Axis 1 - Reconstruction of the Cenozoic Era conditions WP1 stotopes analysis of Cenozoic volcanic deposits (resp. E. Martin) Evaluation of the Unionocartalgraphy for Capadoce / Establishment of the sampling strategy Sampling of strikth deposits O and S. Rotope measurements of surkish deposits O and S. Rotope measurements of surkish deposits O and S. Rotope measurements Altiplane field exploration Altiplane		SZOPA	LATHIERE	SEPULCHRE	BOPP	CAUD	MARTIN	BEKKI MARCHAND	ONISHI	SAVARINO	PhD PaleOX	Research Engineer	Assistant Engineer M2 isotopes	M2 modelling	Collab. JL Le Pennec (IRD-LMV)	Collab. H. Guillou (CEA-LSCE)
WP1 stotages analysis of Cenzoic volcanic deposits (resp. E. Martin) Evaluation of the chronostratigraphy for Cappadoce / Establishment of the sampling strategy Sampling of trutish deposits sulphate certation and purification And S- shotogen ensourments of truish deposits Alighain relied reprotormonology Sampling of Altiphano Endosoments of the representativity of volcanic isotoges Alighain relied reprotormonology Sampling of Altiphano deposits Sulphate extraction and purification of Altiphano deposits O- and S- shotogen ensourments O2 atmospheric modelling. "Discussion of the representativity of volcanic isotoges WP2 collection of physical Cenzoic conditions (resp. P. Speulchre) Design of the Spata scenarios (SST, notation, and surface types, coastline for each simulation, LL_GHO) Asis 2 - Development for past pristine atmospheres WP2 Collection of physical Cenzoic Conditions (resp. P. Speulchre) Design of the Spata Secration (SST, notation, and surface types, coastline for each simulation, LL_GHO) Asis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S, Szopa) Full trops and strate model test on present day conditions Perindustral climatology to be compared with observations and to multimodel experiment (few data) Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for each scenario Evaluation of Oceanic emission range (from ORCHDES) for	Coordination (S. Szopa)	_														
Evaluation of the chronostratigraphy for Cappadoce / Establishment of the sampling strategy Sampling of Urrish deposits Under the Care of Schotope measurments of urrish deposits Or and 5- Schotope measurments of urrish deposits Or and 5- Schotope measurments of urrish deposits Sulphate extraction and purification of Altiplano deposits Or and 5- Schotope measurments Sulphate extraction and purification of Altiplano deposits Or and 5- Schotope measurments Or and 5- Schotope measurments Sulphate extraction and purification of Altiplano deposits Or and 5- Schotope measurments Or and 5- Schot	Axis 1 - Reconstruction of the Cenozoic Era conditions															
Sampling of furtish deposits Unable extention and purification O- and S- isotope measurments of turkish deposits O- and S- isotope measurments of turkish deposits Altiplano Field exploration Altipla	WP1 Isotopes analysis of Cenozoic volcanic deposits (resp. E. Martin)															
sulphate extraction and purification On and S- istorpe measurments of turkish deposits 20 atmospheric modelling - Discussion of the representativity of volcanic isotopes Altiplano Field exploration	Evaluation of the chronostratigraphy for Cappadoce / Establishment of the sampling strategy															
sulphate extraction and purification On and S- istorpe measurments of turkish deposits 20 atmospheric modelling - Discussion of the representativity of volcanic isotopes Altiplano Field exploration	Sampling of turkish deposits			\rightarrow												
20 atmospheric modelling - Discussion of the representativity of volcanic isotopes Altiplano Field exploration Sulphate extraction and purification of Altiplano deposits Sulphate extraction and purification of Altiplano deposits Sulphate extraction and purification of Altiplano deposits Out and S- long the measurements Do are present and the processor of the present altiplano deposits Out and S- long the present and the present and the present and presen																
Altiplano Field exploration Altiplano Field exploration Altiplano Altiplano deposits Simpling of Altiplano deposits Simpling of Altiplano deposits Suphate extraction and purification of Altiplano deposits O- and 5- stotope measurements O- and 5- st																
Altiplano Field tephrachronology Sampling of Altiplano deposits Sulphate extraction and purification of Altiplano deposits O- and S- isotope measurments 20 atmospheric modelling - Discussion of the representativity of volcanic isotopes WP2 Collection of physical Cenococic conditions (resp. Ps. Sepulchre) Design of the S past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S, Scopa) Full tropp and strato model to test on present day conditions Present day climatology to be compared with observations Present day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present. day and preindustrial conditions WP4 New natural emissions (resp. J. Latthère) Evaluation of Sensitivity studies to Natural emissions (resp. St. Stopa) Last Glacial Maximum Simulation Sensitivity studies to Natural emissions WP5 Paleo chemistry-Climate simulations (resp. S. Stopa) Last Glacial Maximum Simulation Mid-Pilocene Simulation Mid-Pilocene Simulation Mid-Pilocene Simulation Paleocene-Eocene Thermal Maximum Simulation Mid-Pilocene Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, relation of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive compounds and corresponding surface Ur radiation distributed WP4 Earth System Feedback (resp. S. Stopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry-Climate and 30 atmospheric N2O, CH4, 03/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation of the Institute of the Confirmate and 30 atmospheric N2O, CH4, 03/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem	2D atmospheric modelling - Discussion of the representativity of volcanic isotopes															
Sampling of Altiplano deposits Sulphate extraction of Altiplano deposits O- and S- Botope measurments Design of the S- past scenario (SST, insolation, Land surface types, coastine for each simulation, LL_GHG) Axis 2 - Development for past pristing adminosipheres WP2 Collection of physical Cenozoic conditions (resp. P. Sepulchre) Design of the S- past scenarios (SST, insolation, Land surface types, coastine for each simulation, LL_GHG) Axis 2 - Development for past pristing adminosipheres WP3 Chemistry Model (resp. S. Szopa) Full tropo and strato model to test on present day conditions Present day climatology to be compared with observations Present day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathière) Evaluation of the Biogenic emission range (from DRCHIDE) for each scenario Evaluation of Oceanic emission range (from DRCHIDE) for each scenario Evaluation of Oceanic emission range (from DRCHIDE) for each scenario Evaluation of Decenic emission range (from DRCHIDE) for each scenario Evaluation of Wellifers emission range (from INECS) for each scenario Evaluation of Compared emissions (resp. S. Szopa) Lata Glacial Maximum Simulation WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Lata Glacial Maximum Simulation Paleocene-Cocene Thermal Maximum Simulation Analysis of the simulations, reals in of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of the climate feedback due to composition change (ESM forced by WP5 c																
Sulphate extraction and purification of Allpiano deposits O- and S- isotope measurments Do atmospheric modelling - Discussion of the representativity of volcanic isotopes WP2 Collection of physical Cenozoic conditions (resp. P. Sepulchre) Design of the S past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S. Scopa) Full tropo and strato model to test on present day conditions Present day climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatology to be compared with observations and to multimodel experiment (few data) Freiendustral climatel experiment (few data) Freiendustral climately experiment (few data) Freiendustral climately experiment (few data) Freiendustral climately experiment (few data) Freiendustral emissions (few present day and preindustrial conditions Freiendustral emissions range (from PICSC) for each scenario Freiendustral emis																
O- and S- isotope measurements D2 atmospheric modelling - Discussion of the representativity of volcanic isotopes WP2 Collection of physical Cenozoic conditions (resp. P. Sepulchre) Design of the S past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for post pristine atmospheres WP3 Chemistry Model (resp. S. Szopa) Full tropo and strato model to test on present day conditions Present day climatology to be compared with observations and to multimodel experiment (few data) Full tropo and strato model to test on present day and preindustrial conditions WP4 New natural emissions (resp. J. Lathibre) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathibre) Evaluation of Decenic emission range (from DRCHIDEE) for each scenario Evaluation of Odiffers emission range (from DRCHIDEE) for each scenario Evaluation of Odiffers emission range (from IPSCES) for each scenario Sensitivity studies to Natural emissions Sensitivity studies to Natural emissions WP5 Paleo Chemistry-Climate simulations WP5 Paleo Chemistry-Climate simulations (resp. S. Szopa) Last Glocal Maximum Simulation Optimum Miocene Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions UNP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Unantification of chemistry effect on climate UP3-LCM model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPS-LCMS model first with all the couplings for hot climate conditions (100 yrs + 10 base line 100 yr)																
20 atmospheric modelling - Discussion of the representativity of volcanic Isotopes WP2 Collection of physical Cenozoic conditions (resp. P. Sepulchre) Design of the 5 past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S. Szopa) Full trop and strate model to test on present day conditions Present day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions Prelindustrial climatology to be compared with observations and to multimodel experiment (few data) Evaluation of Decenic emission range (from ORCHIDEE) for each scenario Evaluation of Biogenic emission range (from ORCHIDEE) for each scenario Evaluation of Oscenic emission range (from MIRCE) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario Evaluation of Wildfires emission range (from Illerature and collaboration) for each scenario WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive composition change (first Mircature and 30 atmospheric N2O, CH4, O3/Chemistry and terrestrial				_												
WP2 Collection of physical Cenozoic conditions (resp. P. Sepulchre) Design of the 5 past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S. Szopa) Foll trop and strato model to test on present day conditions Present day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and prendustrial conditions WP4 New natural emissions (resp. L. Lathière) Evaluation of Ogenic emission range (from PISCES) for each scenario Evaluation of Ogenic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from PISCES) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations Axis 3 - Cenozoic atmospheric chemistry simulations Axis 3 - Cenozoic atmospheric chemistry simulations (resp. S. Szopa) Last Gacial Maximum Simulation Gemeins Simulation Optimum Miocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the Initiate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry-effect on climate UP3-CMF model with interactions between: Climate and 30 atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSC-CMF model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr) Evaluation of the climate of the first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)				_	_										_	-
Design of the 5 past scenarios (SST, insolation, Land surface types, coastline for each simulation, LL_GHG) Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. 5. Szopa) Full tropo and strato model to test on present day conditions Present day climatology to be compared with observations and to multimodel experiment (few data) Fivaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from ORCHIDEE) for each scenario Evaluation of Oceanic emission range (from PISCES) for each scenario Evaluation of Outlidries emission range (from Interature and collaboration) for each scenario Evaluation of Sulfidires emission range (from Interature and collaboration) for each scenario Evaluation of Wildliffer emission range (from Interature and collaboration) for each scenario Sensitivity studies to Natural emissions WP5 Paleo chemistry-Climate simulations (resp. 5. Szopa) Last Glacial Maximum Simulation Mid-Pilocene Simulation Alayis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate WP4 Earth System Feedbacks (resp. 5. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate WP4 Earth System Feedbacks (resp. 5. Szopa)		_					_	_					_			
Axis 2 - Development for past pristine atmospheres WP3 Chemistry Model (resp. S. Szopa) Fresent day climatology to be compared with observations Present day climatology to be compared with observations Present day climatology to be compared with observations Present day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathiere) Evaluation of Ogenic emission range (from PISCES) for each scenario Evaluation of Ogenic emission range (from PISCES) for each scenario Evaluation of Outlidiffers emission range (from PISCES) for each scenario Evaluation of Outlidiffers emission range (from Interature and collaboration) for each scenario Evaluation of Outlidiffers emission range (from Interature and collaboration) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozolic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Mid-Pilocene Simulation Mid-Pilocene Simulation Mid-Pilocene Firmulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 30 distribution of reactive compounds and corresponding surface UY radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PP3-LOMS model with interactions between: Climate and 30 atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPS-LCMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)		_														
WP3 Chemistry Model (resp. S. Szopa) Full trop and strato model to test on present day conditions Presend day climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathiere) Evaluation of Biogenic emission range (from PicCES) for each scenario Evaluation of Biogenic emission range (from PicCES) for each scenario Evaluation of Wildfires emission range (from PicCES) for each scenario Evaluation of Wildfires emissions range (from PicCES) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulatio WP5 Paleo chemistry-Climate simulation (Poltman Mid-Pilocene Simulation) Mid-Pilocene Simulation Mid-Pilocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maxim																
Full tropo and strato model to test on present day conditions Present day climatology to be compared with observations Presindustral climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from ORCHIDEE) for each scenario Evaluation of Biogenic emission range (from PISCES) for each scenario Evaluation of Occanic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from PISCES) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Mid-Pilocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Paleocene-Ecoene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem In the comparison of the results of the composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem	Axis 2 - Development for past pristine atmospheres															
Present day climatology to be compared with observations Preindustral climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WPA New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from PISCES) for each scenario Evaluation of Oceanic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WPS Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Mid-Plocene Simulation Mid-Plocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WPA Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WPS concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CN5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CN5 model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)	WP3 Chemistry Model (resp. S. Szopa)															
Preindustral climatology to be compared with observations and to multimodel experiment (few data) Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from DRCHIDEE) for each scenario Evaluation of Oceanic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from PISCES) for each scenario Evaluation of Wildfires emissions range (from PISCES) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations MP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Optimum Miccene Simulation Optimum Miccene Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
Evaluation of the model performance for present-day and preindustrial conditions WP4 New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from PISCES) for each scenario Evaluation of Oceanic emission range (from DISCES) for each scenario Evaluation of Wildfires emission range (from Iltterature and collaboration) for each scenario Evaluation of Wildfires emission range (from Iltterature and collaboration) for each scenario Evaluation of Wildfires emission range (from Iltterature and collaboration) for each scenario Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Mid-Pliocene Simulation Mid-Pliocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
WP4 New natural emissions (resp. J. Lathière) Evaluation of Biogenic emission range (from ORCHIDEE) for each scenario Evaluation of Decanic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Evaluation of Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Optimum Miocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
Evaluation of Biogenic emission range (from ORCHIDEE) for each scenario Evaluation of Oceanic emission range (from PISCES) for each scenario Evaluation of Wildfires emission range (from milterature and collaboration) for each scenario Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Optimum Miocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model lirst with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)									_							
Evaluation of Oceanic emission range (from PISCES) for each scenario Evaluation of Wolfiries emission range (from litterature and collaboration) for each scenario Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Emina Simulation Mid-Pliocene Simulation Mid-Pliocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)			ш													
Evaluation of Wildfires emission range (from litterature and collaboration) for each scenario Sensitivity studies to Natural emissions WPS Paleo chemistry-Climate simulations WPS Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Mid-Pilocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model lifst with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
Sensitivity studies to Natural emissions Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Eemian Simulation Optimum Miocene Simulation Optimum Miocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model lirst with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)		_														
Axis 3 - Cenozoic atmospheric chemistry simulations WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Emina Simulation Mid-Pliocene Simulation Mid-Pliocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
WP5 Paleo chemistry-Climate simulations (resp. S. Szopa) Last Glacial Maximum Simulation Bemian Simulation Mid-Plocene Simulation Mid-Plocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)	·	_					_		_							
Last Glacial Maximum Simulation Eemian Simulation Optimum Miocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)	Axis 3 - Cenozoic atmospheric chemistry simulations					$\perp \perp$										
Eemian Simulation Mid-Pliocene Simulation Paleocene-Eocene Thermal Maximum Simulation Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PIS-L-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)																
Mid-Pliocene Simulation Optimum Miocene Simulation Optimum Miocene Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)																
Optimum Miocene Simulation Paleocene-Ecoren Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)							_									
Paleocene-Eocene Thermal Maximum Simulation Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. 5. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PISI-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSI-CMS model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)																
Analysis of the simulations, realism of the results, comparison with previous study and ISOTOPE ANALYSIS, evolution of oxidizing capacity throughout time Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PISL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)	·				-		-				-		_		_	-
Climatologies of 3D distribution of reactive compounds and corresponding surface UV radiation distributed WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1 base line 100yr)		_			-								-	-	-	-
WP4 Earth System Feedbacks (resp. S. Szopa) Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PISI-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSI-CMS model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)					-							-	-		_	-
Simulation of the climate feedback due to composition change (ESM forced by WP5 concentrations) for each of the 6 past conditions Quantification of chemistry effect on climate PSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)																
Quantification of chemistry effect on climate IPSL-CMS model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CMS model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)																
IPSL-CM5 model with interactions between: Climate and 3D atmospheric N2O, CH4, O3/Chemistry and terrestrial biosphere/Atm Chemistry and marine biogeochem Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)											+		-	+++	-	+
Simulation with the IPSL-CM5 model first with all the couplings for hot climate conditions (100 yrs + 1base line 100yr)						+	-				+		-	-	-	-
							-				+		-	+++	-	+
											+		-		_	+
Dissemination/Outreach											+		_			+