored geographic coordinates from the point of diversion table.



pd.dbf

Gis_long	Gis_lat	Wr_id	Wr_active	Right_type	Priority_code	Wr_num	Wr_sub	Ut
-99.349243	37.803102	12288	Y	A		12037	00	
-99.349243	37.803102	49568	Y	V	ED	32	00	
99.195203	37.803162	25753	Y	A		25324	00	
-99.517650	37.803198	6343	Y	A		6246	D2	
-99.416102	37.803278	19385	Y	A		19522	00	
-99.023221	37.803378	21458	Y	A		21078	00	
100.354058	37.803420	E0169	Y	V	GY	14	00	
-100.342227	37.803426	E0189	Y	V	GY	31	00	
-100.342224	37.803426	E0156	Y	V	GY	1	00	

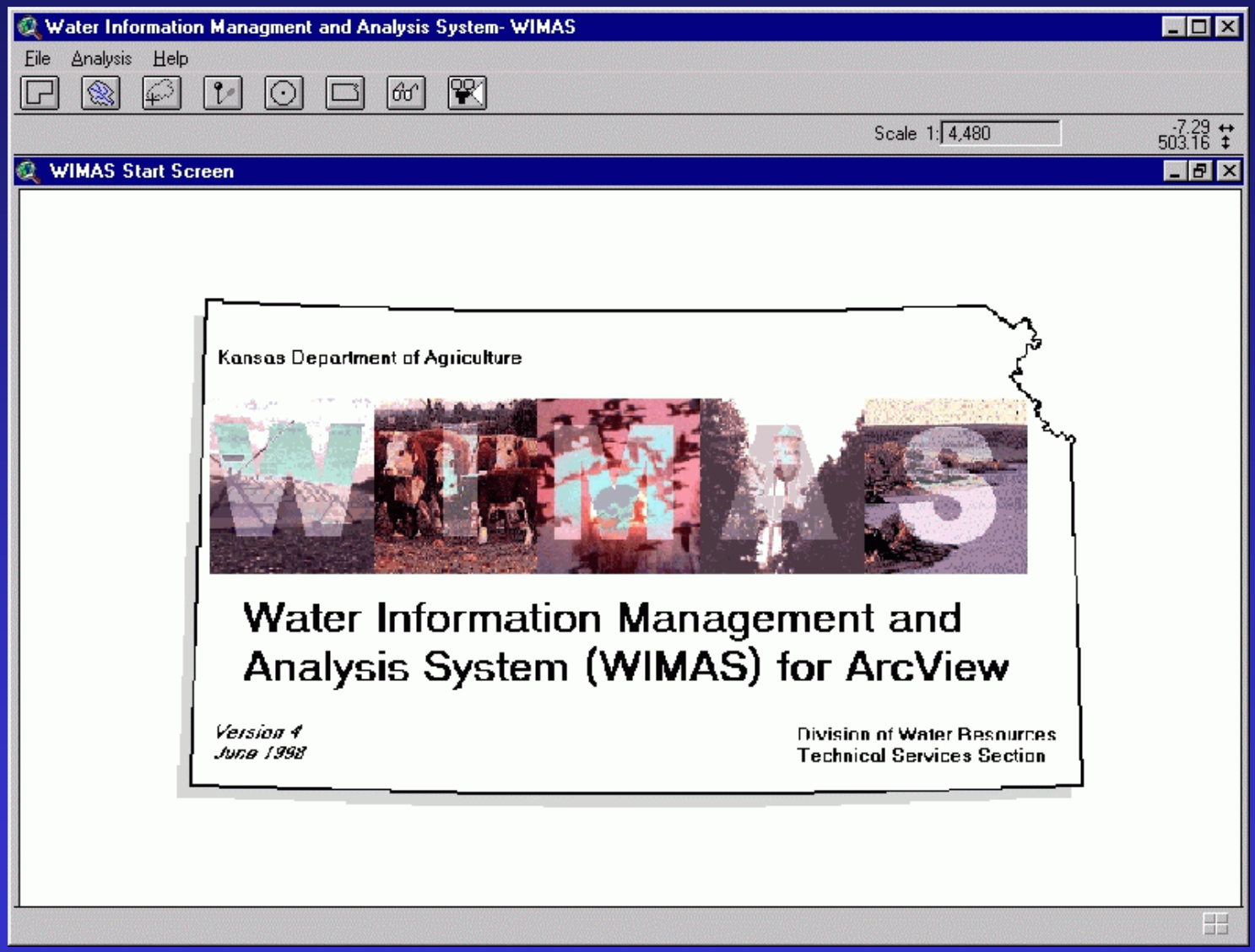
Water rights Shape File is then combined with other GIS data layers in a geographic projection for use in WIMAS and other GIS operations.



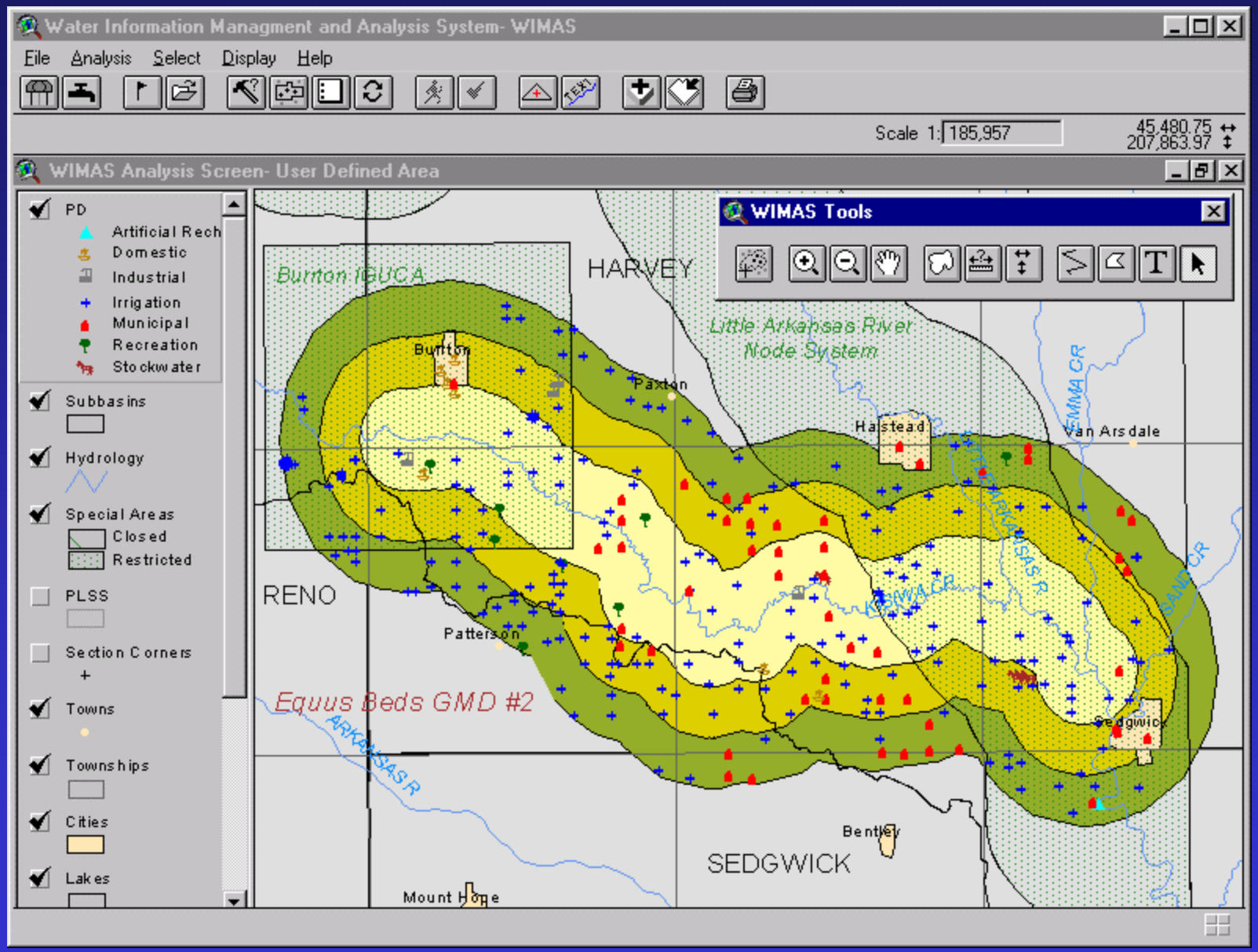
Example Avenue Code for ORACLE Connection

```
'Establish the ODBC data connection name.
theSQL = SQLCon.Find("water")

'Set the user name and password.  Can use msgbox to prompt the user for the login name and password.
theUser = "tank_girl"
thePassword = “RockNRoll”

'Log on to the ORACLE server using the above info.
theSQL.Login("UID="+theUser+";"+"PWD="+thePassword)

'Setup the SQL statement to be used for the data retrieval.  The SQL statement is a one large character string.
theSQLString = "select distinct ptc.wua_corr_pers_person_id person_id,"++
                "ptc.wua_corr_corr_seq_num corr_num, lp.last_name lname,"++
                "lp.first_name fname, ptc.wua_umw_code umw_code, ptc.wua_year,"++
                "ptc.wua_fo_field_office_num fo_num, ptc.ptc_population_served pop_served,"++
                "ptc.ptc_total_connections total_con, ptc.ptc_residential_connections res_con,"++
                "ptc.ptc_comm_instit_connections commer_con, ptc.ptc_industrial_connections ind_con,"++
                "ptc.ptc_past_stk_fdlt_connections stk_con, ptc.ptc_other_connections other_con"++
                "from water_mrkt_part_bcd ptc, legal_person_code lp"++
                "where ptc.wua_umw_code = 'MUN' and lp.person_id = ptc.wua_corr_pers_person_id"

'Send the SQL statement to the define ODBC data connection and create a temporary Vtab from the results.
theVtab=Vtab.MakeSQL(theSQL,theSQLString)

'Create an ArcView Table from the Vtab and open the file.
myTable = Table.Make(theVtab)
myTable.GetWin.Open
```

WIMAS Start GUI



WIMAS Analysis GUI



Example Avenue Code for GUI Creation

```
'Setup the MAIN gui for Wimas
theMainGUI = DocGUI.Make("View")        'theMainGUI is a clone of the View GUI
theMainGUI.SetName("WIMAS Main Menu")        'Set the name of the GUI
theMainGUI.SetTitle("Main Menu")          'Set the title as it will appear in the project window
theMainGUI.SetIcon(av.FindGUI("View").GetIcon)        'Set the icon in the project window the same as a View
theMainGUI.SetNewScript("Doc.New")          'Set the scripts assigned to the buttons on the project window
theMainGUI.SetOpenScript(ADoc.Open")
theMainGUI.SetActionScript(ADoc.Action")
theMainGUI.SetNewUpdateScript("Doc.NewUpdate")    'Set the update scripts to the buttons on the project window
theMainGUI.SetOpenUpdateScript("Doc.OpenUpdate")
theMainGUI.SetActionUpdateScript(ADoc.Print.Update")
av.GetProject.AddGUI(theMainGUI)  'add the new GUI to the project
theMainGUI.SetVisible(true)   'Make sure it is visible

 'Add a button to the new WIMAS Main Menu GUI
CountyButton = Button.Make
CountyButton.SetClick("WimasCountyAnalysis")       'Set the script that is activated when the button is clicked
CountyButton.SetHelp("County Analysis//Run water right query by county")        'Set the help display info
CountyIconFile = "$WIMAS\symbols\county.bmp"        'Source image to be used as  an icon on the button
CountyIcon = Icon.Make(CountyIconFile.AsFileName)       'Create a new icon based on the source image
CountyButton.SetIcon(CountyIcon)              'Assign the icon to the button
'Add the button as the first occurrence on the button bar for the new WIMAS Main Menu Gui.
av.FindGUI("WIMAS MAIN MENU").GetButtonBar.Add(CountyButton, -1)

'Setup the first occurrence of a menu in the Menu bar of the WIMAS Main Menu GUI
WimasFileMenu = av.FindGUI("WIMAS MAIN MENU").GetMenuBar.New(-1)
WimasFileMenu.SetLabel("&File")      'Any character following the & symbol is flagged for use by the TAB button
'Create the first menu choice under the File Menu.
   ThemeChoice = WimasFileMenu.New(-1)
   ThemeChoice.SetLabel ("&Data Set Review")     'Set the name of the choice as it appears under the menu
   ThemeChoice.SetClick ("WimasThemeReview") 'Set the script that is activated when the choice is selected
   ThemeChoice.SetHelp("Examine GIS themes and metadata used by WIMAS")  'Display help info
   'SPACE
   WimasFileMenu.Add(Space.Make, 1)
   'EXIT CHOICE
   ExitChoice = WimasFileMenu.New(2)
   ExitChoice.SetLabel ("E&xit Wimas")
   ExitChoice.SetClick ("WimasExit")
   ExitChoice.SetHelp ("Exits WIMAS")

'Open the WIMAS Main Menu view
WimasMainView = View.MakewithGUI("WIMAS Main Menu")
WimasMainView.SetName("WIMAS Start Screen") 'This sets the name of the doc (e.g. View1, View2)
WimasMainView.GetWin.Open
```

Live
DEMO