

Eart290H: Topics in Hydrogeology, Fall 2015
Groundwater Recharge, Flow, and Discharge

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Course hours and location: Mon, 12:30-14:00, *D226*; Weds, 13:30-15:00, *A333/D250*

Reading: Course reading is available at our shared GoogleDoc class folder - see e-mail and/or ask Andy for a link, verify you can access this folder and the enclosed documents

Assignments: We will read and discuss papers and sections from books, review ongoing research progress, practice making presentations. Engagement and participation is expected at each meetings. Individuals will lead different parts of the discussion.

Grades/Evaluations:

In most cases, it makes sense to take Eart290H S/U, but let's talk if you are not sure.

Course Goals:

- Learn about hydrologic processes and resources, with a focus on quantitative methods used to assess flows, pathways for fluid and solutes, and interactions between different parts of the hydrologic cycle.
- Read a mixture of texts and classic and recent papers on critical topics
- Discuss methods used to assess and understand hydrogeologic systems, think about applicability to topics of your specific interest

Expectations:















































Everyone is expected to read the assigned papers in preparation for class, be ready to discuss, present some topics of interest, etc.

Class topic, assignment and reading list

(NB: Subject to revision as the quarter progresses. Please see course web site for assigned papers, and/or check the binder in the main office for originals to copy)

Date	Topic	Leader/topic	Room	Time
Mon 9/28	<i>Extreme Precip</i>	Teo	D226	12:30-14:00
Wed 10/7	Update/Research	Teo	A333/D250	13:30-15:00
Mon 10/12	<i>Interception</i>	Fisher	D226	12:30-14:00
Wed 10/14	Update/Research	Winslow: Machine Learning	A333/D250	13:30-15:00
Mon 10/19	<i>Infiltration</i>	Gorski	D226	12:30-14:00
Wed 10/21	Update/Research	<i>Fisher</i>	A333/D250	13:30-15:00
Mon 10/26	<i>Evap/Transpir</i>	Young	D226	12:30-14:00
Wed 10/28	Update/Research	Beganskas	A333/D250	13:30-15:00
Mon 11/2	<i>Runoff</i>	Young	D226	12:30-14:00
Wed 11/4	Update/Research	Gorski/global flows	A333/D250	13:30-15:00
Mon 11/9	<i>Streamflow</i>	Fisher	D226	12:30-14:00
Mon 11/16	<i>GW-Rech</i>	Beganskas	D226	12:30-14:00
Wed 11/18	Update/Research	Adelstein	A333/D250	13:30-15:00
Mon 11/23	<i>Faults/Fluids</i>	Adelstein	D226	12:30-14:00
Wed 11/25	Update/Research	Young	A333/D250	13:30-15:00
Mon 11/30	<i>SGD</i>	Markowitz	D226	12:30-14:00
Wed 12/2	Update/Research	Markowitz/Young	A333/D250	13:30-15:00

Paper listing: From GoogleDrive archive:

- ▼  Reader-PDFs
 - ▼  01_ExtremePrecip
 -  Min2011_Nature_HumanExtremePrecip_SI.pdf
 -  Min2011_Nature_HumanExtremePrecip.pdf
 -  Showalter1942_EOS_MaxPrecip.pdf
 -  Trenberth2003_BAMS_ClimChangePrecip.pdf
 - ▼  02_Intercept
 -  Horton1919_MWR_Intercept.pdf
 -  McJannet2007_HP_PrecipIntercept.pdf
 - ▼  03_Infiltration
 -  Horton1933_EOS_Infiltration.pdf
 -  Mein1973_WRR_InfiltrationModel.pdf
 -  VandenPutte2013_JH_InfiltrationModel.pdf
 - ▼  04_EvapET
 -  Allen2005_EncyclopediaOfSoils_PMEquation.pdf
 -  Monteith1965_SBE_EvaporationEnv.pdf
 -  Penman1948_ProcA-RS_EvapWaterSoilGrass.pdf
 -  Roderick2002_Science_DecreasePanEvap.pdf
 -  Winter1995_WRR_EvapMethods.pdf
 - ▼  05_Runoff
 -  Dunne1970_WRR_PartialArea.pdf
 -  Kirkby1969_WEM_InfiltrationFlows.pdf
 -  Montgomery1988_Nature_ChannelsBegin.pdf
 -  Weyman1970_BIASH_ThroughflowRO.pdf
 - ▼  05b_GlobalHydroFluxes
 -  Good2015_Science_HydroConnectFluxes.pdf
 - ▼  06_Streamflow
 -  BencalaWalters1983.pdf
 -  Kilpatrick1985_USGS_TracerDischarge.pdf
 -  McDonnell2014_WRR_CelerityVelocity.pdf
 -  Wagner1997_WRR_ExpDesignStreamTracer.pdf
 - ▼  07_GW-Recharge
 -  Fox2001_EMA_GW-ChemReclaim.pdf
 -  Greskowiak2005_AG_VariableWatQualMAR.pdf
 -  Scanlon2004_WSAS_Eval...stRCSaridAridRegSW.pdf
 -  Wilson2004_WSAS_MtnHydroRC.pdf
 - ▼  08_HydrothermFaults
 -  Ingebritsen2010_RG_ReviewHydrothermModel.pdf
 -  Lopez1996_WRR_FF-Fault_HeteroAniso.pdf
 -  Malkovsky2015_TPM_FaultBoundedConvect.pdf
 -  Nield1968_WRR_OnsetConvect.pdf
 - ▼  09_SGD
 -  Kwon2014_GRL_GlobalSGD.pdf
 -  Moore1996_Nature_LargeGWInputs.pdf
 -  Rodellas2015_PNAS_SGD-NutsMed.pdf
 -  Thompson1933_EOS_GW-Ocean.pdf